

## Nové produkty pre trieskové obrábanie

### **NEW** DHFC



Frézovací systém pre vysoké posuvy s obojstrannou VBD

### **NEW** HPC-04



Frézovací systém s PKD a CBN doštičkami, Ø 20-40 mm

### **NEW** CTCS245



Nový, vysoko výkonný povlak Dragonskin pre aplikačnú oblasť ISO S

### **NEW** Aktualizácia sort systému K2000



Nové, vysoko výkonné sorty pre výrobu foriem

### **NEW** Doplnenie MaxiMill 270-19



Novinka v systémovej ponuke s vymeniteľnou doštičkou veľkosti 19 mm pre ťažké obrábanie

### **NEW** Doplnenie MaxiMill 273



Frézovací systém s možnosťou axiálneho nastavenia VBD

### **NEW** Doplnenie MaxiMill 491



Rozšírenie ponuky vymeniteľných doštičiek veľkosti SNHU 09.. RE 1,2 a RE 1,6 aj ďalšie sorty pre aplikačnú oblasť ISO M a S







|             |    |                                                     |
|-------------|----|-----------------------------------------------------|
| Vrtanie     | 1  | HSS vrtáky                                          |
|             | 2  | TK vrtáky                                           |
|             | 3  | Vrtáky s vymeniteľnými doštičkami                   |
|             | 4  | Výstružníky a záhlbníky                             |
|             | 5  | Nástroje na vyvrtávanie                             |
| Závitovanie | 6  | Závitníky                                           |
|             | 7  | Frézovanie závitov a cirkulárne frézovanie          |
|             | 8  | Sústruženie závitov                                 |
| Sústruženie | 9  | Sústružnícke nože s vymeniteľnými doštičkami        |
|             | 10 | EcoCut                                              |
|             | 11 | Nástroje na zapichovanie a upichovanie              |
|             | 12 | UltraMini obrábanie + MiniCut                       |
| Frézovanie  | 13 | HSS frézy                                           |
|             | 14 | TK frézy                                            |
|             | 15 | Frézy s vymeniteľnými doštičkami                    |
| Upínanie    | 16 | Nástrojové držiaky a rotačné upínače                |
|             | 17 | Príslušenstvo                                       |
|             | 18 | Príklady materiálov a register obj. čísel nástrojov |



## Obsah

|                                       |         |
|---------------------------------------|---------|
| Vysvetlenie symbolov                  | 2       |
| Toolfinder                            | 3-14    |
| Produktová paleta                     | 15-136  |
| Orientačné rezné hodnoty              | 137-139 |
| Technické informácie                  |         |
| Rezná dáta – Čelné frézy              | 140-149 |
| Rezná dáta – Rohové frézy             | 150-168 |
| Rezná dáta – Tvarové frézy            | 170-185 |
| Rezná dáta – Ďalší frézovacie systémy | 186-189 |
| Korekcia posuvu na zub $f_z$          | 157     |
| Stredná hrúbka triesky                | 169     |
| Silová skrutka                        | 190     |
| Skratky & rozmery                     | 191     |
| Príklady obrábania                    | 192     |
| Poškodenie bitu                       | 193     |
| Systém označovania ISO                | 194+195 |
| Prehľad utváračov triesky             | 196-208 |
| Popis sort                            | 209+210 |

## CERATIZIT \ Performance

Kvalitné prémiové nástroje pre maximálny výkon.

Kvalitné prémiové nástroje z produktového radu **CERATIZIT Performance** sa koncipovali pre špeciálne prípady použitia a vyznačujú sa zvlášť vysokým výkonom. Ak v rámci vlastnej výroby kladiete vysoké nároky na procesný výkon a chcete dosiahnuť optimálnych výsledkov, potom Vám odporúčame prémiové nástroje z tohto produktového radu.

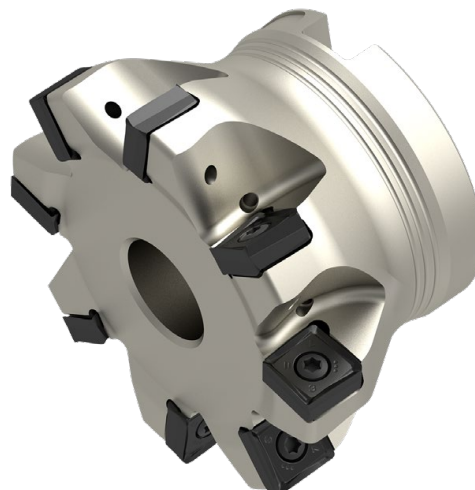
## Vysvetlenie symbolov



Stredové vnútorné chladenie



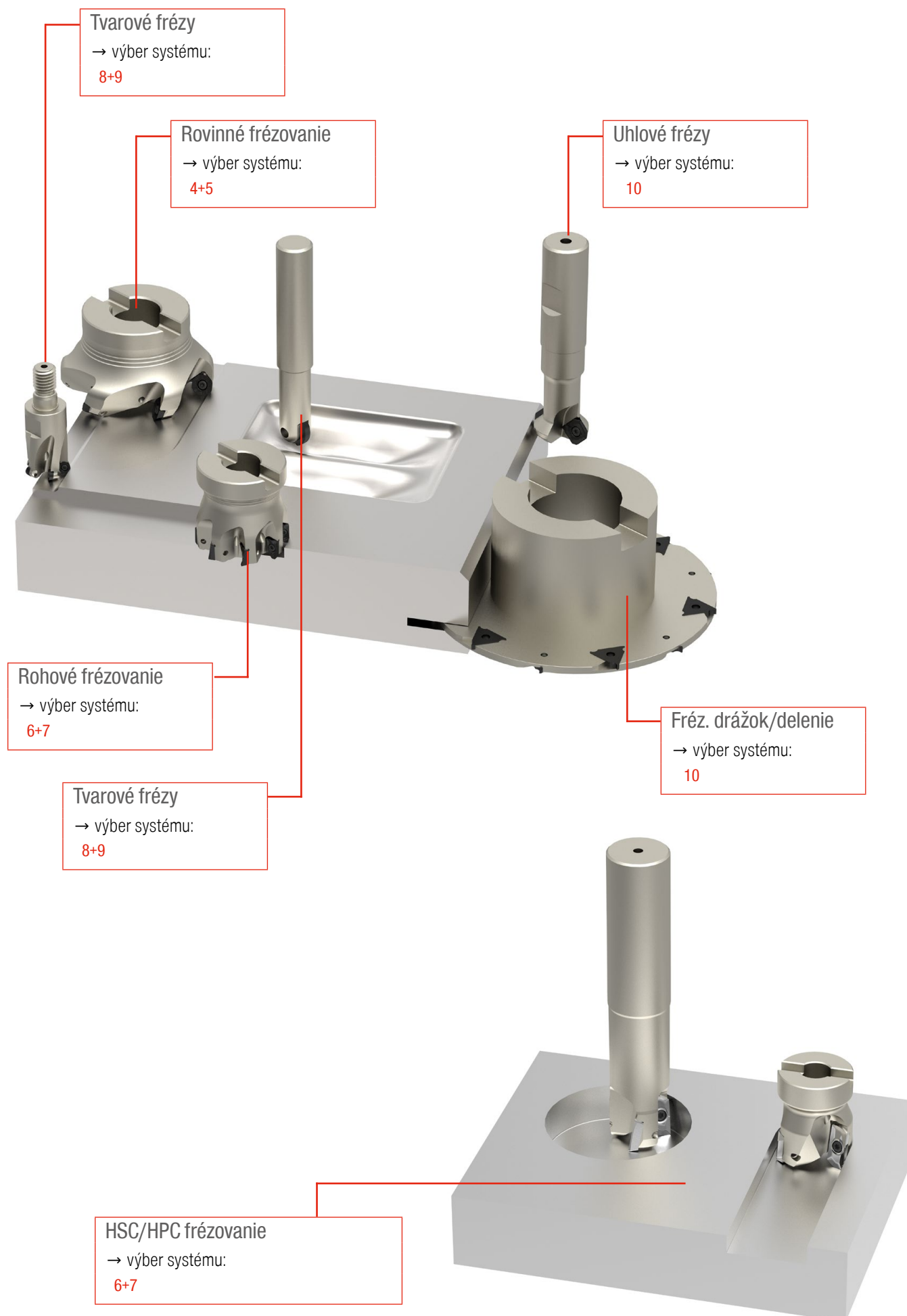
Bočné vnútorné chladenie



- ZNF = Počet zubov
- = Hlavné použitie
- = Vedľajšie použitie

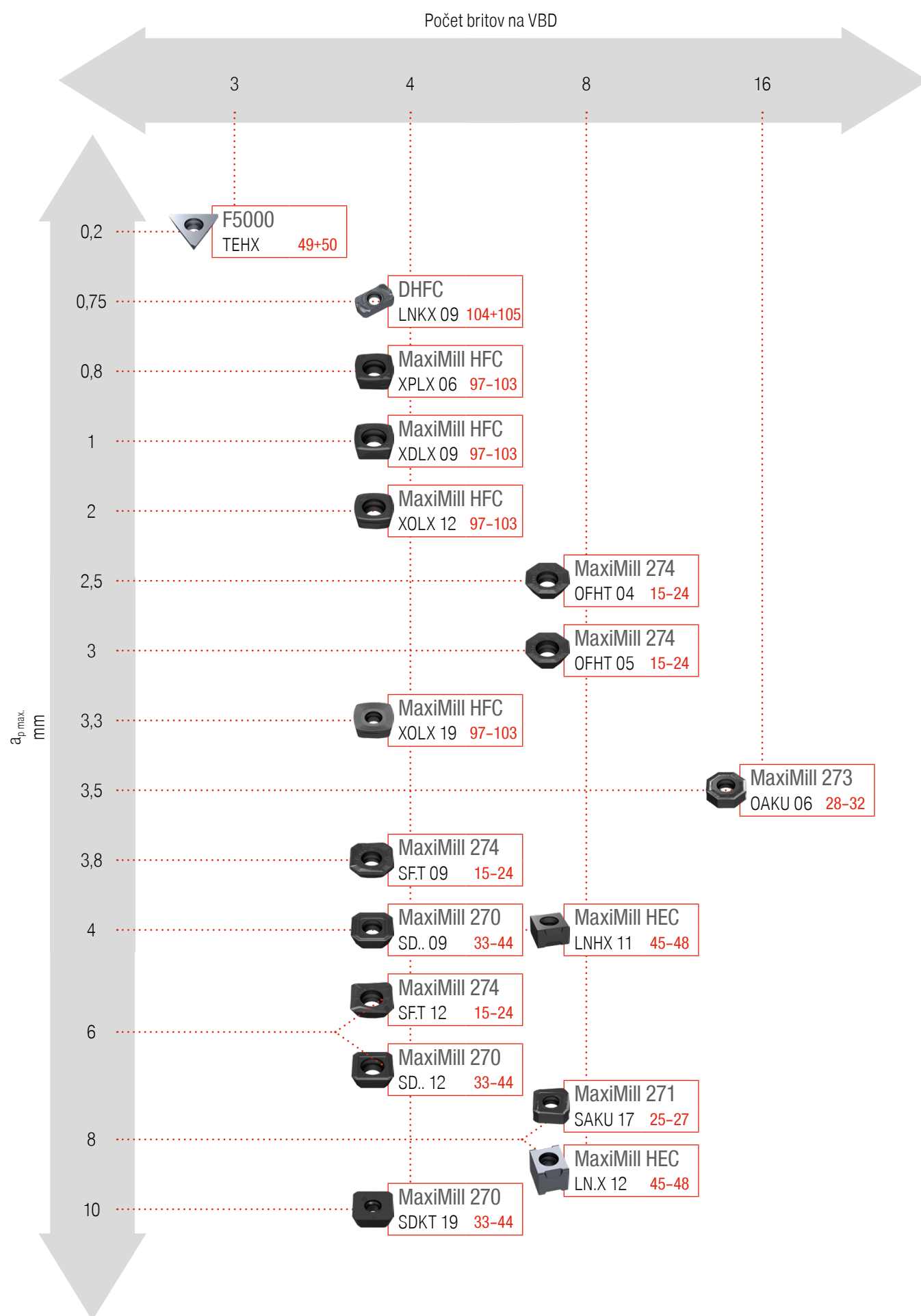


## Toolfinder – Informácie pre výber správnej frézy





## Toolfinder – Rovinné frézy



## Prehľad – Rovinné frézy

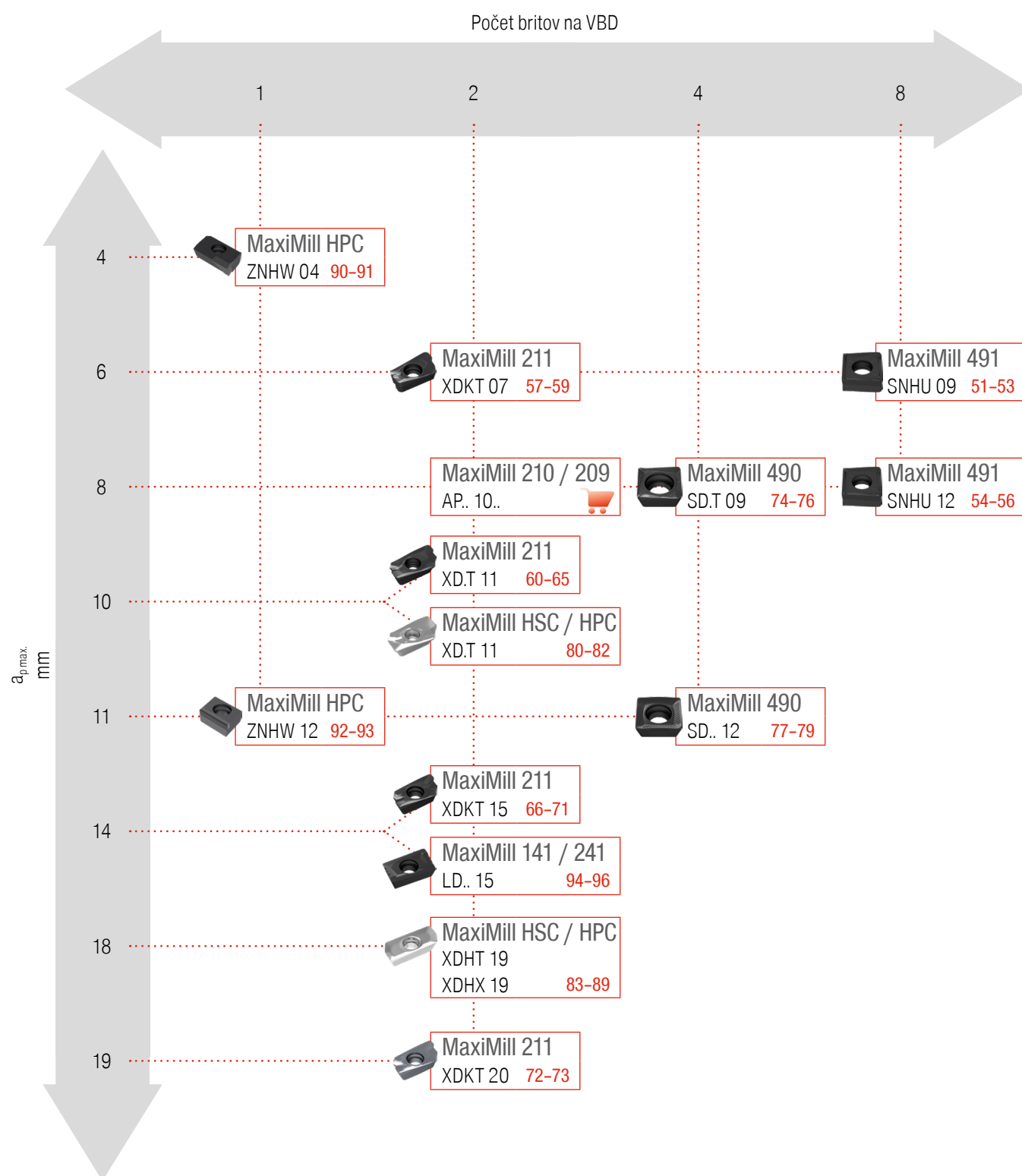
| Systém       | Vymeniteľná doštička               | Počet britov na VBD | $a_{p \text{ max.}}$<br>mm | Rozsah Ø<br>mm                                                                      |                                                                                       |                                                                                       | <div> <div></div> <div>Oceľ</div> <div>Nehrzdavejúca oceľ</div> <div>Liatina</div> <div>Neželezné kovy</div> <div>Žiaruvzdorná zliatina</div> <div>Kalená oceľ</div> </div> | Strana  |
|--------------|------------------------------------|---------------------|----------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
|              |                                    |                     |                            |                                                                                     |                                                                                       |                                                                                       |                                                                                                                                                                             |         |
| MaxiMill 274 | OFH. 04.. / 05..   SFT 09.. / 12.. | 8 / 4               | 2,5-6                      |    |    |    |                                                                                          | 15-24   |
| MaxiMill 271 | SAKU 1706..                        | 8                   | 8,4                        |                                                                                     |                                                                                       |    |                                                                                          | 25-27   |
| MaxiMill 273 | OAKU 0605..                        | 16                  | 3,5                        |                                                                                     |    |    |                                                                                          | 28-32   |
| MaxiMill 270 | SD.. 0903.. / 1204.. / 19..        | 4                   | 4-10                       |    |    |    |                                                                                          | 33-44   |
| MaxiMill HEC | LNHX 1106..   LN.X 1210..          | 8                   | 4-8                        |                                                                                     |                                                                                       |    |                                                                                          | 45-48   |
| F 5000       | TEHX 16T3..                        | 3                   | 0,2                        |                                                                                     |                                                                                       |  |                                                                                        | 49-50   |
| MaxiMill HFC | X..X 06.. / 09.. / 12.. / 19..     | 4                   | 0,8-3,3                    |  |  |  |                                                                                        | 97-103  |
| DHFC         | LNKX 09..                          | 4                   | 0,75                       |  |  |                                                                                       |                                                                                        | 104-105 |

**i** Ďalšie priemery sú k dispozícii na vyžiadanie

**i** Vymeniteľné doštičky pre systémy, ktoré už neuvádzame, nájdete v našom online shope na [cuttingtools.ceratizit.com](http://cuttingtools.ceratizit.com)



## Toolfinder – Rohové frézy



## Prehľad – Rohové frézy

| Systém             | Vymeniteľná doštička                   | Počet britov na VBD | $a_p$ max. mm | Rozsah Ø mm                                                                         |                                                                                     |                                                                                                                                                                 | Strana |
|--------------------|----------------------------------------|---------------------|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|                    |                                        |                     |               |                                                                                     |                                                                                     |                                                                                                                                                                 |        |
|                    |                                        |                     |               |                                                                                     |                                                                                     | <div> <div>Oceľ</div> <div>Nehrdzavajúca oceľ</div> <div>Liatina</div> <div>Neželezné kovy</div> <div>Žiaruvzdorná zliatina</div> <div>Kalená oceľ</div> </div> |        |
| MaxiMill 491       | SNHU 09T3.. / 1204..                   | 8                   | 6–8           |    |    |                                                                              | 51–56  |
| MaxiMill 211       | XD.T 0703.. / 11T3.. / 1505.. / 2007.. | 2                   | 6–19          |    |    |                                                                              | 57–73  |
| MaxiMill 211 K     | XD.T 11T3.. / 1505.. / 2007..          | 2                   | 27–75,5       |                                                                                     |    |                                                                              | 57–73  |
| MaxiMill 490       | SD.. 09T3.. / 1205..                   | 4                   | 8–11          |    |    |                                                                              | 74–79  |
| MaxiMill 490 K     | SD.. 09T3..                            | 4                   | 41            |                                                                                     |                                                                                     |                                                                             | 74–79  |
| MaxiMill HSC / HPC | XD.. 11T3.. / 1904..                   | 2                   | 10–18         |  |  |                                                                            | 80–89  |
| MaxiMill HPC       | ZNHW 04T3.. / 1205..                   | 1                   | 4–11          |  |  |                                                                            | 90–93  |
| MaxiMill 141 / 241 | LD.. 1504..                            | 2                   | 14            |  |  |                                                                            | 94–96  |
| MaxiMill 210 / 209 | AP.. 1003..                            | 2                   | 8             |  |  |                                                                            |        |

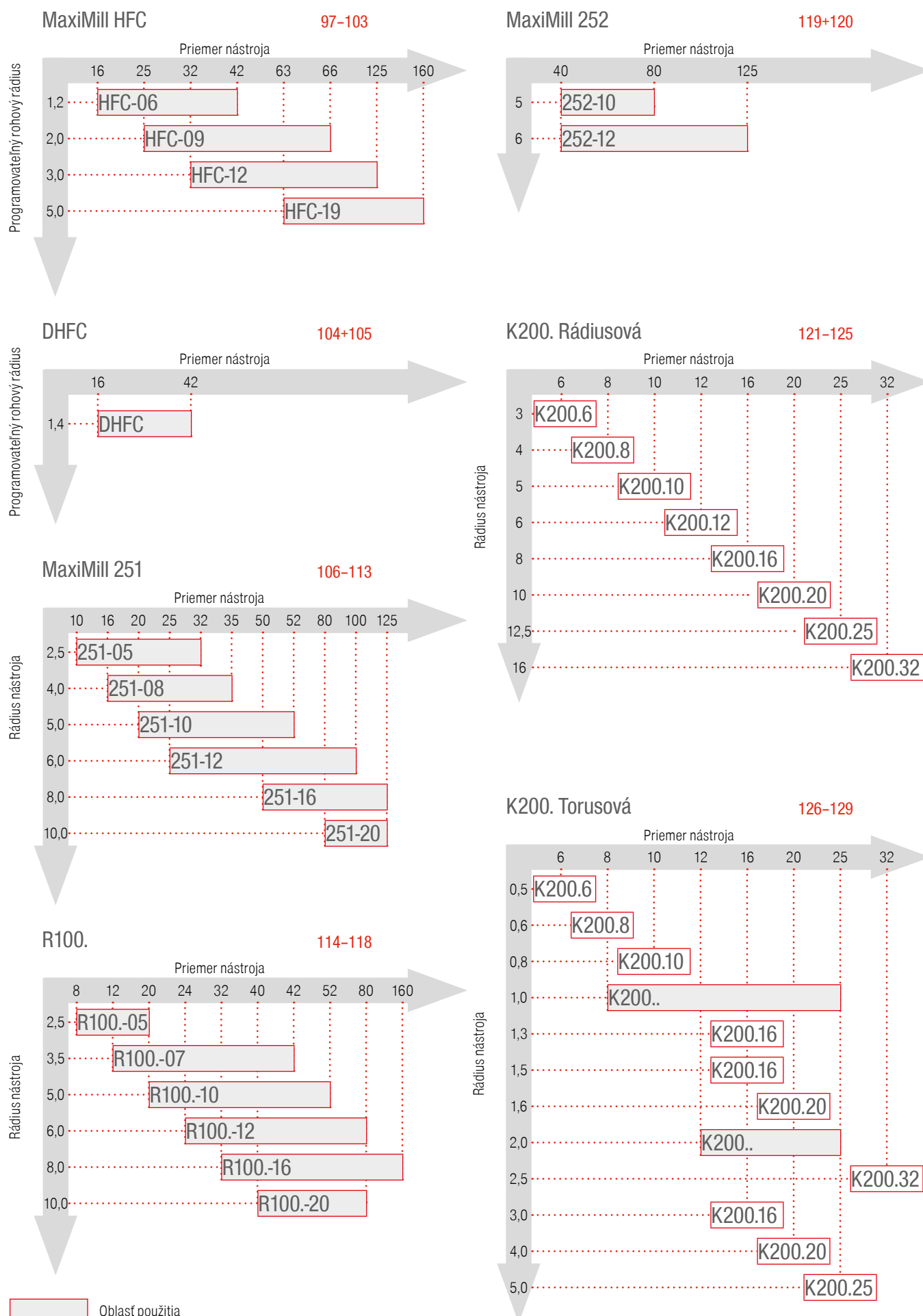
**i** Ďalšie priemery sú k dispozícii na vyžiadanie

**i** Vymeniteľné doštičky pre systémy, ktoré už neuvádzame, nájdete v našom online shope na [cuttingtools.ceratizit.com](http://cuttingtools.ceratizit.com)



Tento produkt nájdete v našom online shope na webe [cuttingtools.ceratizit.com](http://cuttingtools.ceratizit.com)

## Toolfinder – Tvarové frézy





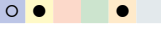
## Prehľad – Tvarové frézy

| Systém          | Vymeniteľná doštička                         | Počet britov na VBD | $a_{p \text{ max.}}$<br>mm | Rozsah Ø<br>mm |         |          | Strana  |
|-----------------|----------------------------------------------|---------------------|----------------------------|----------------|---------|----------|---------|
|                 |                                              |                     |                            |                |         |          |         |
|                 |                                              |                     |                            |                |         |          |         |
| MaxiMill HFC    | X.LX 06.. / 09.. / 12.. / 19..               | 4                   | 0,8–3,3                    | Ø 16–42        | Ø 16–35 | Ø 32–160 | 97–103  |
| DHFC            | LNKX 09..                                    | 4                   | 0,75                       | Ø 16–42        | Ø 16–20 |          | 104+105 |
| MaxiMill 251    | R..X 05.. / 08.. / 10.. / 12.. / 16.. / 20.. | 8                   | 2,5–10                     | Ø 10–42        | Ø 10–32 | Ø 40–125 | 106–113 |
| R100.           | RD.X 05.. / 07.. / 10.. / 12.. / 16.. / 20.. | 8                   | 5                          | Ø 12–42        | Ø 8–20  | Ø 42–160 | 114–118 |
| MaxiMill 252    | RNHU 10.. / 12..                             | 8                   | 3                          |                |         | Ø 40–125 | 119+120 |
| K200. Rádiusová | RO.X .... / XOHX ....                        | 1                   | 0,4–8                      | Ø 8–32         | Ø 6–32  |          | 121–125 |
| K200. Torusová  | XO.X ....                                    | 1                   | 0,5–8                      | Ø 8–32         | Ø 8–32  |          | 126–129 |

**i** Ďalšie priemery sú k dispozícii na vyžiadanie

**i** Vymeniteľné doštičky pre systémy, ktoré už neuvádzame, nájdete v našom online shope na [cuttingtools.ceratizit.com](http://cuttingtools.ceratizit.com)

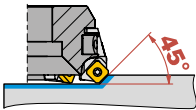
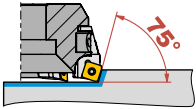
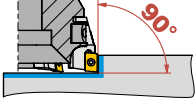
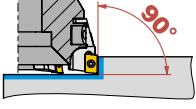
## Prehľad – Uhlové frézy

| Systém                                                                                                                             | Vymeniteľná doštička | Počet britov na VBD | $a_p$ max.<br>mm | Rozsah Ø<br>mm                                                                                                                                                                             | <div> <div>Oceľ</div> <div>Nehrdzavejúca oceľ</div> <div>Liatina</div> <div>Neželezné kovy</div> <div>Žiaruvzdorná zliatina</div> <div>Kalená oceľ</div> </div> | Strana |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| MaxiMill 272                                                                                                                       | SD.. 0903..          | 4                   | 4                | <br>Ø 6–25                                                                                               |                                                                              | 35+36  |
| 4500                                                                                                                               | SD.. 09T3..          | 4                   | 4                | <br>Ø 16–25                                                                                              |                                                                              | 75+76  |
| 4500                                                                                                                               | SD.. 1205..          | 4                   | 4                |  <br>Ø 20–32    Ø 20–32 |                                                                              | 78+79  |
| MaxiMill 242                                                                                                                       | LD.. 1504..          | 2                   |                  | <br>Ø 50–92                                                                                             |                                                                              | 95+96  |
|  Ďalšie priemery sú k dispozícii na vyžiadanie. |                      |                     |                  |                                                                                                                                                                                            |                                                                                                                                                                 |        |

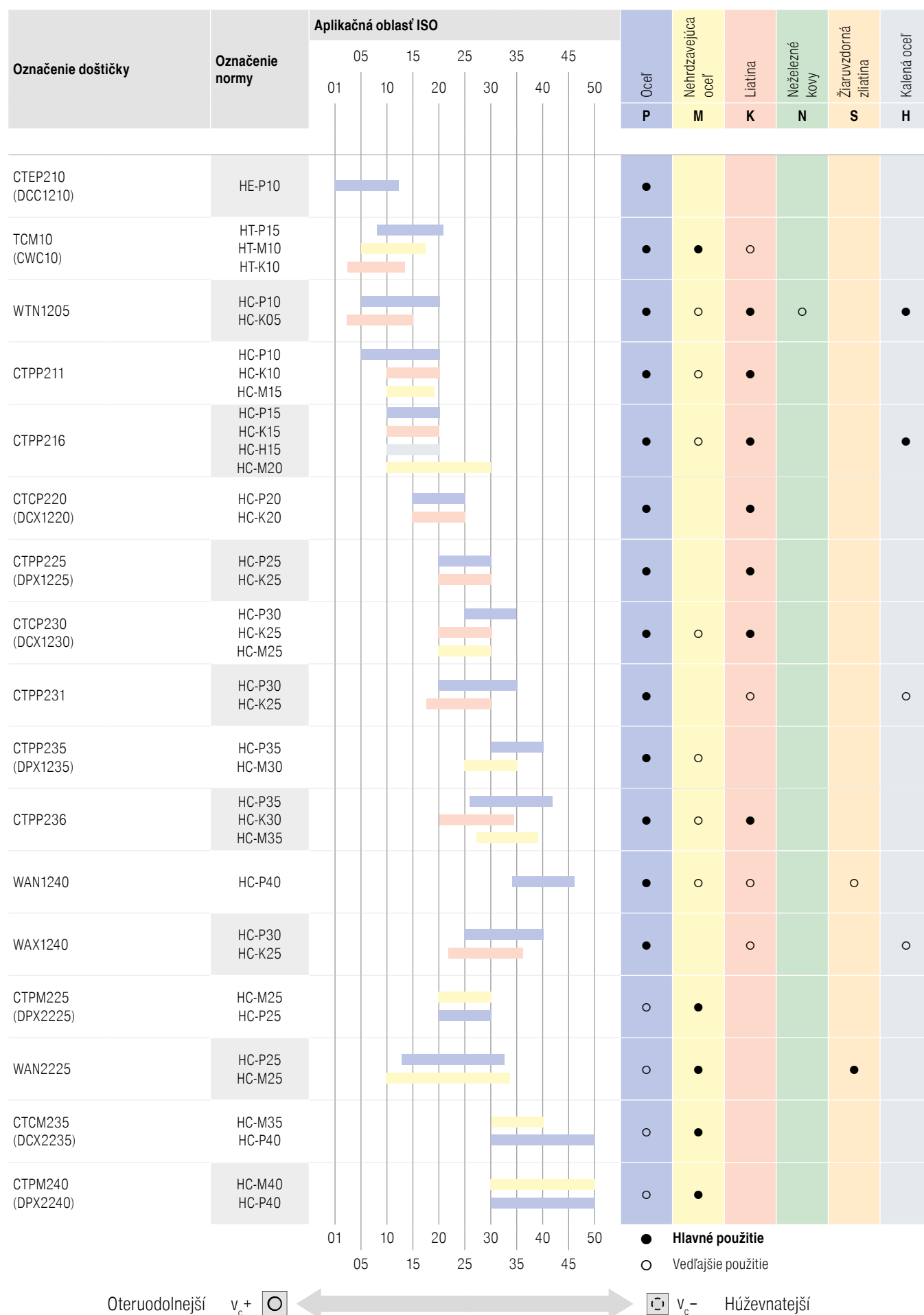
## Prehľad – Frézovanie drážok / delenie

| Systém                                                                                                                             | Vymeniteľná doštička | Počet britov na VBD | $a_p$ max.<br>mm | Rozsah Ø<br>mm                                                                                                                                                                                       | <div> <div>Oceľ</div> <div>Nehrdzavejúca oceľ</div> <div>Liatina</div> <div>Neželezné kovy</div> <div>Žiaruvzdorná zliatina</div> <div>Kalená oceľ</div> </div> | Strana  |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| FM                                                                                                                                 | FM..                 | 1                   | 49               | <br>Ø 100–160                                                                                                   |                                                                            | 130+131 |
| TX                                                                                                                                 | TX.. R/L             | 3                   | 64               |  <br>Ø 80–160    Ø 100–200 |                                                                            | 132–134 |
|  Ďalšie priemery sú k dispozícii na vyžiadanie. |                      |                     |                  |                                                                                                                                                                                                      |                                                                                                                                                                 |         |

## Prehľad – Kazetové frézy

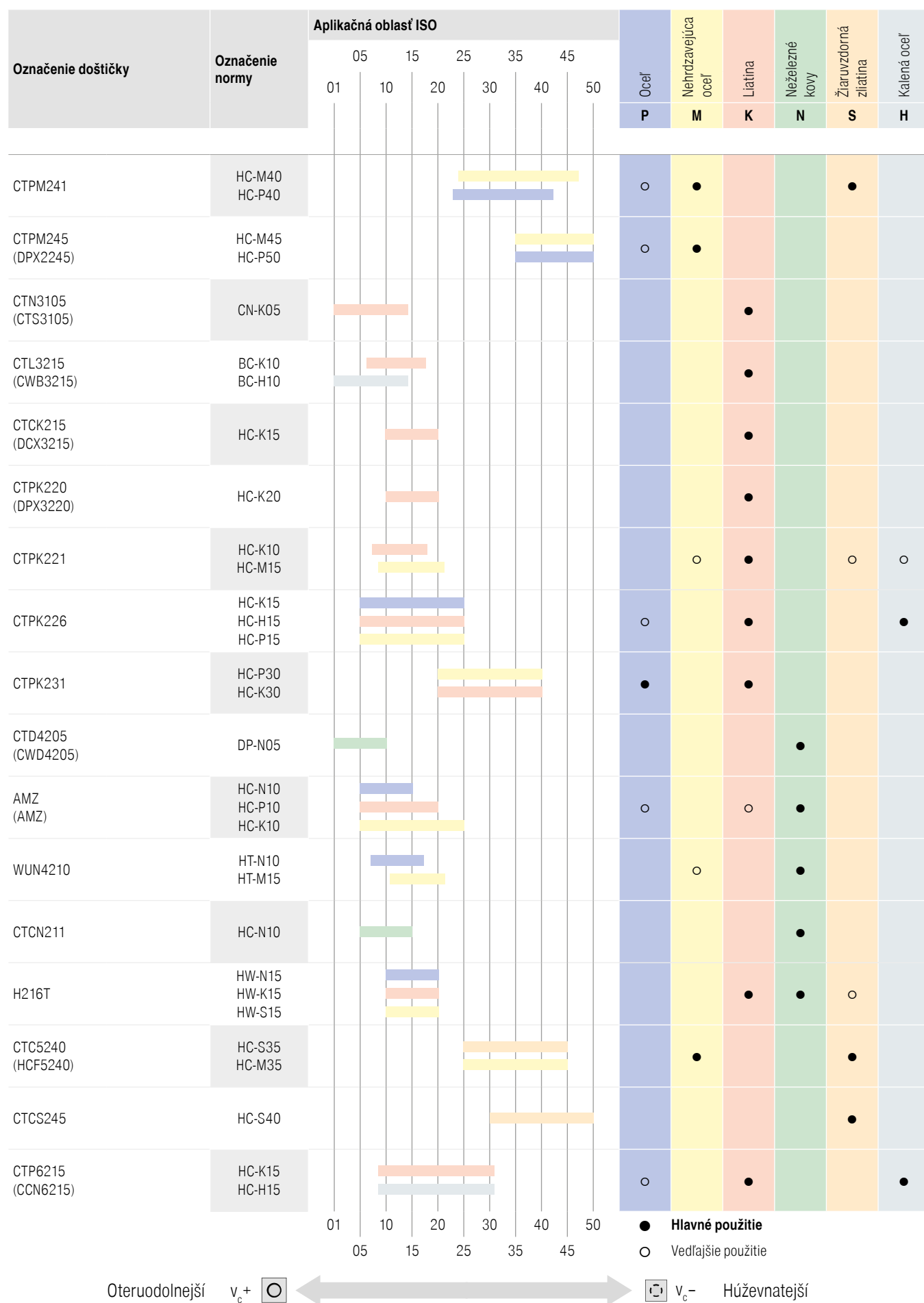
| System                                                                              | Rozsah Ø<br>mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Strana |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| MaxiMill 260                                                                        | 80–400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 135    |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Č. kazety                                                                           | 041    031    029    032    057                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Strana |
|                                                                                     |                   | 136    |
|                                                                                     | SD.. 0903..    SD.. 1204..<br>XD.. 1204..    SE.. 1204..    SD.. 1504..    OA.. 0605..<br>XA.. 0605..                                                                                                                                                                                                                                                                                                                                                                                                                       |        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Č. kazety                                                                           | 018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 136    |
|                                                                                     |                                                                                                                                                                                                                                                                                                                                                           |        |
|                                                                                     | SP.. 1204..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Č. kazety                                                                           | 042    039    051    025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 136    |
|                                                                                     |       |        |
|                                                                                     | AP.. 1003..    SD.. 1205..    LD.. 1504..    TP.. 2204..                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Č. kazety                                                                           | 055    054    056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 136    |
|                                                                                     |                                                                                              |        |
|                                                                                     | SD.. 09T3    XD.. 11T3    XD.. 1505                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Č. kazety                                                                           | 052    053                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 136    |
|                                                                                     |                                                                                                                                                                                 |        |
|                                                                                     | RPX 1204..    RPX 1604..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |

## Toolfinder – Výber sorty

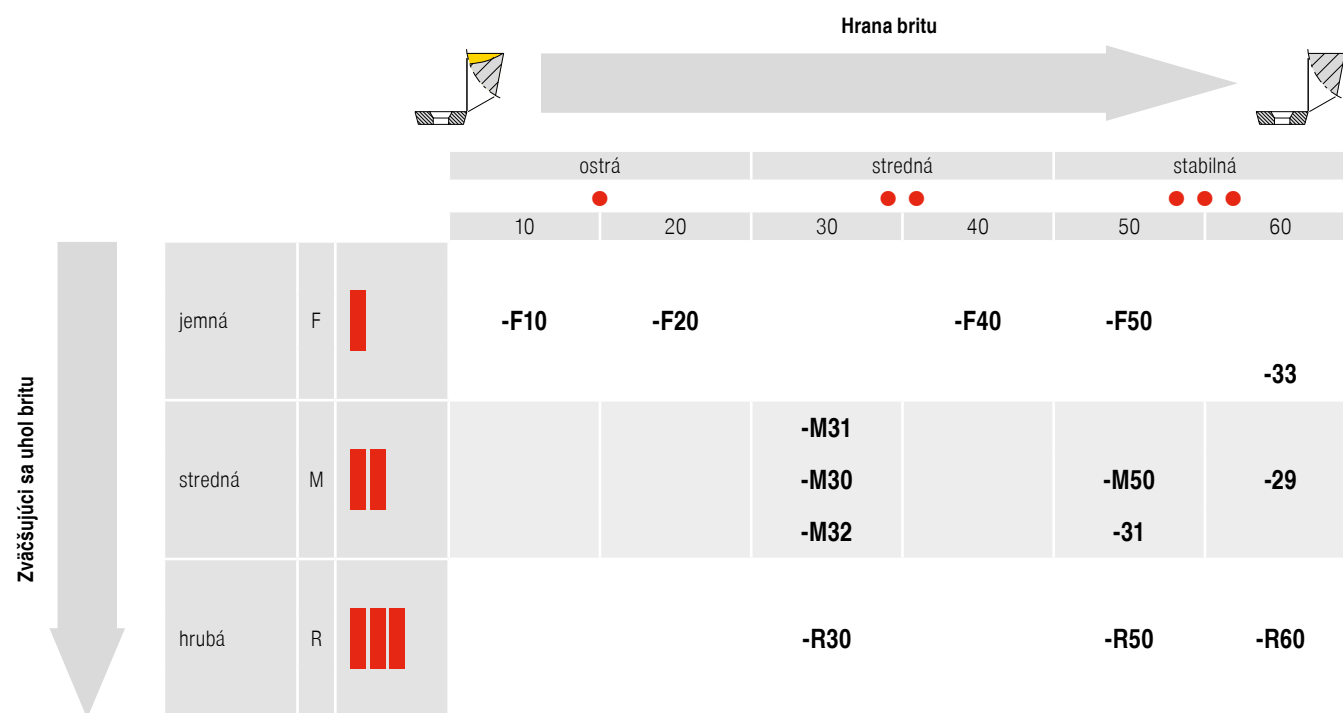




## Toolfinder – Výber sorty



## Toolfinder – Utvárače triesky



**i** Detailný prehľad utváračov triesky nájdete na → **strane 196–208**

## Kód utvárača triesky

|                  |             |   |  | Hrana britu    |                  |                   |
|------------------|-------------|---|--|----------------|------------------|-------------------|
|                  |             |   |  | ostrá<br>10–20 | stredná<br>30–40 | stabilná<br>50–60 |
| Stupeň obrábania | ľahké       | F |  | •              | • •              | • • • •           |
|                  | univerzálne | M |  | •              | • •              | • • • •           |
|                  | ťažké       | R |  | •              | • •              | • • • •           |

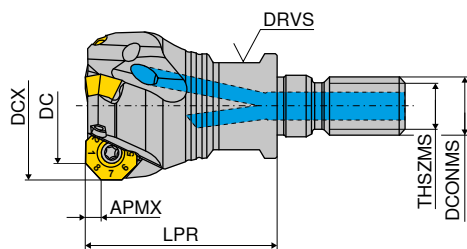
**Príklad:** Utvárač triesky -M50

• • • = 50–60

= M

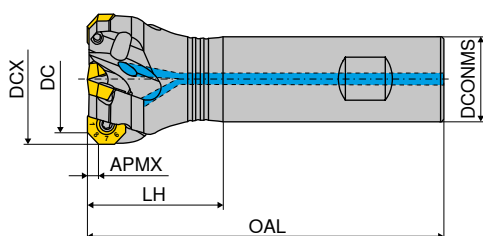


## MaxiMill – Skrutkovacia fréza G 274-04/-09



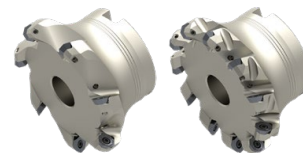
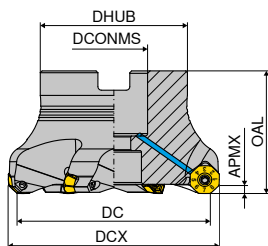
| Označenie       | DC | DCX  | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|-----------------|----|------|-----|------|-----|--------|--------|------|-------------------------|-------------------------|--------------------------|-----|
|                 | mm | mm   |     | mm   | mm  |        | mm     | mm   |                         |                         | Artikel č.<br>50 742 ... |     |
| G274.20.R.03-09 | 20 | 25,5 | 3   | 3,8  | 35  | M12    | 12,5   | 17   | 1,2                     | OF.. 0403 / SF.. 0903   | 268,10<br>EUR            | 020 |
| G274.25.R.04-09 | 25 | 30,6 | 4   | 3,8  | 35  | M12    | 12,5   | 17   | 1,2                     | OF.. 0403 / SF.. 0903   | 305,30<br>EUR            | 025 |
| G274.32.R.05-09 | 32 | 37,6 | 5   | 3,8  | 35  | M16    | 17,0   | 24   | 1,2                     | OF.. 0403 / SF.. 0903   | 342,70<br>EUR            | 032 |

## MaxiMill – Stopková fréza C 274-04/-09



| Označenie                | DC | DCX  | ZNF | APMX | OAL | LH | DCONMS | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | A             |                          | B             |                          |
|--------------------------|----|------|-----|------|-----|----|--------|-------------------------|-------------------------|---------------|--------------------------|---------------|--------------------------|
|                          | mm | mm   |     | mm   | mm  | mm | mm     |                         |                         | 2B/40         | Artikel č.<br>50 743 ... | 2B/40         | Artikel č.<br>50 743 ... |
| C274.20.R.03-09-A/B20-25 | 20 | 25,5 | 3   | 3,8  | 77  | 25 | 20     | 1,2                     | OF.. 0403 / SF.. 0903   | 268,10<br>EUR | 020                      | 268,10<br>EUR | 120                      |
| C274.25.R.04-09-A/B20-32 | 25 | 30,6 | 4   | 3,8  | 84  | 32 | 20     | 1,2                     | OF.. 0403 / SF.. 0903   | 305,30<br>EUR | 025                      | 305,30<br>EUR | 125                      |
| C274.32.R.05-09-A/B25-40 | 32 | 37,6 | 5   | 3,8  | 98  | 40 | 25     | 1,2                     | OF.. 0403 / SF.. 0903   | 342,70<br>EUR | 032                      | 342,70<br>EUR | 132                      |

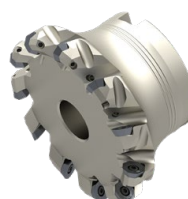
## MaxiMill – Nástrčná fréza A 274-04/-09



| Označenie        | DC  | DCX   | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     | 2B/40                    |     |
|------------------|-----|-------|-----|------|-----|------|----------------------|-------------------------|-------------------------|--------------------------|-----|--------------------------|-----|
|                  |     |       |     |      |     |      |                      |                         |                         | Artikel č.<br>50 744 ... | EUR | Artikel č.<br>50 744 ... | EUR |
| A274.32.R.05-09  | 32  | 37,7  | 5   | 3,8  | 40  | 38   | 16                   | 1,2                     | OF.. 0403 / SF.. 0903   |                          |     |                          |     |
| A274.40.R.04-09  | 40  | 45,7  | 4   | 3,8  | 40  | 38   | 16                   | 1,2                     | OF.. 0403 / SF.. 0903   | 342,70                   | 040 | 342,70                   | 032 |
| A274.40.R.06-09  | 40  | 45,7  | 6   | 3,8  | 40  | 38   | 16                   | 1,2                     | OF.. 0403 / SF.. 0903   |                          |     | 379,90                   | 140 |
| A274.50.R.05-09  | 50  | 55,7  | 5   | 3,8  | 40  | 48   | 22                   | 1,2                     | OF.. 0403 / SF.. 0903   | 398,60                   | 050 | 417,40                   | 150 |
| A274.50.R.07-09  | 50  | 55,7  | 7   | 3,8  | 40  | 48   | 22                   | 1,2                     | OF.. 0403 / SF.. 0903   |                          |     |                          |     |
| A274.63.R.06-09  | 63  | 68,7  | 6   | 3,8  | 40  | 48   | 22                   | 1,2                     | OF.. 0403 / SF.. 0903   | 454,70                   | 063 | 510,70                   | 163 |
| A274.63.R.09-09  | 63  | 68,7  | 9   | 3,8  | 40  | 48   | 22                   | 1,2                     | OF.. 0403 / SF.. 0903   |                          |     |                          |     |
| A274.80.R.07-09  | 80  | 85,7  | 7   | 3,8  | 50  | 58   | 27                   | 1,2                     | OF.. 0403 / SF.. 0903   | 510,70                   | 080 | 585,30                   | 180 |
| A274.80.R.11-09  | 80  | 85,7  | 11  | 3,8  | 50  | 58   | 27                   | 1,2                     | OF.. 0403 / SF.. 0903   |                          |     |                          |     |
| A274.100.R.09-09 | 100 | 105,7 | 9   | 3,8  | 50  | 78   | 32                   | 1,2                     | OF.. 0403 / SF.. 0903   | 629,80                   | 100 | 704,50                   | 200 |
| A274.100.R.13-09 | 100 | 105,7 | 13  | 3,8  | 50  | 78   | 32                   | 1,2                     | OF.. 0403 / SF.. 0903   |                          |     |                          |     |
| A274.125.R.12-09 | 125 | 130,7 | 12  | 3,8  | 63  | 88   | 40                   | 1,2                     | OF.. 0403 / SF.. 0903   | 767,40                   | 125 |                          |     |

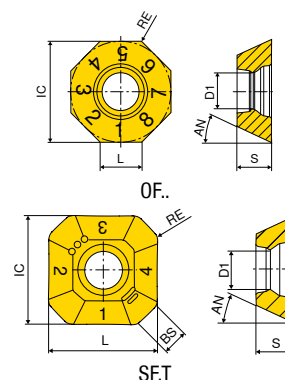
| Náhradné diely<br>DC | Y7                       |     | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|----------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                      | Výmenná vložka<br>TORX®  |     | Upínací klúč T           |     | Klúč D                   |     | Silová skrutka           |     | Pasta<br>Molykote        |     | Upínacia skrutka         |     | Rukoväť                  |     |
|                      | Artikel č.<br>80 950 ... | EUR | Artikel č.<br>80 397 ... | EUR | Artikel č.<br>80 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>80 950 ... | EUR |
| 20 - 25              | 4,76                     | 043 |                          |     | 10,20                    | 125 |                          |     | 4,38                     | 303 | 4,09                     | 133 | 118,90                   | 191 |
| 32 - 40              | 4,76                     | 043 | 3,91                     | 040 | 10,20                    | 125 | 12,48                    | 151 | 4,38                     | 303 | 4,09                     | 133 | 118,90                   | 191 |
| 50 - 125             | 4,76                     | 043 |                          |     | 10,20                    | 125 |                          |     | 4,38                     | 303 | 4,09                     | 133 | 118,90                   | 191 |

## Dva typy doštičiek – JEDNA fréza

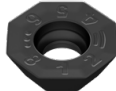


## OFHT / OFHW / SFHT / SFKT

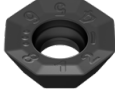
| Označenie   | IC   | D1   | L    | BS   | S    | AN |
|-------------|------|------|------|------|------|----|
|             | mm   | mm   | mm   | mm   | mm   | °  |
| OFH. 0403.. | 9,52 | 3,35 | 3,94 | -    | 3,18 | 25 |
| SFT. 0903.. | 9,80 | 3,35 | 9,00 | 2,25 | 3,50 | 25 |



## OFHT

| ISO                   | RE  | -F50 CTCP220                                                                      |     | -F50 CTPP225                                                                      |     | -F50 CTCP230                                                                      |     | -M50 CTCP230                                                                        |     | -F50 CTPP235                                                                        |     | -M50 CTPP235                                                                        |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |     | -F50 DCX1220                                                                      |     | -F50 DPX1225                                                                      |     | -F50 DCX1230                                                                      |     | -M50 DCX1230                                                                        |     | -F50 DPX1235                                                                        |     | -M50 DPX1235                                                                        |     |
|                       |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |     |  |     |  |     |  |     |  |     |  |     |  |     |
|                       |     | OFHT 1B/61                                                                        |     | OFHT 1B/61                                                                        |     | OFHT 1B/61                                                                        |     | OFHT 1B/61                                                                          |     | OFHT 1B/61                                                                          |     | OFHT 1B/61                                                                          |     |
|                       |     | Artikel č. 51 002 ...                                                             |     | Artikel č. 51 002 ...                                                             |     | Artikel č. 51 002 ...                                                             |     | Artikel č. 51 003 ...                                                               |     | Artikel č. 51 002 ...                                                               |     | Artikel č. 51 003 ...                                                               |     |
|                       |     | EUR                                                                               |     | EUR                                                                               |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 040305SN              | 0,5 | 15,76                                                                             | 255 | 15,76                                                                             | 055 | 15,76                                                                             | 005 | 15,76                                                                               | 005 | 15,76                                                                               | 105 | 15,76                                                                               | 105 |
| Oceľ                  |     | ●                                                                                 |     | ●                                                                                 |     | ●                                                                                 |     | ●                                                                                   |     | ●                                                                                   |     | ●                                                                                   |     |
| Nehrdzavejúca oceľ    |     |                                                                                   |     |                                                                                   |     | ○                                                                                 |     | ○                                                                                   |     | ○                                                                                   |     | ○                                                                                   |     |
| Litina                |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

## OFHT / OFHW

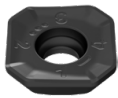
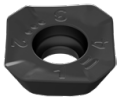
| ISO                   | RE  | -F50 CTPM225                                                                        |     | -F50 CTCM235                                                                        |     | -F50 CTPM240                                                                        |     | -M50 CTPM240                                                                          |     | -F50 CTPM245                                                                          |     | CTPM245                                                                               |     |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                       |     | -F50 DPX2225                                                                        |     | -F50 DCX2235                                                                        |     | -F50 DPX2240                                                                        |     | -M50 DPX2240                                                                          |     | -F50 DPX2245                                                                          |     | DPX2245                                                                               |     |
|                       |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     |
|                       |     |  |     |  |     |  |     |  |     |  |     |  |     |
|                       |     | OFHT 1B/61                                                                          |     | OFHT 1B/61                                                                          |     | OFHT 1B/61                                                                          |     | OFHT 1B/61                                                                            |     | OFHT 1H/17                                                                            |     | OFHW 1H/17                                                                            |     |
|                       |     | Artikel č. 51 002 ...                                                               |     | Artikel č. 51 002 ...                                                               |     | Artikel č. 51 002 ...                                                               |     | Artikel č. 51 003 ...                                                                 |     | Artikel č. 51 002 ...                                                                 |     | Artikel č. 51 105 ...                                                                 |     |
|                       |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |     | EUR                                                                                   |     |
| 040302EN              | 0,2 |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| 040305SN              | 0,5 | 15,76                                                                               | 205 | 15,76                                                                               | 305 | 15,76                                                                               | 405 | 15,76                                                                                 | 405 | 17,37                                                                                 | 455 | 17,37                                                                                 | 452 |
| Oceľ                  |     | ○                                                                                   |     | ○                                                                                   |     | ○                                                                                   |     | ○                                                                                     |     | ●                                                                                     |     | ●                                                                                     |     |
| Nehrdzavejúca oceľ    |     | ●                                                                                   |     | ●                                                                                   |     | ●                                                                                   |     | ●                                                                                     |     | ●                                                                                     |     | ●                                                                                     |     |
| Litina                |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Neželezné kovy        |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Kalená oceľ           |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |



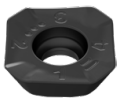
## OFHT / OFHW

|                       |     | -M50<br>CTCK215                                                                   | -F10<br>CTWN215                                                                   | -F50<br>CTC5240                                                                     | CTC5240                                                                             | -F50<br>CTCS245                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | -M50<br>DCX3215                                                                   | -F10<br>CWK4615                                                                   |                                                                                     | HCF5240                                                                             |                                                                                     |
|                       |     | DRAGONSKIN                                                                        |                                                                                   | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |  |
|                       |     | OFHT<br>1B/61                                                                     | OFHT<br>1B/61                                                                     | OFHT<br>NEW 1H/D4                                                                   | OFHW<br>1H/D4                                                                       | OFHT<br>NEW 1H/D4                                                                   |
| ISO                   | RE  | Artikel č.<br>51 003 ...                                                          | Artikel č.<br>50 459 ...                                                          | Artikel č.<br>51 002 ...                                                            | Artikel č.<br>50 457 ...                                                            | Artikel č.<br>51 002 ...                                                            |
|                       | mm  | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
| 040302EN              | 0,2 |                                                                                   |                                                                                   |                                                                                     | 17,37 504                                                                           |                                                                                     |
| 040305FN              | 0,5 |                                                                                   | 16,71 505                                                                         |                                                                                     |                                                                                     |                                                                                     |
| 040305SN              | 0,5 | 15,76 505                                                                         |                                                                                   | 17,37 15500                                                                         |                                                                                     | 17,37 555                                                                           |
| Oceľ                  |     | ○                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Nehrdzavejúca oceľ    |     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Liatina               |     | ● ○                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     | ●                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     | ●                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

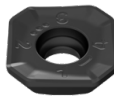
## SFHT / SFKT

| ISO                   | RE  | -F50 CTCP220                                                                      |     | -M50 CTCP220                                                                        |     | -F50 CTPP225                                                                        |     | -M50 CTPP225                                                                        |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |     | -F50 DCX1220                                                                      |     | -M50 DCX1220                                                                        |     | -F50 DPX1225                                                                        |     | -M50 DPX1225                                                                        |     |
|                       |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |     |  |     |  |     |  |     |  |     |
|                       |     | SFHT 1B/61                                                                        |     | SFKT 1B/61                                                                          |     | SFHT 1B/61                                                                          |     | SFKT 1B/61                                                                          |     |
|                       |     | Artikel č. 51 012 ...                                                             |     | Artikel č. 51 013 ...                                                               |     | Artikel č. 51 012 ...                                                               |     | Artikel č. 51 013 ...                                                               |     |
|                       |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 0903AFSR              | 1,0 | 15,76                                                                             | 270 | 11,61                                                                               | 270 | 15,76                                                                               | 070 | 11,61                                                                               | 070 |
| Oceľ                  |     | •                                                                                 |     | •                                                                                   |     | •                                                                                   |     | •                                                                                   |     |
| Nehrdzavejúca oceľ    |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Liatina               |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

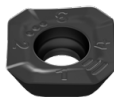
## SFHT / SFKT

| ISO                   | RE  | -F50 CTCP230                                                                        |     | -M50 CTCP230                                                                          |     | -F50 CTPP235                                                                          |     | -M50 CTPP235                                                                          |     |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                       |     | -F50 DCX1230                                                                        |     | -M50 DCX1230                                                                          |     | -F50 DPX1235                                                                          |     | -M50 DPX1235                                                                          |     |
|                       |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     |
|                       |     |  |     |  |     |  |     |  |     |
|                       |     | SFHT 1B/61                                                                          |     | SFKT 1B/61                                                                            |     | SFHT 1B/61                                                                            |     | SFKT 1B/61                                                                            |     |
|                       |     | Artikel č. 51 012 ...                                                               |     | Artikel č. 51 013 ...                                                                 |     | Artikel č. 51 012 ...                                                                 |     | Artikel č. 51 013 ...                                                                 |     |
|                       |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |     | EUR                                                                                   |     |
| 0903AFSR              | 1,0 | 15,76                                                                               | 020 | 11,61                                                                                 | 020 | 15,76                                                                                 | 120 | 11,61                                                                                 | 120 |
| Oceľ                  |     | •                                                                                   |     | •                                                                                     |     | •                                                                                     |     | •                                                                                     |     |
| Nehrdzavejúca oceľ    |     | ○                                                                                   |     | ○                                                                                     |     | ○                                                                                     |     | ○                                                                                     |     |
| Liatina               |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Neželezné kovy        |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Kalená oceľ           |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |

## SFHT / SFKT

|                       |     | -F50<br>CTPM225                                                                   | -M50<br>CTPM225                                                                   | -F50<br>CTCM235                                                                   | -F50<br>CTPM240                                                                     | -M50<br>CTPM240                                                                     | -F50<br>CTPM245                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | -F50<br>DPX2225                                                                   | -M50<br>DPX2225                                                                   | -F50<br>DCX2235                                                                   | -F50<br>DPX2240                                                                     |                                                                                     | -F50<br>DPX2245                                                                     |
|                       |     | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |  |  |
|                       |     | SFHT<br>1B/61                                                                     | SFKT<br>1B/61                                                                     | SFHT<br>1B/61                                                                     | SFHT<br>1B/61                                                                       | NEW SFKT<br>1B/61                                                                   | SFHT<br>1H/17                                                                       |
| ISO                   | RE  | Artikel č.<br>51 012 ...                                                          | Artikel č.<br>51 013 ...                                                          | Artikel č.<br>51 012 ...                                                          | Artikel č.<br>51 012 ...                                                            | Artikel č.<br>51 013 ...                                                            | Artikel č.<br>51 012 ...                                                            |
|                       | mm  | EUR                                                                               | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
| 0903AFSR              | 1,0 | 15,76 220                                                                         | 11,61 220                                                                         | 15,76 320                                                                         | 15,76 420                                                                           | 11,61 42000                                                                         | 19,60 470                                                                           |
| Oceľ                  |     | ○                                                                                 | ○                                                                                 | ○                                                                                 | ○                                                                                   | ○                                                                                   | ●                                                                                   |
| Nehrdzavejúca oceľ    |     | ●                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                   | ●                                                                                   | ●                                                                                   |
| Liatina               |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

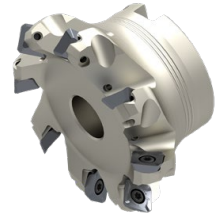
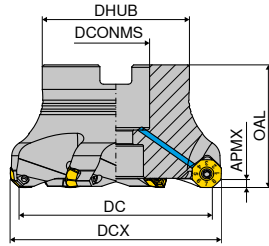
## SFKT / SFHT

|                       |     | <div>-R50<br/>CTCK215</div>                                                         |     | <div>-R50<br/>CTPK220</div>                                                           |     | <div>-F10<br/>CTWN215</div>                                                           |  | <div>-F40<br/>CTC5240</div>                                                           |     |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|-----|
|                       |     | <div>-R50<br/>DCX3215</div>                                                         |     | <div>-R50<br/>DPX3220</div>                                                           |     | <div>-F10<br/>CWK4615</div>                                                           |  | <div>-F40<br/>HCF5240</div>                                                           |     |
|                       |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     |                                                                                       |  | DRAGONSKIN                                                                            |     |
|                       |     |  |     |  |     |  |  |  |     |
|                       |     | SFKT<br>1B/61                                                                       |     | SFKT<br>1B/61                                                                         |     | SFHT<br>1B/61                                                                         |  | SFHT<br>1H/D4                                                                         |     |
|                       |     | Artikel č.<br>51 065 ...                                                            |     | Artikel č.<br>51 065 ...                                                              |     | Artikel č.<br>50 514 ...                                                              |  | Artikel č.<br>50 514 ...                                                              |     |
|                       |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |  | EUR                                                                                   |     |
| ISO                   | RE  |                                                                                     |     |                                                                                       |     |                                                                                       |  |                                                                                       |     |
|                       | mm  |                                                                                     |     |                                                                                       |     |                                                                                       |  |                                                                                       |     |
| 0903AFFR              | 1,0 |                                                                                     |     |                                                                                       |     | 18,90 505                                                                             |  |                                                                                       |     |
| 0903AFSR              | 1,0 | 11,61                                                                               | 520 | 11,61                                                                                 | 620 |                                                                                       |  | 19,60                                                                                 | 504 |
| Oceľ                  |     | ○                                                                                   |     | ○                                                                                     |     |                                                                                       |  |                                                                                       |     |
| Nehrdzavejúca oceľ    |     |                                                                                     |     |                                                                                       |     |                                                                                       |  |                                                                                       |     |
| Liatina               |     | ●                                                                                   |     | ●                                                                                     |     | ○                                                                                     |  |                                                                                       |     |
| Neželezné kovy        |     |                                                                                     |     |                                                                                       |     | ●                                                                                     |  |                                                                                       |     |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                       |     |                                                                                       |  | ●                                                                                     |     |
| Kalená oceľ           |     |                                                                                     |     |                                                                                       |     |                                                                                       |  |                                                                                       |     |

## Sprievodca frézovaním

|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Stratégia obrábania  | → 140     | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 140     |
| Počiatkové parametre | → 141     |                            |           |

## MaxiMill – Nástrčná fréza A 274-05/-12



| Označenie        | DC  | DCX   | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | Dotahovací moment<br>Nm | Vymeniteľná doštička  | 2B/40                    |                     |
|------------------|-----|-------|-----|------|-----|------|----------------------|-------------------------|-----------------------|--------------------------|---------------------|
|                  |     |       |     |      |     |      |                      |                         |                       | Artikel č.<br>50 772 ... |                     |
|                  | mm  | mm    |     | mm   | mm  | mm   | mm                   |                         |                       | EUR                      |                     |
| A274.40.R.03-12  | 40  | 48,0  | 3   | 6    | 40  | 38   | 16                   | 3,2                     | OFHT 0504 / SFKT 1204 | 258,00                   | 24000               |
| A274.40.R.04-12  | 40  | 48,0  | 4   | 6    | 40  | 38   | 16                   | 3,2                     | OFHT 0504 / SFKT 1204 | 338,50                   | 04000               |
| A274.50.R.05-12  | 50  | 58,0  | 5   | 6    | 40  | 43   | 22                   | 3,2                     | OFHT 0504 / SFKT 1204 | 429,90                   | 050                 |
| A274.50.R.04-12  | 50  | 58,1  | 4   | 6    | 40  | 43   | 22                   | 3,2                     | OFHT 0504 / SFKT 1204 | 343,90                   | 25000               |
| A274.63.R.06-12  | 63  | 71,0  | 6   | 6    | 40  | 48   | 22                   | 3,2                     | OFHT 0504 / SFKT 1204 | 515,90                   | 063                 |
| A274.63.R.05-12  | 63  | 71,1  | 5   | 6    | 40  | 48   | 22                   | 3,2                     | OFHT 0504 / SFKT 1204 | 440,40                   | 26300               |
| A274.80.R.06-12  | 80  | 88,0  | 6   | 6    | 50  | 58   | 27                   | 3,2                     | OFHT 0504 / SFKT 1204 | 537,30                   | 28000               |
| A274.80.R.08-12  | 80  | 88,0  | 8   | 6    | 50  | 58   | 27                   | 3,2                     | OFHT 0504 / SFKT 1204 | 687,90                   | 080                 |
| A274.100.R.10-12 | 100 | 107,9 | 10  | 6    | 50  | 78   | 32                   | 3,2                     | OFHT 0504 / SFKT 1204 | 849,00                   | 100                 |
| A274.100.R.08-12 | 100 | 108,0 | 8   | 6    | 50  | 78   | 32                   | 3,2                     | OFHT 0504 / SFKT 1204 | 709,40                   | 30000               |
| A274.125.R.12-12 | 125 | 132,9 | 12  | 6    | 63  | 88   | 40                   | 3,2                     | OFHT 0504 / SFKT 1204 | 1.037,00                 | 125                 |
| A274.125.R.09-12 | 125 | 133,0 | 9   | 6    | 63  | 88   | 40                   | 3,2                     | OFHT 0504 / SFKT 1204 | 889,20                   | 32500               |
| A274.160.R.11-12 | 160 | 133,0 | 11  | 6    | 63  | 88   | 40                   | 3,2                     | OFHT 0504 / SFKT 1204 | 1.081,00                 | 36000 <sup>1)</sup> |
| A274.160.R.14-12 | 160 | 167,9 | 14  | 6    | 63  | 98   | 40                   | 3,2                     | OFHT 0504 / SFKT 1204 | 1.376,00                 | 16000 <sup>1)</sup> |

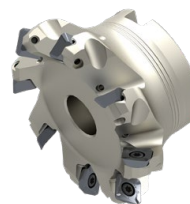
1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

Náhradné diely  
DC

40 - 160

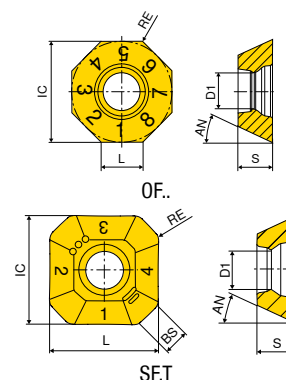
| Y7                       | Y7                       | 2A/28                    | 2A/28                    | Y7                       |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                          |                          |                          |                          |                          |
| Výmenná vložka<br>TORX®  | Kľúč D                   | Pasta<br>Molykote        | Upínacia skrutka         | Rukoväť                  |
| Artikel č.<br>80 950 ... | Artikel č.<br>80 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>80 950 ... |
| EUR                      | EUR                      | EUR                      | EUR                      | EUR                      |
| 5,26 054                 | 11,89 128                | 4,38 303                 | 4,61 340                 | 131,90 193               |

## Dva typy doštičiek – JEDNA fréza

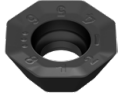


## OFHT / SFHT / SFKT

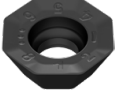
| Označenie   | IC   | D1  | L    | BS   | S    | AN |
|-------------|------|-----|------|------|------|----|
|             | mm   | mm  | mm   | mm   | mm   | °  |
| OFHT 0504.. | 12,7 | 4,8 | 4,5  | -    | 4,76 | 25 |
| SF.T 1204.. | 12,7 | 4,8 | 12,7 | 1,42 | 4,76 | 25 |



## OFHT

| ISO                   | RE  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | -F50 CTCP230                                                                      | -M50 CTCP230                                                                        | -F50 CTPP235                                                                        | -M50 CTPP235                                                                        |
|                       |     | -F50 DCX1230                                                                      |                                                                                     | -F50 DPX1235                                                                        |                                                                                     |
|                       |     | DRAGONSkin                                                                        | DRAGONSkin                                                                          | DRAGONSkin                                                                          | DRAGONSkin                                                                          |
|                       |     |  |  |  |  |
|                       |     | OFHT 1B/61                                                                        | NEW OFHT 1B/61                                                                      | OFHT 1B/61                                                                          | NEW OFHT 1B/61                                                                      |
|                       |     | Artikel č. 51 002 ...                                                             | Artikel č. 51 003 ...                                                               | Artikel č. 51 002 ...                                                               | Artikel č. 51 003 ...                                                               |
|                       |     | EUR 17,33                                                                         | EUR 17,33                                                                           | EUR 17,33                                                                           | EUR 17,33                                                                           |
| 050410SN              | 1,0 | 010                                                                               | 01000                                                                               | 110                                                                                 | 11000                                                                               |
| Oceľ                  |     | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Nehrdzavejúca oceľ    |     | ○                                                                                 | ○                                                                                   | ○                                                                                   | ○                                                                                   |
| Liatina               |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## OFHT

| ISO                   | RE  |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -F50 CTPM225                                                                        | -M50 CTPM225                                                                        | -F50 CTCM235                                                                        | -F50 CTPM240                                                                          | -M50 CTPM240                                                                          | -F50 CTPM245                                                                          |
|                       |     | -F50 DPX2225                                                                        | -M50 DPX2225                                                                        | -F50 DCX2235                                                                        | -F50 DPX2240                                                                          |                                                                                       | -F50 DPX2245                                                                          |
|                       |     | DRAGONSkin                                                                          | DRAGONSkin                                                                          | DRAGONSkin                                                                          | DRAGONSkin                                                                            | DRAGONSkin                                                                            | DRAGONSkin                                                                            |
|                       |     |  |  |  |  |  |  |
|                       |     | OFHT 1B/61                                                                          | OFHT 1B/61                                                                          | OFHT 1B/61                                                                          | OFHT 1B/61                                                                            | NEW OFHT 1B/61                                                                        | OFHT 1H/17                                                                            |
|                       |     | Artikel č. 51 002 ...                                                               | Artikel č. 51 003 ...                                                               | Artikel č. 51 002 ...                                                               | Artikel č. 51 002 ...                                                                 | Artikel č. 51 003 ...                                                                 | Artikel č. 51 002 ...                                                                 |
|                       |     | EUR 17,33                                                                           | EUR 17,33                                                                           | EUR 17,33                                                                           | EUR 17,33                                                                             | EUR 17,33                                                                             | EUR 19,10                                                                             |
| 050410SN              | 1,0 | 210                                                                                 | 210                                                                                 | 310                                                                                 | 410                                                                                   | 41000                                                                                 | 460                                                                                   |
| Oceľ                  |     | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | •                                                                                     |
| Nehrdzavejúca oceľ    |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Liatina               |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Neželezné kovy        |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Žiaruvzdorná zliatina |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Kalená oceľ           |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

## OFHT

**-F10**  
CTWN215**-F50**  
CTC5240

DRAGONSKIN



OFHT

OFHT

NEW 1B/61

NEW 1H/D4

Artikel č.

Artikel č.

51 122 ...

51 002 ...

EUR

EUR

20,79 36000

19,10 16000

| ISO                   | RE  |   |   |
|-----------------------|-----|---|---|
|                       | mm  |   |   |
| 050410FN              | 1,0 |   |   |
| 050410SN              | 1,0 |   |   |
| Oceľ                  |     |   |   |
| Nehrdzavejúca oceľ    |     |   |   |
| Liatina               |     | ○ |   |
| Neželezné kovy        |     | ● |   |
| Žiaruvzdorná zliatina |     |   | ● |
| Kalená oceľ           |     |   |   |

## SFHT / SFKT

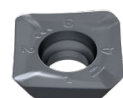
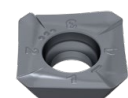
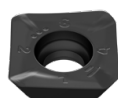
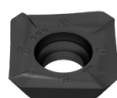
**-F50**  
CTCP230**-M50**  
CTCP230**-F50**  
CTPP235**-M50**  
CTPP235**-M50**  
DCX1230**-M50**  
DPX1235

DRAGONSKIN

DRAGONSKIN

DRAGONSKIN

DRAGONSKIN



SFHT

SFKT

SFHT

SFKT

NEW 1B/61

1B/61

NEW 1B/61

1B/61

Artikel č.

Artikel č.

Artikel č.

Artikel č.

51 012 ...

51 013 ...

51 012 ...

51 013 ...

EUR

EUR

EUR

EUR

17,33 02500

12,77 025

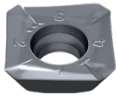
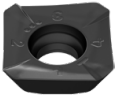
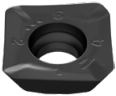
17,33 12500

12,77 125

| ISO                   | RE  |   |   |   |   |
|-----------------------|-----|---|---|---|---|
|                       | mm  |   |   |   |   |
| 1204AFSR              | 1,0 |   |   |   |   |
| Oceľ                  |     | ● | ● | ● | ● |
| Nehrdzavejúca oceľ    |     | ○ | ○ | ○ | ○ |
| Liatina               |     |   |   |   |   |
| Neželezné kovy        |     |   |   |   |   |
| Žiaruvzdorná zliatina |     |   |   |   |   |
| Kalená oceľ           |     |   |   |   |   |



## SFHT / SFKT

| ISO                   | RE  | -F50 CTPM225                                                                      |     | -M50 CTPM225                                                                      |     | -F50 CTCM235                                                                      |     | -M50 CTCM235                                                                      |     | -F50 CTPM240                                                                        |       | -M50 CTPM240                                                                        |     | -F50 CTPM245                                                                        |       |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-------|
|                       |     | -F50 DPX2225                                                                      |     | -M50 DPX2225                                                                      |     | -F50 DCX2235                                                                      |     | -M50 DCX2235                                                                      |     | DRAGONSkin                                                                          |       | DRAGONSkin                                                                          |     | DRAGONSkin                                                                          |       |
|                       |     |  |     |  |     |  |     |  |     |  |       |  |     |  |       |
|                       |     | Artikel č. 51 012 ...<br>EUR                                                      |     | Artikel č. 51 013 ...<br>EUR                                                      |     | Artikel č. 51 012 ...<br>EUR                                                      |     | Artikel č. 51 013 ...<br>EUR                                                      |     | Artikel č. 51 012 ...<br>EUR                                                        |       | Artikel č. 51 013 ...<br>EUR                                                        |     | Artikel č. 51 012 ...<br>EUR                                                        |       |
| 1204AFSR              | 1,0 | 17,33                                                                             | 225 | 12,77                                                                             | 225 | 17,33                                                                             | 325 | 12,77                                                                             | 325 | 17,33                                                                               | 42500 | 12,77                                                                               | 425 | 21,15                                                                               | 47500 |
| Oceľ                  |     |                                                                                   | ○   |                                                                                   | ○   |                                                                                   | ○   |                                                                                   | ○   |                                                                                     | ○     |                                                                                     | ○   |                                                                                     | ●     |
| Nehrdzavejúca oceľ    |     |                                                                                   | ●   |                                                                                   | ●   |                                                                                   | ●   |                                                                                   | ●   |                                                                                     | ●     |                                                                                     | ●   |                                                                                     | ●     |
| Liatina               |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Neželezné kovy        |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Kalená oceľ           |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |

## SFHT

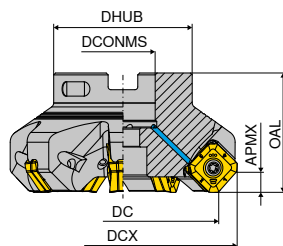
| ISO                   | RE  | -F10 CTWN215                                                                          |       | -F40 CTC5240                                                                          |       |
|-----------------------|-----|---------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|-------|
|                       |     |  |       |  |       |
|                       |     | Artikel č. 51 123 ...<br>EUR                                                          |       | Artikel č. 50 514 ...<br>EUR                                                          |       |
|                       |     | NEW 1B/61                                                                             |       | NEW 1H/D4                                                                             |       |
| 1204AFER              | 1,0 |                                                                                       |       |                                                                                       |       |
| 1204AFFR              | 1,0 | 20,79                                                                                 | 37000 | 21,58                                                                                 | 50900 |
| Oceľ                  |     |                                                                                       |       |                                                                                       |       |
| Nehrdzavejúca oceľ    |     |                                                                                       |       |                                                                                       |       |
| Liatina               |     |                                                                                       |       | ○                                                                                     |       |
| Neželezné kovy        |     |                                                                                       |       | ●                                                                                     |       |
| Žiaruvzdorná zliatina |     |                                                                                       |       |                                                                                       | ●     |
| Kalená oceľ           |     |                                                                                       |       |                                                                                       |       |

## Sprievodca frézovaním

|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Stratégia obrábania  | → 142     | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 142     |
| Počiatkové parametre | → 143     |                            |           |

## MaxiMill – Nástrčná fréza A 271

▲ 8 rezných hrán na vymeniteľnej britovej doštičke



| Označenie        | DC  | DCX   | ZNF | APMX | OAL | DCONMS | DHUB | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |                     |
|------------------|-----|-------|-----|------|-----|--------|------|-------------------------|-------------------------|--------------------------|---------------------|
|                  |     |       |     |      |     |        |      |                         |                         | Artikel č.<br>50 767 ... |                     |
|                  | mm  | mm    |     | mm   | mm  | mm     | mm   |                         |                         | EUR                      |                     |
| A271.50.R.04-17  | 50  | 66,1  | 4   | 8,4  | 40  | 22     | 43   | 5                       | SAKU 1706               | 397,70                   | 050                 |
| A271.63.R.06-17  | 63  | 79,1  | 6   | 8,4  | 40  | 22     | 48   | 5                       | SAKU 1706               | 558,90                   | 063                 |
| A271.80.R.07-17  | 80  | 96,1  | 7   | 8,4  | 50  | 27     | 58   | 5                       | SAKU 1706               | 639,50                   | 080                 |
| A271.100.R.08-17 | 100 | 116,1 | 8   | 8,4  | 50  | 32     | 78   | 5                       | SAKU 1706               | 736,30                   | 100                 |
| A271.125.R.10-17 | 125 | 141,1 | 10  | 8,4  | 63  | 40     | 88   | 5                       | SAKU 1706               | 849,00                   | 125                 |
| A271.160.R.12-17 | 160 | 176,1 | 12  | 8,4  | 63  | 40     | 104  | 5                       | SAKU 1706               | 999,60                   | 16000 <sup>1)</sup> |
| A271.200.R.13-17 | 200 | 216,1 | 13  | 8,4  | 63  | 60     | 134  | 5                       | SAKU 1706               | 1.236,00                 | 20000 <sup>2)</sup> |
| A271.250.R.15-17 | 250 | 266,1 | 15  | 8,4  | 63  | 60     | 134  | 5                       | SAKU 1706               | 1.494,00                 | 25000 <sup>2)</sup> |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

2) So 4 závitovými otvormi M16 na čele, Ø rázv. kruž. = 101,6 mm

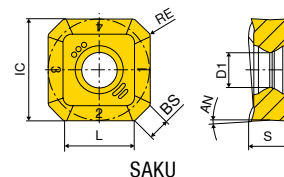
Náhradné diely  
DC

50 - 250

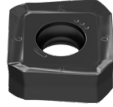
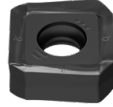
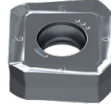
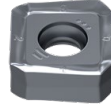
| Y7                       | Y7                       | 2A/28                    | 2A/28                    | Y7                       |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                          |                          |                          |                          |                          |
| Výmenná vložka<br>TORX®  | Kľúč D                   | Pasta<br>Molykote        | Upínacia skrutka         | Rukoväť                  |
| Artikel č.<br>80 950 ... | Artikel č.<br>80 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>80 950 ... |
| EUR                      | EUR                      | EUR                      | EUR                      | EUR                      |
| 4,76 037                 | 9,95 114                 | 4,38 303                 | 4,09 302                 | 131,90 193               |

## SAKU

| Označenie   | IC | D1  | L     | BS  | S    | AN |
|-------------|----|-----|-------|-----|------|----|
|             | mm | mm  | mm    | mm  | mm   | °  |
| SAKU 1706.. | 17 | 5,8 | 11,85 | 3,7 | 6,35 | 3  |

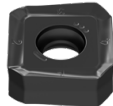
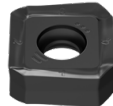
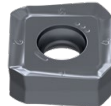
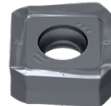


## SAKU

| ISO | RE |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|-----|----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|     |    | -F50<br>CTCP220                                                                   | -M50<br>CTCP220                                                                     | -F50<br>CTPP225                                                                     | -M50<br>CTPP225                                                                     |
|     |    | -F50<br>DCX1220                                                                   | -M50<br>DCX1220                                                                     | -F50<br>DPX1225                                                                     | -M50<br>DPX1225                                                                     |
|     |    | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|     |    |  |  |  |  |
|     |    | SAKU<br>1B/61                                                                     | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                       |
|     |    | Artikel č.<br>51 004 ...                                                          | Artikel č.<br>51 005 ...                                                            | Artikel č.<br>51 004 ...                                                            | Artikel č.<br>51 005 ...                                                            |
|     |    | EUR<br>29,13                                                                      | EUR<br>29,13                                                                        | EUR<br>29,13                                                                        | EUR<br>29,13                                                                        |
|     |    | 270                                                                               | 270                                                                                 | 070                                                                                 | 070                                                                                 |

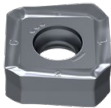
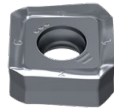
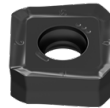
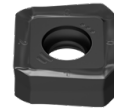
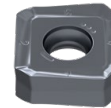
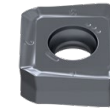
|                       |   |   |   |   |
|-----------------------|---|---|---|---|
| Oceľ                  | • | • | • | • |
| Nehrdzavejúca oceľ    |   |   |   |   |
| Liatina               |   |   |   |   |
| Neželezné kovy        |   |   |   |   |
| Žiaruvzdorná zliatina |   |   |   |   |
| Kalená oceľ           |   |   |   |   |

## SAKU

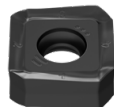
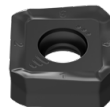
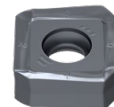
| ISO | RE |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-----|----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|     |    | -F50<br>CTCP230                                                                     | -M50<br>CTCP230                                                                       | -F50<br>CTPP235                                                                       | -M50<br>CTPP235                                                                       |
|     |    | -F50<br>DCX1230                                                                     | -M50<br>DCX1230                                                                       | -F50<br>DPX1235                                                                       | -M50<br>DPX1235                                                                       |
|     |    | DRAGONSKIN                                                                          | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|     |    |  |  |  |  |
|     |    | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                         | SAKU<br>1B/61                                                                         | SAKU<br>1B/61                                                                         |
|     |    | Artikel č.<br>51 004 ...                                                            | Artikel č.<br>51 005 ...                                                              | Artikel č.<br>51 004 ...                                                              | Artikel č.<br>51 005 ...                                                              |
|     |    | EUR<br>29,13                                                                        | EUR<br>29,13                                                                          | EUR<br>29,13                                                                          | EUR<br>29,13                                                                          |
|     |    | 020                                                                                 | 020                                                                                   | 120                                                                                   | 120                                                                                   |

|                       |   |   |   |   |
|-----------------------|---|---|---|---|
| Oceľ                  | • | • | • | • |
| Nehrdzavejúca oceľ    | ○ | ○ | ○ | ○ |
| Liatina               |   |   |   |   |
| Neželezné kovy        |   |   |   |   |
| Žiaruvzdorná zliatina |   |   |   |   |
| Kalená oceľ           |   |   |   |   |

## SAKU

|                       |          | -F50<br>CTPM225                                                                   | -M50<br>CTPM225                                                                   | -F50<br>CTCM235                                                                   | -M50<br>CTCM235                                                                   | -F50<br>CTPM240                                                                     | -M50<br>CTPM240                                                                     | -F50<br>CTPM245                                                                     |
|-----------------------|----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |          | -F50<br>DPX2225                                                                   | -M50<br>DPX2225                                                                   | -F50<br>DCX2235                                                                   | -M50<br>DCX2235                                                                   | -F50<br>DPX2240                                                                     | -M50<br>DPX2240                                                                     | -F50<br>DPX2245                                                                     |
|                       |          | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |          |  |  |  |  |  |  |  |
|                       |          | SAKU<br>1B/61                                                                     | SAKU<br>1B/61                                                                     | SAKU<br>1B/61                                                                     | SAKU<br>1B/61                                                                     | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                       | SAKU<br>1H/17                                                                       |
| ISO                   | RE       | Artikel č.<br>51 004 ...                                                          | Artikel č.<br>51 005 ...                                                          | Artikel č.<br>51 004 ...                                                          | Artikel č.<br>51 005 ...                                                          | Artikel č.<br>51 004 ...                                                            | Artikel č.<br>51 005 ...                                                            | Artikel č.<br>51 004 ...                                                            |
|                       | mm       | EUR                                                                               | EUR                                                                               | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
|                       | 1706ABSR | 0,8                                                                               | 29,13 220                                                                         | 29,13 220                                                                         | 29,13 320                                                                         | 29,13 320                                                                           | 29,13 420                                                                           | 29,13 420                                                                           |
| Oceľ                  |          | ○                                                                                 | ○                                                                                 | ○                                                                                 | ○                                                                                 | ○                                                                                   | ○                                                                                   | ●                                                                                   |
| Nehrdzavejúca oceľ    |          | ●                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                 | ●                                                                                   | ●                                                                                   | ●                                                                                   |
| Liatina               |          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## SAKU

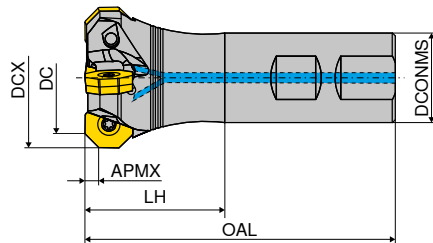
|                       |          | <div>-M50<br/>CTCK215</div>                                                         | <div>-R50<br/>CTCK215</div>                                                         | <div>-M50<br/>CTPK220</div>                                                         | <div>-R50<br/>CTPK220</div>                                                           | <div>-F50<br/>CTC5240</div>                                                           | <div>-F50<br/>CTCS245</div>                                                           |
|-----------------------|----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |          | <div>-M50<br/>DCX3215</div>                                                         | <div>-R50<br/>DCX3215</div>                                                         | <div>-M50<br/>DPX3220</div>                                                         | <div>-R50<br/>DPX3220</div>                                                           | <div>-F50<br/>HCF5240</div>                                                           |                                                                                       |
|                       |          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |          |  |  |  |  |  |  |
|                       |          | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                       | SAKU<br>1B/61                                                                         | SAKU<br>1H/D4                                                                         | SAKU<br>1H/D4                                                                         |
| ISO                   | RE       | Artikel č.<br>51 005 ...                                                            | Artikel č.<br>51 058 ...                                                            | Artikel č.<br>51 005 ...                                                            | Artikel č.<br>51 058 ...                                                              | Artikel č.<br>50 306 ...                                                              | Artikel č.<br>51 004 ...                                                              |
|                       | mm       | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 | EUR                                                                                   | EUR                                                                                   | EUR                                                                                   |
|                       | 1706ABSR | 0,8                                                                                 | 29,13 520                                                                           | 29,13 520                                                                           | 29,13 620                                                                             | 29,13 620                                                                             | 35,84 520                                                                             |
| Oceľ                  |          |                                                                                     | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     |                                                                                       |
| Nehrdzavejúca oceľ    |          |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Liatina               |          | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       |                                                                                       |
| Neželezné kovy        |          |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Žiaruvzdorná zliatina |          |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●                                                                                     | ●                                                                                     |
| Kalená oceľ           |          |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

## Sprievodca frézovaním

|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Počiatkové parametre | → 144     | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 144     |

## MaxiMill – Stopková fréza C 273

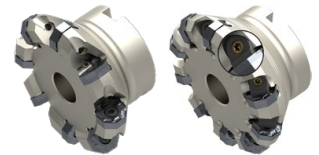
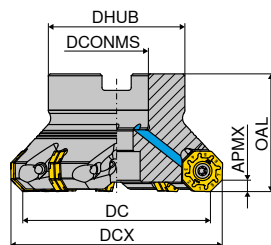
- ▲ 16 rezných hrán na doštičku  
▲ na vyžiadanie ľavé prevedenie



| Označenie              | DC | DCX  | ZNF | APMX | DCONMS <sub>h6</sub> | LH | OAL | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 762 ...<br>EUR |     |
|------------------------|----|------|-----|------|----------------------|----|-----|-------------------------|-------------------------|------------------------------------------|-----|
| C273.32.R.03-06-B-40   | 32 | 42,1 | 3   | 3,5  | 32                   | 40 | 101 | 5                       | OAKU / XAHT 0605        | 387,10                                   | 032 |
| C273.40.R.04-06-B32-50 | 40 | 50,1 | 4   | 3,5  | 32                   | 50 | 111 | 5                       | OAKU / XAHT 0605        | 400,00                                   | 040 |

## MaxiMill – Nástrčná fréza A 273

- ▲ 16 rezných hrán na doštičku  
▲ na vyžiadanie ľavé prevedenie



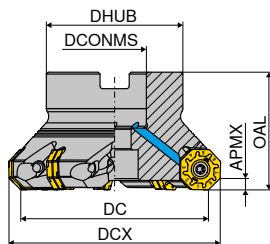
| Označenie        | DC  | DCX   | ZNF | APMX | OAL | DCONMS <sub>h6</sub> | DHUB | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 741 ...<br>EUR | 2B/40<br>Artikel č.<br>50 741 ...<br>EUR |
|------------------|-----|-------|-----|------|-----|----------------------|------|-------------------------|-------------------------|------------------------------------------|------------------------------------------|
| A273.40.R.04-06  | 40  | 50,2  | 3   | 3,5  | 40  | 16                   | 38   | 5                       | OAKU / XAHT 0605        | 381,40                                   | 040                                      |
| A273.40.R.04-06  | 40  | 50,2  | 4   | 3,5  | 40  | 16                   | 38   | 5                       | OAKU / XAHT 0605        | 400,00                                   | 140 5)                                   |
| A273.50.R.05-06  | 50  | 60,2  | 5   | 3,5  | 40  | 22                   | 43   | 5                       | OAKU / XAHT 0605        | 448,50                                   | 050                                      |
| A273.63.R.07-06  | 63  | 73,2  | 7   | 3,5  | 40  | 22                   | 48   | 5                       | OAKU / XAHT 0605        | 538,40                                   | 063                                      |
| A273.80.R.08-06  | 80  | 90,2  | 8   | 3,5  | 50  | 27                   | 58   | 5                       | OAKU / XAHT 0605        | 628,10                                   | 080                                      |
| A273.80.R.10-06  | 80  | 90,2  | 10  | 3,5  | 50  | 27                   | 58   | 5                       | OAKU / XAHT 0605        |                                          | 957,10 180 1)                            |
| A273.100.R.10-06 | 100 | 110,2 | 10  | 3,5  | 50  | 32                   | 78   | 5                       | OAKU / XAHT 0605        | 740,30                                   | 100                                      |
| A273.100.R.14-06 | 100 | 110,2 | 14  | 3,5  | 50  | 32                   | 78   | 5                       | OAKU / XAHT 0605        |                                          | 1.223,00 200 1)                          |
| A273.125.R.12-06 | 125 | 135,2 | 12  | 3,5  | 63  | 40                   | 88   | 5                       | OAKU / XAHT 0605        | 830,00                                   | 125                                      |
| A273.125.R.17-06 | 125 | 135,2 | 17  | 3,5  | 63  | 40                   | 88   | 5                       | OAKU / XAHT 0605        |                                          | 1.419,00 225 1)                          |
| A273.160.R.14-06 | 160 | 170,2 | 14  | 3,5  | 63  | 40                   | 104  | 5                       | OAKU / XAHT 0605        | 983,90                                   | 160 4)                                   |
| A273.160.R.20-06 | 160 | 170,2 | 20  | 3,5  | 63  | 40                   | 104  | 5                       | OAKU / XAHT 0605        |                                          | 1.679,00 260 2)                          |
| A273.200.R.25-06 | 200 | 210,2 | 25  | 3,5  | 63  | 60                   | 153  | 5                       | OAKU / XAHT 0605        | 2.099,00                                 | 300 3)                                   |
| A273.250.R.31-06 | 250 | 260,2 | 31  | 3,5  | 63  | 60                   | 153  | 5                       | OAKU / XAHT 0605        | 2.567,00                                 | 25031 3)                                 |

- 1) Prevedenie s upínacím klinom, bez vnútorného privádzania chladivého média  
2) Prevedenie s upínacím klinom, bez vnútorného privádzania chladivého média / So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm  
3) Prevedenie s upínacím klinom, bez vnútorného privádzania chladivého média / So 4 závitovými otvormi M16 na čele, Ø rázv. kruž. = 101,6 mm  
4) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm / bez vnútorného privádzania chladivého média  
5) Bez vnútorného privádzania chladivého média

|                        | <div>Y7</div> <div></div> <div>Výmenná vložka<br/>TORX®</div> |     | <div>Y7</div> <div></div> <div>Upínací kľúč T</div> |     | <div>2A/28</div> <div></div> <div>Skrutka<br/>upínacieho klinu</div> |     | <div>2A/28</div> <div></div> <div>Upínacie klin</div> |     | <div>Y7</div> <div></div> <div>Kľúč D</div> |     | <div>2A/28</div> <div></div> <div>Silová skrutka</div> |     | <div>2A/28</div> <div></div> <div>Upínacia skrutka</div> |     | <div>Y7</div> <div></div> <div>Rukoväť</div> |     |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------|-----|
| Náhradné diely<br>IDNR | Artikel č.<br>80 950 ...                                                                                                                         |     | Artikel č.<br>80 397 ...                                                                                                               |     | Artikel č.<br>70 950 ...                                                                                                                                |     | Artikel č.<br>70 950 ...                                                                                                                 |     | Artikel č.<br>80 950 ...                                                                                                        |     | Artikel č.<br>70 950 ...                                                                                                                    |     | Artikel č.<br>70 950 ...                                                                                                                      |     | Artikel č.<br>80 950 ...                                                                                                          |     |
|                        | EUR                                                                                                                                              |     | EUR                                                                                                                                    |     | EUR                                                                                                                                                     |     | EUR                                                                                                                                      |     | EUR                                                                                                                             |     | EUR                                                                                                                                         |     | EUR                                                                                                                                           |     | EUR                                                                                                                               |     |
| 50741040               | 4,76                                                                                                                                             | 037 | 3,91                                                                                                                                   | 040 |                                                                                                                                                         |     |                                                                                                                                          |     | 9,95                                                                                                                            | 114 | 12,48                                                                                                                                       | 151 | 4,09                                                                                                                                          | 302 | 131,90                                                                                                                            | 193 |
| 50741050               | 4,76                                                                                                                                             | 037 | 4,24                                                                                                                                   | 050 |                                                                                                                                                         |     |                                                                                                                                          |     | 9,95                                                                                                                            | 114 | 17,14                                                                                                                                       | 154 | 4,09                                                                                                                                          | 302 | 131,90                                                                                                                            | 193 |
| 50741063 - 50741125    | 4,76                                                                                                                                             | 037 |                                                                                                                                        |     |                                                                                                                                                         |     |                                                                                                                                          |     | 9,95                                                                                                                            | 114 |                                                                                                                                             |     | 4,09                                                                                                                                          | 302 | 131,90                                                                                                                            | 193 |
| 50741140               | 4,76                                                                                                                                             | 037 | 3,91                                                                                                                                   | 040 |                                                                                                                                                         |     |                                                                                                                                          |     | 9,95                                                                                                                            | 114 | 12,48                                                                                                                                       | 151 | 4,09                                                                                                                                          | 302 | 131,90                                                                                                                            | 193 |
| 50741160               | 4,76                                                                                                                                             | 037 |                                                                                                                                        |     |                                                                                                                                                         |     |                                                                                                                                          |     | 9,95                                                                                                                            | 114 |                                                                                                                                             |     | 4,09                                                                                                                                          | 302 | 131,90                                                                                                                            | 193 |
| 50741180 - 50741300    | 4,76                                                                                                                                             | 036 |                                                                                                                                        |     | 5,90                                                                                                                                                    | 844 | 23,55                                                                                                                                    | 845 | 9,28                                                                                                                            | 113 |                                                                                                                                             |     |                                                                                                                                               |     | 131,90                                                                                                                            | 193 |
| 50762032 - 50762040    | 4,76                                                                                                                                             | 037 |                                                                                                                                        |     |                                                                                                                                                         |     |                                                                                                                                          |     | 9,95                                                                                                                            | 114 |                                                                                                                                             |     | 4,09                                                                                                                                          | 302 | 131,90                                                                                                                            | 193 |
| 5074125031             | 4,76                                                                                                                                             | 036 |                                                                                                                                        |     | 5,90                                                                                                                                                    | 844 | 23,55                                                                                                                                    | 845 | 9,28                                                                                                                            | 113 |                                                                                                                                             |     |                                                                                                                                               |     | 131,90                                                                                                                            | 193 |

## MaxiMill – Nástrčná fréza A 273

- ▲ 16 rezných hrán na vymeniteľnú doštičku
- ▲ možnosť axiálneho nastavenia



| Označenie           | DC  | DCX   | ZNF | APMX | OAL | DCONMS <sub>H6</sub> | DHUB | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW 2B/40<br>Artikel č.<br>50 777 ...<br>EUR |
|---------------------|-----|-------|-----|------|-----|----------------------|------|-------------------------|-------------------------|----------------------------------------------|
|                     | mm  | mm    |     | mm   | mm  | mm                   | mm   |                         |                         |                                              |
| A273.80.R.10A10-06  | 80  | 90,2  | 10  | 3,5  | 50  | 27                   | 58   | 5                       | OAKU / XAHT 0605        | 1.258,00 08010 <sup>1)</sup>                 |
| A273.100.R.14A14-06 | 100 | 110,2 | 14  | 3,5  | 50  | 32                   | 78   | 5                       | OAKU / XAHT 0605        | 1.713,00 10014 <sup>1)</sup>                 |
| A273.125.R.17A17-06 | 125 | 135,2 | 17  | 3,5  | 63  | 40                   | 88   | 5                       | OAKU / XAHT 0605        | 2.014,00 12517 <sup>1)</sup>                 |
| A273.160.R.20A20-06 | 160 | 170,2 | 20  | 3,5  | 63  | 40                   | 104  | 5                       | OAKU / XAHT 0605        | 2.378,00 16020 <sup>2)</sup>                 |
| A273.200.R.25A25-06 | 200 | 210,2 | 25  | 3,5  | 63  | 60                   | 153  | 5                       | OAKU / XAHT 0605        | 2.974,00 20025 <sup>3)</sup>                 |
| A273.250.R.31A31-06 | 250 | 260,2 | 31  | 3,5  | 63  | 60                   | 153  | 5                       | OAKU / XAHT 0605        | 3.652,00 25031 <sup>3)</sup>                 |

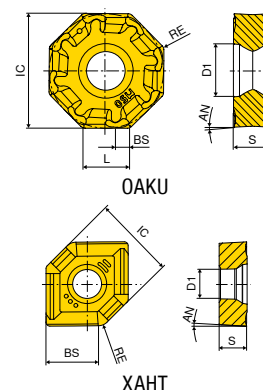
- 1) Prevedenie s upínacím klinom, bez vnútorného privádzania chladiaceho média
- 2) Prevedenie s upínacím klinom, bez vnútorného privádzania chladiaceho média / So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm
- 3) Prevedenie s upínacím klinom, bez vnútorného privádzania chladiaceho média / So 4 závitovými otvormi M16 na čele, Ø rázv. kruž. = 101,6 mm

Náhradné diely  
DC

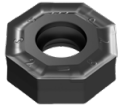
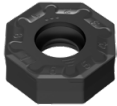
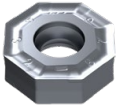
|          | Y7                              | 2A/28                           | 2A/28                           | Y7                              | 2A/28                           | 2A/28                           | Y7                              |
|----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|          |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
|          | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 80 - 250 | 4,76 036                        | 5,90 844                        | 23,55 845                       | 9,28 113                        | 4,38 303                        | 36,80 199                       | 131,90 193                      |

## OAKU / XAHT

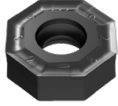
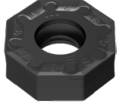
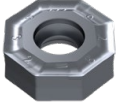
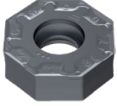
| Označenie   | IC    | D1  | L  | BS    | S    | AN |
|-------------|-------|-----|----|-------|------|----|
|             | mm    | mm  | mm | mm    | mm   | °  |
| XAHT 0605.. | 17,08 | 6,0 | -  | 11,95 | 5,56 | 3  |
| OAKU 0605.. | 17,10 | 5,8 | 6  | 2,00  | 5,66 | 3  |



## OAKU

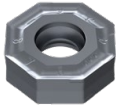
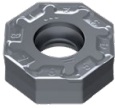
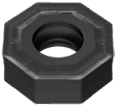
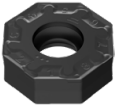
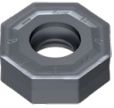
| ISO                   | RE  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | -F50 CTCP220                                                                      | -M50 CTCP220                                                                        | -F50 CTPP225                                                                        | -M50 CTPP225                                                                        |
|                       |     | -F50 DCX1220                                                                      | -M50 DCX1220                                                                        | -F50 DPX1225                                                                        | -M50 DPX1225                                                                        |
|                       |     | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |
|                       |     | OAKU 1B/61                                                                        | OAKU 1B/61                                                                          | OAKU 1B/61                                                                          | OAKU 1B/61                                                                          |
|                       |     | Artikel č. 51 000 ...                                                             | Artikel č. 51 001 ...                                                               | Artikel č. 51 000 ...                                                               | Artikel č. 51 001 ...                                                               |
|                       |     | EUR 24,56 258                                                                     | EUR 24,56 258                                                                       | EUR 24,56 058                                                                       | EUR 24,56 058                                                                       |
| 060508SR              | 0,8 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Oceľ                  |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Nehrdzavejúca oceľ    |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Litina                |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## OAKU

| ISO                   | RE  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-----------------------|-----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -F50 CTCP230                                                                        | -M50 CTCP230                                                                          | -F50 CTPP235                                                                          | -M50 CTPP235                                                                          |
|                       |     | -F50 DCX1230                                                                        | -M50 DCX1230                                                                          | -F50 DPX1235                                                                          | -M50 DPX1235                                                                          |
|                       |     | DRAGONSKIN                                                                          | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |
|                       |     | OAKU 1B/61                                                                          | OAKU 1B/61                                                                            | OAKU 1B/61                                                                            | OAKU 1B/61                                                                            |
|                       |     | Artikel č. 51 000 ...                                                               | Artikel č. 51 001 ...                                                                 | Artikel č. 51 000 ...                                                                 | Artikel č. 51 001 ...                                                                 |
|                       |     | EUR 24,56 008                                                                       | EUR 24,56 008                                                                         | EUR 24,56 108                                                                         | EUR 24,56 10900                                                                       |
| 060508SL              | 0,8 |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 060508SR              | 0,8 |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Nehrdzavejúca oceľ    |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Litina                |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Neželezné kovy        |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Žiaruvzdorná zliatina |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Kalená oceľ           |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |



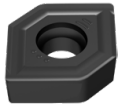
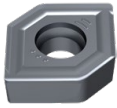
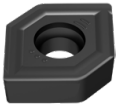
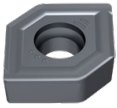
## OAKU

|                       |     | -F50<br>CTPM225                                                                   |     | -M50<br>CTPM225                                                                   |     | -F50<br>CTCM235                                                                   |     | -M50<br>CTCM235                                                                   |     | -F50<br>CTPM240                                                                     |     | -M50<br>CTPM240                                                                     |     | -F40<br>CTPM245                                                                     |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |     | -F50<br>DPX2225                                                                   |     | -M50<br>DPX2225                                                                   |     | -F50<br>DCX2235                                                                   |     | -M50<br>DCX2235                                                                   |     | -F50<br>DPX2240                                                                     |     | -M50<br>DPX2240                                                                     |     | -F40<br>DPX2245                                                                     |     |
|                       |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |     |  |     |  |     |  |     |  |     |  |     |  |     |  |     |
| ISO                   | RE  | OAKU<br>1B/61                                                                     |     | OAKU<br>1B/61                                                                     |     | OAKU<br>1B/61                                                                     |     | OAKU<br>1B/61                                                                     |     | OAKU<br>1B/61                                                                       |     | OAKU<br>1B/61                                                                       |     | OAKU<br>1H/17                                                                       |     |
|                       | mm  | Artikel č.<br>51 000 ...                                                          | EUR | Artikel č.<br>51 001 ...                                                          | EUR | Artikel č.<br>51 000 ...                                                          | EUR | Artikel č.<br>51 001 ...                                                          | EUR | Artikel č.<br>51 000 ...                                                            | EUR | Artikel č.<br>51 001 ...                                                            | EUR | Artikel č.<br>51 104 ...                                                            | EUR |
| 060508ER              | 0,8 |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     | 458 |
| 060508SR              | 0,8 | 24,56                                                                             | 208 | 24,56                                                                             | 208 | 24,56                                                                             | 308 | 24,56                                                                             | 308 | 24,56                                                                               | 408 | 24,56                                                                               | 408 | 30,71                                                                               |     |
| Oceľ                  |     | ○                                                                                 |     | ○                                                                                 |     | ○                                                                                 |     | ○                                                                                 |     | ○                                                                                   |     | ○                                                                                   |     | ●                                                                                   |     |
| Nehrdzavejúca oceľ    |     | ●                                                                                 |     | ●                                                                                 |     | ●                                                                                 |     | ●                                                                                 |     | ●                                                                                   |     | ●                                                                                   |     | ●                                                                                   |     |
| Litina                |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

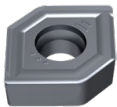
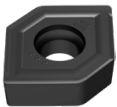
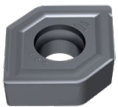
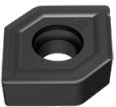
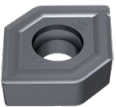
## OAKU

|                       |     | -M50<br>CTCK215                                                                     |       | -R50<br>CTCK215                                                                     |     | -M50<br>CTPK220                                                                       |       | -R50<br>CTPK220                                                                       |     | -F40<br>CTC5240                                                                       |     |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                       |     | -M50<br>DCX3215                                                                     |       | -R50<br>DCX3215                                                                     |     | -M50<br>DPX3220                                                                       |       | -R50<br>DPX3220                                                                       |     | -F40<br>HCF5240                                                                       |     |
|                       |     | DRAGONSKIN                                                                          |       | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |       | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     |
|                       |     |  |       |  |     |  |       |  |     |  |     |
| ISO                   | RE  | OAKU<br>1B/61                                                                       |       | OAKU<br>1B/61                                                                       |     | OAKU<br>1B/61                                                                         |       | OAKU<br>1B/61                                                                         |     | OAKU<br>1H/D4                                                                         |     |
|                       | mm  | Artikel č.<br>51 001 ...                                                            | EUR   | Artikel č.<br>51 027 ...                                                            | EUR | Artikel č.<br>51 001 ...                                                              | EUR   | Artikel č.<br>51 027 ...                                                              | EUR | Artikel č.<br>50 446 ...                                                              | EUR |
| 060508ER              | 0,8 |                                                                                     |       |                                                                                     |     |                                                                                       |       |                                                                                       |     |                                                                                       | 550 |
| 060508SL              | 0,8 | 24,56                                                                               | 50900 |                                                                                     |     | 24,56                                                                                 | 60900 |                                                                                       |     | 30,71                                                                                 |     |
| 060508SR              | 0,8 | 24,56                                                                               | 508   | 24,56                                                                               | 508 | 24,56                                                                                 | 608   | 24,56                                                                                 | 608 |                                                                                       |     |
| Oceľ                  |     | ○                                                                                   |       | ○                                                                                   |     | ○                                                                                     |       | ○                                                                                     |     |                                                                                       |     |
| Nehrdzavejúca oceľ    |     |                                                                                     |       |                                                                                     |     |                                                                                       |       |                                                                                       |     |                                                                                       |     |
| Litina                |     |                                                                                     |       | ●                                                                                   |     | ●                                                                                     |       | ●                                                                                     |     | ●                                                                                     |     |
| Neželezné kovy        |     |                                                                                     |       |                                                                                     |     |                                                                                       |       |                                                                                       |     |                                                                                       |     |
| Žiaruvzdorná zliatina |     |                                                                                     |       |                                                                                     |     |                                                                                       |       |                                                                                       |     |                                                                                       | ●   |
| Kalená oceľ           |     |                                                                                     |       |                                                                                     |     |                                                                                       |       |                                                                                       |     |                                                                                       |     |

## XAHT

| ISO                   | RE  | -M50<br>CTCP220                                                                   |     | -M50<br>CTPP225                                                                     |     | -M50<br>CTCP230                                                                     |     | -M50<br>CTPP235                                                                     |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |     | -M50<br>DCX1220                                                                   |     | -M50<br>DPX1225                                                                     |     | -M50<br>DCX1230                                                                     |     | -M50<br>DPX1235                                                                     |     |
|                       |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |     |  |     |  |     |  |     |  |     |
|                       |     | XAHT<br>1B/61                                                                     |     | XAHT<br>1B/61                                                                       |     | XAHT<br>1B/61                                                                       |     | XAHT<br>1B/61                                                                       |     |
|                       |     | Artikel č.<br>51 014 ...                                                          |     | Artikel č.<br>51 014 ...                                                            |     | Artikel č.<br>51 014 ...                                                            |     | Artikel č.<br>51 014 ...                                                            |     |
|                       |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 060525SR              | 2,5 | 30,41                                                                             | 275 | 30,41                                                                               | 075 | 30,41                                                                               | 025 | 30,41                                                                               | 125 |
| Oceľ                  |     |                                                                                   | •   |                                                                                     | •   |                                                                                     | •   |                                                                                     | •   |
| Nehrdzavejúca oceľ    |     |                                                                                   |     |                                                                                     |     |                                                                                     | ○   |                                                                                     | ○   |
| Liatina               |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

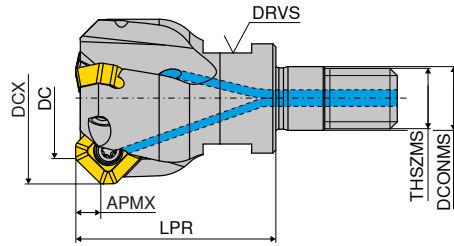
## XAHT

| ISO                   | RE  | -M50<br>CTPM225                                                                     |     | -M50<br>CTCM235                                                                     |     | -M50<br>CTPM240                                                                       |     | -M50<br>CTCK215                                                                       |       | -M50<br>CTPK220                                                                       |     |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|-----|
|                       |     | -M50<br>DPX2225                                                                     |     | -M50<br>DCX2235                                                                     |     | -M50<br>DPX2240                                                                       |     | -M50<br>DCX3215                                                                       |       | -M50<br>DPX3220                                                                       |     |
|                       |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |       | DRAGONSKIN                                                                            |     |
|                       |     |  |     |  |     |  |     |  |       |  |     |
|                       |     | XAHT<br>1B/61                                                                       |     | XAHT<br>1B/61                                                                       |     | XAHT<br>1B/61                                                                         |     | XAHT<br>1B/61                                                                         |       | XAHT<br>1B/61                                                                         |     |
|                       |     | Artikel č.<br>51 014 ...                                                            |     | Artikel č.<br>51 014 ...                                                            |     | Artikel č.<br>51 014 ...                                                              |     | Artikel č.<br>51 014 ...                                                              |       | Artikel č.<br>51 014 ...                                                              |     |
|                       |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |       | EUR                                                                                   |     |
| 060525SL              | 2,5 |                                                                                     |     |                                                                                     |     |                                                                                       |     | 30,41                                                                                 | 52600 |                                                                                       |     |
| 060525SR              | 2,5 | 30,41                                                                               | 225 | 30,41                                                                               | 325 | 30,41                                                                                 | 425 | 30,41                                                                                 | 525   | 30,41                                                                                 | 625 |
| Oceľ                  |     |                                                                                     | ○   |                                                                                     | ○   |                                                                                       | ○   |                                                                                       | ○     |                                                                                       | ○   |
| Nehrdzavejúca oceľ    |     |                                                                                     | •   |                                                                                     | •   |                                                                                       | •   |                                                                                       | •     |                                                                                       | •   |
| Liatina               |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       | •     |                                                                                       | •   |
| Neželezné kovy        |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |       |                                                                                       |     |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |       |                                                                                       |     |
| Kalená oceľ           |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |       |                                                                                       |     |

## Sprievodca frézovaním

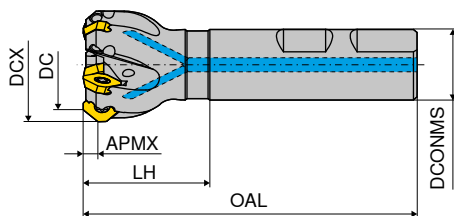
|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Počiatkové parametre | → 145     | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 145     |

## MaxiMill – Skrutkovacia fréza 45° G 270-09



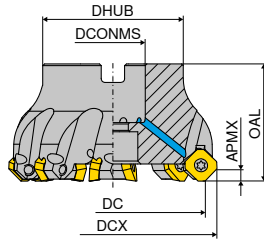
| Označenie           | DC | DCX  | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Dotahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B                       |     |
|---------------------|----|------|-----|------|-----|--------|--------|------|-------------------------|-------------------------|--------------------------|-----|
|                     | mm | mm   |     | mm   | mm  |        | mm     | mm   |                         |                         | Artikel č.<br>55 202 ... |     |
| G270.ESF.16.R.02-09 | 16 | 24,4 | 2   | 4    | 27  | M8     | 8,5    | 10   | 1,8                     | SD.. 0903..             | EUR 157,30               | 016 |
| G270.ESF.20.R.03-09 | 20 | 28,4 | 3   | 4    | 33  | M10    | 10,5   | 15   | 1,8                     | SD.. 0903..             | EUR 184,50               | 020 |
| G270.ESF.25.R.04-09 | 25 | 33,4 | 4   | 4    | 35  | M12    | 12,5   | 17   | 1,8                     | SD.. 0903..             | EUR 207,70               | 025 |
| G270.ESF.32.R.05-09 | 32 | 40,4 | 5   | 4    | 35  | M16    | 17,0   | 17   | 1,8                     | SD.. 0903..             | EUR 228,50               | 032 |

## MaxiMill – Stopková fréza 45° C 270-09



| Označenie       | DC | DCX  | ZNF | APMX | OAL | LH | DCONMS | Dotahovací moment<br>Nm | Vymeniteľná<br>doštička | B 2B/40                  |     |
|-----------------|----|------|-----|------|-----|----|--------|-------------------------|-------------------------|--------------------------|-----|
|                 | mm | mm   |     | mm   | mm  | mm | mm     |                         |                         | Artikel č.<br>50 666 ... |     |
| C270.06.R.01-09 | 6  | 14,4 | 1   | 4    | 80  | 32 | 16     | 1,2                     | SD.. 0903..             | EUR 135,80               | 006 |
| C270.12.R.01-09 | 12 | 20,4 | 1   | 4    | 80  | 32 | 16     | 1,2                     | SD.. 0903..             | EUR 150,00               | 012 |
| C270.16.R.02-09 | 16 | 24,4 | 2   | 4    | 90  | 40 | 20     | 1,8                     | SD.. 0903..             | EUR 170,80               | 016 |
| C270.20.R.03-09 | 20 | 28,4 | 3   | 4    | 90  | 40 | 20     | 1,8                     | SD.. 0903..             | EUR 217,30               | 020 |
| C270.25.R.04-09 | 25 | 33,4 | 4   | 4    | 100 | 44 | 25     | 1,8                     | SD.. 0903..             | EUR 307,90               | 025 |
| C270.32.R.05-09 | 32 | 40,4 | 5   | 4    | 95  | 36 | 25     | 1,8                     | SD.. 0903..             | EUR 362,20               | 032 |

## MaxiMill – Nástrčná fréza 45° A 270-09



| Označenie        | DC  | DCX   | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | Dofahovací moment | pravá                           | pravá                           | pravá                           | ľavá                            |     |
|------------------|-----|-------|-----|------|-----|------|----------------------|-------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----|
|                  |     |       |     |      |     |      |                      |                   | 2B/40                           | 2B/40                           | 2B/40                           | 2B                              |     |
|                  |     |       |     |      |     |      |                      |                   | Artikel č.<br>50 704 ...<br>EUR | Artikel č.<br>50 705 ...<br>EUR | Artikel č.<br>50 706 ...<br>EUR | Artikel č.<br>50 707 ...<br>EUR |     |
| A270.32.R.05-09  | 32  | 40,4  | 5   | 4    | 40  | 34   | 16                   | 1,8               |                                 |                                 | 346,60                          | 532                             |     |
| A270.40.R.04-09  | 40  | 48,4  | 4   | 4    | 40  | 38   | 16                   | 1,8               |                                 | 355,70                          | 540                             |                                 |     |
| A270.40.R.06-09  | 40  | 48,4  | 6   | 4    | 40  | 38   | 16                   | 1,8               |                                 |                                 | 401,10                          | 540                             |     |
| A270.42.R.06-09  | 42  | 50,4  | 6   | 4    | 40  | 38   | 16                   | 1,8               |                                 |                                 | 415,20                          | 542                             |     |
| A270.50.R.06-09  | 50  | 58,4  | 6   | 4    | 40  | 43   | 22                   | 1,8               |                                 | 412,70                          | 550                             |                                 |     |
| A270.50.R.08-09  | 50  | 58,4  | 8   | 4    | 40  | 43   | 22                   | 1,8               |                                 |                                 | 494,20                          | 550                             |     |
| A270.50.L.08-09  | 50  | 58,4  | 8   | 4    | 40  | 43   | 22                   | 1,8               |                                 |                                 |                                 | 511,70                          | 550 |
| A270.52.R.08-09  | 52  | 60,4  | 8   | 4    | 40  | 43   | 22                   | 1,8               |                                 |                                 | 511,70                          | 552                             |     |
| A270.63.R.05-09  | 63  | 71,4  | 5   | 4    | 40  | 48   | 22                   | 1,8               | 401,10                          | 563                             |                                 |                                 |     |
| A270.63.R.08-09  | 63  | 71,4  | 8   | 4    | 40  | 48   | 22                   | 1,8               |                                 | 500,60                          | 563                             |                                 |     |
| A270.63.R.10-09  | 63  | 71,4  | 10  | 4    | 40  | 48   | 22                   | 1,8               |                                 |                                 | 623,50                          | 563                             |     |
| A270.63.L.10-09  | 63  | 71,4  | 10  | 4    | 40  | 48   | 22                   | 1,8               |                                 |                                 |                                 | 644,90                          | 563 |
| A270.66.R.10-09  | 66  | 74,4  | 10  | 4    | 40  | 48   | 22                   | 1,8               |                                 |                                 | 644,90                          | 566                             |     |
| A270.80.R.06-09  | 80  | 88,4  | 6   | 4    | 50  | 58   | 27                   | 1,8               | 454,00                          | 580                             |                                 |                                 |     |
| A270.80.R.10-09  | 80  | 88,4  | 10  | 4    | 50  | 58   | 27                   | 1,8               |                                 | 632,50                          | 580                             |                                 |     |
| A270.80.R.12-09  | 80  | 88,4  | 12  | 4    | 50  | 58   | 27                   | 1,8               |                                 |                                 | 750,10                          | 580                             |     |
| A270.80.L.12-09  | 80  | 88,4  | 12  | 4    | 50  | 58   | 27                   | 1,8               |                                 |                                 |                                 | 776,00                          | 580 |
| A270.100.R.07-09 | 100 | 108,4 | 7   | 4    | 50  | 78   | 32                   | 1,8               | 586,10                          | 600                             |                                 |                                 |     |
| A270.100.R.12-09 | 100 | 108,4 | 12  | 4    | 50  | 78   | 32                   | 1,8               |                                 | 763,20                          | 600                             |                                 |     |
| A270.100.R.14-09 | 100 | 108,4 | 14  | 4    | 50  | 78   | 32                   | 1,8               |                                 |                                 | 886,20                          | 600                             |     |
| A270.125.R.12-09 | 125 | 133,4 | 12  | 4    | 63  | 88   | 40                   | 1,8               |                                 | 892,60                          | 625                             |                                 |     |
| A270.160.R.12-09 | 160 | 168,4 | 12  | 4    | 63  | 93   | 40                   | 1,8               | 1.148,00                        | 660 <sup>1)</sup>               |                                 |                                 |     |

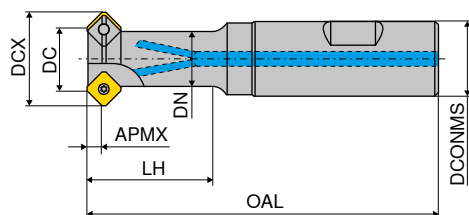
1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm



- ▲ 50 704 ... Široká rozteč zubov pre použitie pri obrábaní zliatin hliníka, farebných kovov a plastov
- ▲ 50 705 ... Normálna rozteč zubov pre široké spektrum použitia počínajúc obrábaním zliatin hliníka, farebných kovov, až po obrábanie mäkkejšej ocele
- ▲ 50 706 ... Úzka rozteč zubov pre maximálny rezný výkon, používa sa prevažne pri obrábaní ocele a liatiny
- ▲ 50 707 ... Ako 50 706 ..., avšak v ľavoreznom prevedení

## MaxiMill – Uhlová fréza C 272-09

▲ možnosť frézovania dopredu aj naspäť



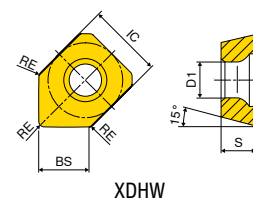
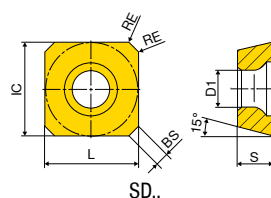
| Označenie       | DC | DCX  | ZNF | APMX | DN | OAL | LH   | DCONMS | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B<br>Artikel č.<br>50 669 ... |     |
|-----------------|----|------|-----|------|----|-----|------|--------|-------------------------|-------------------------|--------------------------------|-----|
|                 | mm | mm   |     | mm   | mm | mm  | mm   | mm     |                         |                         | EUR                            |     |
| C272.06.R.01-09 | 6  | 14,4 | 1   | 4    | 10 | 91  | 24,0 | 16     | 1,2                     | SD.. 0903..             | 161,50                         | 006 |
| C272.08.R.01-09 | 8  | 16,4 | 1   | 4    | 10 | 91  | 25,5 | 16     | 1,2                     | SD.. 0903..             | 180,00                         | 008 |
| C272.12.R.01-09 | 12 | 20,4 | 1   | 4    | 12 | 91  | 26,0 | 16     | 1,2                     | SD.. 0903..             | 185,00                         | 012 |
| C272.16.R.02-09 | 16 | 24,4 | 2   | 4    | 15 | 97  | 30,0 | 20     | 1,8                     | SD.. 0903..             | 227,70                         | 016 |
| C272.18.R.02-09 | 18 | 26,4 | 2   | 4    | 16 | 97  | 30,0 | 20     | 1,8                     | SD.. 0903..             | 227,70                         | 018 |
| C272.25.R.03-09 | 25 | 33,4 | 3   | 4    | 21 | 109 | 35,0 | 25     | 1,8                     | SD.. 0903..             | 266,40                         | 025 |

Náhradné diely  
DC

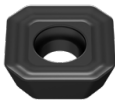
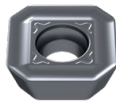
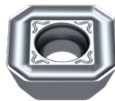
|          | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|----------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|          | Výmenná vložka<br>TORX®  |     | Kľúč D                   |     | Pasta<br>Molykote        |     | Upínacia skrutka         |     | Rukoväť                  |     |
|          | Artikel č.<br>80 950 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     |
|          | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     |
| 6 - 12   | 4,76                     | 033 | 7,80                     | 110 | 4,38                     | 303 | 3,14                     | 365 | 118,90                   | 191 |
| 16 - 160 | 4,76                     | 033 | 7,80                     | 110 | 4,38                     | 303 | 2,57                     | 115 | 118,90                   | 191 |

## SDHW / SDNT / SDHT / XDHW

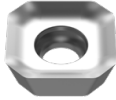
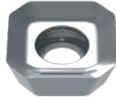
| Označenie   | IC   | D1  | L    | BS   | S    |
|-------------|------|-----|------|------|------|
|             | mm   | mm  | mm   | mm   | mm   |
| XDHW 0903.. | 9,52 | 3,4 | -    | 5,50 | 3,18 |
| SD.. 0903.. | 9,52 | 3,4 | 9,52 | 1,68 | 3,18 |



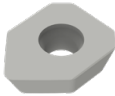
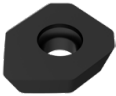
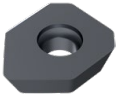
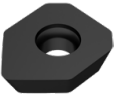
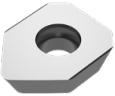
## SDHW / SDNT / SDHT

|                       |     | TCM10                                                                             | -29 CTCP230                                                                       | -29 CTPP235                                                                       | -33 CTPM240                                                                         | -33P CTPM240                                                                        | -F50 CTPM245                                                                        |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | CWC10                                                                             | -29 DCX1230                                                                       | -29 DPX1235                                                                       | -33 DPX2240                                                                         | -33P DPX2240                                                                        | -F50 DPX2245                                                                        |
|                       |     |                                                                                   | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |  |  |
|                       |     | CERMET SDHW                                                                       | SDNT                                                                              | SDNT                                                                              | SDHT                                                                                | SDHT                                                                                | SDHT                                                                                |
|                       |     | 1B/79                                                                             | 1B/61                                                                             | 1B/61                                                                             | 1B/61                                                                               | 1B/61                                                                               | 1H/17                                                                               |
|                       |     | Artikel č. 50 428 ...                                                             | Artikel č. 51 011 ...                                                             | Artikel č. 51 011 ...                                                             | Artikel č. 51 028 ...                                                               | Artikel č. 51 086 ...                                                               | Artikel č. 51 109 ...                                                               |
|                       |     | EUR                                                                               | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
| ISO                   | RE  | 15,97 898                                                                         | 13,79 020                                                                         | 13,79 120                                                                         | 15,76 420                                                                           | 16,59 420                                                                           | 19,60 470                                                                           |
| 0903AESN              | 1,0 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Oceľ                  |     | •                                                                                 | •                                                                                 | •                                                                                 | ○                                                                                   | ○                                                                                   | •                                                                                   |
| Nehrdzavejúca oceľ    |     | •                                                                                 | ○                                                                                 | ○                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Litina                |     | ○                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## SDNT / SDHT

|                       |     | -31 CTCK215                                                                         | -27P H216T                                                                          | -27P AMZ                                                                              | -M31 CTC5240                                                                          | -F50 CTC5245                                                                          |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -31 DCX3215                                                                         | -ALP CWK26                                                                          | -ALP AMZ                                                                              | -M31 HCF5240                                                                          |                                                                                       |
|                       |     | DRAGONSKIN                                                                          |                                                                                     |                                                                                       | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |  |
|                       |     | SDNT                                                                                | SDHT                                                                                | SDHT                                                                                  | SDHT                                                                                  | SDHT                                                                                  |
|                       |     | 1B/61                                                                               | 1A/90                                                                               | 1A/90                                                                                 | 1H/D4                                                                                 | NEW 1H/D4                                                                             |
|                       |     | Artikel č. 51 029 ...                                                               | Artikel č. 50 426 ...                                                               | Artikel č. 50 426 ...                                                                 | Artikel č. 50 421 ...                                                                 | Artikel č. 51 109 ...                                                                 |
|                       |     | EUR                                                                                 | EUR                                                                                 | EUR                                                                                   | EUR                                                                                   | EUR                                                                                   |
| ISO                   | RE  | 13,20 520                                                                           | 15,76 548                                                                           | 18,90 848                                                                             | 19,60 509                                                                             | 19,60 57100                                                                           |
| 0903AEFN              | 1,0 |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 0903AESN              | 1,0 |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     |                                                                                     | ○                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| Nehrdzavejúca oceľ    |     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Litina                |     |                                                                                     | •                                                                                   | ○                                                                                     | ○                                                                                     |                                                                                       |
| Neželezné kovy        |     |                                                                                     |                                                                                     | •                                                                                     | •                                                                                     |                                                                                       |
| Žiaruvzdorná zliatina |     |                                                                                     |                                                                                     |                                                                                       | •                                                                                     | •                                                                                     |
| Kalená oceľ           |     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

## XDHW

|                       |    | TCM10                                                                             | CTCP230                                                                           | CTPP235                                                                             | CTCK215                                                                             | H216T                                                                               |
|-----------------------|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |    | CWC10                                                                             | DCX1230                                                                           | DPX1235                                                                             | DCX3215                                                                             | CWK26                                                                               |
|                       |    |                                                                                   | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |                                                                                     |
|                       |    |  |  |  |  |  |
|                       |    | CERMET XDHW                                                                       | XDHW                                                                              | XDHW                                                                                | XDHW                                                                                | XDHW                                                                                |
| ISO                   | RE | 1B/79                                                                             | 1B/61                                                                             | 1B/61                                                                               | 1B/18                                                                               | 1B/61                                                                               |
|                       | mm | Artikel č.<br>50 449 ...<br>EUR                                                   | Artikel č.<br>51 015 ...<br>EUR                                                   | Artikel č.<br>51 015 ...<br>EUR                                                     | Artikel č.<br>51 015 ...<br>EUR                                                     | Artikel č.<br>50 449 ...<br>EUR                                                     |
| 0903AEEN              | 1  |                                                                                   |                                                                                   |                                                                                     | 18,75                                                                               |                                                                                     |
| 0903AEFN              | 1  |                                                                                   |                                                                                   |                                                                                     | 520                                                                                 |                                                                                     |
| 0903AESN              | 1  | 17,31 898                                                                         | 19,39 020                                                                         | 19,39 120                                                                           |                                                                                     | 16,59 548                                                                           |
| Oceľ                  |    | •                                                                                 | •                                                                                 | •                                                                                   | ○                                                                                   |                                                                                     |
| Nehrdzavejúca oceľ    |    | •                                                                                 | ○                                                                                 | ○                                                                                   |                                                                                     |                                                                                     |
| Liatina               |    | ○                                                                                 |                                                                                   |                                                                                     | •                                                                                   | ○                                                                                   |
| Neželezné kovy        |    |                                                                                   |                                                                                   |                                                                                     |                                                                                     | •                                                                                   |
| Žiaruvzdorná zliatina |    |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |    |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

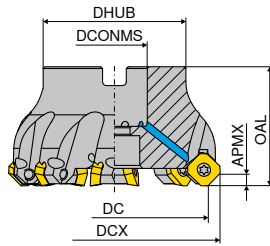
## Sprievodca frézovaním

|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 146     | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 146     |



## MaxiMill – Nástrčná fréza 45° A 270-12

- ▲ 50 705 ... Normálna rozteč zubov pre široké spektrum použitia počnúc obrábaním zliatin hliníka, farebných kovov, až po obrábanie mäkkej ocele
- ▲ 50 706 ... Úzka rozteč zubov pre maximálny rezný výkon, používa sa prevažne pri obrábaní ocele a liatiny



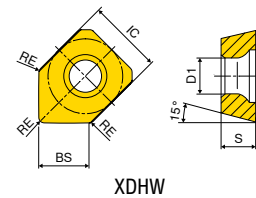
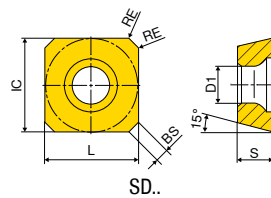
| Označenie        | DC  | DCX | ZNF | APMX | DCONMS <sub>H6</sub> | OAL | DHUB | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                           |                                 |
|------------------|-----|-----|-----|------|----------------------|-----|------|-------------------------|-------------------------|---------------------------------|---------------------------------|
|                  |     |     |     |      |                      |     |      |                         |                         | Artikel č.<br>50 705 ...<br>EUR | Artikel č.<br>50 706 ...<br>EUR |
| A270.32.R.03-12  | 32  | 46  | 3   | 6    | 16                   | 40  | 32   | 5                       | SD../XD.. 1204..        | 397,10                          | 032                             |
| A270.40.R.03-12  | 40  | 54  | 3   | 6    | 16                   | 40  | 38   | 5                       | SD../XD.. 1204..        | 406,20                          | 040                             |
| A270.40.R.04-12  | 40  | 54  | 4   | 6    | 16                   | 40  | 38   | 5                       | SD../XD.. 1204..        |                                 | 406,20 040                      |
| A270.50.R.04-12  | 50  | 64  | 4   | 6    | 22                   | 40  | 43   | 5                       | SD../XD.. 1204..        | 459,20                          | 050                             |
| A270.50.R.05-12  | 50  | 64  | 5   | 6    | 22                   | 40  | 43   | 5                       | SD../XD.. 1204..        |                                 | 459,20 050                      |
| A270.63.R.04-12  | 63  | 77  | 4   | 6    | 22                   | 40  | 48   | 5                       | SD../XD.. 1204..        | 525,20                          | 063                             |
| A270.63.R.06-12  | 63  | 77  | 6   | 6    | 22                   | 40  | 48   | 5                       | SD../XD.. 1204..        |                                 | 601,50 063                      |
| A270.80.R.05-12  | 80  | 94  | 5   | 6    | 27                   | 50  | 58   | 5                       | SD../XD.. 1204..        | 609,30                          | 080                             |
| A270.80.R.08-12  | 80  | 94  | 8   | 6    | 27                   | 50  | 58   | 5                       | SD../XD.. 1204..        |                                 | 750,10 080                      |
| A270.100.R.06-12 | 100 | 114 | 6   | 6    | 32                   | 50  | 78   | 5                       | SD../XD.. 1204..        | 717,80                          | 100                             |
| A270.100.R.10-12 | 100 | 114 | 10  | 6    | 32                   | 50  | 78   | 5                       | SD../XD.. 1204..        |                                 | 878,30 100                      |
| A270.125.R.07-12 | 125 | 139 | 7   | 6    | 40                   | 63  | 88   | 5                       | SD../XD.. 1204..        | 877,00                          | 125                             |
| A270.125.R.12-12 | 125 | 139 | 12  | 6    | 40                   | 63  | 88   | 5                       | SD../XD.. 1204..        |                                 | 1.186,00 125                    |
| A270.160.R.08-12 | 160 | 174 | 8   | 6    | 40                   | 63  | 94   | 5                       | SD../XD.. 1204..        | 1.120,00                        | 160 <sup>1)</sup>               |

1) So 4 závitovými otvormi M12 na čele, Ø ráz. kruž. = 66,7 mm

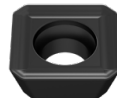
| Náhradné diely<br>DC | Y7                              |     | Y7                              |     | Y7                              |     | 2A/28                           |     | 2A/28                           |     | 2A                              |     | Y7                              |     |
|----------------------|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|
|                      | Výmenná vložka<br>TORX®         |     | Upínací klúč T                  |     | Klúč D                          |     | Silová skrutka                  |     | Pasta<br>Molykote               |     | Upínacia skrutka                |     | Rukoväť                         |     |
|                      | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>80 397 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     |
| 32 - 40              | 4,76                            | 037 | 3,91                            | 040 | 9,95                            | 114 | 12,48                           | 151 | 4,38                            | 303 | 2,52                            | 280 | 131,90                          | 193 |
| 50 - 160             | 4,76                            | 037 |                                 |     | 9,95                            | 114 |                                 |     | 4,38                            | 303 | 2,52                            | 280 | 131,90                          | 193 |

## SDHT / SDHW / SDMT / XDHW

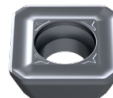
| Označenie   | IC   | D1  | L    | BS   | S    |
|-------------|------|-----|------|------|------|
|             | mm   | mm  | mm   | mm   | mm   |
| XDHW 1204.. | 12,7 | 5,5 | -    | 7,50 | 4,76 |
| SD.. 1204.. | 12,7 | 5,5 | 12,7 | 1,74 | 4,76 |



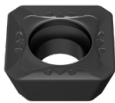
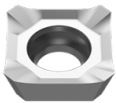
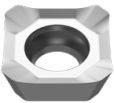
## SDHT / SDHW / SDMT

|                       |     | TCM10                                                                             | -R TCM10                                                                          | -29R CTCP230                                                                        | -R CTCP230                                                                          | CTCP230                                                                             |     |       |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|-------|-----|
|                       |     | CWC10                                                                             | -R CWC10                                                                          | -29R DCX1230                                                                        | -R DCX1230                                                                          | DCX1230                                                                             |     |       |     |
|                       |     |                                                                                   |                                                                                   | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |     |       |     |
|                       |     |  |  |  |  |  |     |       |     |
|                       |     | CERMET SDHT                                                                       | CERMET SDHW                                                                       | SDMT                                                                                | SDHT                                                                                | SDHW                                                                                |     |       |     |
|                       |     | 1B/79                                                                             | 1B/79                                                                             | 1B/61                                                                               | 1B/61                                                                               | 1B/61                                                                               |     |       |     |
|                       |     | Artikel č. 50 426 ...                                                             | Artikel č. 50 428 ...                                                             | Artikel č. 51 010 ...                                                               | Artikel č. 51 006 ...                                                               | Artikel č. 51 008 ...                                                               |     |       |     |
|                       |     | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |     |       |     |
| ISO                   | RE  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |     |       |     |
|                       | mm  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |     |       |     |
| 1204AESN              | 0,2 | 17,19                                                                             | 900                                                                               | 14,65                                                                               | 020                                                                                 | 16,71                                                                               | 020 | 17,19 | 020 |
| 1204AESN              | 1,0 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |     |       |     |
| Oceľ                  |     | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |     |       |     |
| Nehrdzavejúca oceľ    |     | •                                                                                 | •                                                                                 | ○                                                                                   | ○                                                                                   | ○                                                                                   |     |       |     |
| Litina                |     | ○                                                                                 | ○                                                                                 |                                                                                     |                                                                                     |                                                                                     |     |       |     |
| Neželezné kovy        |     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |     |       |     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |     |       |     |
| Kalená oceľ           |     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |     |       |     |

## SDMT / SDHT / SDHW

|                       |     |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
|-----------------------|-----|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|                       |     |   | <div>-29<br/>CTPP235</div> <div>-29<br/>DPX1235</div> <div>DRAGONSKIN</div> <div></div> <div>SDMT</div> <div>1B/61</div> <div>Artikel č.<br/>51 010 ...</div> <div>EUR</div> <div>14,65</div> <div>120</div> | <div>-R<br/>CTPP235</div> <div>-R<br/>DPX1235</div> <div>DRAGONSKIN</div> <div></div> <div>SDHT</div> <div>1B/61</div> <div>Artikel č.<br/>51 006 ...</div> <div>EUR</div> <div>16,71</div> <div>120</div> | <div>-R<br/>CTPP235</div> <div>-R<br/>DPX1235</div> <div>DRAGONSKIN</div> <div></div> <div>SDHW</div> <div>1B/61</div> <div>Artikel č.<br/>51 008 ...</div> <div>EUR</div> <div>17,19</div> <div>120</div> | <div>-F50<br/>CTPM245</div> <div>-F50<br/>DPX2245</div> <div>DRAGONSKIN</div> <div></div> <div>SDHT</div> <div>1H/17</div> <div>Artikel č.<br/>51 109 ...</div> <div>EUR</div> <div>22,57</div> <div>475</div> | <div>-33<br/>CTPM240</div> <div>-33<br/>DPX2240</div> <div>DRAGONSKIN</div> <div></div> <div>SDHT</div> <div>1B/61</div> <div>Artikel č.<br/>51 028 ...</div> <div>EUR</div> <div>17,19</div> <div>425</div> |  |  |
| ISO                   | RE  |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
|                       | mm  |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
| 1204AESN              | 1,0 |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
| Oceľ                  |     | ● | ●                                                                                                                                                                                                                                                                                               | ●                                                                                                                                                                                                                                                                                             | ●                                                                                                                                                                                                                                                                                               | ○                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |  |  |
| Nehrdzavejúca oceľ    |     | ○ | ○                                                                                                                                                                                                                                                                                               | ○                                                                                                                                                                                                                                                                                             | ●                                                                                                                                                                                                                                                                                               | ●                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |  |  |
| Liatina               |     |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
| Neželezné kovy        |     |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
| Žiaruvzdorná zliatina |     |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |
| Kalená oceľ           |     |   |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                   |  |  |

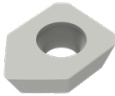
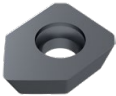
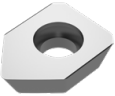
## SDMT / SDHW / SDHT

| ISO                   | RE  | -31<br>CTCK215                                                                    |  | -R<br>CTCK215                                                                     |  | -27<br>H216T                                                                        |  | -27P<br>H216T                                                                       |  | H216T                                                                               |  |
|-----------------------|-----|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       |     | -31<br>DCX3215                                                                    |  | -R<br>DCX3215                                                                     |  | -AL<br>CWK26                                                                        |  | -ALP<br>CWK26                                                                       |  | CWK26                                                                               |  |
|                       |     | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |
|                       |     | SDMT                                                                              |  | SDHW                                                                              |  | SDHT                                                                                |  | SDHT                                                                                |  | SDHW                                                                                |  |
|                       |     | 1B/61                                                                             |  | 1B/61                                                                             |  | 1A/90                                                                               |  | 1A/90                                                                               |  | 1B/61                                                                               |  |
|                       |     | Artikel č.<br>51 059 ...                                                          |  | Artikel č.<br>51 008 ...                                                          |  | Artikel č.<br>50 426 ...                                                            |  | Artikel č.<br>50 426 ...                                                            |  | Artikel č.<br>50 428 ...                                                            |  |
|                       |     | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 1204AEEN              | 1,0 | 14,28 520                                                                         |  | 17,19 520                                                                         |  | 17,19 504                                                                           |  | 17,19 554                                                                           |  | 14,28 600                                                                           |  |
| 1204AEFN              | 0,2 |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 1204AEFN              | 1,0 |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 1204AESN              | 0,2 |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Oceľ                  |     | ○                                                                                 |  | ○                                                                                 |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Nehrdzavejúca oceľ    |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Liatina               |     | ●                                                                                 |  | ●                                                                                 |  | ○                                                                                   |  | ○                                                                                   |  | ○                                                                                   |  |
| Neželezné kovy        |     |                                                                                   |  |                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |
| Žiaruvzdorná zliatina |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Kalená oceľ           |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |

## SDHT

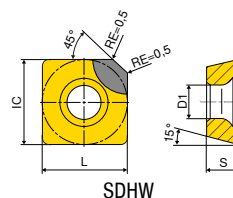
| ISO                   | RE  | -M31<br>CTC5240                                                                       |  | -F50<br>CTCS245                                                                       |  |
|-----------------------|-----|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
|                       |     | -M31<br>HCF5240                                                                       |  |                                                                                       |  |
|                       |     | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  |
|                       |     |  |  |  |  |
|                       |     | SDHT                                                                                  |  | SDHT                                                                                  |  |
|                       |     | 1H/D4                                                                                 |  | NEW 1H/D4                                                                             |  |
|                       |     | Artikel č.<br>50 421 ...                                                              |  | Artikel č.<br>51 109 ...                                                              |  |
|                       |     | EUR                                                                                   |  | EUR                                                                                   |  |
| 1204AESN              | 1,0 | 22,57 512                                                                             |  | 22,57 57600                                                                           |  |
| Oceľ                  |     |                                                                                       |  |                                                                                       |  |
| Nehrdzavejúca oceľ    |     |                                                                                       |  |                                                                                       |  |
| Liatina               |     |                                                                                       |  |                                                                                       |  |
| Neželezné kovy        |     |                                                                                       |  |                                                                                       |  |
| Žiaruvzdorná zliatina |     |                                                                                       |  | ●                                                                                     |  |
| Kalená oceľ           |     |                                                                                       |  | ●                                                                                     |  |

## XDHW

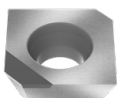
|                       |    | TCM10                                                                             | CTCP230                                                                           | CTPP235                                                                             | CTCK215                                                                             | H216T                                                                               |
|-----------------------|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |    | CWC10                                                                             | DCX1230                                                                           | DPX1235                                                                             | DCX3215                                                                             | CWK26                                                                               |
|                       |    |                                                                                   | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |                                                                                     |
|                       |    |  |  |  |  |  |
|                       |    | CERMET XDHW                                                                       | XDHW                                                                              | XDHW                                                                                | XDHW                                                                                | XDHW                                                                                |
|                       |    | 1B/79                                                                             | 1B/61                                                                             | 1B/61                                                                               | 1B/61                                                                               | 1B/61                                                                               |
| ISO                   | RE | Artikel č.                                                                        | Artikel č.                                                                        | Artikel č.                                                                          | Artikel č.                                                                          | Artikel č.                                                                          |
|                       | mm | 50 449 ...                                                                        | 51 015 ...                                                                        | 51 015 ...                                                                          | 51 015 ...                                                                          | 50 449 ...                                                                          |
|                       |    | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
| 1204AEEN              | 1  |                                                                                   |                                                                                   |                                                                                     | 22,64 525                                                                           |                                                                                     |
| 1204AEFN              | 1  |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 21,42 600                                                                           |
| 1204AESN              | 1  | 22,64 900                                                                         | 23,74 025                                                                         | 23,74 125                                                                           |                                                                                     |                                                                                     |
| Oceľ                  |    | ●                                                                                 | ●                                                                                 | ●                                                                                   | ○                                                                                   |                                                                                     |
| Nehrdzavejúca oceľ    |    | ●                                                                                 | ○                                                                                 | ○                                                                                   |                                                                                     |                                                                                     |
| Liatina               |    | ○                                                                                 |                                                                                   |                                                                                     | ●                                                                                   | ○                                                                                   |
| Neželezné kovy        |    |                                                                                   |                                                                                   |                                                                                     |                                                                                     | ●                                                                                   |
| Žiaruvzdorná zliatina |    |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |    |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## SDHW

| Označenie   | IC   | D1  | L    | S    |
|-------------|------|-----|------|------|
|             | mm   | mm  | mm   | mm   |
| SDHW 1204.. | 12,7 | 5,5 | 12,7 | 4,76 |

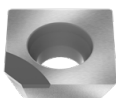


## SDHW

|                       |                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------|
|                       | CTBS10U                                                                           |
|                       | PBC10                                                                             |
|                       |  |
|                       | CBN<br>SDHW<br>V9                                                                 |
| ISO                   | Artikel č.<br>51 900 ...<br>EUR                                                   |
| 1204AETN-2            | 54,15 300 <sup>1)</sup>                                                           |
| Oceľ                  |                                                                                   |
| Nehrdzavejúca oceľ    |                                                                                   |
| Liatina               | ●                                                                                 |
| Neželezné kovy        |                                                                                   |
| Žiaruvzdorná zliatina | ●                                                                                 |
| Kalená oceľ           |                                                                                   |

1)  $a_{p\max.} = 2,0 \text{ mm}$ 

## SDHW

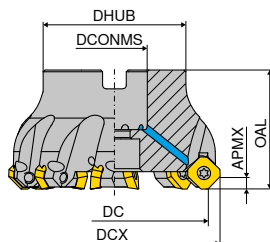
|                       |                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------|
|                       | CTDPS30                                                                             |
|                       | PDC                                                                                 |
|                       |  |
|                       | DIAMOND<br>SDHW<br>V9                                                               |
| ISO                   | Artikel č.<br>51 900 ...<br>EUR                                                     |
| 1204AEFN-2            | 59,03 100 <sup>1)</sup>                                                             |
| 1204AEFN-3            | 59,03 102 <sup>2)</sup>                                                             |
| Oceľ                  |                                                                                     |
| Nehrdzavejúca oceľ    |                                                                                     |
| Liatina               |                                                                                     |
| Neželezné kovy        | ●                                                                                   |
| Žiaruvzdorná zliatina |                                                                                     |
| Kalená oceľ           |                                                                                     |

1)  $a_{p\max.} = 2,0 \text{ mm}$ 2)  $a_{p\max.} = 3,5 \text{ mm}$ 

## Sprievodca frézovaním

|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 147     | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 147     |

## MaxiMill – Nástrčná fréza 45° A 270-19



| Označenie        | DC  | DCX   | ZNF | APMX | DCONMS <sub>H6</sub> | OAL | DHUB | Dotahovací moment<br>Nm | Vymeniteľná<br>doštička | ľavá                                         |                     | pravá                                        |                     |
|------------------|-----|-------|-----|------|----------------------|-----|------|-------------------------|-------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|
|                  |     |       |     |      |                      |     |      |                         |                         | NEW 2B/40<br>Artikel č.<br>50 698 ...<br>EUR |                     | NEW 2B/40<br>Artikel č.<br>50 698 ...<br>EUR |                     |
| A270.125.R.07-19 | 125 | 146,4 | 7   | 10   | 40                   | 63  | 88   | 5                       | SD.. 1907..             |                                              |                     | 786,50                                       | 12507               |
| A270.160.R.09-19 | 160 | 181,4 | 9   | 10   | 40                   | 63  | 104  | 5                       | SD.. 1907..             |                                              |                     | 996,20                                       | 16009 <sup>1)</sup> |
| A270.200.R.11-19 | 200 | 221,1 | 11  | 10   | 60                   | 63  | 134  | 5                       | SD.. 1907..             |                                              |                     | 1.206,00                                     | 20011 <sup>2)</sup> |
| A270.250.L.14-19 | 250 | 271,4 | 14  | 10   | 60                   | 63  | 134  | 5                       | SD.. 1907..             | 2.254,00                                     | 75014 <sup>2)</sup> | 2.254,00                                     | 25014 <sup>2)</sup> |
| A270.250.R.14-19 | 250 | 271,4 | 14  | 10   | 60                   | 63  | 134  | 5                       | SD.. 1907..             |                                              |                     | 2.254,00                                     | 25014 <sup>2)</sup> |
| A270.315.L.17-19 | 315 | 336,4 | 17  | 10   | 60                   | 63  | 226  | 5                       | SD.. 1907..             | 2.670,00                                     | 81517 <sup>3)</sup> | 2.670,00                                     | 31517 <sup>3)</sup> |
| A270.315.R.17-19 | 315 | 336,4 | 17  | 10   | 60                   | 63  | 226  | 5                       | SD.. 1907..             |                                              |                     | 2.670,00                                     | 31517 <sup>3)</sup> |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

2) So 4 závitovými otvormi M16 na čele, Ø rázv. kruž. = 101,6 mm

3) so 4 závitovými otvormi M16 na čele, Ø rázv. kruž. = 101,6 mm a so 4 závitovými otvormi M20 na čele, Ø rázv. kruž. = 177,8 mm

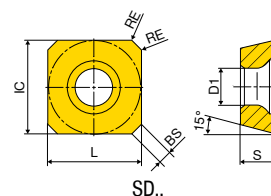
Náhradné diely  
DC

125 - 315

| Y7                              | Y7                              | 2A/28                           | 2A/28                           | Y7                              |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|                                 |                                 |                                 |                                 |                                 |
| Výmenná vložka<br>TORX®         | Kľúč D                          | Pasta<br>Molykote               | Upínacia skrutka                | Rukoväť                         |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 4,76 037                        | 9,95 114                        | 4,38 303                        | 4,09 302                        | 131,90 193                      |

## SDKT

| Označenie   | IC    | D1 | L     | BS  | S    | AN |
|-------------|-------|----|-------|-----|------|----|
|             | mm    | mm | mm    | mm  | mm   | °  |
| SDKT 1907.. | 19,15 | 6  | 19,15 | 1,5 | 7,35 | 15 |
| SDKT 1907.. | 19,15 | 6  | 19,15 | 1,5 | 7,16 | 15 |



## SDKT

|                 |                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| -R50<br>CTCP230 | -M50<br>CTPP235 | -R50<br>CTPP235 | -R50<br>CTPM225 | -R50<br>CTCK215 |
|-----------------|-----------------|-----------------|-----------------|-----------------|



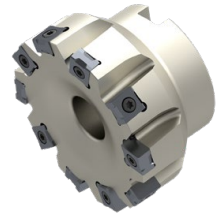
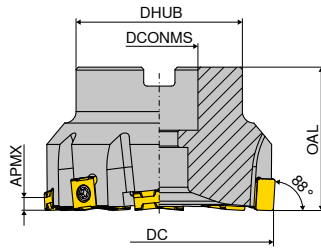
| ISO                   | RE  | SDKT<br>NEW 1B/61<br>Artikel č.<br>51 132 ...<br>EUR<br>31,03 02100 | SDKT<br>NEW 1B/61<br>Artikel č.<br>51 131 ...<br>EUR<br>31,03 12000 | SDKT<br>NEW 1B/61<br>Artikel č.<br>51 132 ...<br>EUR<br>31,03 12300 | SDKT<br>NEW 1B/61<br>Artikel č.<br>51 132 ...<br>EUR<br>31,03 22200 | SDKT<br>NEW 1B/61<br>Artikel č.<br>51 132 ...<br>EUR<br>31,03 52000 |
|-----------------------|-----|---------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| 1907AESN              | 1,6 |                                                                     |                                                                     |                                                                     |                                                                     |                                                                     |
| Oceľ                  |     | ●                                                                   | ●                                                                   | ●                                                                   | ○                                                                   | ○                                                                   |
| Nehrdzavejúca oceľ    |     | ○                                                                   | ○                                                                   | ○                                                                   | ●                                                                   |                                                                     |
| Liatina               |     |                                                                     |                                                                     |                                                                     |                                                                     | ●                                                                   |
| Neželezné kovy        |     |                                                                     |                                                                     |                                                                     |                                                                     |                                                                     |
| Žiaruvzdorná zliatina |     |                                                                     |                                                                     |                                                                     |                                                                     |                                                                     |
| Kalená oceľ           |     |                                                                     |                                                                     |                                                                     |                                                                     |                                                                     |

## Sprievodca frézovaním

|                          |       |                    |           |
|--------------------------|-------|--------------------|-----------|
| Popis sort               | → 209 | Systém označovania | → 194+195 |
| Orientačné rezné hodnoty | → 148 |                    |           |

## MaxiMill – Nástrčná fréza HEC-11

▲ bez možnosti axiálneho nastavenia

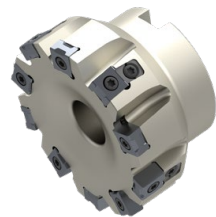
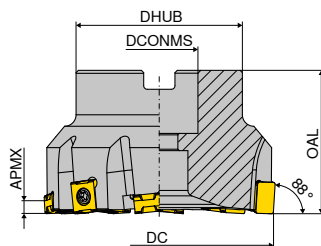


| Označenie        | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40        |                   |
|------------------|-----|-----|------|-----|------|----------------------|--------|-------------------|----------------------|--------------|-------------------|
|                  |     |     |      |     |      |                      |        |                   |                      | Artikel č.   |                   |
|                  | mm  |     | mm   | mm  | mm   | mm                   | 1/min. | Nm                |                      | 50 725 ...   |                   |
| AHEC.50.R.06-11  | 50  | 6   | 6    | 40  | 48   | 22                   | 12700  | 3,2               | LNHX 1106            | EUR 542,80   | 050               |
| AHEC.63.R.08-11  | 63  | 8   | 6    | 40  | 48   | 22                   | 10100  | 3,2               | LNHX 1106            | EUR 651,60   | 063               |
| AHEC.80.R.10-11  | 80  | 10  | 6    | 50  | 58   | 27                   | 8000   | 3,2               | LNHX 1106            | EUR 796,60   | 080               |
| AHEC.100.R.12-11 | 100 | 12  | 6    | 50  | 78   | 32                   | 6400   | 3,2               | LNHX 1106            | EUR 929,60   | 100               |
| AHEC.125.R.12-11 | 125 | 12  | 6    | 63  | 88   | 40                   | 5100   | 3,2               | LNHX 1106            | EUR 1.062,00 | 125               |
| AHEC.125.R.16-11 | 125 | 16  | 6    | 63  | 88   | 40                   | 5100   | 3,2               | LNHX 1106            | EUR 1.070,00 | 12516             |
| AHEC.160.R.20-11 | 160 | 20  | 6    | 63  | 100  | 40                   | 4000   | 3,2               | LNHX 1106            | EUR 1.559,00 | 160 <sup>1)</sup> |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

## MaxiMill – Nástrčná fréza HEC-11

▲ možnosť axiálneho nastavenia, identická rozteč zubov



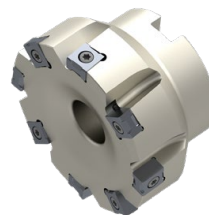
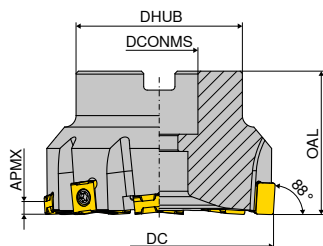
| Označenie           | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40        |                   |
|---------------------|-----|-----|------|-----|------|----------------------|--------|-------------------|----------------------|--------------|-------------------|
|                     |     |     |      |     |      |                      |        |                   |                      | Artikel č.   |                   |
|                     | mm  |     | mm   | mm  | mm   | mm                   | 1/min. | Nm                |                      | 50 733 ...   |                   |
| AHEC.50.R.06A03-11  | 50  | 6   | 6    | 40  | 48   | 22                   | 12700  | 3,2               | LNHX 1106            | EUR 822,50   | 050               |
| AHEC.63.R.08A04-11  | 63  | 8   | 6    | 40  | 48   | 22                   | 10100  | 3,2               | LNHX 1106            | EUR 1.024,00 | 063               |
| AHEC.80.R.10A05-11  | 80  | 10  | 6    | 50  | 58   | 27                   | 8000   | 3,2               | LNHX 1106            | EUR 1.263,00 | 080               |
| AHEC.100.R.12A06-11 | 100 | 12  | 6    | 50  | 78   | 32                   | 6400   | 3,2               | LNHX 1106            | EUR 1.490,00 | 100               |
| AHEC.125.R.16A08-11 | 125 | 16  | 6    | 63  | 88   | 40                   | 5100   | 3,2               | LNHX 1106            | EUR 2.016,00 | 125               |
| AHEC.160.R.20A10-11 | 160 | 20  | 6    | 63  | 100  | 40                   | 4000   | 3,2               | LNHX 1106            | EUR 2.491,00 | 160 <sup>1)</sup> |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm



## MaxiMill – Nástrčná fréza HEC-11

▲ bez možnosti axiálneho nastavenia, nerovnomerná rozteč zubov



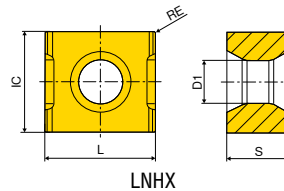
| Označenie         | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40                 |                   |
|-------------------|-----|-----|------|-----|------|----------------------|--------|-------------------|----------------------|-----------------------|-------------------|
|                   |     |     |      |     |      |                      |        |                   |                      | Artikel č. 50 733 ... |                   |
|                   | mm  |     | mm   | mm  | mm   | mm                   | 1/min. | Nm                |                      | EUR                   |                   |
| AHEC.50.R.04B-11  | 50  | 4   | 6    | 40  | 48   | 22                   | 12700  | 3,2               | LNHX 1106            | 423,40                | 550               |
| AHEC.63.R.06B-11  | 63  | 6   | 6    | 40  | 48   | 22                   | 10100  | 3,2               | LNHX 1106            | 526,20                | 563               |
| AHEC.80.R.08B-11  | 80  | 8   | 6    | 50  | 58   | 27                   | 8000   | 3,2               | LNHX 1106            | 674,40                | 580               |
| AHEC.100.R.10B-11 | 100 | 10  | 6    | 50  | 78   | 32                   | 6400   | 3,2               | LNHX 1106            | 866,80                | 600               |
| AHEC.125.R.12B-11 | 125 | 12  | 6    | 63  | 88   | 40                   | 5100   | 3,2               | LNHX 1106            | 1.060,00              | 625               |
| AHEC.160.R.14B-11 | 160 | 14  | 6    | 63  | 100  | 40                   | 4000   | 3,2               | LNHX 1106            | 1.316,00              | 660 <sup>1)</sup> |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

| Náhradné diely<br>DC | Y7                    |     | 2A/28                 |     | 2A/28                       |     | 2A/28                 |     | 2A/28                 |     | Y7                    |     |
|----------------------|-----------------------|-----|-----------------------|-----|-----------------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                      | Výmenná vložka TORX®  |     | Pasta Molykote        |     | Podložka – chladiace médium |     | Upínacia skrutka      |     | Čap                   |     | Rukoväť               |     |
|                      | Artikel č. 80 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 70 950 ...       |     | Artikel č. 70 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 80 950 ... |     |
|                      | EUR                   |     | EUR                   |     | EUR                         |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 50 - 63              | 4,76                  | 036 | 4,38                  | 303 | 25,18                       | 852 | 3,14                  | 113 | 36,80                 | 199 | 131,90                | 193 |
| 80                   | 4,76                  | 036 | 4,38                  | 303 | 25,73                       | 853 | 3,14                  | 113 | 36,80                 | 199 | 131,90                | 193 |
| 100                  | 4,76                  | 036 | 4,38                  | 303 | 28,32                       | 854 | 3,14                  | 113 | 36,80                 | 199 | 131,90                | 193 |
| 125                  | 4,76                  | 036 | 4,38                  | 303 | 37,33                       | 855 | 3,14                  | 113 | 36,80                 | 199 | 131,90                | 193 |
| 160                  | 4,76                  | 036 | 4,38                  | 303 |                             |     | 3,14                  | 113 | 36,80                 | 199 | 131,90                | 193 |

## LNHX

| Označenie   | IC | D1   | L  | S    |
|-------------|----|------|----|------|
|             | mm | mm   | mm | mm   |
| LNHX 1106.. | 10 | 4,27 | 11 | 6,35 |



## LNHX

| ISO                   | RE  | CTEP210               |            | CTCK215               |            | -R50 CTCK215          |            | -Q CTCK215              |            |
|-----------------------|-----|-----------------------|------------|-----------------------|------------|-----------------------|------------|-------------------------|------------|
|                       |     | DCC1210               | DRAGONSKIN | DCX3215               | DRAGONSKIN | -R50 DCX3215          | DRAGONSKIN | -Q DCX3215              | DRAGONSKIN |
|                       |     |                       |            |                       |            |                       |            |                         |            |
|                       |     | CERMET LNHX 1B/79     |            | LNHX 1B/61            |            | LNHX 1B/61            |            | LNHX 1B/61              |            |
|                       |     | Artikel č. 51 046 ... |            | Artikel č. 51 046 ... |            | Artikel č. 51 024 ... |            | Artikel č. 51 045 ...   |            |
|                       |     | EUR                   |            | EUR                   |            | EUR                   |            | EUR                     |            |
| 1106PNEN              | 0,5 |                       |            | 25,91                 |            | 51600                 |            |                         |            |
| 1106PNER              | 0,5 |                       |            | 25,91                 |            | 520                   |            |                         |            |
| 1106PNER              | 0,8 |                       |            |                       |            | 25,91                 |            | 520                     |            |
| 1106ZZER              | 0,5 | 30,04 820             |            |                       |            |                       |            | 25,91 520 <sup>1)</sup> |            |
| Oceľ                  |     | ●                     |            | ○                     |            | ○                     |            | ○                       |            |
| Nehrdzavejúca oceľ    |     |                       |            |                       |            |                       |            |                         |            |
| Liatina               |     | ●                     |            | ●                     |            | ●                     |            | ●                       |            |
| Neželezné kovy        |     |                       |            |                       |            |                       |            |                         |            |
| Žiaruvzdorná zliatina |     |                       |            |                       |            |                       |            |                         |            |
| Kalená oceľ           |     |                       |            |                       |            |                       |            |                         |            |

1) -Q = hľadacia britová doštička

## LNHX

| ISO                   | RE  | CTPK220               |            | -R50 CTPK220          |            | CTN3105               |  | CTL3215               |  | -Q CTL3215                 |  |
|-----------------------|-----|-----------------------|------------|-----------------------|------------|-----------------------|--|-----------------------|--|----------------------------|--|
|                       |     | DPX3220               | DRAGONSKIN | -R50 DPX3220          | DRAGONSKIN | CTS3105               |  | CWB3215               |  |                            |  |
|                       |     |                       |            |                       |            |                       |  |                       |  |                            |  |
|                       |     | LNHX 1B/61            |            | LNHX 1B/61            |            | CERAMIC LNHX 1G/55    |  | CBN LNHX 1G/21        |  | CBN LNHX 1G/21             |  |
|                       |     | Artikel č. 51 046 ... |            | Artikel č. 51 024 ... |            | Artikel č. 50 500 ... |  | Artikel č. 51 046 ... |  | Artikel č. 51 045 ...      |  |
|                       |     | EUR                   |            | EUR                   |            | EUR                   |  | EUR                   |  | EUR                        |  |
| 110608EN              | 0,8 |                       |            | 25,91                 |            | 608                   |  |                       |  |                            |  |
| 1106PNER              | 0,5 | 25,91                 |            | 620                   |            |                       |  |                       |  |                            |  |
| 1106PNSR              | 0,5 |                       |            | 25,91                 |            | 620                   |  |                       |  |                            |  |
| 1106PNSR              | 0,5 |                       |            |                       |            | 24,42                 |  | 904                   |  |                            |  |
| 1106ZZER              | 0,5 |                       |            |                       |            |                       |  | 142,70                |  | 87200                      |  |
|                       |     |                       |            |                       |            |                       |  |                       |  | 142,70 87000 <sup>1)</sup> |  |
| Oceľ                  |     | ○                     |            | ○                     |            |                       |  |                       |  |                            |  |
| Nehrdzavejúca oceľ    |     |                       |            |                       |            |                       |  |                       |  |                            |  |
| Liatina               |     | ●                     |            | ●                     |            | ●                     |  | ●                     |  | ●                          |  |
| Neželezné kovy        |     |                       |            |                       |            |                       |  |                       |  |                            |  |
| Žiaruvzdorná zliatina |     |                       |            |                       |            |                       |  |                       |  |                            |  |
| Kalená oceľ           |     |                       |            |                       |            |                       |  | ○                     |  | ○                          |  |

1) -Q = hľadacia britová doštička

## Sprievodca frézovaním

Popis sort

→ 209+210

Systém označovania

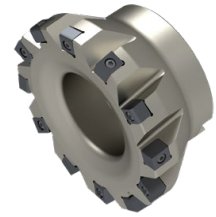
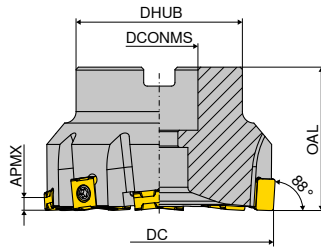
→ 194+195

Orientačné rezné hodnoty

→ 148

## MaxiMill – Nástrčná fréza HEC-12

▲ nie je možné nastavovať



| Označenie          | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX | Doŕahovací moment | Vymeniteľná doštička | NEW 2B/40<br>Artikel č.<br>50 725 ...<br>EUR |
|--------------------|-----|-----|------|-----|------|----------------------|------|-------------------|----------------------|----------------------------------------------|
| AHEC.125.R.12-1210 | 125 | 12  | 8    | 63  | 88   | 40                   | 5000 | 3,2               | LN.. 1210..          | 1.062,00 32512                               |
| AHEC.160.R.16-1210 | 160 | 16  | 8    | 63  | 88   | 40                   | 3900 | 3,2               | LN.. 1210..          | 1.247,00 36016 <sup>1)</sup>                 |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

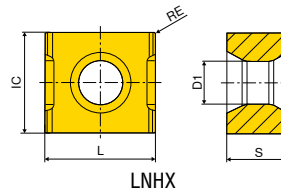
Náhradné diely  
DC

125 - 160

| Y7                              | 2A/28                            |
|---------------------------------|----------------------------------|
|                                 |                                  |
| Kľúč D                          | Podložka –<br>chladiace<br>médiu |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR  |
| 7,05 105                        | 37,33 855                        |

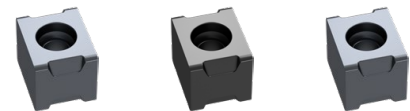
## LNHX / LNEX

| Označenie   | IC       | D1        | L          | S           |
|-------------|----------|-----------|------------|-------------|
| LN.X 1210.. | mm<br>10 | mm<br>4,4 | mm<br>12,7 | mm<br>10,00 |



## LNHX / LNEX

| CTCK215 | CTPK220 | -R50<br>CTPK220 |
|---------|---------|-----------------|
|---------|---------|-----------------|



| ISO      | RE  | LNHX<br>NEW 1B/61<br>Artikel č.<br>51 135 ...<br>EUR | LNEX<br>NEW 1B/61<br>Artikel č.<br>51 133 ...<br>EUR | LNEX<br>NEW 1B/61<br>Artikel č.<br>51 134 ...<br>EUR |
|----------|-----|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| 121008EN | 0,8 | 32,38 50900                                          | 29,79 62000                                          | 32,38 60800                                          |
| 121008SN | 0,8 |                                                      |                                                      |                                                      |
| 121020EN | 2,0 | 32,38 52100                                          |                                                      |                                                      |

|                       |  |   |   |   |
|-----------------------|--|---|---|---|
| Oceľ                  |  | ○ | ○ | ○ |
| Nehrdzavejúca oceľ    |  |   |   |   |
| Liatina               |  | ● | ● | ● |
| Neželezné kovy        |  |   |   |   |
| Žiaruvzdorná zliatina |  |   |   |   |
| Kalená oceľ           |  |   |   |   |

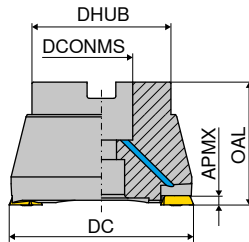
## Sprievodca frézovaním

|                          |           |                    |           |
|--------------------------|-----------|--------------------|-----------|
| Popis sort               | → 209+210 | Systém označovania | → 194+195 |
| Orientačné rezné hodnoty | → 148     |                    |           |

## Rovinná dokončovacia fréza F 5000 A

▲ s břitovými doštičkami nastaviteľnými s presnosťou na  $\mu\text{m}$

▲ skrutka pre nastavenie čelnej hádzavosti (56 950 017) s nastavením pomocou kľúča Torx20 (80 950 114)



| Označenie         | DC  | ZNF | APMX | OAL | DCONMS | DHUB | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | WA                       |                   |
|-------------------|-----|-----|------|-----|--------|------|-------------------------|-------------------------|--------------------------|-------------------|
|                   |     |     |      |     |        |      |                         |                         | Artikel č.<br>56 511 ... |                   |
| F5000A.42.2.43.IK | 42  | 2   | 0,2  | 43  | 16     | 35   | 3,2                     | TEHX 16T3..             | 321,90                   | 421               |
| F5000A.52.2.43.IK | 52  | 2   | 0,2  | 43  | 22     | 48   | 3,2                     | TEHX 16T3..             | 389,10                   | 521               |
| F5000A.66.2.53.IK | 66  | 2   | 0,2  | 53  | 27     | 60   | 3,2                     | TEHX 16T3..             | 454,00                   | 661               |
| F5000A.80.2.53.IK | 80  | 2   | 0,2  | 53  | 27     | 60   | 3,2                     | TEHX 16T3..             | 520,10                   | 801               |
| F5000A.100.2.53   | 100 | 2   | 0,2  | 53  | 32     | 70   | 3,2                     | TEHX 16T3..             | 585,10                   | 910 <sup>1)</sup> |

1) Bez vnútorného privádzania chladiaceho média

| Náhradné diely<br>DC | Y7                       |     | Y7                       |     | Y7                       |     | WA                                              |     | 2A/28                    |     | WA                       |     | WA                       |     | Y7                       |     |
|----------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|-------------------------------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                      | Výmenná vložka<br>TORX®  |     | Kľúč T                   |     | Kľúč D                   |     | Skrutka pre<br>vy ladenie čelnej<br>há dzavosti |     | Pasta<br>Molykote        |     | Upínacia skrutka         |     | Upínacia skrutka         |     | Rukoväť                  |     |
|                      | Artikel č.<br>80 950 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>56 950 ...                        |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>56 950 ... |     | Artikel č.<br>56 950 ... |     | Artikel č.<br>80 950 ... |     |
| 42                   | 4,76                     | 036 | 4,46                     | 088 | 9,95                     | 114 | 3,84                                            | 017 | 4,38                     | 303 | 3,54                     | 028 | 24,12                    | 121 | 131,90                   | 193 |
| 52                   | 4,76                     | 036 | 4,46                     | 088 | 9,28                     | 113 | 3,84                                            | 017 | 4,38                     | 303 | 3,54                     | 028 |                          |     | 131,90                   | 193 |
| 66                   | 4,76                     | 036 | 4,46                     | 088 | 9,28                     | 113 | 3,84                                            | 017 | 4,38                     | 303 | 3,54                     | 028 |                          |     | 131,90                   | 193 |
| 80                   | 4,76                     | 036 | 4,46                     | 088 | 9,28                     | 113 | 3,84                                            | 017 | 4,38                     | 303 | 3,54                     | 028 |                          |     | 131,90                   | 193 |
| 100                  | 4,76                     | 036 | 4,46                     | 088 | 9,28                     | 113 | 3,84                                            | 017 | 4,38                     | 303 | 3,54                     | 028 | 24,12                    | 121 | 131,90                   | 193 |

### Popis nástroja

- ▲ Doťahovací moment upínacej skrutky vymeniteľnej doštičky 56 950 028 je 3,2 Nm.
- ▲ Pomocou tohto nástroja sa docielí absolútne hladkého povrchu  $R_z \leq 2,5 \mu\text{m}$  a minimálna čelná há dzavosť.
- ▲ Pomocou dvoch axiálne pôsobiacich, jemných nastavovacích skrutiek je možné nástroj nastaviť s presnosťou na  $\mu\text{m}$ .
- ▲ Konečné brúsenie dielce nie je potreba, čím sa skráti čas obrábania a docielite úspory nákladov.
- ▲ Tento nástroj je veľmi vhodný aj pre nestabilné obrobky a stroj s nižším výkonom.

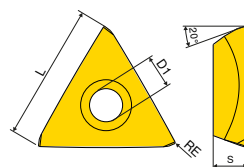
**i** Skrutky pre optimálne vy ladenie čelnej há dzavosti, ktorými je vybavená každá fréza, musia byť v priebehu prevádzky bezpodmienečne dotiahnuté s predpätím. V opačnom prípade hrozí nebezpečenstvo, že sa skrutky v priebehu obrábania uvoľnia. V dôsledku toho by mohlo prísť k poškodeniu obrobku popr. nástroja, a súčasne hrozí tiež nebezpečenstvo poranenia obsluhy stroja. Ak nebudete skrutky pre jemné nastavenie potrebovať, odporúčame tieto skrutky z nástroja odstrániť.

| Materiál                               | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
|----------------------------------------|----------------|-------------|-------------|
| Oceľ                                   | 150–250*)      | 0,5–2       | 0,05–0,2    |
| Liatina                                | 150–250*)      | 0,5–2       | 0,05–0,2    |
| Kalené materiály $\leq 56 \text{ HRC}$ | 35–200*)       | 0,2–1       | 0,05–0,1    |

\*) V závislosti na druhu obrábania a stavu štruktúry obrábaného materiálu.

## TEHX

| Označenie   | L     | S    | D1  |
|-------------|-------|------|-----|
|             | mm    | mm   | mm  |
| TEHX 16T3.. | 14,32 | 4,00 | 3,9 |



## TEHX

WTN1205



| ISO    | RE  |
|--------|-----|
|        | mm  |
| 16T3ZF | 0,2 |

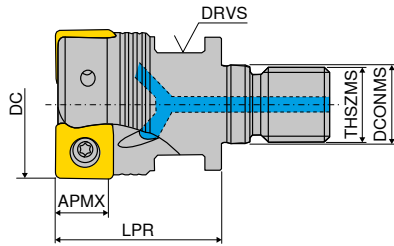
|            |
|------------|
| TEHX       |
| WB         |
| Artikel č. |
| 56 327 ... |
| EUR        |
| 21,18      |
| 151        |

|                       |   |
|-----------------------|---|
| Oceľ                  | ● |
| Nehrdzavejúca oceľ    | ○ |
| Liatina               | ● |
| Neželezné kovy        | ○ |
| Žiaruvzdorná zliatina | ○ |
| Kalená oceľ           | ● |

## Sprievodca frézovaním

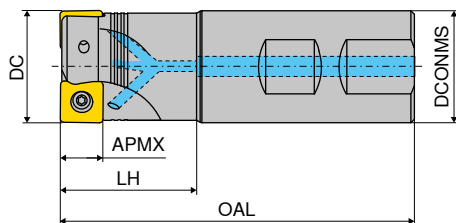
|                          |           |                    |           |
|--------------------------|-----------|--------------------|-----------|
| Popis sort               | → 209+210 | Systém označovania | → 194+195 |
| Orientačné rezné hodnoty | → 49      |                    |           |

## MaxiMill – Skrutkovacia fréza G 491



| Označenie       | DC | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|-----------------|----|-----|------|-----|--------|--------|------|-------------------------|-------------------------|--------------------------|-----|
|                 | mm |     | mm   | mm  |        | mm     | mm   |                         |                         | Artikel č.<br>50 773 ... |     |
| G491.25.R.03-09 | 25 | 3   | 6    | 35  | M12    | 12,5   | 17   | 2                       | SNHU 09T3               | EUR 351,30               | 125 |
| G491.32.R.03-09 | 32 | 3   | 6    | 35  | M16    | 17,0   | 24   | 2                       | SNHU 09T3               | EUR 356,60               | 132 |
| G491.32.R.04-09 | 32 | 4   | 6    | 35  | M16    | 17,0   | 24   | 2                       | SNHU 09T3               | EUR 398,40               | 232 |

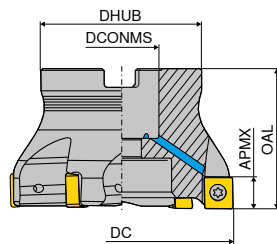
## MaxiMill – Stopková fréza C 491



| Označenie                | DC | ZNF | APMX | OAL | LH | DCONMS <sub>h6</sub> | RPMX   | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |                          |
|--------------------------|----|-----|------|-----|----|----------------------|--------|-------------------------|-------------------------|--------------------------|--------------------------|
|                          | mm |     | mm   | mm  | mm | mm                   | 1/min. |                         |                         | Artikel č.<br>50 774 ... | Artikel č.<br>50 774 ... |
| C491.25.R.03-09-B-32     | 25 | 3   | 6    | 59  | 32 | 25                   | 23500  | 2                       | SNHU 09T3               | EUR 356,60               | 425                      |
| C491.25.R.03-09-A-50-225 | 25 | 3   | 6    | 225 | 50 | 25                   | 23500  | 2                       | SNHU 09T3               | EUR 367,00               | 632                      |
| C491.32.R.03-09-B-40     | 32 | 3   | 6    | 101 | 40 | 32                   | 19600  | 2                       | SNHU 09T3               | EUR 398,40               | 432                      |
| C491.32.R.04-09-B-40     | 32 | 4   | 6    | 101 | 40 | 32                   | 19600  | 2                       | SNHU 09T3               | EUR 367,00               | 532                      |
| C491.32.R.03-09-A-63-250 | 32 | 3   | 6    | 250 | 63 | 32                   | 19600  | 2                       | SNHU 09T3               | EUR 398,40               | 332                      |
| C491.32.R.04-09-A-63-250 | 32 | 4   | 6    | 250 | 63 | 32                   | 19600  | 2                       | SNHU 09T3               | EUR 398,40               | 332                      |



## MaxiMill – Nástrčná fréza A 491

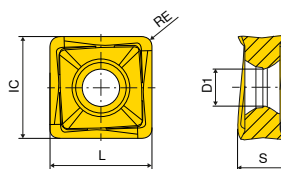


| Označenie        | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX  | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     | 2B/40                    |     |
|------------------|-----|-----|------|-----|------|----------------------|-------|-------------------------|-------------------------|--------------------------|-----|--------------------------|-----|
|                  |     |     |      |     |      |                      |       |                         |                         | Artikel č.<br>50 776 ... | EUR | Artikel č.<br>50 775 ... | EUR |
| A491.40.R.03-09  | 40  | 3   | 6    | 40  | 38   | 16                   | 16800 | 2                       | SNHU 09T3               |                          |     | 387,90                   | 240 |
| A491.40.R.05-09  | 40  | 5   | 6    | 40  | 38   | 16                   | 16800 | 2                       | SNHU 09T3               | 450,90                   | 240 | 429,90                   | 250 |
| A491.50.R.04-09  | 50  | 4   | 6    | 40  | 43   | 22                   | 14600 | 2                       | SNHU 09T3               |                          |     | 513,80                   | 263 |
| A491.50.R.06-09  | 50  | 6   | 6    | 40  | 43   | 22                   | 14600 | 2                       | SNHU 09T3               | 492,80                   | 250 | 545,30                   | 280 |
| A491.63.R.05-09  | 63  | 5   | 6    | 40  | 48   | 22                   | 12700 | 2                       | SNHU 09T3               |                          |     | 692,00                   | 300 |
| A491.63.R.08-09  | 63  | 8   | 6    | 40  | 48   | 22                   | 12700 | 2                       | SNHU 09T3               | 608,10                   | 263 | 838,80                   | 325 |
| A491.80.R.06-09  | 80  | 6   | 6    | 50  | 58   | 27                   | 11100 | 2                       | SNHU 09T3               |                          |     |                          |     |
| A491.80.R.10-09  | 80  | 10  | 6    | 50  | 58   | 27                   | 11100 | 2                       | SNHU 09T3               | 671,10                   | 280 |                          |     |
| A491.100.R.07-09 | 100 | 7   | 6    | 50  | 78   | 32                   | 9800  | 2                       | SNHU 09T3               |                          |     |                          |     |
| A491.100.R.12-09 | 100 | 12  | 6    | 50  | 78   | 32                   | 9800  | 2                       | SNHU 09T3               | 849,30                   | 300 |                          |     |
| A491.125.R.08-09 | 125 | 8   | 6    | 63  | 88   | 40                   | 8700  | 2                       | SNHU 09T3               |                          |     |                          |     |
| A491.125.R.15-09 | 125 | 15  | 6    | 63  | 88   | 40                   | 8700  | 2                       | SNHU 09T3               | 1.028,00                 | 325 |                          |     |

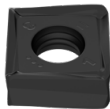
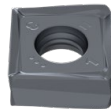
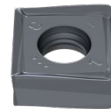
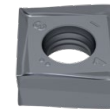
| Náhradné diely<br>DC | Y7                       |     | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|----------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                      | Výmenná vložka<br>TORX®  |     | Upínací klúč T           |     | Klúč D                   |     | Silová skrutka           |     | Pasta<br>Molykote        |     | Upínacia skrutka         |     | Rukoväť                  |     |
|                      | Artikel č.<br>80 950 ... | EUR | Artikel č.<br>80 397 ... | EUR | Artikel č.<br>80 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>80 950 ... | EUR |
| 25 - 32              | 5,26                     | 053 |                          |     | 8,91                     | 119 |                          |     | 4,38                     | 303 | 3,09                     | 710 | 131,90                   | 193 |
| 40                   | 5,26                     | 053 | 3,91                     | 040 | 8,91                     | 119 | 12,48                    | 151 | 4,38                     | 303 | 3,09                     | 710 | 131,90                   | 193 |
| 50 - 125             | 5,26                     | 053 |                          |     | 8,91                     | 119 |                          |     | 4,38                     | 303 | 3,09                     | 710 | 131,90                   | 193 |

## SNHU

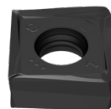
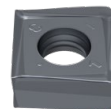
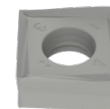
| Označenie   | IC   | L    | S    | D1   |
|-------------|------|------|------|------|
|             | mm   | mm   | mm   | mm   |
| SNHU 09T3.. | 9,15 | 9,15 | 3,70 | 3,85 |



## SNHU

| ISO                   | RE  | -M50 CTCP230                                                                      |  | -M50 CTPP235                                                                      |  | -F50 CTPM240                                                                        |  | -M50 CTPM240                                                                        |  | -F40 CTPM245                                                                        |  |
|-----------------------|-----|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       |     | -M50 DCX1230                                                                      |  | -M50 DPX1235                                                                      |  | -F50 DPX2240                                                                        |  | -M50 DPX2240                                                                        |  | -M50 DPX2240                                                                        |  |
|                       |     | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |
|                       |     | SNHU 1B/61                                                                        |  | SNHU 1B/61                                                                        |  | SNHU 1B/61                                                                          |  | SNHU 1B/61                                                                          |  | SNHU 1H/17                                                                          |  |
|                       |     | Artikel č. 51 120 ...                                                             |  | Artikel č. 51 120 ...                                                             |  | Artikel č. 51 119 ...                                                               |  | Artikel č. 51 120 ...                                                               |  | Artikel č. 51 126 ...                                                               |  |
|                       |     | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 09T308ER              | 0,8 | 21,95 008                                                                         |  | 21,95 108                                                                         |  | 21,95 408                                                                           |  | 21,95 408                                                                           |  | 27,46 45800                                                                         |  |
| 09T308SR              | 0,8 | 21,95 01200                                                                       |  | 21,95 11200                                                                       |  | 21,95 41200                                                                         |  | 21,95 41200                                                                         |  |                                                                                     |  |
| 09T312SR              | 1,2 | 21,95 01600                                                                       |  | 21,95 11600                                                                       |  | 21,95 41600                                                                         |  | 21,95 41600                                                                         |  |                                                                                     |  |
| 09T316SR              | 1,6 |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Oceľ                  |     | ●                                                                                 |  | ●                                                                                 |  | ○                                                                                   |  | ○                                                                                   |  | ●                                                                                   |  |
| Nehrdzavejúca oceľ    |     | ○                                                                                 |  | ○                                                                                 |  | ●                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |
| Litina                |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Neželezné kovy        |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Žiaruvzdorná zliatina |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Kalená oceľ           |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |

## SNHU

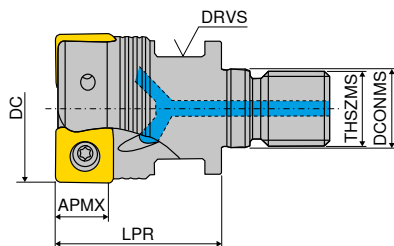
| ISO                   | RE  | -R50 CTCK215                                                                        |  | -F10 CTWN215                                                                          |  | -F40 CTC5240                                                                          |  | -F40 CTC5245                                                                          |  |
|-----------------------|-----|-------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
|                       |     | -R50 DCX3215                                                                        |  | -F10 CWK4615                                                                          |  |                                                                                       |  |                                                                                       |  |
|                       |     | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  |
|                       |     |  |  |  |  |  |  |  |  |
|                       |     | SNHU 1B/61                                                                          |  | SNHU 1B/61                                                                            |  | SNHU 1H/D4                                                                            |  | SNHU 1H/D4                                                                            |  |
|                       |     | Artikel č. 51 121 ...                                                               |  | Artikel č. 51 118 ...                                                                 |  | Artikel č. 51 126 ...                                                                 |  | Artikel č. 51 126 ...                                                                 |  |
|                       |     | EUR                                                                                 |  | EUR                                                                                   |  | EUR                                                                                   |  | EUR                                                                                   |  |
| 09T308ER              | 0,8 | 21,95 508                                                                           |  | 21,95 358                                                                             |  | 27,46 15800                                                                           |  | 27,46 55800                                                                           |  |
| 09T308FR              | 0,8 |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| 09T308SR              | 0,8 |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| 09T312SR              | 1,2 |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| 09T316SR              | 1,6 |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Oceľ                  |     | ○                                                                                   |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Nehrdzavejúca oceľ    |     |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Litina                |     |                                                                                     |  | ●                                                                                     |  | ○                                                                                     |  |                                                                                       |  |
| Neželezné kovy        |     |                                                                                     |  |                                                                                       |  | ●                                                                                     |  |                                                                                       |  |
| Žiaruvzdorná zliatina |     |                                                                                     |  |                                                                                       |  | ●                                                                                     |  | ●                                                                                     |  |
| Kalená oceľ           |     |                                                                                     |  |                                                                                       |  |                                                                                       |  | ●                                                                                     |  |

## Sprievodca frézovaním

|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Počiatkové parametre | → 150     | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 150     |

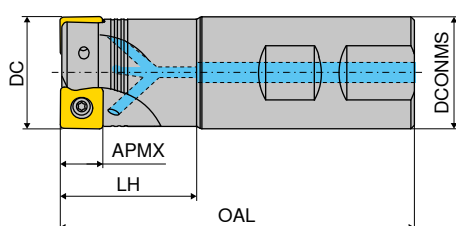


## MaxiMill – Skrutkovacia fréza G 491



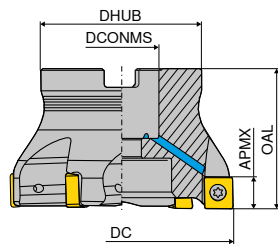
| Označenie       | DC | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Dofahovací moment | Vymeniteľná doštička | 2B/40                 |
|-----------------|----|-----|------|-----|--------|--------|------|-------------------|----------------------|-----------------------|
|                 | mm |     | mm   | mm  |        | mm     | mm   | Nm                |                      | Artikel č. 50 773 ... |
| G491.32.R.02-12 | 32 | 2   | 8    | 35  | M16    | 17     | 24   | 3,2               | SNHU 1204            | EUR 335,60 032        |

## MaxiMill – Stopková fréza C 491



| Označenie                | DC | ZNF | APMX | OAL | LH | DCONMS <sub>h6</sub> | RPMX   | Dofahovací moment | Vymeniteľná doštička | A                     | B                     |
|--------------------------|----|-----|------|-----|----|----------------------|--------|-------------------|----------------------|-----------------------|-----------------------|
|                          | mm |     | mm   | mm  | mm | mm                   | 1/min. | Nm                |                      | 2B/40                 | 2B/40                 |
|                          |    |     |      |     |    |                      |        |                   |                      | Artikel č. 50 774 ... | Artikel č. 50 774 ... |
| C491.32.R.02-12-B-40     | 32 | 2   | 8    | 102 | 40 | 32                   | 13600  | 3,2               | SNHU 1204            | EUR 335,60            | 032                   |
| C491.32.R.02-12-A-63-250 | 32 | 2   | 8    | 250 | 63 | 32                   | 10200  | 3,2               | SNHU 1204            | 335,60                | 232                   |

## MaxiMill – Nástrčná fréza A 491



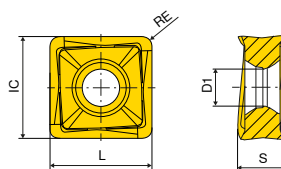
| Označenie        | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX  | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                           |                                 |
|------------------|-----|-----|------|-----|------|----------------------|-------|-------------------------|-------------------------|---------------------------------|---------------------------------|
|                  |     |     |      |     |      |                      |       |                         |                         | Artikel č.<br>50 776 ...<br>EUR | Artikel č.<br>50 775 ...<br>EUR |
| A491.40.R.03-12  | 40  | 3   | 8    | 40  | 38   | 16                   | 11500 | 3,2                     | SNHU 1204               |                                 | 387,90                          |
| A491.40.R.04-12  | 40  | 4   | 8    | 40  | 38   | 16                   | 11500 | 3,2                     | SNHU 1204               | 419,40                          | 040                             |
| A491.50.R.04-12  | 50  | 4   | 8    | 40  | 43   | 22                   | 9800  | 3,2                     | SNHU 1204               |                                 | 429,90                          |
| A491.50.R.05-12  | 50  | 5   | 8    | 40  | 43   | 22                   | 9800  | 3,2                     | SNHU 1204               | 461,40                          | 050                             |
| A491.63.R.05-12  | 63  | 5   | 8    | 40  | 48   | 22                   | 8500  | 3,2                     | SNHU 1204               |                                 | 513,80                          |
| A491.63.R.06-12  | 63  | 6   | 8    | 40  | 48   | 22                   | 8500  | 3,2                     | SNHU 1204               | 545,30                          | 063                             |
| A491.80.R.06-12  | 80  | 6   | 8    | 50  | 58   | 27                   | 7400  | 3,2                     | SNHU 1204               |                                 | 545,30                          |
| A491.80.R.08-12  | 80  | 8   | 8    | 50  | 58   | 27                   | 7400  | 3,2                     | SNHU 1204               | 629,10                          | 080                             |
| A491.100.R.07-12 | 100 | 7   | 8    | 50  | 78   | 32                   | 6500  | 3,2                     | SNHU 1204               |                                 | 692,00                          |
| A491.100.R.10-12 | 100 | 10  | 8    | 50  | 78   | 32                   | 6500  | 3,2                     | SNHU 1204               | 786,50                          | 100                             |
| A491.125.R.08-12 | 125 | 8   | 8    | 63  | 88   | 40                   | 5700  | 3,2                     | SNHU 1204               |                                 | 838,80                          |
| A491.125.R.12-12 | 125 | 12  | 8    | 63  | 88   | 40                   | 5700  | 3,2                     | SNHU 1204               | 964,70                          | 125                             |
| A491.160.R.09-12 | 160 | 9   | 8    | 63  | 98   | 40                   | 5000  | 3,2                     | SNHU 1204               |                                 | 975,20                          |
| A491.160.R.14-12 | 160 | 14  | 8    | 63  | 98   | 40                   | 5000  | 3,2                     | SNHU 1204               | 1.133,00                        | 160 <sup>1)</sup>               |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

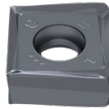
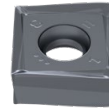
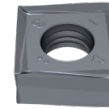
| Náhradné diely<br>DC | Y7                              |     | Y7                              |     | Y7                              |     | 2A/28                           |     | 2A/28                           |     | 2A/28                           |     | Y7                              |     |
|----------------------|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|
|                      | Výmenná vložka<br>TORX®         |     | Upínací klúč T                  |     | Klúč D                          |     | Silová skrutka                  |     | Pasta<br>Molykote               |     | Upínacia skrutka                |     | Rukoväť                         |     |
|                      | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>80 397 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     |
| 32                   | 5,26                            | 054 |                                 |     | 11,89                           | 128 |                                 |     | 4,38                            | 303 | 3,14                            | 859 | 131,90                          | 193 |
| 40                   | 5,26                            | 054 | 3,91                            | 040 | 11,89                           | 128 | 12,48                           | 151 | 4,38                            | 303 | 3,14                            | 859 | 131,90                          | 193 |
| 50 - 160             | 5,26                            | 054 |                                 |     | 11,89                           | 128 |                                 |     | 4,38                            | 303 | 3,14                            | 859 | 131,90                          | 193 |

## SNHU

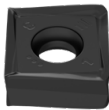
| Označenie   | IC   | L    | S    | D1  |
|-------------|------|------|------|-----|
|             | mm   | mm   | mm   | mm  |
| SNHU 1204.. | 12,2 | 12,2 | 5,00 | 4,4 |



## SNHU

| ISO                   | RE  | -M50 CTCP230                                                                      |  | -M50 CTPP235                                                                      |  | -F50 CTPM240                                                                        |  | -M50 CTPM240                                                                        |  | -F40 CTPM245                                                                        |  |
|-----------------------|-----|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       |     | -M50 DCX1230                                                                      |  | -M50 DPX1235                                                                      |  | -F50 DPX2240                                                                        |  | -M50 DPX2240                                                                        |  | DRAGONSKIN                                                                          |  |
|                       |     | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |
|                       |     | SNHU 1B/61                                                                        |  | SNHU 1B/61                                                                        |  | SNHU 1B/61                                                                          |  | SNHU 1B/61                                                                          |  | SNHU 1H/17                                                                          |  |
|                       |     | Artikel č. 51 100 ...                                                             |  | Artikel č. 51 100 ...                                                             |  | Artikel č. 51 102 ...                                                               |  | Artikel č. 51 100 ...                                                               |  | Artikel č. 51 128 ...                                                               |  |
|                       |     | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 120408ER              | 0,8 | 26,81                                                                             |  | 26,81                                                                             |  | 26,81                                                                               |  | 26,81                                                                               |  | 32,97                                                                               |  |
| 120408SR              | 0,8 | 008                                                                               |  | 108                                                                               |  | 408                                                                                 |  | 408                                                                                 |  | 45800                                                                               |  |
| 120412SR              | 1,2 |                                                                                   |  | 112                                                                               |  | 412                                                                                 |  |                                                                                     |  |                                                                                     |  |
| 120416SR              | 1,6 |                                                                                   |  | 116                                                                               |  | 416                                                                                 |  |                                                                                     |  |                                                                                     |  |
| 120420SR              | 2,0 |                                                                                   |  | 120                                                                               |  | 420                                                                                 |  |                                                                                     |  |                                                                                     |  |
| Oceľ                  |     | ●                                                                                 |  | ●                                                                                 |  | ○                                                                                   |  | ○                                                                                   |  | ●                                                                                   |  |
| Nehrdzavejúca oceľ    |     | ○                                                                                 |  | ○                                                                                 |  | ●                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |
| Liatina               |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Neželezné kovy        |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Žiaruvzdorná zliatina |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Kalená oceľ           |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |

## SNHU

| ISO                   | RE  | -R50 CTCK215                                                                        |  | -R50 CTPK220                                                                        |  | -F10 CTWN215                                                                          |  | -F40 CTC5240                                                                          |  | -F40 CTC5245                                                                          |  |
|-----------------------|-----|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
|                       |     | -R50 DCX3215                                                                        |  | -R50 DPX3220                                                                        |  | -F10 CWK4615                                                                          |  | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  |
|                       |     | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  |                                                                                       |  | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |
|                       |     | SNHU 1B/61                                                                          |  | SNHU 1B/61                                                                          |  | SNHU 1B/61                                                                            |  | SNHU 1H/D4                                                                            |  | SNHU 1H/D4                                                                            |  |
|                       |     | Artikel č. 51 103 ...                                                               |  | Artikel č. 51 103 ...                                                               |  | Artikel č. 51 101 ...                                                                 |  | Artikel č. 51 128 ...                                                                 |  | Artikel č. 51 128 ...                                                                 |  |
|                       |     | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                   |  | EUR                                                                                   |  | EUR                                                                                   |  |
| 120408ER              | 0,8 | 26,81                                                                               |  | 26,81                                                                               |  | 26,81                                                                                 |  | 32,97                                                                                 |  | 32,97                                                                                 |  |
| 120408FR              | 0,8 | 508                                                                                 |  | 608                                                                                 |  | 358                                                                                   |  | 15800                                                                                 |  | 55800                                                                                 |  |
| 120412FR              | 1,2 |                                                                                     |  |                                                                                     |  | 362                                                                                   |  |                                                                                       |  |                                                                                       |  |
| 120412SR              | 1,2 | 512                                                                                 |  |                                                                                     |  | 366                                                                                   |  |                                                                                       |  |                                                                                       |  |
| 120416FR              | 1,6 |                                                                                     |  |                                                                                     |  | 370                                                                                   |  |                                                                                       |  |                                                                                       |  |
| 120416SR              | 1,6 | 516                                                                                 |  |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| 120420FR              | 2,0 | 520                                                                                 |  |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| 120420SR              | 2,0 |                                                                                     |  |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Oceľ                  |     | ○                                                                                   |  | ○                                                                                   |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Nehrdzavejúca oceľ    |     |                                                                                     |  |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Liatina               |     | ●                                                                                   |  | ●                                                                                   |  | ○                                                                                     |  |                                                                                       |  |                                                                                       |  |
| Neželezné kovy        |     |                                                                                     |  |                                                                                     |  | ●                                                                                     |  |                                                                                       |  |                                                                                       |  |
| Žiaruvzdorná zliatina |     |                                                                                     |  |                                                                                     |  |                                                                                       |  | ●                                                                                     |  | ●                                                                                     |  |
| Kalená oceľ           |     |                                                                                     |  |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |

## Sprievodca frézovaním

Počiatočné parametre

→ 151

Systém označovania

→ 194+195

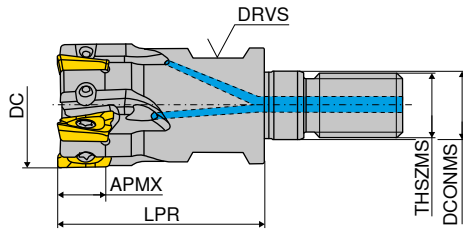
Popis sort

→ 209+210

Orientačné rezné parametre

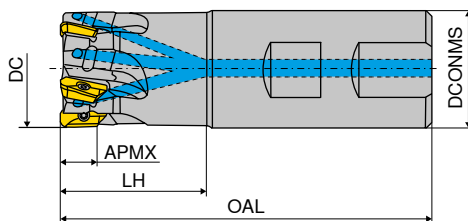
→ 151

## MaxiMill – Skrutkovacia fréza G 211-07



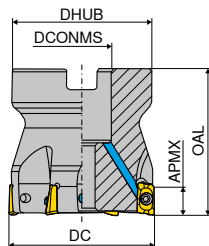
| Označenie       | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|-----------------|----|-----|------|-----|--------|--------|------|--------|-------------------------|-------------------------|--------------------------|-----|
|                 |    |     |      |     |        |        |      |        |                         |                         | Artikel č.<br>50 751 ... |     |
|                 | mm |     | mm   | mm  | mm     |        | mm   | 1/min. |                         |                         | EUR                      |     |
| G211.16.R.04-07 | 16 | 4   | 6    | 27  | 8,5    | M8     | 10   | 50400  | 1                       | XD.T 0703               | 268,00                   | 016 |
| G211.20.R.05-07 | 20 | 5   | 6    | 33  | 10,5   | M10    | 15   | 44280  | 1                       | XD.T 0703               | 299,00                   | 020 |
| G211.25.R.06-07 | 25 | 6   | 6    | 35  | 12,5   | M12    | 17   | 39480  | 1                       | XD.T 0703               | 348,80                   | 025 |
| G211.32.R.08-07 | 32 | 8   | 6    | 35  | 17,0   | M16    | 24   | 36240  | 1                       | XD.T 0703               | 379,80                   | 032 |

## MaxiMill – Stopková fréza C 211-07



| Označenie                  | DC | ZNF | APMX | OAL   | LH | DCONMS | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | A                        |     | B                        |     |
|----------------------------|----|-----|------|-------|----|--------|--------|-------------------------|-------------------------|--------------------------|-----|--------------------------|-----|
|                            |    |     |      |       |    |        |        |                         |                         | 2B/40                    |     | 2B/40                    |     |
|                            | mm |     | mm   | mm    | mm | mm     | 1/min. |                         |                         | Artikel č.<br>50 752 ... | EUR | Artikel č.<br>50 752 ... | EUR |
| C211.10.R.01-07-A-20       | 10 | 1   | 6    | 61,0  | 20 | 10     | 72000  | 1                       | XD.T 0703               | 212,00                   | 010 |                          |     |
| C211.12.R.02-07-A-20       | 12 | 2   | 6    | 66,5  | 20 | 12     | 66600  | 1                       | XD.T 0703               | 243,00                   | 012 |                          |     |
| C211.16.R.04-07-A/B-25     | 16 | 4   | 6    | 74,5  | 25 | 16     | 50400  | 1                       | XD.T 0703               | 268,00                   | 016 | 268,00                   | 216 |
| C211.16.R.03-07-A-32-165   | 16 | 3   | 6    | 165,0 | 32 | 16     | 17760  | 1                       | XD.T 0703               | 249,20                   | 116 |                          |     |
| C211.20.R.05-07-A/B-25     | 20 | 5   | 6    | 77,0  | 25 | 20     | 44280  | 1                       | XD.T 0703               | 299,00                   | 020 | 299,00                   | 220 |
| C211.20.R.04-07-A-40-200   | 20 | 4   | 6    | 200,0 | 40 | 20     | 12600  | 1                       | XD.T 0703               | 280,30                   | 120 |                          |     |
| C211.25.R.06-07-A/B20-32   | 25 | 6   | 6    | 84,0  | 32 | 20     | 39840  | 1                       | XD.T 0703               | 348,80                   | 025 | 348,80                   | 225 |
| C211.25.R.05-07-A20-50-225 | 25 | 5   | 6    | 225,0 | 50 | 20     | 11280  | 1                       | XD.T 0703               | 311,50                   | 125 |                          |     |
| C211.32.R.08-07-A/B25-40   | 32 | 8   | 6    | 98,0  | 40 | 25     | 36240  | 1                       | XD.T 0703               | 379,80                   | 032 | 379,80                   | 232 |

## MaxiMill – Nástrčná fréza A 211-07

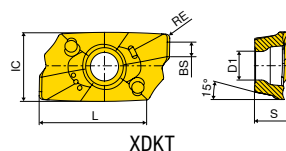


| Označenie       | DC | ZNF | APMX | OAL | DCONMS <sub>H6</sub> | DHUB | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40                 |                       |
|-----------------|----|-----|------|-----|----------------------|------|--------|-------------------|----------------------|-----------------------|-----------------------|
|                 |    |     |      |     |                      |      |        |                   |                      | Artikel č. 50 753 ... | Artikel č. 50 754 ... |
|                 | mm |     | mm   | mm  | mm                   | mm   | 1/min. | Nm                |                      | EUR                   | EUR                   |
| A211.32.R.06-07 | 32 | 6   | 6    | 40  | 16                   | 38   | 36240  | 1                 | XD.T 0703            | 317,90                | 032                   |
| A211.32.R.08-07 | 32 | 8   | 6    | 40  | 16                   | 38   | 36240  | 1                 | XD.T 0703            |                       | 355,10 032            |
| A211.40.R.08-07 | 40 | 8   | 6    | 40  | 16                   | 38   | 33240  | 1                 | XD.T 0703            | 392,50                | 040                   |
| A211.40.R.10-07 | 40 | 10  | 6    | 40  | 16                   | 38   | 33240  | 1                 | XD.T 0703            |                       | 429,90 040            |
| A211.50.R.10-07 | 50 | 10  | 6    | 40  | 22                   | 43   | 30480  | 1                 | XD.T 0703            | 467,20                | 050                   |
| A211.50.R.12-07 | 50 | 12  | 6    | 40  | 22                   | 43   | 30480  | 1                 | XD.T 0703            |                       | 504,50 050            |

| Náhradné diely DC | Y7                    |     | Y7                    |     | Y7                    |     | 2A/28                 |     | 2A/28                 |     | 2A/28                 |     | Y7                    |     |
|-------------------|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                   | Výmenná vložka TORX®  |     | Upínací klúč T        |     | Klúč D                |     | Silová skrutka        |     | Pasta Molykote        |     | Upínacia skrutka      |     | Rukoväť               |     |
|                   | Artikel č. 80 950 ... |     | Artikel č. 80 397 ... |     | Artikel č. 80 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 80 950 ... |     |
|                   | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 10 - 32           | 5,26                  | 051 |                       |     | 10,22                 | 124 |                       |     | 4,38                  | 303 | 3,18                  | 137 | 118,90                | 191 |
| 32                | 5,26                  | 051 | 3,91                  | 040 | 10,22                 | 124 | 12,48                 | 151 | 4,38                  | 303 | 3,18                  | 137 | 118,90                | 191 |
| 40 - 50           | 5,26                  | 051 |                       |     | 10,22                 | 124 |                       |     | 4,38                  | 303 | 3,18                  | 137 | 118,90                | 191 |

## XDKT

| Označenie   | IC  | D1  | L   | BS  | S    |
|-------------|-----|-----|-----|-----|------|
|             | mm  | mm  | mm  | mm  | mm   |
| XDKT 0703.. | 4,9 | 2,5 | 7,8 | 1,2 | 3,18 |



## XDKT

| ISO                   | RE  | -F50 CTCP230          |     | -M50 CTCP230          |     | -F50 CTPP235          |     | -M50 CTPP235          |     |
|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                       |     | -F50 DCX1230          |     | -M50 DCX1230          |     | -F50 DPX1235          |     | -M50 DPX1235          |     |
|                       |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     |
|                       |     |                       |     |                       |     |                       |     |                       |     |
|                       |     | XDKT 1B/61            |     | XDKT 1B/61            |     | XDKT 1B/61            |     | XDKT 1B/61            |     |
|                       |     | Artikel č. 51 033 ... |     | Artikel č. 51 036 ... |     | Artikel č. 51 033 ... |     | Artikel č. 51 036 ... |     |
|                       |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 070304SR              | 0,4 | 11,56                 | 004 | 11,56                 | 004 | 11,56                 | 104 | 11,56                 | 104 |
| 070308SR              | 0,8 | 11,56                 | 008 | 11,56                 | 008 | 11,56                 | 108 | 11,56                 | 108 |
| Oceľ                  |     | ●                     |     | ●                     |     | ●                     |     | ●                     |     |
| Nehrdzavejúca oceľ    |     | ○                     |     | ○                     |     | ○                     |     | ○                     |     |
| Litina                |     |                       |     |                       |     |                       |     |                       |     |
| Neželezné kovy        |     |                       |     |                       |     |                       |     |                       |     |
| Žiaruvzdorná zliatina |     |                       |     |                       |     |                       |     |                       |     |
| Kalená oceľ           |     |                       |     |                       |     |                       |     |                       |     |

## XDKT

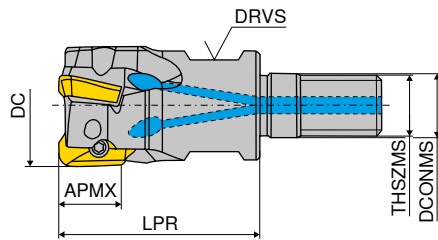
| ISO                   | RE  | -F50 CTPM240          |     | -M50 CTPM240          |     | -F40 CTPM245          |     | -F20 CTWN215          |     | -F40 CTC5240          |     | -F40 CTC5245          |     |
|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                       |     | -F50 DPX2240          |     | -M50 DPX2240          |     | -F40 DPX2245          |     | -F20 CWK4615          |     | -F40 HCF5240          |     |                       |     |
|                       |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     |                       |     | DRAGONSKIN            |     | DRAGONSKIN            |     |
|                       |     |                       |     |                       |     |                       |     |                       |     |                       |     |                       |     |
|                       |     | XDKT 1B/61            |     | XDKT 1B/61            |     | XDKT 1H/17            |     | XDKT 1A/90            |     | XDKT 1H/D4            |     | XDKT 1H/D4            |     |
|                       |     | Artikel č. 51 033 ... |     | Artikel č. 51 036 ... |     | Artikel č. 51 112 ... |     | Artikel č. 50 507 ... |     | Artikel č. 50 498 ... |     | Artikel č. 51 112 ... |     |
|                       |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 070304ER              | 0,4 |                       |     |                       |     | 13,81                 | 454 | 13,31                 | 504 | 13,81                 | 544 |                       |     |
| 070304FR              | 0,4 |                       |     |                       |     |                       |     |                       |     |                       |     |                       |     |
| 070304SR              | 0,4 | 11,56                 | 404 | 11,56                 | 404 |                       |     |                       |     | 13,81                 | 548 | 13,81                 | 558 |
| 070308ER              | 0,8 |                       |     |                       |     | 13,81                 | 458 |                       |     |                       |     |                       |     |
| 070308FR              | 0,8 |                       |     |                       |     |                       |     | 13,31                 | 508 |                       |     |                       |     |
| 070308SR              | 0,8 | 11,56                 | 408 | 11,56                 | 408 |                       |     |                       |     |                       |     |                       |     |
| Oceľ                  |     | ○                     |     | ○                     |     | ●                     |     |                       |     |                       |     |                       |     |
| Nehrdzavejúca oceľ    |     | ●                     |     | ●                     |     | ●                     |     |                       |     |                       |     |                       |     |
| Litina                |     |                       |     |                       |     |                       |     | ○                     |     |                       |     |                       |     |
| Neželezné kovy        |     |                       |     |                       |     |                       |     | ●                     |     |                       |     |                       |     |
| Žiaruvzdorná zliatina |     |                       |     |                       |     |                       |     |                       |     | ●                     |     | ●                     |     |
| Kalená oceľ           |     |                       |     |                       |     |                       |     |                       |     |                       |     |                       |     |

## Sprievodca frézovaním

|                      |           |                              |           |
|----------------------|-----------|------------------------------|-----------|
| Stratégia obrábania  | → 152     | Systém označovania           | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre   | → 152     |
| Počiatočné parametre | → 152     | Korekcia posuvu na zub $f_z$ | → 157     |

## MaxiMill – Skrutkovacia fréza G 211-11

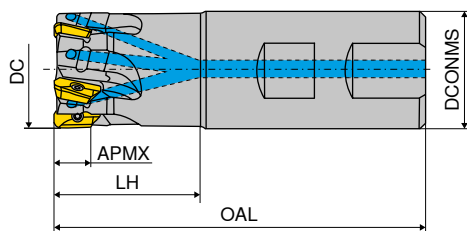
▲ rádius britovej dosťičky &gt; 1,6 mm: modifikujte základné teleso



| Označenie       | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX   | Dofahovací moment | Vymeniteľná dosťička | 2B/40                 |       |
|-----------------|----|-----|------|-----|--------|--------|------|--------|-------------------|----------------------|-----------------------|-------|
|                 |    |     |      |     |        |        |      |        |                   |                      | Artikel č. 50 736 ... |       |
|                 | mm |     | mm   | mm  | mm     |        | mm   | 1/min. | Nm                |                      | EUR                   |       |
| G211.16.R.02-11 | 16 | 2   | 10   | 27  | 8,5    | M8     | 10   | 42000  | 1,2               | XD.T 11T3            | 230,50                | 016   |
| G211.20.R.03-11 | 20 | 3   | 10   | 33  | 10,5   | M10    | 15   | 36900  | 1,2               | XD.T 11T3            | 261,70                | 020   |
| G211.25.R.03-11 | 25 | 3   | 10   | 35  | 12,5   | M12    | 17   | 33200  | 1,2               | XD.T 11T3            | 274,10                | 12500 |
| G211.25.R.04-11 | 25 | 4   | 10   | 35  | 12,5   | M12    | 17   | 33200  | 1,2               | XD.T 11T3            | 292,90                | 025   |
| G211.32.R.04-11 | 32 | 4   | 10   | 35  | 17,0   | M16    | 24   | 30200  | 1,2               | XD.T 11T3            | 305,30                | 13200 |
| G211.32.R.05-11 | 32 | 5   | 10   | 35  | 17,0   | M16    | 24   | 30200  | 1,2               | XD.T 11T3            | 324,10                | 032   |
| G211.40.R.06-11 | 40 | 6   | 10   | 35  | 17,0   | M16    | 27   | 27700  | 1,8               | XD.T 11T3            | 355,10                | 040   |

## MaxiMill – Stopková fréza C 211-11

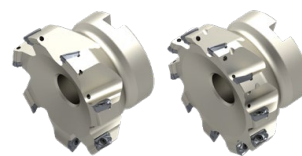
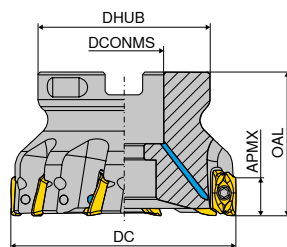
▲ rádius britovej dosťičky &gt; 1,6 mm: modifikujte základné teleso



| Označenie                  | DC | ZNF | APMX | OAL | LH | DCONMS <sub>h6</sub> | RPMX   | Dofahovací moment | Vymeniteľná dosťička | 2B/40                 |                       |
|----------------------------|----|-----|------|-----|----|----------------------|--------|-------------------|----------------------|-----------------------|-----------------------|
|                            |    |     |      |     |    |                      |        |                   |                      | Artikel č. 50 737 ... | Artikel č. 50 737 ... |
|                            | mm |     | mm   | mm  | mm | mm                   | 1/min. | Nm                |                      | EUR                   | EUR                   |
| C211.12.R.01-11-B-20       | 12 | 1   | 10   | 75  | 20 | 16                   | 55000  | 1,2               | XD.T 11T3            |                       | 205,60 012            |
| C211.16.R.02-11-A/B-25     | 16 | 2   | 10   | 75  | 25 | 16                   | 42000  | 1,2               | XD.T 11T3            | 230,50 116            | 230,50 016            |
| C211.16.R.02-11-A15-32-165 | 16 | 2   | 10   | 165 | 32 | 15                   | 14800  | 1,2               | XD.T 11T3            | 230,50 316            |                       |
| C211.16.R.02-11-A-32-165   | 16 | 2   | 10   | 165 | 32 | 16                   | 14800  | 1,2               | XD.T 11T3            | 230,50 216            |                       |
| C211.20.R.03-11-A-25       | 20 | 3   | 10   | 77  | 25 | 20                   | 36900  | 1,2               | XD.T 11T3            | 261,70 120            |                       |
| C211.20.R.02-11-B-25       | 20 | 2   | 10   | 77  | 25 | 20                   | 36900  | 1,2               | XD.T 11T3            |                       | 243,00 02002          |
| C211.20.R.02-11-A-25       | 20 | 2   | 10   | 77  | 25 | 20                   | 36900  | 1,2               | XD.T 11T3            | 243,00 12002          |                       |
| C211.20.R.03-11-B-25       | 20 | 3   | 10   | 77  | 25 | 20                   | 36900  | 1,2               | XD.T 11T3            |                       | 261,70 020            |
| C211.20.R.03-11-A-32-165   | 20 | 3   | 10   | 165 | 32 | 20                   | 15800  | 1,2               | XD.T 11T3            | 261,70 320            |                       |
| C211.20.R.02-11-A-40-200   | 20 | 2   | 10   | 200 | 40 | 20                   | 10500  | 1,2               | XD.T 11T3            | 243,00 420            |                       |
| C211.20.R.02-11-A19-40-200 | 20 | 2   | 10   | 200 | 40 | 19                   | 10500  | 1,2               | XD.T 11T3            | 243,00 620            |                       |
| C211.25.R.03-11-A/B-32     | 25 | 3   | 10   | 90  | 32 | 25                   | 33200  | 1,2               | XD.T 11T3            | 274,20 625            | 274,20 725            |
| C211.25.R.04-11-A/B-32     | 25 | 4   | 10   | 90  | 32 | 25                   | 33200  | 1,2               | XD.T 11T3            | 292,90 125            | 292,90 025            |
| C211.25.R.04-11-A-40-165   | 25 | 4   | 10   | 165 | 40 | 25                   | 19900  | 1,2               | XD.T 11T3            | 292,90 325            |                       |
| C211.25.R.03-11-A-50-225   | 25 | 3   | 10   | 225 | 50 | 25                   | 9400   | 1,2               | XD.T 11T3            | 274,20 425            |                       |
| C211.25.R.02-11-A-50-225   | 25 | 2   | 10   | 225 | 50 | 25                   | 9400   | 1,2               | XD.T 11T3            | 255,60 02502          |                       |
| C211.25.R.03-11-A24-50-225 | 25 | 3   | 10   | 225 | 50 | 24                   | 9400   | 1,2               | XD.T 11T3            | 274,20 825            |                       |
| C211.32.R.04-11-A-40       | 32 | 4   | 10   | 102 | 40 | 32                   | 30200  | 1,2               | XD.T 11T3            | 305,30 13204          |                       |
| C211.32.R.05-11-B5-40      | 32 | 5   | 10   | 102 | 40 | 25                   | 30200  | 1,2               | XD.T 11T3            |                       | 324,10 73200          |
| C211.32.R.04-11-B-25       | 32 | 4   | 10   | 102 | 40 | 32                   | 30200  | 1,2               | XD.T 11T3            |                       | 305,30 83200          |
| C211.32.R.04-11-A25-40     | 32 | 4   | 10   | 102 | 40 | 25                   | 30200  | 1,2               | XD.T 11T3            | 305,30 53204          |                       |
| C211.32.R.05-11-A/B-40     | 32 | 5   | 10   | 102 | 40 | 32                   | 30200  | 1,2               | XD.T 11T3            | 324,10 132            | 324,10 032            |
| C211.32.R.05-11-A-50-165   | 32 | 5   | 10   | 165 | 50 | 32                   | 20900  | 1,2               | XD.T 11T3            | 324,10 332            |                       |
| C211.32.R.04-11-A-64-250   | 32 | 4   | 10   | 250 | 64 | 32                   | 8500   | 1,2               | XD.T 11T3            | 305,30 432            |                       |
| C211.40.R.06-11-B32-50     | 40 | 6   | 10   | 110 | 50 | 32                   | 27700  | 1,8               | XD.T 11T3            |                       | 355,10 04000          |
| C211.40.R.06-11-B-50       | 40 | 6   | 10   | 122 | 50 | 40                   | 27700  | 1,8               | XD.T 11T3            |                       | 355,10 14000          |

## MaxiMill – Nástrčná fréza A 211-11

▲ rádius britovej doštičky &gt; 1,6 mm: modifikujte základné teleso



| Označenie        | DC  | ZNF | APMX | OAL | DCONMS <sub>H6</sub> | DHUB | RPMX  | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |       | 2B/40                    |     |
|------------------|-----|-----|------|-----|----------------------|------|-------|-------------------------|-------------------------|--------------------------|-------|--------------------------|-----|
|                  |     |     |      |     |                      |      |       |                         |                         | Artikel č.<br>50 738 ... | EUR   | Artikel č.<br>50 739 ... | EUR |
| A211.40.R.04-11  | 40  | 4   | 10   | 40  | 16                   | 38   | 27700 | 1,8                     | XD.T 11T3               | 317,90                   | 040   |                          |     |
| A211.40.R.06-11  | 40  | 6   | 10   | 40  | 16                   | 38   | 27700 | 1,8                     | XD.T 11T3               |                          |       | 355,10                   | 040 |
| A211.50.R.05-11  | 50  | 5   | 10   | 40  | 22                   | 43   | 25400 | 1,8                     | XD.T 11T3               | 373,80                   | 050   |                          |     |
| A211.50.R.08-11  | 50  | 8   | 10   | 40  | 22                   | 43   | 25400 | 1,8                     | XD.T 11T3               |                          |       | 430,00                   | 050 |
| A211.63.R.06-11  | 63  | 6   | 10   | 40  | 22                   | 48   | 23300 | 1,8                     | XD.T 11T3               | 430,00                   | 063   |                          |     |
| A211.63.R.10-11  | 63  | 10  | 10   | 40  | 22                   | 48   | 23300 | 1,8                     | XD.T 11T3               |                          |       | 504,70                   | 063 |
| A211.80.R.07-11  | 80  | 7   | 10   | 50  | 27                   | 58   | 21300 | 1,8                     | XD.T 11T3               | 486,10                   | 080   |                          |     |
| A211.80.R.10-11  | 80  | 10  | 10   | 50  | 27                   | 58   | 21300 | 1,8                     | XD.T 11T3               |                          |       | 542,10                   | 180 |
| A211.100.R.08-11 | 100 | 8   | 10   | 50  | 32                   | 78   | 19600 | 1,8                     | XD.T 11T3               | 542,10                   | 10000 |                          |     |
| A211.125.R.10-11 | 125 | 10  | 10   | 63  | 40                   | 88   | 17900 | 1,8                     | XD.T 11T3               | 591,90                   | 12500 |                          |     |

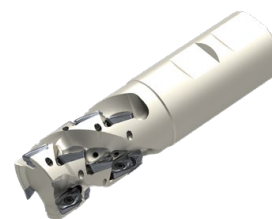
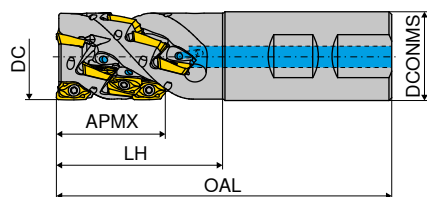
| Náhradné diely<br>DC | Y7                       |     | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|----------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                      | Výmenná vložka<br>TORX®  |     | Upínací klúč T           |     | Klúč D                   |     | Silová skrutka           |     | Pasta<br>Molykote        |     | Upínacia skrutka         |     | Rukoväť                  |     |
|                      | Artikel č.<br>80 950 ... | EUR | Artikel č.<br>80 397 ... | EUR | Artikel č.<br>80 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>70 950 ... | EUR | Artikel č.<br>80 950 ... | EUR |
| 12                   | 4,76                     | 043 |                          |     | 10,20                    | 125 |                          |     | 4,38                     | 303 | 2,57                     | 116 | 118,90                   | 191 |
| 16 - 32              | 4,76                     | 043 |                          |     | 10,20                    | 125 |                          |     | 4,38                     | 303 | 4,09                     | 128 | 118,90                   | 191 |
| 40                   | 4,76                     | 043 | 3,91                     | 040 | 10,20                    | 125 | 12,48                    | 151 | 4,38                     | 303 | 4,09                     | 131 | 118,90                   | 191 |
| 50                   | 4,76                     | 043 | 4,24                     | 050 | 10,20                    | 125 | 17,14                    | 154 | 4,38                     | 303 | 4,09                     | 131 | 118,90                   | 191 |
| 63 - 125             | 4,76                     | 043 |                          |     | 10,20                    | 125 |                          |     | 4,38                     | 303 | 4,09                     | 131 | 118,90                   | 191 |



## MaxiMill – Valcová čelná fréza C 211-11K

▲ ZEFP = počet vymeniteľných doštičiek

▲ ZNP = počet radu zubov



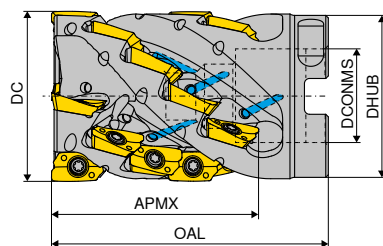
| Označenie                | DC | ZNF | APMX | OAL | LH | DCONMS | ZEFP | ZNP | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40      |                   |
|--------------------------|----|-----|------|-----|----|--------|------|-----|-------------------------|-------------------------|------------|-------------------|
|                          |    |     |      |     |    |        |      |     |                         |                         | Artikel č. |                   |
|                          | mm |     | mm   | mm  | mm | mm     |      |     |                         |                         | 50 758 ... |                   |
|                          |    |     |      |     |    |        |      |     |                         |                         | EUR        |                   |
| C211.25.R.02K3-11-B-40   | 25 | 2   | 27,0 | 97  | 40 | 25     | 6    | 3   | 1,2                     | XD.T 11T3               | 635,30     | 025               |
| C211.25.R.02K4-11-B-50   | 25 | 2   | 37,0 | 107 | 50 | 25     | 8    | 4   | 1,2                     | XD.T 11T3               | 672,60     | 125               |
| C211.25.R.02K5-11-B-60   | 25 | 2   | 45,5 | 117 | 60 | 25     | 10   | 5   | 1,2                     | XD.T 11T3               | 717,40     | 225 <sup>1)</sup> |
| C211.32.R.02K4-11-B-50   | 32 | 2   | 37,0 | 111 | 50 | 32     | 8    | 4   | 1,2                     | XD.T 11T3               | 696,80     | 032               |
| C211.32.R.03K5-11-B-60   | 32 | 3   | 45,5 | 121 | 60 | 32     | 15   | 5   | 1,2                     | XD.T 11T3               | 840,70     | 132               |
| C211.40.R.03K4-11-B32-50 | 40 | 3   | 37,0 | 110 | 50 | 32     | 12   | 4   | 1,8                     | XD.T 11T3               | 799,60     | 040               |
| C211.40.R.04K5-11-B32-60 | 40 | 4   | 45,5 | 120 | 60 | 32     | 20   | 5   | 1,8                     | XD.T 11T3               | 964,00     | 140               |

1) Iba pre frézovanie kontúr

## MaxiMill – Valcová čelná fréza A 211-11K

▲ ZEFP = počet vymeniteľných doštičiek

▲ ZNP = počet radu zubov



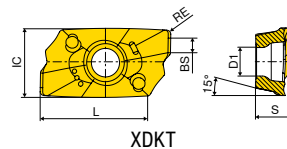
| Označenie         | DC | ZNF | APMX | ZEFP | ZNP | OAL | DCONMS <sub>H6</sub> | DHUB | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40      |                   |
|-------------------|----|-----|------|------|-----|-----|----------------------|------|-------------------------|-------------------------|------------|-------------------|
|                   |    |     |      |      |     |     |                      |      |                         |                         | Artikel č. |                   |
|                   | mm |     | mm   |      |     | mm  | mm                   | mm   |                         |                         | 50 757 ... |                   |
|                   |    |     |      |      |     |     |                      |      |                         |                         | EUR        |                   |
| A211.40.R.03K4-11 | 40 | 3   | 37,0 | 12   | 4   | 56  | 16                   | 38   | 1,8                     | XD.T 11T3               | 799,60     | 040               |
| A211.40.R.04K4-11 | 40 | 4   | 37,0 | 16   | 4   | 55  | 16                   | 38   | 1,8                     | XD.T 11T3               | 874,20     | 140               |
| A211.40.R.04K5-11 | 40 | 4   | 45,5 | 20   | 5   | 65  | 16                   | 38   | 1,8                     | XD.T 11T3               | 964,00     | 240 <sup>1)</sup> |
| A211.50.R.04K5-11 | 50 | 4   | 45,5 | 20   | 5   | 65  | 22                   | 43   | 1,8                     | XD.T 11T3               | 1.054,00   | 150               |
| A211.50.R.05K5-11 | 50 | 5   | 45,5 | 25   | 5   | 65  | 22                   | 43   | 1,8                     | XD.T 11T3               | 1.148,00   | 050               |
| A211.50.R.05K6-11 | 50 | 5   | 54,5 | 30   | 6   | 74  | 22                   | 43   | 1,8                     | XD.T 11T3               | 1.258,00   | 250 <sup>1)</sup> |

1) Iba pre frézovanie kontúr

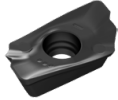
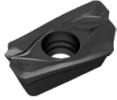
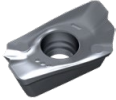
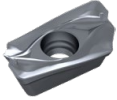
| Náhradné diely     | 2A/28                                                                                                            |  | Y7                                                                                                          |  | Y7                                                                                            |  | 2A/28                                                                                                  |  | 2A/28                                                                                                     |  | 2A/28                                                                                                                   |  | Y7                                                                                               |  |
|--------------------|------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|--|
|                    | <br>Skrutka s valcovou hlavou |  | <br>Výmenná vložka TORX® |  | <br>Kľúč D |  | <br>Pasta Molykote |  | <br>Upínacia skrutka |  | <br>Skrutka s vnútorným šesťhranom |  | <br>Rukoväť |  |
|                    | Artikel č. 70 950 ...                                                                                            |  | Artikel č. 80 950 ...                                                                                       |  | Artikel č. 80 950 ...                                                                         |  | Artikel č. 70 950 ...                                                                                  |  | Artikel č. 70 950 ...                                                                                     |  | Artikel č. 70 950 ...                                                                                                   |  | Artikel č. 80 950 ...                                                                            |  |
|                    | EUR                                                                                                              |  | EUR                                                                                                         |  | EUR                                                                                           |  | EUR                                                                                                    |  | EUR                                                                                                       |  | EUR                                                                                                                     |  | EUR                                                                                              |  |
| 25 (50758...)      |                                                                                                                  |  | 4,76                                                                                                        |  | 10,20                                                                                         |  | 4,38                                                                                                   |  | 4,09                                                                                                      |  |                                                                                                                         |  | 118,90                                                                                           |  |
| 32 - 40 (50758...) |                                                                                                                  |  | 4,76                                                                                                        |  | 10,20                                                                                         |  | 4,38                                                                                                   |  | 4,09                                                                                                      |  |                                                                                                                         |  | 118,90                                                                                           |  |
| 40 (50757...)      | 9,36                                                                                                             |  | 4,76                                                                                                        |  | 10,20                                                                                         |  | 4,38                                                                                                   |  | 4,09                                                                                                      |  | 3,14                                                                                                                    |  | 118,90                                                                                           |  |
| 50 (50757...)      | 11,50                                                                                                            |  | 4,76                                                                                                        |  | 10,20                                                                                         |  | 4,38                                                                                                   |  | 4,09                                                                                                      |  | 5,44                                                                                                                    |  | 118,90                                                                                           |  |

## XDKT

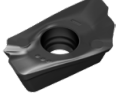
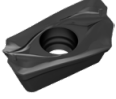
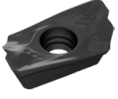
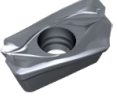
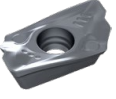
| Označenie     | IC  | D1  | L    | BS  | S    |
|---------------|-----|-----|------|-----|------|
|               | mm  | mm  | mm   | mm  | mm   |
| XDKT 11T302.. | 6,8 | 2,8 | 10,6 | 2   | 3,80 |
| XDKT 11T304.. | 6,8 | 2,8 | 10,6 | 1,8 | 3,80 |
| XDKT 11T308.. | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDKT 11T312.. | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDKT 11T316.. | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDKT 11T320.. | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDKT 11T325.. | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDKT 11T332.. | 6,8 | 2,8 | 10,6 | -   | 3,80 |
| XDKT 11T332.. | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDKT 11T332.. | 6,8 | 2,8 | 10,6 | 0,8 | 3,80 |
| XDKT 11T340.. | 6,8 | 2,8 | 10,6 | -   | 3,80 |



## XDKT

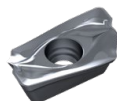
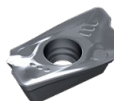
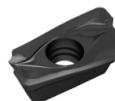
| ISO                   | RE  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | -F50 CTPP220                                                                      | -M50 CTPP220                                                                        | -F50 CTPP225                                                                        | -M50 CTPP225                                                                        |
|                       |     | -F50 DCX1220                                                                      | -M50 DCX1220                                                                        | -F50 DPX1225                                                                        | -M50 DPX1225                                                                        |
|                       |     | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |
|                       |     | XDKT 1B/61                                                                        | XDKT 1B/61                                                                          | XDKT 1B/61                                                                          | XDKT 1B/61                                                                          |
|                       |     | Artikel č. 51 034 ...                                                             | Artikel č. 51 037 ...                                                               | Artikel č. 51 034 ...                                                               | Artikel č. 51 037 ...                                                               |
|                       |     | EUR 14,06 258                                                                     | EUR 14,06 258                                                                       | EUR 14,06 058                                                                       | EUR 14,06 058                                                                       |
| 11T308SR              | 0,8 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Oceľ                  |     | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Nehrdzavejúca oceľ    |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Litina                |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## XDKT

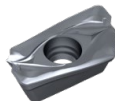
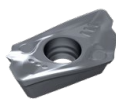
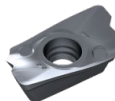
| ISO                   | RE  |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -F50 CTPP230                                                                        | -M50 CTPP230                                                                        | -R50 CTPP230                                                                        | -F50 CTPP235                                                                          | -M50 CTPP235                                                                          | -R50 CTPP235                                                                          |
|                       |     | -F50 DCX1230                                                                        | -M50 DCX1230                                                                        | -R50 DCX1230                                                                        | -F50 DPX1235                                                                          | -M50 DPX1235                                                                          | -R50 DPX1235                                                                          |
|                       |     | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |  |  |
|                       |     | XDKT 1B/61                                                                          | XDKT 1B/61                                                                          | XDKT 1B/61                                                                          | XDKT 1B/61                                                                            | XDKT 1B/61                                                                            | XDKT 1B/61                                                                            |
|                       |     | Artikel č. 51 034 ...                                                               | Artikel č. 51 037 ...                                                               | Artikel č. 51 039 ...                                                               | Artikel č. 51 034 ...                                                                 | Artikel č. 51 037 ...                                                                 | Artikel č. 51 039 ...                                                                 |
|                       |     | EUR 14,06 004                                                                       | EUR 14,06 004                                                                       | EUR 14,06 004                                                                       | EUR 14,06 104                                                                         | EUR 14,06 104                                                                         | EUR 14,06 104                                                                         |
| 11T304SR              | 0,4 | 14,06 008                                                                           | 14,06 008                                                                           | 14,06 008                                                                           | 14,06 108                                                                             | 14,06 108                                                                             | 14,06 108                                                                             |
| 11T308SR              | 0,8 | 14,06 012                                                                           | 14,06 012                                                                           | 14,06 012                                                                           | 14,06 112                                                                             | 14,06 112                                                                             | 14,06 112                                                                             |
| 11T312SR              | 1,2 | 14,06 020 <sup>1)</sup>                                                             | 14,06 020 <sup>1)</sup>                                                             | 14,06 020 <sup>1)</sup>                                                             | 14,06 120 <sup>1)</sup>                                                               | 14,06 120 <sup>1)</sup>                                                               | 14,06 120 <sup>1)</sup>                                                               |
| 11T320SR              | 2,0 | 14,06 025 <sup>1)</sup>                                                             | 14,06 025 <sup>1)</sup>                                                             | 14,06 025 <sup>1)</sup>                                                             | 14,06 125 <sup>1)</sup>                                                               | 14,06 125 <sup>1)</sup>                                                               | 14,06 125 <sup>1)</sup>                                                               |
| 11T325SR              | 2,5 |                                                                                     |                                                                                     |                                                                                     | 14,06 13200                                                                           |                                                                                       |                                                                                       |
| 11T332SR              | 3,2 |                                                                                     |                                                                                     |                                                                                     | 14,06 14000                                                                           |                                                                                       |                                                                                       |
| 11T340SR              | 4,0 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Nehrdzavejúca oceľ    |     | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| Litina                |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Neželezné kovy        |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Žiaruvzdorná zliatina |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Kalená oceľ           |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

1) Rádus britovej doštičky &gt; 1,6 mm: modifikujte základné teleso

## XDKT

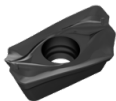
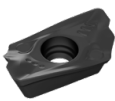
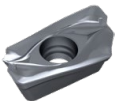
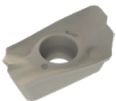
| ISO                   |     | RE                    | -F50 CTPM225                                                                      |                       | -M50 CTPM225                                                                      |                       | -R50 CTPM225                                                                      |                       | -F50 CTCM235                                                                        |                       | -M50 CTCM235                                                                        |                       | -R50 CTCM235                                                                        |  |
|-----------------------|-----|-----------------------|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|--|
|                       |     |                       | -F50 DPX2225                                                                      |                       | -M50 DPX2225                                                                      |                       | -R50 DPX2225                                                                      |                       | -F50 DCX2235                                                                        |                       | -M50 DCX2235                                                                        |                       | -R50 DCX2235                                                                        |  |
|                       |     |                       | DRAGONSKIN                                                                        |                       | DRAGONSKIN                                                                        |                       | DRAGONSKIN                                                                        |                       | DRAGONSKIN                                                                          |                       | DRAGONSKIN                                                                          |                       | DRAGONSKIN                                                                          |  |
|                       |     |                       |  |                       |  |                       |  |                       |  |                       |  |                       |  |  |
|                       |     | XDKT 1B/61            |                                                                                   | XDKT 1B/61            |                                                                                   | XDKT 1B/61            |                                                                                   | XDKT 1B/61            |                                                                                     | XDKT 1B/61            |                                                                                     | XDKT 1B/61            |                                                                                     |  |
|                       |     | Artikel č. 51 034 ... |                                                                                   | Artikel č. 51 037 ... |                                                                                   | Artikel č. 51 039 ... |                                                                                   | Artikel č. 51 034 ... |                                                                                     | Artikel č. 51 037 ... |                                                                                     | Artikel č. 51 039 ... |                                                                                     |  |
|                       |     | EUR                   |                                                                                   | EUR                   |                                                                                   | EUR                   |                                                                                   | EUR                   |                                                                                     | EUR                   |                                                                                     | EUR                   |                                                                                     |  |
| 11T308SR              | 0,8 | 14,06                 | 208                                                                               | 14,06                 | 208                                                                               | 14,06                 | 208                                                                               | 14,06                 | 308                                                                                 | 14,06                 | 308                                                                                 | 14,06                 | 308                                                                                 |  |
| Oceľ                  |     |                       | ○                                                                                 |                       | ○                                                                                 |                       | ○                                                                                 |                       | ○                                                                                   |                       | ○                                                                                   |                       | ○                                                                                   |  |
| Nehrdzavejúca oceľ    |     |                       | ●                                                                                 |                       | ●                                                                                 |                       | ●                                                                                 |                       | ●                                                                                   |                       | ●                                                                                   |                       | ●                                                                                   |  |
| Liatina               |     |                       |                                                                                   |                       |                                                                                   |                       |                                                                                   |                       |                                                                                     |                       |                                                                                     |                       |                                                                                     |  |
| Neželezné kovy        |     |                       |                                                                                   |                       |                                                                                   |                       |                                                                                   |                       |                                                                                     |                       |                                                                                     |                       |                                                                                     |  |
| Žiaruvzdorná zliatina |     |                       |                                                                                   |                       |                                                                                   |                       |                                                                                   |                       |                                                                                     |                       |                                                                                     |                       |                                                                                     |  |
| Kalená oceľ           |     |                       |                                                                                   |                       |                                                                                   |                       |                                                                                   |                       |                                                                                     |                       |                                                                                     |                       |                                                                                     |  |

## XDKT

|                       |     | <div>-F50<br/>CTPM240</div> <div>-F50<br/>DPX2240</div> <div>DRAGONSKIN</div> <div></div> <div>XDKT<br/>1B/61</div> |                   | <div>-M50<br/>CTPM240</div> <div>-M50<br/>DPX2240</div> <div>DRAGONSKIN</div> <div></div> <div>XDKT<br/>1B/61</div> |                   | <div>-R50<br/>CTPM240</div> <div>-R50<br/>DPX2240</div> <div>DRAGONSKIN</div> <div></div> <div>XDKT<br/>1B/61</div> |                   | <div>-F40<br/>CTPM245</div> <div>-F40<br/>DPX2245</div> <div>DRAGONSKIN</div> <div></div> <div>XDKT<br/>1H/17</div> |                   | <div>-F50<br/>CTPM245</div> <div>-F50<br/>DPX2245</div> <div>DRAGONSKIN</div> <div></div> <div>XDKT<br/>1H/17</div> |     |
|-----------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| ISO                   | RE  | Artikel č.<br>51 034 ...<br>EUR                                                                                                                                                                        |                   | Artikel č.<br>51 037 ...<br>EUR                                                                                                                                                                        |                   | Artikel č.<br>51 039 ...<br>EUR                                                                                                                                                                          |                   | Artikel č.<br>51 113 ...<br>EUR                                                                                                                                                                          |                   | Artikel č.<br>51 034 ...<br>EUR                                                                                                                                                                          |     |
|                       | mm  |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| 11T304ER              | 0,4 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 454               |                                                                                                                                                                                                          |     |
| 11T304SR              | 0,4 |                                                                                                                                                                                                        |                   | 14,06                                                                                                                                                                                                  | 404               |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| 11T308ER              | 0,8 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 458               |                                                                                                                                                                                                          |     |
| 11T308SR              | 0,8 | 14,06                                                                                                                                                                                                  | 408               | 14,06                                                                                                                                                                                                  | 408               | 14,06                                                                                                                                                                                                    | 408               |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 458 |
| 11T312ER              | 1,2 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 462               |                                                                                                                                                                                                          |     |
| 11T312SR              | 1,2 | 14,06                                                                                                                                                                                                  | 412               | 14,06                                                                                                                                                                                                  | 412               | 14,06                                                                                                                                                                                                    | 412               |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| 11T316ER              | 1,6 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 466               |                                                                                                                                                                                                          |     |
| 11T320ER              | 2,0 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 470 <sup>1)</sup> |                                                                                                                                                                                                          |     |
| 11T320SR              | 2,0 | 14,06                                                                                                                                                                                                  | 420 <sup>1)</sup> | 14,06                                                                                                                                                                                                  | 420 <sup>1)</sup> | 14,06                                                                                                                                                                                                    | 420 <sup>1)</sup> |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| 11T325ER              | 2,5 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 475 <sup>1)</sup> |                                                                                                                                                                                                          |     |
| 11T332ER              | 3,2 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 482 <sup>1)</sup> |                                                                                                                                                                                                          |     |
| 11T332SR              | 3,2 | 14,06                                                                                                                                                                                                  | 432 <sup>1)</sup> | 14,06                                                                                                                                                                                                  | 432 <sup>1)</sup> | 14,06                                                                                                                                                                                                    | 432 <sup>1)</sup> |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| 11T340ER              | 4,0 |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   | 18,09                                                                                                                                                                                                    | 490 <sup>1)</sup> |                                                                                                                                                                                                          |     |
| Oceľ                  |     | ○                                                                                                                                                                                                      |                   | ○                                                                                                                                                                                                      |                   | ○                                                                                                                                                                                                        |                   | ●                                                                                                                                                                                                        |                   | ●                                                                                                                                                                                                        |     |
| Nehrdzavejúca oceľ    |     | ●                                                                                                                                                                                                      |                   | ●                                                                                                                                                                                                      |                   | ●                                                                                                                                                                                                        |                   | ●                                                                                                                                                                                                        |                   | ●                                                                                                                                                                                                        |     |
| Liatina               |     |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| Neželezné kovy        |     |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| Žiaruvzdorná zliatina |     |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |
| Kalená oceľ           |     |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                        |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |                   |                                                                                                                                                                                                          |     |

1) Rádus britovej doštičky &gt; 1,6 mm: modifikujte základné teleso

## XDKT

| ISO                   | RE  | -M50<br>CTCK215                                                                   |  | -R50<br>CTCK215                                                                   |  | -M50<br>CTPK220                                                                   |  | -F20<br>CTWN215                                                                   |  | -F40<br>CTC5240                                                                     |  | -F40<br>CTCS245                                                                     |  | -R60<br>CTP6215                                                                     |  |
|-----------------------|-----|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       |     | -M50<br>DCX3215                                                                   |  | -R50<br>DCX3215                                                                   |  | -M50<br>DPX3220                                                                   |  | -F20<br>CWK4615                                                                   |  | -F40<br>HCF5240                                                                     |  |                                                                                     |  | -R60<br>CCN6215                                                                     |  |
|                       |     | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  |                                                                                   |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  |                                                                                     |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                       |     | XDKT 1B/61                                                                        |  | XDKT 1B/61                                                                        |  | XDKT 1B/61                                                                        |  | XDKT 1A/90                                                                        |  | XDKT 1H/D4                                                                          |  | XDKT 1H/D4                                                                          |  | XDKT 1B/61                                                                          |  |
|                       |     | Artikel č. 51 037 ...                                                             |  | Artikel č. 51 039 ...                                                             |  | Artikel č. 51 037 ...                                                             |  | Artikel č. 50 478 ...                                                             |  | Artikel č. 50 463 ...                                                               |  | NEW Artikel č. 51 113 ...                                                           |  | Artikel č. 50 464 ...                                                               |  |
|                       |     | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 11T302FR              | 0,2 |                                                                                   |  |                                                                                   |  |                                                                                   |  | 17,67 502                                                                         |  | 18,09 504                                                                           |  |                                                                                     |  |                                                                                     |  |
| 11T304ER              | 0,4 |                                                                                   |  |                                                                                   |  |                                                                                   |  | 17,67 504                                                                         |  | 18,09 500                                                                           |  | 18,09 558                                                                           |  |                                                                                     |  |
| 11T304FR              | 0,4 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 11T304SR              | 0,4 | 14,06 504                                                                         |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 11T308ER              | 0,8 |                                                                                   |  |                                                                                   |  |                                                                                   |  | 17,67 508                                                                         |  | 18,09 512                                                                           |  | 18,09 562                                                                           |  |                                                                                     |  |
| 11T308FR              | 0,8 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  | 18,09 516                                                                           |  | 18,09 566                                                                           |  |                                                                                     |  |
| 11T308SR              | 0,8 | 14,06 508                                                                         |  | 14,06 508                                                                         |  | 14,06 608                                                                         |  |                                                                                   |  | 18,09 520 <sup>1)</sup>                                                             |  | 18,09 570                                                                           |  | 18,17 300                                                                           |  |
| 11T312ER              | 1,2 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  | 18,09 525 <sup>1)</sup>                                                             |  | 18,09 57500 <sup>1)</sup>                                                           |  |                                                                                     |  |
| 11T316ER              | 1,6 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  | 18,09 532 <sup>1)</sup>                                                             |  | 18,09 582                                                                           |  |                                                                                     |  |
| 11T320ER              | 2,0 |                                                                                   |  |                                                                                   |  |                                                                                   |  | 17,67 520 <sup>1)</sup>                                                           |  | 18,09 540 <sup>1)</sup>                                                             |  | 18,09 59000 <sup>1)</sup>                                                           |  |                                                                                     |  |
| 11T320FR              | 2,0 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 11T325ER              | 2,5 |                                                                                   |  |                                                                                   |  |                                                                                   |  | 17,67 525 <sup>1)</sup>                                                           |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 11T325FR              | 2,5 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 11T332ER              | 3,2 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| 11T340ER              | 4,0 |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Oceľ                  |     | ○                                                                                 |  | ○                                                                                 |  | ○                                                                                 |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Nehrdzavejúca oceľ    |     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Liatina               |     | ●                                                                                 |  | ●                                                                                 |  | ●                                                                                 |  | ○                                                                                 |  |                                                                                     |  |                                                                                     |  | ●                                                                                   |  |
| Neželezné kovy        |     |                                                                                   |  |                                                                                   |  |                                                                                   |  | ●                                                                                 |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Žiaruvzdorná zliatina |     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |                                                                                     |  |
| Kalená oceľ           |     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  | ●                                                                                   |  |

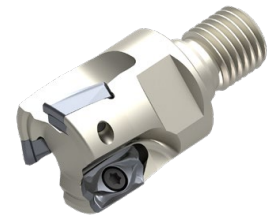
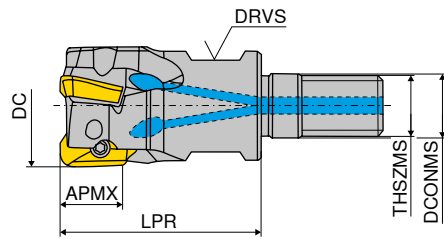
1) Rádus britovej doštičky &gt; 1,6 mm: modifikujte základné teleso

## Sprievodca frézovaním

|                      |           |                              |           |
|----------------------|-----------|------------------------------|-----------|
| Stratégia obrábania  | → 153     | Systém označovania           | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre   | → 153     |
| Počiatkové parametre | → 155     | Korekcia posuvu na zub $f_z$ | → 157     |

## MaxiMill – Skrutkovacia fréza G 211-15

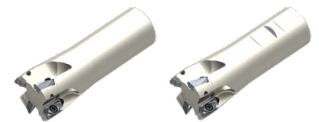
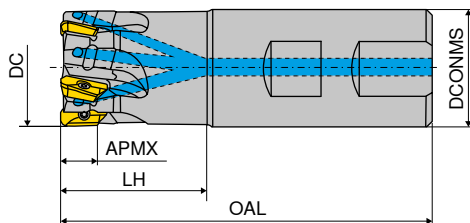
▲ rádius britovej doštičky > 2,5 mm: modifikujte základné teleso



| Označenie       | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|-----------------|----|-----|------|-----|--------|--------|------|--------|-------------------------|-------------------------|--------------------------|-----|
|                 | mm |     | mm   | mm  | mm     |        | mm   | 1/min. |                         |                         | Artikel č.<br>50 746 ... |     |
| G211.25.R.02-15 | 25 | 2   | 14   | 35  | 12,5   | M12    | 17   | 26560  | 3,2                     | XD.T 1505               | EUR 264,70               | 025 |
| G211.32.R.03-15 | 32 | 3   | 14   | 35  | 17,0   | M16    | 24   | 30200  | 3,2                     | XD.T 1505               | EUR 294,70               | 032 |
| G211.40.R.04-15 | 40 | 4   | 14   | 40  | 17,0   | M16    | 27   | 27700  | 3,2                     | XD.T 1505               | EUR 325,00               | 040 |

## MaxiMill – Stopková fréza C 211-15

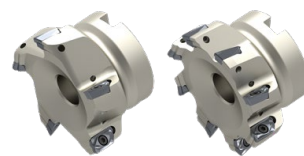
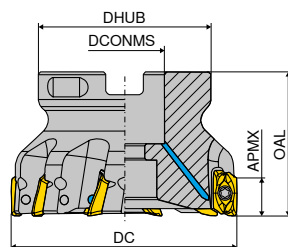
▲ rádius britovej doštičky > 2,5 mm: modifikujte základné teleso



| Označenie                | DC | ZNF | APMX | OAL | LH | DCONMS | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |                          |
|--------------------------|----|-----|------|-----|----|--------|--------|-------------------------|-------------------------|--------------------------|--------------------------|
|                          | mm |     | mm   | mm  | mm | mm     | 1/min. |                         |                         | Artikel č.<br>50 747 ... | Artikel č.<br>50 747 ... |
| C211.25.R.02-15-B20-32   | 25 | 2   | 14   | 83  | 32 | 20     | 26560  | 3,2                     | XD.T 1505               | EUR 264,70               | 125                      |
| C211.25.R.02-15-B/A-32   | 25 | 2   | 14   | 90  | 32 | 25     | 26560  | 3,2                     | XD.T 1505               | EUR 264,70               | 025                      |
| C211.25.R.02-15-A-50-225 | 25 | 2   | 14   | 225 | 50 | 25     | 7520   | 3,2                     | XD.T 1505               | EUR 246,70               | 325                      |
| C211.32.R.03-15-B25-40   | 32 | 3   | 14   | 96  | 40 | 25     | 22160  | 3,2                     | XD.T 1505               | EUR 294,70               | 132                      |
| C211.32.R.03-15-A-40     | 32 | 3   | 14   | 103 | 40 | 32     | 24160  | 3,2                     | XD.T 1505               | EUR 294,70               | 232                      |
| C211.32.R.03-15-B-40     | 32 | 3   | 14   | 103 | 40 | 32     | 24160  | 3,2                     | XD.T 1505               | EUR 294,70               | 032                      |
| C211.32.R.03-15-A-63-250 | 32 | 3   | 14   | 250 | 63 | 32     | 6800   | 3,2                     | XD.T 1505               | EUR 276,80               | 332                      |
| C211.40.R.04-15-A-50     | 40 | 4   | 14   | 110 | 50 | 32     | 22160  | 3,2                     | XD.T 1505               | EUR 325,00               | 240                      |
| C211.40.R.04-15-B32-50   | 40 | 4   | 14   | 110 | 50 | 32     | 22160  | 3,2                     | XD.T 1505               | EUR 325,00               | 040                      |
| C211.40.R.03-15-A-50-275 | 40 | 3   | 14   | 275 | 50 | 32     | 6120   | 3,2                     | XD.T 1505               | EUR 306,70               | 340                      |

## MaxiMill – Nástrčná fréza A 211-15

▲ rádius britovej doštičky &gt; 2,5 mm: modifikujte základné teleso



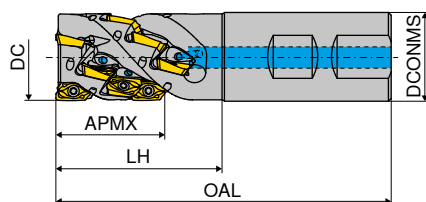
| Označenie        | DC  | ZNF | APMX | OAL | DCONMS <sub>H6</sub> | DHUB | RPMX  | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                           |     | 2B/40                           |     |
|------------------|-----|-----|------|-----|----------------------|------|-------|-------------------------|-------------------------|---------------------------------|-----|---------------------------------|-----|
|                  |     |     |      |     |                      |      |       |                         |                         | Artikel č.<br>50 748 ...<br>EUR |     | Artikel č.<br>50 749 ...<br>EUR |     |
| A211.40.R.03-15  | 40  | 3   | 14   | 40  | 16                   | 38   | 22160 | 3,2                     | XD.T 1505               | 288,80                          | 040 |                                 |     |
| A211.40.R.04-15  | 40  | 4   | 14   | 40  | 16                   | 38   | 22160 | 3,2                     | XD.T 1505               |                                 |     | 325,00                          | 040 |
| A211.50.R.03-15  | 50  | 3   | 14   | 40  | 22                   | 43   | 20320 | 3,2                     | XD.T 1505               | 342,90                          | 050 |                                 |     |
| A211.50.R.05-15  | 50  | 5   | 14   | 40  | 22                   | 43   | 20320 | 3,2                     | XD.T 1505               |                                 |     | 379,00                          | 050 |
| A211.63.R.04-15  | 63  | 4   | 14   | 45  | 22                   | 48   | 18640 | 3,2                     | XD.T 1505               | 415,00                          | 063 |                                 |     |
| A211.63.R.06-15  | 63  | 6   | 14   | 45  | 22                   | 48   | 18640 | 3,2                     | XD.T 1505               |                                 |     | 451,50                          | 063 |
| A211.80.R.05-15  | 80  | 5   | 14   | 50  | 27                   | 58   | 17040 | 3,2                     | XD.T 1505               | 469,20                          | 080 |                                 |     |
| A211.80.R.08-15  | 80  | 8   | 14   | 50  | 27                   | 58   | 17040 | 3,2                     | XD.T 1505               |                                 |     | 505,20                          | 080 |
| A211.100.R.06-15 | 100 | 6   | 14   | 50  | 32                   | 78   | 15680 | 3,2                     | XD.T 1505               | 523,50                          | 100 |                                 |     |
| A211.100.R.10-15 | 100 | 10  | 14   | 50  | 32                   | 78   | 15680 | 3,2                     | XD.T 1505               |                                 |     | 559,50                          | 100 |
| A211.125.R.07-15 | 125 | 7   | 14   | 63  | 40                   | 88   | 14320 | 3,2                     | XD.T 1505               | 553,40                          | 125 |                                 |     |
| A211.125.R.11-15 | 125 | 11  | 14   | 63  | 40                   | 88   | 14320 | 3,2                     | XD.T 1505               |                                 |     | 589,50                          | 125 |
| A211.160.R.08-15 | 160 | 8   | 14   | 63  | 40                   | 93   | 13200 | 3,2                     | XD.T 1505               | 775,30                          | 160 |                                 |     |
| A211.160.R.12-15 | 160 | 12  | 14   | 63  | 40                   | 93   | 13200 | 3,2                     | XD.T 1505               |                                 |     | 811,40                          | 160 |

| Náhradné diely<br>DC | Y7                              |     | Y7                              |     | Y7                              |     | 2A/28                           |     | 2A/28                           |     | 2A/28                           |     | Y7                              |     |
|----------------------|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|
|                      | Výmenná vložka<br>TORX®         |     | Upínací klúč T                  |     | Kľúč D                          |     | Silová skrutka                  |     | Pasta<br>Molykote               |     | Upínacia skrutka                |     | Rukoväť                         |     |
|                      | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>80 397 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     |
| 25 - 32              | 5,26                            | 054 |                                 |     | 11,89                           | 128 |                                 |     | 4,38                            | 303 | 3,18                            | 839 | 131,90                          | 193 |
| 40                   | 5,26                            | 054 | 3,91                            | 040 | 11,89                           | 128 | 12,48                           | 151 | 4,38                            | 303 | 3,18                            | 839 | 131,90                          | 193 |
| 50                   | 5,26                            | 054 | 4,24                            | 050 | 11,89                           | 128 | 17,14                           | 154 | 4,38                            | 303 | 3,18                            | 839 | 131,90                          | 193 |
| 63 - 160             | 5,26                            | 054 |                                 |     | 11,89                           | 128 |                                 |     | 4,38                            | 303 | 3,18                            | 839 | 131,90                          | 193 |

## MaxiMill – Valcová čelná fréza C 211-15K

▲ ZEFP = počet vymeniteľných doštičiek

▲ ZNP = počet radu zubov



| Označenie                | DC | ZNF | APMX | OAL | LH | DCONMS | ZEFP | ZNP | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW 2B/40<br>Artikel č.<br>50 782 ...<br>EUR |
|--------------------------|----|-----|------|-----|----|--------|------|-----|-------------------------|-------------------------|----------------------------------------------|
| C211.40.R.02K3-15-B32-60 | 40 | 2   | 38,0 | 120 | 60 | 32     | 6    | 3   | 3,2                     | XD.T 1505               | 773,60 04002                                 |
| C211.50.R.03K4-15-B40-64 | 50 | 3   | 50,5 | 134 | 64 | 40     | 12   | 4   | 3,2                     | XD.T 1505               | 904,40 05003                                 |

Náhradné diely  
DC

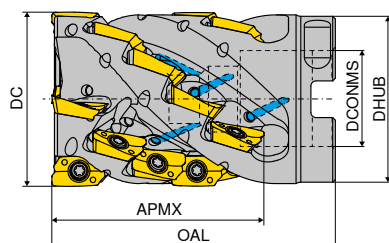
40 - 50

| Y7                                          | 2A/28                                       |
|---------------------------------------------|---------------------------------------------|
|                                             |                                             |
| Kľúč D                                      | Upínacia skrutka                            |
| Artikel č.<br>80 950 ...<br>EUR<br>9,15 120 | Artikel č.<br>70 950 ...<br>EUR<br>3,18 839 |

## MaxiMill – Valcová čelná fréza A 211-15K

▲ ZEFP = počet vymeniteľných doštičiek

▲ ZNP = počet radu zubov



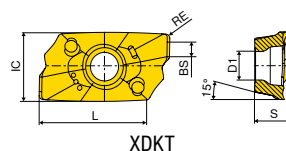
| Označenie         | DC | ZNF | APMX | ZEFP | ZNP | OAL | DCONMS <sub>H6</sub> | DHUB | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 759 ...<br>EUR |
|-------------------|----|-----|------|------|-----|-----|----------------------|------|-------------------------|-------------------------|------------------------------------------|
| A211.50.R.03K4-15 | 50 | 3   | 50,5 | 12   | 4   | 74  | 22                   | 43   | 3,2                     | XD.T 1505               | 904,40 050                               |
| A211.50.R.03K5-15 | 50 | 3   | 63,0 | 15   | 5   | 88  | 22                   | 43   | 3,2                     | XD.T 1505               | 960,40 150                               |
| A211.63.R.03K4-15 | 63 | 3   | 50,5 | 12   | 4   | 74  | 27                   | 58   | 3,2                     | XD.T 1505               | 986,00 063                               |
| A211.63.R.04K6-15 | 63 | 4   | 75,5 | 24   | 6   | 102 | 27                   | 58   | 3,2                     | XD.T 1505               | 1.210,00 163                             |
| A211.80.R.04K5-15 | 80 | 4   | 63,0 | 20   | 5   | 88  | 32                   | 78   | 3,2                     | XD.T 1505               | 1.216,00 080                             |
| A211.80.R.05K6-15 | 80 | 5   | 75,5 | 30   | 6   | 102 | 32                   | 78   | 3,2                     | XD.T 1505               | 1.404,00 180                             |

Náhradné diely  
DC

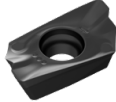
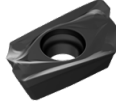
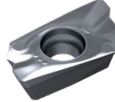
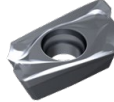
|    | 2A/28                                        | Y7                                          | Y7                                           | 2A/28                                       | 2A/28                                       | 2A/28                                       | Y7                                            |
|----|----------------------------------------------|---------------------------------------------|----------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|-----------------------------------------------|
|    |                                              |                                             |                                              |                                             |                                             |                                             |                                               |
|    | Skrutka s<br>valcovou hlavou                 | Výmenná vložka<br>TORX®                     | Kľúč D                                       | Pasta<br>Molykote                           | Upínacia skrutka                            | Skrutka s vnútorným<br>šesťhranom           | Rukoväť                                       |
|    | Artikel č.<br>70 950 ...<br>EUR<br>11,50 002 | Artikel č.<br>80 950 ...<br>EUR<br>5,26 054 | Artikel č.<br>80 950 ...<br>EUR<br>11,89 128 | Artikel č.<br>70 950 ...<br>EUR<br>4,38 303 | Artikel č.<br>70 950 ...<br>EUR<br>3,18 839 | Artikel č.<br>70 950 ...<br>EUR<br>5,44 180 | Artikel č.<br>80 950 ...<br>EUR<br>131,90 193 |
| 50 | 11,50 002                                    | 5,26 054                                    | 11,89 128                                    | 4,38 303                                    | 3,18 839                                    | 5,44 180                                    | 131,90 193                                    |
| 63 | 15,95 003                                    | 5,26 054                                    | 11,89 128                                    | 4,38 303                                    | 3,18 839                                    | 8,45 181                                    | 131,90 193                                    |
| 80 | 25,73 004                                    | 5,26 054                                    | 11,89 128                                    | 4,38 303                                    | 3,18 839                                    | 11,50 234                                   | 131,90 193                                    |

## XDKT

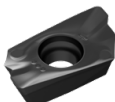
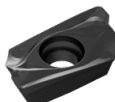
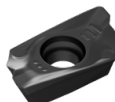
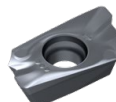
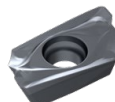
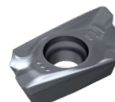
| Označenie     | IC  | D1  | L    | BS  | S    |
|---------------|-----|-----|------|-----|------|
|               | mm  | mm  | mm   | mm  | mm   |
| XDKT 150508.. | 9,3 | 4,4 | 14,8 | 1,6 | 5,56 |
| XDKT 150512.. | 9,3 | 4,4 | 14,8 | 1,6 | 5,56 |
| XDKT 150516.. | 9,3 | 4,4 | 14,8 | 1,6 | 5,56 |
| XDKT 150520.. | 9,3 | 4,4 | 14,8 | 1,6 | 5,56 |
| XDKT 150530.. | 9,3 | 4,4 | 14,8 | 1,6 | 5,56 |
| XDKT 150532.. | 9,3 | 4,4 | 14,8 | 1,9 | 5,56 |
| XDKT 150540.. | 9,3 | 4,4 | 14,8 | 1,2 | 5,56 |



## XDKT

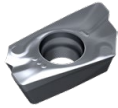
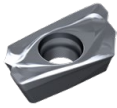
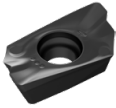
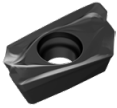
| ISO                   | RE  | -F50<br>CTCP220                                                                   | -M50<br>CTCP220                                                                     | -F50<br>CTPP225                                                                     | -M50<br>CTPP225                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | -F50<br>DCX1220                                                                   | -M50<br>DCX1220                                                                     | -F50<br>DPX1225                                                                     | -M50<br>DPX1225                                                                     |
|                       |     | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |
|                       |     | XDKT<br>1B/61                                                                     | XDKT<br>1B/61                                                                       | XDKT<br>1B/61                                                                       | XDKT<br>1B/61                                                                       |
|                       |     | Artikel č.<br>51 035 ...                                                          | Artikel č.<br>51 038 ...                                                            | Artikel č.<br>51 035 ...                                                            | Artikel č.<br>51 038 ...                                                            |
|                       |     | EUR<br>18,75 258                                                                  | EUR<br>18,75 258                                                                    | EUR<br>18,75 058                                                                    | EUR<br>18,75 058                                                                    |
| 150508SR              | 0,8 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Oceľ                  |     | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Nehrdzavejúca oceľ    |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Litina                |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Neželezné kovy        |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Žiaruvzdorná zliatina |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Kalená oceľ           |     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

## XDKT

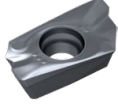
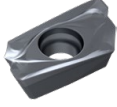
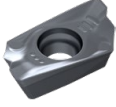
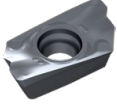
| ISO                   | RE  | -F50<br>CTCP230                                                                     | -M50<br>CTCP230                                                                     | -R50<br>CTCP230                                                                     | -F50<br>CTPP235                                                                       | -M50<br>CTPP235                                                                       | -R50<br>CTPP235                                                                       |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -F50<br>DCX1230                                                                     | -M50<br>DCX1230                                                                     | -R50<br>DCX1230                                                                     | -F50<br>DPX1235                                                                       | -M50<br>DPX1235                                                                       | -R50<br>DPX1235                                                                       |
|                       |     | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |  |  |
|                       |     | XDKT<br>1B/61                                                                       | XDKT<br>1B/61                                                                       | XDKT<br>1B/61                                                                       | XDKT<br>1B/61                                                                         | XDKT<br>1B/61                                                                         | XDKT<br>1B/61                                                                         |
|                       |     | Artikel č.<br>51 035 ...                                                            | Artikel č.<br>51 038 ...                                                            | Artikel č.<br>51 040 ...                                                            | Artikel č.<br>51 035 ...                                                              | Artikel č.<br>51 038 ...                                                              | Artikel č.<br>51 040 ...                                                              |
|                       |     | EUR<br>18,75 008                                                                    | EUR<br>18,75 008                                                                    | EUR<br>18,75 008                                                                    | EUR<br>18,75 108                                                                      | EUR<br>18,75 108                                                                      | EUR<br>18,75 108                                                                      |
| 150508SR              | 0,8 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 150512SR              | 1,2 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 150516SR              | 1,6 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 150520SR              | 2,0 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 150530SR              | 3,0 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 150540SR              | 4,0 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Nehrdzavejúca oceľ    |     | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| Litina                |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Neželezné kovy        |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Žiaruvzdorná zliatina |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Kalená oceľ           |     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |



## XDKT

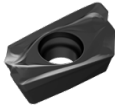
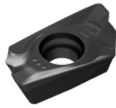
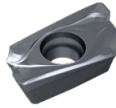
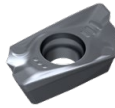
| ISO                   | RE  | -F50 CTPM225                                                                      |     | -M50 CTPM225                                                                        |     | -F50 CTCM235                                                                        |     | -M50 CTCM235                                                                        |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |     | -F50 DPX2225                                                                      |     | -M50 DPX2225                                                                        |     | -F50 DCX2235                                                                        |     | -M50 DCX2235                                                                        |     |
|                       |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |     |  |     |  |     |  |     |  |     |
|                       |     | XDKT 1B/61                                                                        |     | XDKT 1B/61                                                                          |     | XDKT 1B/61                                                                          |     | XDKT 1B/61                                                                          |     |
|                       |     | Artikel č. 51 035 ...                                                             |     | Artikel č. 51 038 ...                                                               |     | Artikel č. 51 035 ...                                                               |     | Artikel č. 51 038 ...                                                               |     |
|                       |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 150508SR              | 0,8 | 18,75                                                                             | 208 | 18,75                                                                               | 208 | 18,75                                                                               | 308 | 18,75                                                                               | 308 |
| Oceľ                  |     | ○                                                                                 |     | ○                                                                                   |     | ○                                                                                   |     | ○                                                                                   |     |
| Nehrdzavejúca oceľ    |     | ●                                                                                 |     | ●                                                                                   |     | ●                                                                                   |     | ●                                                                                   |     |
| Liatina               |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

## XDKT

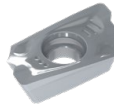
| ISO                   | RE  | -F50 CTPM240                                                                        |     | -M50 CTPM240                                                                          |     | -R50 CTPM240                                                                          |     | -F40 CTPM245                                                                          |                   |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-------------------|
|                       |     | -F50 DPX2240                                                                        |     | -M50 DPX2240                                                                          |     | -R50 DPX2240                                                                          |     | -F40 DPX2245                                                                          |                   |
|                       |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |                   |
|                       |     |  |     |  |     |  |     |  |                   |
|                       |     | XDKT 1B/61                                                                          |     | XDKT 1B/61                                                                            |     | XDKT 1B/61                                                                            |     | XDKT 1H/17                                                                            |                   |
|                       |     | Artikel č. 51 035 ...                                                               |     | Artikel č. 51 038 ...                                                                 |     | Artikel č. 51 040 ...                                                                 |     | Artikel č. 51 114 ...                                                                 |                   |
|                       |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |     | EUR                                                                                   |                   |
| 150508ER              | 0,8 |                                                                                     |     |                                                                                       |     |                                                                                       |     | 22,57                                                                                 | 458               |
| 150508SR              | 0,8 | 18,75                                                                               | 408 | 18,75                                                                                 | 408 | 18,75                                                                                 | 408 |                                                                                       |                   |
| 150512SR              | 1,2 |                                                                                     |     | 18,75                                                                                 | 412 |                                                                                       |     |                                                                                       |                   |
| 150516SR              | 1,6 |                                                                                     |     | 18,75                                                                                 | 416 |                                                                                       |     |                                                                                       |                   |
| 150530SR              | 3,0 |                                                                                     |     | 18,75                                                                                 | 430 |                                                                                       |     |                                                                                       |                   |
| 150532ER              | 3,2 |                                                                                     |     |                                                                                       |     |                                                                                       |     | 22,57                                                                                 | 482 <sup>1)</sup> |
| 150540ER              | 4,0 |                                                                                     |     |                                                                                       |     |                                                                                       |     | 22,57                                                                                 | 490 <sup>1)</sup> |
| 150540SR              | 4,0 |                                                                                     |     | 18,75                                                                                 | 440 |                                                                                       |     |                                                                                       |                   |
| Oceľ                  |     | ○                                                                                   |     | ○                                                                                     |     | ○                                                                                     |     | ●                                                                                     |                   |
| Nehrdzavejúca oceľ    |     | ●                                                                                   |     | ●                                                                                     |     | ●                                                                                     |     | ●                                                                                     |                   |
| Liatina               |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |                   |
| Neželezné kovy        |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |                   |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |                   |
| Kalená oceľ           |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |                   |

1) Rádus britovej doštičky &gt; 1,6 mm: modifikujte základné teleso

## XDKT

| ISO                   | RE  | -M50<br>CTCK215                                                                   |  | -R50<br>CTCK215                                                                   |  | -M50<br>CTPK220                                                                     |  | -R50<br>CTPK220                                                                     |  | -F20<br>CTWN215                                                                     |  |
|-----------------------|-----|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       |     | -M50<br>DCX3215                                                                   |  | -R50<br>DCX3215                                                                   |  | -M50<br>DPX3220                                                                     |  | -R50<br>DPX3220                                                                     |  | -F20<br>CWK4615                                                                     |  |
|                       |     | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  |                                                                                     |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |
|                       |     | XDKT 1B/61                                                                        |  | XDKT 1B/61                                                                        |  | XDKT 1B/61                                                                          |  | XDKT 1B/61                                                                          |  | XDKT 1A/90                                                                          |  |
|                       |     | Artikel č. 51 038 ...                                                             |  | Artikel č. 51 040 ...                                                             |  | Artikel č. 51 038 ...                                                               |  | Artikel č. 51 040 ...                                                               |  | Artikel č. 50 479 ...                                                               |  |
|                       |     | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 150508FR              | 0,8 | 18,75 508                                                                         |  | 18,75 508                                                                         |  | 18,75 608                                                                           |  | 18,75 608                                                                           |  | 22,16 508                                                                           |  |
| 150508SR              | 0,8 |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Oceľ                  |     | ○                                                                                 |  | ○                                                                                 |  | ○                                                                                   |  | ○                                                                                   |  |                                                                                     |  |
| Nehrdzavejúca oceľ    |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Liatina               |     | ●                                                                                 |  | ●                                                                                 |  | ●                                                                                   |  | ●                                                                                   |  | ○                                                                                   |  |
| Neželezné kovy        |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  | ●                                                                                   |  |
| Žiaruvzdorná zliatina |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Kalená oceľ           |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |

## XDKT

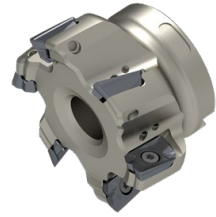
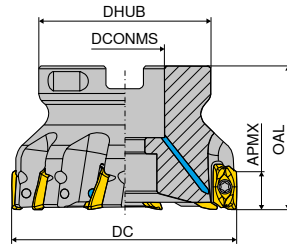
| ISO                   | RE  | -F40<br>CTC5240                                                                       |  | -F40<br>CTCS245                                                                       |  | -R60<br>CTP6215                                                                       |  |
|-----------------------|-----|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
|                       |     | -F40<br>HCF5240                                                                       |  |                                                                                       |  | -R60<br>CCN6215                                                                       |  |
|                       |     | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  |                                                                                       |  |
|                       |     |  |  |  |  |  |  |
|                       |     | XDKT 1H/D4                                                                            |  | XDKT 1H/D4                                                                            |  | XDKT 1B/61                                                                            |  |
|                       |     | Artikel č. 50 473 ...                                                                 |  | NEW Artikel č. 51 114 ...                                                             |  | Artikel č. 50 469 ...                                                                 |  |
|                       |     | EUR                                                                                   |  | EUR                                                                                   |  | EUR                                                                                   |  |
| 150508ER              | 0,8 | 22,57 508                                                                             |  | 22,57 558                                                                             |  |                                                                                       |  |
| 150508SR              | 0,8 |                                                                                       |  |                                                                                       |  | 18,75 300                                                                             |  |
| 150532ER              | 3,2 | 22,57 532 <sup>1)</sup>                                                               |  |                                                                                       |  |                                                                                       |  |
| 150540ER              | 4,0 | 22,57 540 <sup>1)</sup>                                                               |  | 22,57 59000 <sup>1)</sup>                                                             |  |                                                                                       |  |
| Oceľ                  |     |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Nehrdzavejúca oceľ    |     |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Liatina               |     |                                                                                       |  |                                                                                       |  | ●                                                                                     |  |
| Neželezné kovy        |     |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Žiaruvzdorná zliatina |     | ●                                                                                     |  | ●                                                                                     |  |                                                                                       |  |
| Kalená oceľ           |     |                                                                                       |  |                                                                                       |  | ●                                                                                     |  |

1) Rádus britovej doštičky &gt; 2,5 mm: modifikujte základné teleso

## Sprievodca frézovaním

|                      |           |                              |           |
|----------------------|-----------|------------------------------|-----------|
| Stratégia obrábania  | → 154     | Systém označovania           | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre   | → 154     |
| Počiatkové parametre | → 155     | Korekcia posuvu na zub $f_z$ | → 157     |

## MaxiMill – Nástrčná fréza A 211-20

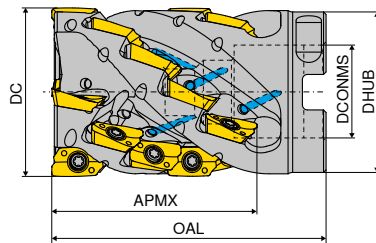


| Označenie        | DC  | ZNF | APMX | OAL | DCONMS <sub>H6</sub> | DHUB | RPMX   | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW 2B/40<br>Artikel č.<br>50 778 ...<br>EUR |
|------------------|-----|-----|------|-----|----------------------|------|--------|-------------------------|-------------------------|----------------------------------------------|
|                  | mm  |     | mm   | mm  | mm                   | mm   | 1/min. |                         |                         |                                              |
| A211.63.R.05-20  | 63  | 5   | 19   | 45  | 22                   | 48   | 14400  | 5                       | XD.. 2007..             | 434,10 06305                                 |
| A211.80.R.06-20  | 80  | 6   | 19   | 50  | 27                   | 58   | 12400  | 5                       | XD.. 2007..             | 464,30 08006                                 |
| A211.100.R.07-20 | 100 | 7   | 19   | 50  | 32                   | 78   | 10900  | 5                       | XD.. 2007..             | 498,20 10007                                 |

## MaxiMill – Valcová čelná fréza A 211-20K

▲ ZEFP = počet vymeniteľných doštičiek

▲ ZNP = počet radu zubov



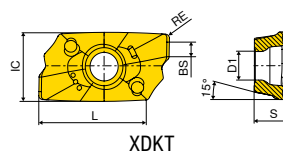
| Označenie         | DC | ZNF | APMX | ZEFP | ZNP | OAL | DCONMS <sub>H6</sub> | DHUB | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW 2B/40<br>Artikel č.<br>50 780 ...<br>EUR |
|-------------------|----|-----|------|------|-----|-----|----------------------|------|-------------------------|-------------------------|----------------------------------------------|
|                   | mm |     | mm   |      |     | mm  | mm                   | mm   |                         |                         |                                              |
| A211.63.R.04K4-20 | 63 | 4   | 68   | 16   | 4   | 92  | 27                   | 58   | 3,2                     | XD.. 2007..             | 961,40 06304                                 |
| A211.80.R.05K4-20 | 80 | 5   | 68   | 20   | 4   | 92  | 32                   | 76   | 3,2                     | XD.. 2007..             | 1.078,00 08005                               |

Náhradné diely  
DC

|     | 2A/28                                                                               | Y7                                                                                  | Y7                                                                                  | 2A/28                                                                                | 2A                                                                                    | 2A/28                                                                                 | Y7                                                                                    |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|     |  |  |  |  |  |  |  |
|     | Skrutka s valcovou hlavou                                                           | Výmenná vložka TORX®                                                                | Kľúč D                                                                              | Pasta Molykote                                                                       | Upínacia skrutka                                                                      | Skrutka s vnútorným šesťhranom                                                        | Rukoväť                                                                               |
|     | Artikel č.<br>70 950 ...                                                            | Artikel č.<br>80 950 ...                                                            | Artikel č.<br>80 950 ...                                                            | Artikel č.<br>70 950 ...                                                             | Artikel č.<br>70 950 ...                                                              | Artikel č.<br>70 950 ...                                                              | Artikel č.<br>80 950 ...                                                              |
|     | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 | EUR                                                                                  | EUR                                                                                   | EUR                                                                                   | EUR                                                                                   |
| 63  | 15,95 003                                                                           | 4,76 037                                                                            | 7,52 106                                                                            | 4,38 303                                                                             | 2,52 280                                                                              | 8,45 181                                                                              | 131,90 193                                                                            |
| 80  | 25,73 004                                                                           | 4,76 037                                                                            | 7,52 106                                                                            | 4,38 303                                                                             | 2,52 280                                                                              | 11,50 234                                                                             | 131,90 193                                                                            |
| 100 |                                                                                     | 4,76 037                                                                            | 7,52 106                                                                            | 4,38 303                                                                             | 2,52 280                                                                              |                                                                                       | 131,90 193                                                                            |

## XDKT

| Označenie     | IC   | D1  | L    | S    |
|---------------|------|-----|------|------|
|               | mm   | mm  | mm   | mm   |
| XDKT 200708.. | 12,5 | 5,5 | 18,8 | 6,93 |
| XDKT 200732.. | 12,5 | 5,5 | 18,8 | 6,82 |

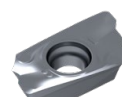


## XDKT

-F40  
CTPM245-F40  
CTC5240-F40  
CTCS245

DRAGONSKIN

DRAGONSKIN



| ISO      | RE  |  |  |  |  |  |  |  |  |
|----------|-----|--|--|--|--|--|--|--|--|
|          | mm  |  |  |  |  |  |  |  |  |
| 200708ER | 0,8 |  |  |  |  |  |  |  |  |
| 200732ER | 3,2 |  |  |  |  |  |  |  |  |

XDKT  
NEW 1H/17  
Artikel č.  
51 127 ...  
EUR  
26,69 45800

XDKT  
NEW 1H/D4  
Artikel č.  
51 127 ...  
EUR  
26,69 15800  
26,69 18200

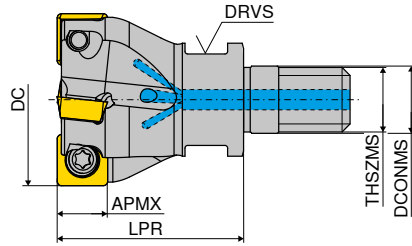
XDKT  
NEW 1H/D4  
Artikel č.  
51 127 ...  
EUR  
26,69 55800

|                       |  |  |  |  |  |  |  |  |  |
|-----------------------|--|--|--|--|--|--|--|--|--|
| Oceľ                  |  |  |  |  |  |  |  |  |  |
| Nehrdzavejúca oceľ    |  |  |  |  |  |  |  |  |  |
| Liatina               |  |  |  |  |  |  |  |  |  |
| Neželezné kovy        |  |  |  |  |  |  |  |  |  |
| Žiaruvzdorná zliatina |  |  |  |  |  |  |  |  |  |
| Kalená oceľ           |  |  |  |  |  |  |  |  |  |

## Sprievodca frézovaním

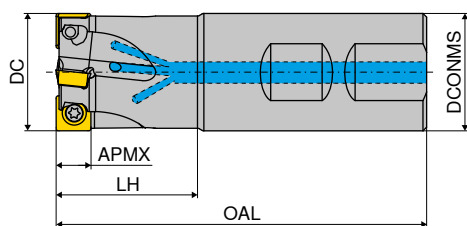
|                      |           |                              |           |
|----------------------|-----------|------------------------------|-----------|
| Stratégia obrábania  | → 156     | Systém označovania           | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre   | → 156     |
| Počiatkové parametre | → 156     | Korekcia posuvu na zub $f_z$ | → 157     |

## MaxiMill – Skrutkovacia fréza G 490-09



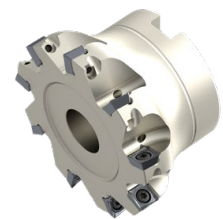
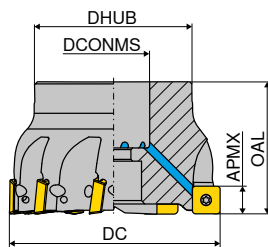
| Označenie       | DC | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 726 ...<br>EUR |     |
|-----------------|----|-----|------|-----|--------|--------|------|-------------------------|-------------------------|------------------------------------------|-----|
| G490.25.R.03-09 | 25 | 3   | 8    | 35  | M12    | 12,5   | 17   | 3,2                     | SD.. 09T3..             | 304,20                                   | 025 |
| G490.32.R.04-09 | 32 | 4   | 8    | 35  | M16    | 17,0   | 24   | 3,2                     | SD.. 09T3..             | 329,90                                   | 032 |

## MaxiMill – Stopková fréza C 490-09



| Označenie                | DC | ZNF | APMX | DCONMS | OAL | LH | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | A<br>2B/40<br>Artikel č.<br>50 727 ...<br>EUR | B<br>2B/40<br>Artikel č.<br>50 727 ...<br>EUR |     |
|--------------------------|----|-----|------|--------|-----|----|-------------------------|-------------------------|-----------------------------------------------|-----------------------------------------------|-----|
| C490.25.R.03-09-B-32     | 25 | 3   | 8    | 25     | 88  | 32 | 3,2                     | SD.. 09T3..             | 225                                           | 304,20                                        | 025 |
| C490.25.R.02-09-A-20     | 25 | 2   | 8    | 20     | 165 | 40 | 3,2                     | SD.. 09T3..             | 280,50                                        |                                               |     |
| C490.25.R.02-09-A-40-165 | 25 | 2   | 8    | 25     | 165 | 40 | 3,2                     | SD.. 09T3..             | 291,00                                        | 125                                           |     |
| C490.32.R.04-09-B-25     | 32 | 4   | 8    | 25     | 100 | 40 | 3,2                     | SD.. 09T3..             |                                               | 317,90                                        | 132 |
| C490.32.R.04-09-B-40     | 32 | 4   | 8    | 32     | 100 | 40 | 3,2                     | SD.. 09T3..             |                                               | 329,90                                        | 032 |

## MaxiMill – Nástrčná fréza A 490-09

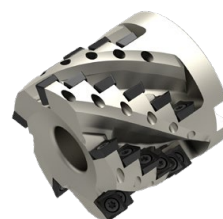
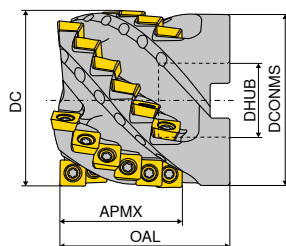


| Označenie        | DC  | ZNF | APMX | DHUB | DCONMS <sub>H6</sub> | OAL | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 728 ...<br>EUR |     |
|------------------|-----|-----|------|------|----------------------|-----|-------------------------|-------------------------|------------------------------------------|-----|
| A490.40.R.05-09  | 40  | 5   | 8    | 38   | 16                   | 40  | 3,2                     | SD.. 09T3..             | 368,80                                   | 040 |
| A490.42.R.06-09  | 42  | 6   | 8    | 38   | 16                   | 40  | 3,2                     | SD.. 09T3..             | 394,50                                   | 042 |
| A490.50.R.06-09  | 50  | 6   | 8    | 43   | 22                   | 40  | 3,2                     | SD.. 09T3..             | 407,50                                   | 050 |
| A490.52.R.07-09  | 52  | 7   | 8    | 43   | 22                   | 40  | 3,2                     | SD.. 09T3..             | 433,30                                   | 052 |
| A490.63.R.07-09  | 63  | 7   | 8    | 48   | 22                   | 40  | 3,2                     | SD.. 09T3..             | 446,30                                   | 063 |
| A490.66.R.08-09  | 66  | 8   | 8    | 48   | 22                   | 40  | 3,2                     | SD.. 09T3..             | 472,10                                   | 066 |
| A490.80.R.09-09  | 80  | 9   | 8    | 58   | 27                   | 50  | 3,2                     | SD.. 09T3..             | 627,40                                   | 080 |
| A490.100.R.10-09 | 100 | 10  | 8    | 78   | 32                   | 50  | 3,2                     | SD.. 09T3..             | 685,60                                   | 100 |
| A490.160.R.14-09 | 160 | 14  | 8    | 88   | 40                   | 62  | 3,2                     | SD.. 09T3..             | 1.013,00                                 | 160 |

## MaxiMill – Valcová čelná fréza A 490K-09K

▲ ZEFP = počet vymeniteľných doštičiek

▲ ZNP = počet radu zubov

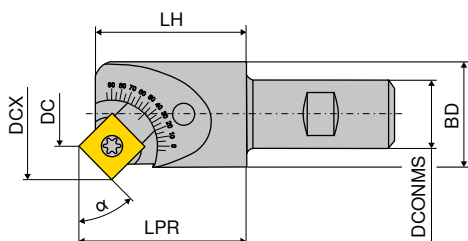


| Označenie         | DC | ZNF | APMX | ZEFP | ZNP | OAL | DCONMS <sub>H6</sub> | DHUB | Dofahovací moment | Vymeniteľná doštička | 2B/40<br>Artikel č.<br>50 761 ...<br>EUR |
|-------------------|----|-----|------|------|-----|-----|----------------------|------|-------------------|----------------------|------------------------------------------|
| A490.40.R.03K6-09 | 40 | 3   | 41   | 18   | 6   | 55  | 16                   | 38   | 3,2               | SD.. 09T3..          | 1.022,00 040                             |
| A490.50.R.04K6-09 | 50 | 4   | 41   | 24   | 6   | 55  | 22                   | 48   | 3,2               | SD.. 09T3..          | 1.237,00 050                             |
| A490.63.R.05K6-09 | 63 | 5   | 41   | 30   | 6   | 60  | 27                   | 61   | 3,2               | SD.. 09T3..          | 1.398,00 063                             |

Náhradné diely  
DC

|          | Y7                              | Y7                              | Y7                              | 2A/28                           | 2A/28                           | 2A/28                           | Y7                              |
|----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|          | Výmenná vložka TORX®            | Upínací klúč T                  | Klúč D                          | Silová skrutka                  | Pasta Molykote                  | Upínacia skrutka                | Rukoväť                         |
|          | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 397 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 25 - 32  | 4,76 036                        |                                 | 9,28 113                        |                                 | 4,38 303                        | 3,14 110                        | 128,60 192                      |
| 40 - 42  | 4,76 036                        | 3,91 040                        | 9,28 113                        | 12,48 151                       | 4,38 303                        | 3,14 110                        | 128,60 192                      |
| 50 - 160 | 4,76 036                        |                                 | 9,28 113                        |                                 | 4,38 303                        | 3,14 110                        | 128,60 192                      |

## Staviteľná uhlová fréza C 4500



| Označenie     | DC         | DCX         | ZNF | LPR         | DCONMS | LH | BD    | Dofahovací moment | Vymeniteľná doštička | 2B<br>Artikel č.<br>50 668 ...<br>EUR |
|---------------|------------|-------------|-----|-------------|--------|----|-------|-------------------|----------------------|---------------------------------------|
| C4500.16.R.01 | 3,0 - 20,8 | 20,3 - 23,9 | 1   | 33,0 - 35,0 | 16     | 32 | 18,65 | 3,2               | SD.. 09T3..          | 151,00 116                            |

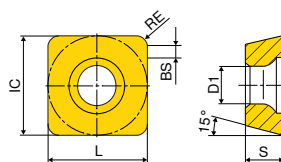
## Náhradné diely

Vymeniteľná doštička

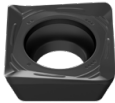
|             | 2A                              | 2A                              | Y7                              | Y7                              | 2A/28                           | 2A/28                           | Y7                              |
|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|             | Skrutka s valcovou hlavou       | Stavací diel                    | Výmenná vložka TORX®            | Klúč D                          | Pasta Molykote                  | Upínacia skrutka                | Rukoväť                         |
|             | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| SD.. 09T3.. | 3,38 709                        | 15,10 708                       | 4,76 036                        | 9,28 113                        | 4,38 303                        | 3,14 110                        | 128,60 192                      |

## SDHT / SDNT

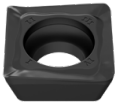
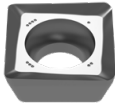
| Označenie   | IC   | D1  | L    | BS  | S    |
|-------------|------|-----|------|-----|------|
|             | mm   | mm  | mm   | mm  | mm   |
| SD.T 09T3.. | 9,52 | 4,4 | 9,52 | 2,5 | 3,97 |



## SDHT / SDNT

|                       |     | TCM10                                                                             | -29 CTCP230                                                                       | CTPP235                                                                           | -29 CTPP235                                                                         | -33 CTPM240                                                                         | -F50 CTPM245                                                                        |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | CWC10                                                                             | -29 DCX1230                                                                       | DPX1235                                                                           | -29 DPX1235                                                                         | -33 DPX2240                                                                         | -F50 DPX2245                                                                        |
|                       |     |                                                                                   | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |  |  |
|                       |     | CERMET SDHT                                                                       | SDNT                                                                              | SDNT                                                                              | SDNT                                                                                | SDNT                                                                                | SDNT                                                                                |
|                       |     | 1B/79                                                                             | 1B/61                                                                             | 1B/61                                                                             | 1B/61                                                                               | 1B/61                                                                               | 1H/17                                                                               |
|                       |     | Artikel č. 50 424 ...                                                             | Artikel č. 51 011 ...                                                             | Artikel č. 51 082 ...                                                             | Artikel č. 51 011 ...                                                               | Artikel č. 51 030 ...                                                               | Artikel č. 51 111 ...                                                               |
|                       |     | EUR                                                                               | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
| ISO                   | RE  |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|                       | mm  |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| 09T308ER              | 0,8 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| 09T308SR              | 0,8 | 15,76 900                                                                         | 11,61 008                                                                         | 11,61 108                                                                         | 11,61 108                                                                           | 11,61 408                                                                           | 13,00 458                                                                           |
| Oceľ                  |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Nehrdzavejúca oceľ    |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Litina                |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Neželezné kovy        |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Žiaruvzdorná zliatina |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Kalená oceľ           |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |

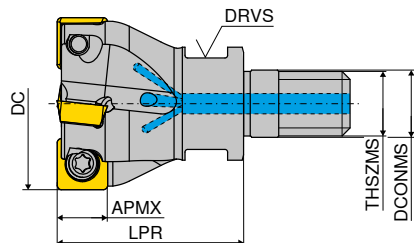
## SDNT / SDHT

|                       |     | -31 CTCK215                                                                         | -27P H216T                                                                          | -27P AMZ                                                                            | -27 CTC5240                                                                           | -M31 CTC5240                                                                          | -F10 CTC5245                                                                          |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -31 DCX3215                                                                         | -27P CWK26                                                                          | -27P AMZ                                                                            | -AL HCF5240                                                                           | -M31 HCF5240                                                                          |                                                                                       |
|                       |     | DRAGONSKIN                                                                          |                                                                                     |                                                                                     | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |  |  |
|                       |     | SDNT                                                                                | SDHT                                                                                | SDHT                                                                                | SDHT                                                                                  | SDNT                                                                                  | SDHT                                                                                  |
|                       |     | 1B/61                                                                               | 1A/90                                                                               | 1A/90                                                                               | 1H/D4                                                                                 | 1H/D4                                                                                 | NEW 1H/D4                                                                             |
|                       |     | Artikel č. 51 029 ...                                                               | Artikel č. 50 424 ...                                                               | Artikel č. 50 424 ...                                                               | Artikel č. 50 496 ...                                                                 | Artikel č. 50 425 ...                                                                 | Artikel č. 51 125 ...                                                                 |
|                       |     | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 | EUR                                                                                   | EUR                                                                                   | EUR                                                                                   |
| ISO                   | RE  |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|                       | mm  |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 09T308ER              | 0,8 |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 09T308FR              | 0,8 |                                                                                     | 15,76 550                                                                           | 18,90 650                                                                           | 21,73 508                                                                             | 13,00 508                                                                             | 21,73 55800                                                                           |
| 09T308SR              | 0,8 | 11,61 508                                                                           |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Nehrdzavejúca oceľ    |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Litina                |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Neželezné kovy        |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Žiaruvzdorná zliatina |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Kalená oceľ           |     | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |

## Sprievodca frézovaním

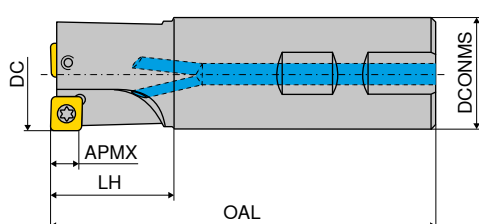
|                      |           |                              |           |
|----------------------|-----------|------------------------------|-----------|
| Stratégia obrábania  | → 157+186 | Systém označovania           | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre   | → 157+186 |
| Počiatkové parametre | → 157     | Korekcia posuvu na zub $f_z$ | → 157     |

## MaxiMill – Skrutkovacia fréza G 490-12



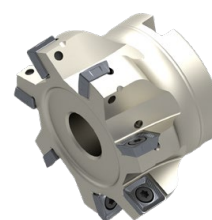
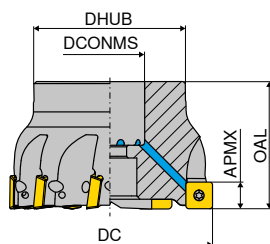
| Označenie       | DC | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 726 ...<br>EUR |
|-----------------|----|-----|------|-----|--------|--------|------|-------------------------|-------------------------|------------------------------------------|
| G490.32.R.03-12 | 32 | 3   | 10,7 | 35  | M16    | 17     | 24   | 3,2                     | SD.. 1205..             | 317,80 13200                             |
| G490.40.R.04-12 | 40 | 4   | 10,7 | 40  | M16    | 17     | 24   | 3,2                     | SD.. 1205..             | 351,10 14000                             |

## MaxiMill – Stopková fréza C 490-12



| Označenie              | DC | ZNF | APMX | DCONMS | OAL | LH | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B<br>Artikel č.<br>50 703 ...<br>EUR |
|------------------------|----|-----|------|--------|-----|----|-------------------------|-------------------------|---------------------------------------|
| C490.32.R.02           | 32 | 2   | 11   | 32     | 110 | 40 | 5                       | SD.. 1205..             | 210,70 032                            |
| C490.32.R.03-12-B-40   | 32 | 3   | 11   | 32     | 101 | 40 | 5                       | SD.. 1205..             | 317,80 13200                          |
| C490.40.R.03           | 40 | 3   | 11   | 32     | 115 | 45 | 5                       | SD.. 1205..             | 248,50 040                            |
| C490.40.R.04-12-B32-50 | 40 | 4   | 11   | 32     | 112 | 50 | 5                       | SD.. 1205..             | 351,10 14000                          |

## MaxiMill – Nástrčná fréza A 490-12



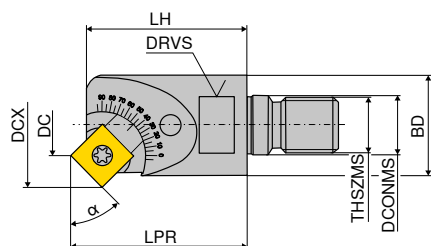
| Označenie        | DC  | ZNF | APMX | DHUB | DCONMS | OAL | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 703 ...<br>EUR |
|------------------|-----|-----|------|------|--------|-----|-------------------------|-------------------------|------------------------------------------|
| A490.40.R.04-12  | 40  | 4   | 11   | 38   | 16     | 40  | 5                       | SD.. 1205..             | 351,10 54000                             |
| A490.50.R.05-12  | 50  | 5   | 11   | 43   | 22     | 40  | 5                       | SD.. 1205..             | 389,90 550                               |
| A490.63.R.06-12  | 63  | 6   | 11   | 48   | 22     | 40  | 5                       | SD.. 1205..             | 428,90 563                               |
| A490.80.R.07-12  | 80  | 7   | 11   | 58   | 27     | 50  | 5                       | SD.. 1205..             | 592,30 580                               |
| A490.100.R.08-12 | 100 | 8   | 11   | 75   | 32     | 50  | 5                       | SD.. 1205..             | 650,60 600                               |
| A490.125.R.10-12 | 125 | 10  | 11   | 88   | 40     | 63  | 5                       | SD.. 1205..             | 697,30 625                               |

Náhradné diely  
DC

|          | Y7                              | Y7                              | Y7                              | 2A/28                           | 2A/28                           | 2A                              | Y7                              |
|----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|          | Výmenná vložka<br>TORX®         | Upínací klúč T                  | Kľúč D                          | Silová skrutka                  | Pasta<br>Molykote               | Upínacia skrutka                | Rukoväť                         |
|          | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 397 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 32 - 40  | 4,76 037                        |                                 | 9,95 114                        |                                 | 4,38 303                        | 2,52 280                        | 131,90 193                      |
| 50 - 125 | 4,76 037                        | 3,91 040                        | 9,95 114                        | 12,48 151                       | 4,38 303                        | 2,52 280                        | 131,90 193                      |

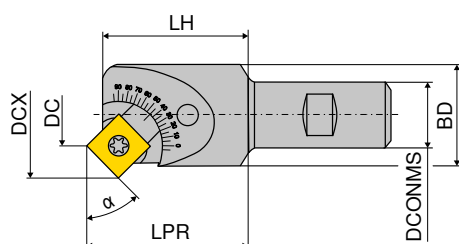


## Staviteľná skrutkovacia uhlová fréza G 4500



| Označenie     | DC               | DCX                | ZNF | LPR           | THSZMS | DCONMS   | LH       | BD         | DRVS     | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B<br>Artikel č.<br>55 210 ...<br>EUR<br>177,20 | 020 |
|---------------|------------------|--------------------|-----|---------------|--------|----------|----------|------------|----------|-------------------------|-------------------------|-------------------------------------------------|-----|
| G4500.20.R.01 | 7,1 - 31,0<br>mm | 30,5 - 35,45<br>mm | 1   | 48 - 50<br>mm | M16    | 17<br>mm | 46<br>mm | 28,5<br>mm | 24<br>mm | 5                       | SD.. 1205..             |                                                 |     |

## Staviteľná uhlová fréza C 4500

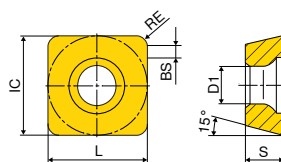


| Označenie     | DC               | DCX               | ZNF | LPR               | DCONMS   | LH       | BD       | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | B<br>2B<br>Artikel č.<br>50 668 ...<br>EUR<br>159,40 | 020 |
|---------------|------------------|-------------------|-----|-------------------|----------|----------|----------|-------------------------|-------------------------|------------------------------------------------------|-----|
| C4500.20.R.01 | 3,7 - 27,8<br>mm | 27,3 - 32,2<br>mm | 1   | 35,9 - 40,5<br>mm | 20<br>mm | 37<br>mm | 25<br>mm | 5                       | SD.. 1205..             |                                                      |     |

| Náhradné diely                      | 2A                                                                                  | 2A                                                                                  | Y7                                                                                  | Y7                                                                                   | 2A/28                                                                                 | 2A                                                                                    | Y7                                                                                    |
|-------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                     |  |  |  |  |  |  |  |
|                                     | Skrutka s valcovou hlavou                                                           | Stavací diel                                                                        | Výmenná vložka TORX®                                                                | Kľúč D                                                                               | Pasta Molykote                                                                        | Upínacia skrutka                                                                      | Rukoväť                                                                               |
| Vymeniteľná doštička<br>SD.. 1205.. | Artikel č.<br>70 950 ...<br>EUR<br>4,29                                             | Artikel č.<br>70 950 ...<br>EUR<br>13,94                                            | Artikel č.<br>80 950 ...<br>EUR<br>4,76                                             | Artikel č.<br>80 950 ...<br>EUR<br>9,95                                              | Artikel č.<br>70 950 ...<br>EUR<br>4,38                                               | Artikel č.<br>70 950 ...<br>EUR<br>2,52                                               | Artikel č.<br>80 950 ...<br>EUR<br>131,90                                             |
|                                     | 706                                                                                 | 705                                                                                 | 037                                                                                 | 114                                                                                  | 303                                                                                   | 280                                                                                   | 193                                                                                   |

## SDHW / SDMT / SDHT

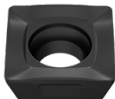
| Označenie     | IC   | D1  | L    | BS  | S    |
|---------------|------|-----|------|-----|------|
|               | mm   | mm  | mm   | mm  | mm   |
| SDH. 120508.. | 12,7 | 5,5 | 12,7 | 2,2 | 5,00 |
| SDHT 120512.. | 12,7 | 5,5 | 12,7 | 1,8 | 5,00 |
| SDHT 120520.. | 12,7 | 5,5 | 12,7 | 1,0 | 5,00 |
| SDHT 120525.. | 12,7 | 5,5 | 12,7 | 1,5 | 5,00 |
| SDMT 120508.. | 12,7 | 5,5 | 12,7 | 3,0 | 5,00 |
| SDMT 1205ZZ.. | 12,7 | 5,5 | 12,7 | 0,9 | 5,00 |



## SDHW / SDMT / SDHT

|                       |     | TCM10                                                                             | -29<br>CTCP230                                                                    | -29<br>CTPP235                                                                    | -29<br>CTPM240                                                                      | -33<br>CTPM240                                                                      | -F50<br>CTPM245                                                                     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       |     | CWC10                                                                             | -29<br>DCX1230                                                                    | -29<br>DPX1235                                                                    | -29<br>DPX2240                                                                      | -33<br>DPX2240                                                                      | -F50<br>DPX2245                                                                     |
|                       |     |                                                                                   | DRAGONSKIN                                                                        | DRAGONSKIN                                                                        | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          | DRAGONSKIN                                                                          |
|                       |     |  |  |  |  |  |  |
|                       |     | CERMET<br>SDHW                                                                    | SDMT                                                                              | SDMT                                                                              | SDMT                                                                                | SDHT                                                                                | SDMT                                                                                |
|                       |     | 1B/79                                                                             | 1B/61                                                                             | 1B/61                                                                             | 1B/61                                                                               | 1B/61                                                                               | 1H/17                                                                               |
| ISO                   | RE  | Artikel č.<br>50 428 ...                                                          | Artikel č.<br>51 081 ...                                                          | Artikel č.<br>51 081 ...                                                          | Artikel č.<br>51 081 ...                                                            | Artikel č.<br>51 028 ...                                                            | Artikel č.<br>51 110 ...                                                            |
|                       | mm  | EUR                                                                               | EUR                                                                               | EUR                                                                               | EUR                                                                                 | EUR                                                                                 | EUR                                                                                 |
| 120508ER              | 0,8 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 458                                                                                 |
| 120508SR              | 0,8 | 18,75                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| 120512SR              | 1,2 |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 18,27                                                                               |                                                                                     |
| 120520SR              | 2,0 |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 18,27                                                                               |                                                                                     |
| 1205ZZSN              | 0,8 |                                                                                   | 15,76                                                                             | 15,76                                                                             | 15,26                                                                               |                                                                                     |                                                                                     |
| Oceľ                  |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Nehrdzavejúca oceľ    |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Litina                |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Neželezné kovy        |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Žiaruvzdorná zliatina |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Kalená oceľ           |     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |

## SDMT / SDHT

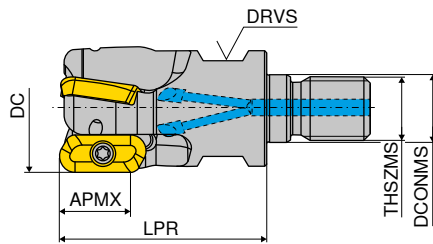
|                       |     | -31<br>CTCK215                                                                      | -27P<br>H216T                                                                       | -27P<br>AMZ                                                                           | -M31<br>CTC5240                                                                       | -F50<br>CTCS245                                                                       |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -31<br>DCX3215                                                                      | -ALP<br>CWK26                                                                       | -ALP<br>AMZ                                                                           | -M31<br>HCF5240                                                                       |                                                                                       |
|                       |     | DRAGONSKIN                                                                          |                                                                                     |                                                                                       | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |  |
|                       |     | SDMT                                                                                | SDHT                                                                                | SDHT                                                                                  | SDMT                                                                                  | SDMT                                                                                  |
|                       |     | 1B/61                                                                               | 1A/90                                                                               | 1A/90                                                                                 | 1H/D4                                                                                 | NEW 1H/D4                                                                             |
| ISO                   | RE  | Artikel č.<br>51 059 ...                                                            | Artikel č.<br>50 426 ...                                                            | Artikel č.<br>50 426 ...                                                              | Artikel č.<br>50 580 ...                                                              | Artikel č.<br>51 110 ...                                                              |
|                       | mm  | EUR                                                                                 | EUR                                                                                 | EUR                                                                                   | EUR                                                                                   | EUR                                                                                   |
| 120508ER              | 0,8 |                                                                                     |                                                                                     |                                                                                       |                                                                                       | 55800                                                                                 |
| 120508FR              | 0,8 |                                                                                     | 18,27                                                                               | 22,64                                                                                 | 18,43                                                                                 |                                                                                       |
| 120525FR              | 2,5 |                                                                                     | 18,27                                                                               |                                                                                       |                                                                                       |                                                                                       |
| 1205ZZSN              | 0,8 | 15,26                                                                               |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Nehrdzavejúca oceľ    |     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Litina                |     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Neželezné kovy        |     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Žiaruvzdorná zliatina |     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Kalená oceľ           |     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |

## Sprievodca frézovaním

|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Stratégia obrábania  | → 158+186 | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 158+186 |
| Počiatočné parametre | → 158     |                            |           |

## MaxiMill – Skrutkovacia fréza 90° G HSC-11

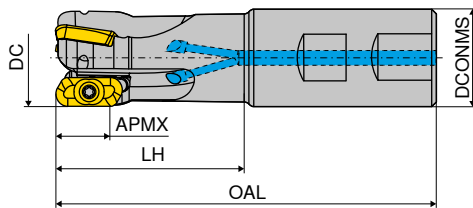
▲ rádius britovej doštičky &gt; 3,2 mm: modifikujte základné teleso



| Označenie       | DC<br>mm | ZNF | APMX<br>mm | DCONMS<br>mm | LPR<br>mm | THSZMS | RPMX<br>1/min. | DRVS<br>mm | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|-----------------|----------|-----|------------|--------------|-----------|--------|----------------|------------|-------------------------|-------------------------|--------------------------|-----|
|                 |          |     |            |              |           |        |                |            |                         |                         | Artikel č.<br>55 107 ... |     |
| GHSC.16.R.02-11 | 16       | 2   | 10         | 8,5          | 27        | M8     | 56000          | 10         | 1,8                     | XDHT 11T3..             | EUR 267,90               | 016 |
| GHSC.18.R.02-11 | 18       | 2   | 10         | 8,5          | 27        | M8     | 53100          | 10         | 1,8                     | XDHT 11T3..             | EUR 274,30               | 018 |
| GHSC.20.R.02-11 | 20       | 2   | 10         | 10,5         | 33        | M10    | 50100          | 15         | 1,8                     | XDHT 11T3..             | EUR 288,40               | 020 |
| GHSC.25.R.03-11 | 25       | 3   | 10         | 12,5         | 35        | M12    | 45000          | 17         | 1,8                     | XDHT 11T3..             | EUR 324,90               | 025 |
| GHSC.32.R.03-11 | 32       | 3   | 10         | 17,0         | 35        | M16    | 39800          | 24         | 1,8                     | XDHT 11T3..             | EUR 337,70               | 032 |
| GHSC.40.R.03-11 | 40       | 3   | 10         | 17,0         | 35        | M16    | 35500          | 24         | 1,8                     | XDHT 11T3..             | EUR 354,50               | 040 |

## MaxiMill – Stopková fréza 90° C HSC-11

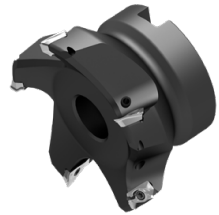
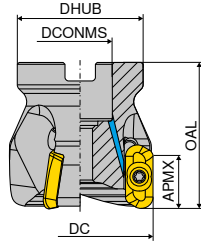
▲ rádius britovej doštičky &gt; 3,2 mm: modifikujte základné teleso



| Označenie              | DC<br>mm | ZNF | APMX<br>mm | DCONMS <sub>h6</sub><br>mm | OAL<br>mm | LH<br>mm | RPMX<br>1/min. | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |                          |
|------------------------|----------|-----|------------|----------------------------|-----------|----------|----------------|-------------------------|-------------------------|--------------------------|--------------------------|
|                        |          |     |            |                            |           |          |                |                         |                         | Artikel č.<br>50 675 ... | Artikel č.<br>50 675 ... |
| CHSC.16.R.02-11-B/A-25 | 16       | 2   | 10         | 16                         | 75        | 25       | 56200          | 1,8                     | XDHT 11T3..             | EUR 267,90               | 016                      |
| CHSC.16.R.02-11-A-32   | 16       | 2   | 10         | 16                         | 165       | 32       | 18800          | 1,8                     | XDHT 11T3..             | EUR 267,90               | 116                      |
| CHSC.18.R.02-11-A-25   | 18       | 2   | 10         | 20                         | 78        | 25       | 56100          | 1,8                     | XDHT 11T3..             | EUR 274,30               | 018                      |
| CHSC.18.R.02-11-A-32   | 18       | 2   | 10         | 20                         | 165       | 32       | 23900          | 1,8                     | XDHT 11T3..             | EUR 274,30               | 118                      |
| CHSC.19.R.02-11-A-25   | 19       | 2   | 10         | 20                         | 78        | 25       | 51700          | 1,8                     | XDHT 11T3..             | EUR 280,70               | 019                      |
| CHSC.19.R.02-11-A-32   | 19       | 2   | 10         | 20                         | 165       | 32       | 25400          | 1,8                     | XDHT 11T3..             | EUR 280,70               | 119                      |
| CHSC.20.R.02-11-A-32   | 20       | 2   | 10         | 20                         | 84        | 32       | 50100          | 1,8                     | XDHT 11T3..             | EUR 288,40               | 020                      |
| CHSC.20.R.03-11-B-32   | 20       | 3   | 10         | 20                         | 84        | 32       | 50100          | 1,8                     | XDHT 11T3..             | EUR 327,20               | 420                      |
| CHSC.20.R.02-11-A-40   | 20       | 2   | 10         | 20                         | 165       | 40       | 26700          | 1,8                     | XDHT 11T3..             | EUR 288,40               | 120                      |
| CHSC.22.R.02-11-A-32   | 22       | 2   | 10         | 25                         | 91        | 32       | 47800          | 1,8                     | XDHT 11T3..             | EUR 296,40               | 022                      |
| CHSC.22.R.02-11-A-40   | 22       | 2   | 10         | 25                         | 165       | 40       | 30200          | 1,8                     | XDHT 11T3..             | EUR 296,40               | 122                      |
| CHSC.25.R.02-11-A-40   | 25       | 2   | 10         | 25                         | 98        | 40       | 45000          | 1,8                     | XDHT 11T3..             | EUR 310,40               | 025                      |
| CHSC.25.R.03-11-A-40   | 25       | 3   | 10         | 25                         | 98        | 40       | 45000          | 1,8                     | XDHT 11T3..             | EUR 324,90               | 225                      |
| CHSC.25.R.04-11-B-40   | 25       | 4   | 10         | 25                         | 98        | 40       | 45000          | 1,8                     | XDHT 11T3..             | EUR 357,10               | 425                      |
| CHSC.25.R.02-11-A-50   | 25       | 2   | 10         | 25                         | 165       | 50       | 31700          | 1,8                     | XDHT 11T3..             | EUR 310,40               | 125                      |
| CHSC.25.R.03-11-A-50   | 25       | 3   | 10         | 25                         | 165       | 50       | 31700          | 1,8                     | XDHT 11T3..             | EUR 324,90               | 325                      |
| CHSC.32.R.03-11-A-50   | 32       | 3   | 10         | 32                         | 112       | 50       | 39800          | 1,8                     | XDHT 11T3..             | EUR 337,70               | 032                      |
| CHSC.32.R.05-11-B-50   | 32       | 5   | 10         | 25                         | 112       | 50       | 39800          | 1,8                     | XDHT 11T3..             | EUR 426,90               | 432                      |
| CHSC.32.R.03-11-A-63   | 32       | 3   | 10         | 32                         | 165       | 63       | 33400          | 1,8                     | XDHT 11T3..             | EUR 337,70               | 132                      |

## MaxiMill – Nástrčná fréza 90° A HSC-11

▲ rádius britovej doštičky &gt; 3,2 mm: modifikujte základné teleso

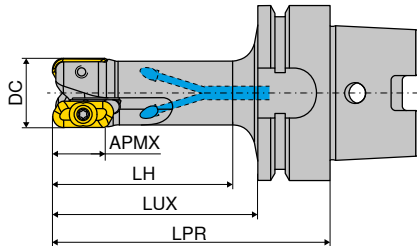


| Označenie        | DC  | ZNF | APMX | DCONMS <sub>H6</sub> | DHUB | OAL | RPMX  | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 718 ... |     |
|------------------|-----|-----|------|----------------------|------|-----|-------|-------------------------|-------------------------|-----------------------------------|-----|
|                  |     |     |      |                      |      |     |       |                         |                         | EUR                               |     |
| AHSC.40.R.04-11  | 40  | 4   | 10   | 16                   | 38   | 50  | 35500 | 1,8                     | XDHT 11T3..             | 451,40                            | 040 |
| AHSC.50.R.04-11  | 50  | 4   | 10   | 22                   | 43   | 50  | 31800 | 1,8                     | XDHT 11T3..             | 546,00                            | 050 |
| AHSC.63.R.05-11  | 63  | 5   | 10   | 22                   | 43   | 50  | 28300 | 1,8                     | XDHT 11T3..             | 608,00                            | 063 |
| AHSC.80.R.05-11  | 80  | 5   | 10   | 27                   | 58   | 50  | 25100 | 1,8                     | XDHT 11T3..             | 632,50                            | 080 |
| AHSC.100.R.05-11 | 100 | 5   | 10   | 32                   | 78   | 50  | 22400 | 1,8                     | XDHT 11T3..             | 677,90                            | 100 |

## MaxiMill – Fréza 90° M HSC-11 s HSK 63-A

▲ vyváženie G 6,3

▲ rádius britovej doštičky &gt; 3,2 mm: modifikujte základné teleso

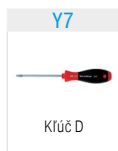


| Označenie                | DC | ZNF | APMX | LPR | LH  | LUX | RPMX  | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 722 ... |     |
|--------------------------|----|-----|------|-----|-----|-----|-------|-------------------------|-------------------------|-----------------------------------|-----|
|                          |    |     |      |     |     |     |       |                         |                         | EUR                               |     |
| MHSC.25.R.03-11-H63A-50  | 25 | 3   | 10   | 90  | 50  | 64  | 45000 | 1,8                     | XDHT 11T3..             | 774,90                            | 025 |
| MHSC.25.R.03-11-H63A-63  | 25 | 3   | 10   | 100 | 63  | 74  | 42000 | 1,8                     | XDHT 11T3..             | 774,90                            | 125 |
| MHSC.32.R.03-11-H63A-63  | 32 | 3   | 10   | 100 | 63  | 74  | 39800 | 1,8                     | XDHT 11T3..             | 787,80                            | 032 |
| MHSC.32.R.03-11-H63A-80  | 32 | 3   | 10   | 120 | 80  | 94  | 37200 | 1,8                     | XDHT 11T3..             | 787,80                            | 132 |
| MHSC.40.R.04-11-H63A-63  | 40 | 4   | 10   | 100 | 63  | 74  | 35500 | 1,8                     | XDHT 11T3..             | 817,60                            | 040 |
| MHSC.40.R.04-11-H63A-80  | 40 | 4   | 10   | 120 | 80  | 94  | 35500 | 1,8                     | XDHT 11T3..             | 817,60                            | 140 |
| MHSC.50.R.04-11-H63A-63  | 50 | 4   | 10   | 100 | 63  | 74  | 31800 | 1,8                     | XDHT 11T3..             | 831,70                            | 050 |
| MHSC.50.R.04-11-H63A-100 | 50 | 4   | 10   | 140 | 100 | 114 | 31800 | 1,8                     | XDHT 11T3..             | 831,70                            | 150 |

| Náhradné diely<br>DC | Y7         |     | Y7         |     | Y7         |     | 2A/28      |     | 2A/28      |     | 2A/28      |     | Y7         |     |
|----------------------|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
|                      | Artikel č. | EUR | Artikel č. | EUR | Artikel č. | EUR | Artikel č. | EUR | Artikel č. | EUR | Artikel č. | EUR | Artikel č. | EUR |
|                      | 80 950 ... |     | 80 397 ... |     | 80 950 ... |     | 70 950 ... |     | 70 950 ... |     | 70 950 ... |     | 80 950 ... |     |
| 16 - 25              | 4,76       | 043 |            |     | 10,20      | 125 |            |     | 4,38       | 303 | 4,09       | 128 | 128,60     | 192 |
| 32                   | 4,76       | 043 |            |     | 10,20      | 125 |            |     | 4,38       | 303 | 4,09       | 131 | 128,60     | 192 |
| 40                   | 4,76       | 043 | 3,91       | 040 | 10,20      | 125 | 12,48      | 151 | 4,38       | 303 | 4,09       | 131 | 128,60     | 192 |
| 50 - 63              | 4,76       | 043 | 4,24       | 050 | 10,20      | 125 | 17,14      | 154 | 4,38       | 303 | 4,09       | 131 | 128,60     | 192 |
| 80 - 100             | 4,76       | 043 |            |     | 10,20      | 125 |            |     | 4,38       | 303 | 4,09       | 131 | 128,60     | 192 |

Výmenná vložka  
TORX®

Upinací klíč T



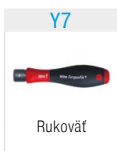
Klíč D



Silová skrutka

Pasta  
Molykote

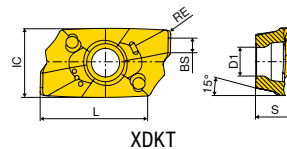
Upinacia skrutka



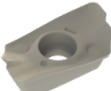
Rukoväť

## XDKT / XDHT

| Označenie     | IC  | D1  | L    | BS  | S    |
|---------------|-----|-----|------|-----|------|
|               | mm  | mm  | mm   | mm  | mm   |
| XD.T 11T302FR | 6,8 | 2,8 | 10,6 | 2   | 3,80 |
| XD.T 11T304FR | 6,8 | 2,8 | 10,6 | 1,8 | 3,80 |
| XD.T 11T308FR | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XD.T 11T320FR | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XD.T 11T325FR | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDHT 11T312FR | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDHT 11T316FR | 6,8 | 2,8 | 10,6 | 1,4 | 3,80 |
| XDHT 11T332FR | 6,8 | 2,8 | 10,6 | 0,8 | 3,80 |
| XDHT 11T340FR | 6,8 | 2,8 | 10,6 | -   | 3,80 |
| XDHT 11T350FR | 6,8 | 2,8 | 10,6 | -   | 3,80 |



## XDKT / XDHT

| ISO                   | RE  | -F20 CTWN215                                                                        |                   | -27P H216T                                                                          |                   |
|-----------------------|-----|-------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------|
|                       |     | -F20 CWK4615                                                                        |                   | -ALP CWK26                                                                          |                   |
|                       |     |  |                   |  |                   |
|                       |     | XDKT 1A/90                                                                          |                   | XDHT 1A/90                                                                          |                   |
|                       |     | Artikel č. 50 478 ...                                                               |                   | Artikel č. 50 477 ...                                                               |                   |
|                       |     | EUR                                                                                 |                   | EUR                                                                                 |                   |
| 11T302FR              | 0,2 | 17,67                                                                               | 502               | 26,63                                                                               | 502               |
| 11T304FR              | 0,4 | 17,67                                                                               | 504               | 26,63                                                                               | 504               |
| 11T308FR              | 0,8 | 17,67                                                                               | 508               | 26,63                                                                               | 508               |
| 11T312FR              | 1,2 |                                                                                     |                   | 26,63                                                                               | 512               |
| 11T316FR              | 1,6 |                                                                                     |                   | 26,63                                                                               | 516               |
| 11T320FR              | 2,0 | 17,67                                                                               | 520 <sup>1)</sup> | 26,63                                                                               | 520 <sup>1)</sup> |
| 11T325FR              | 2,5 | 17,67                                                                               | 525 <sup>1)</sup> | 26,63                                                                               | 525 <sup>1)</sup> |
| 11T332FR              | 3,2 |                                                                                     |                   | 26,63                                                                               | 532 <sup>1)</sup> |
| 11T340FR              | 4,0 |                                                                                     |                   | 26,63                                                                               | 540 <sup>1)</sup> |
| 11T350FR              | 5,0 |                                                                                     |                   | 26,63                                                                               | 550 <sup>1)</sup> |
| Oceľ                  |     |                                                                                     |                   |                                                                                     |                   |
| Nehrdzavejúca oceľ    |     |                                                                                     |                   |                                                                                     |                   |
| Liatina               |     |                                                                                     |                   |                                                                                     |                   |
| Neželezné kovy        |     |                                                                                     |                   |                                                                                     |                   |
| Žiaruvzdorná zliatina |     |                                                                                     |                   |                                                                                     |                   |
| Kalená oceľ           |     |                                                                                     |                   |                                                                                     |                   |

1) Rádus britovej doštičky &gt; 1,6 mm: modifikujte základné teleso

## Sprievodca frézovaním

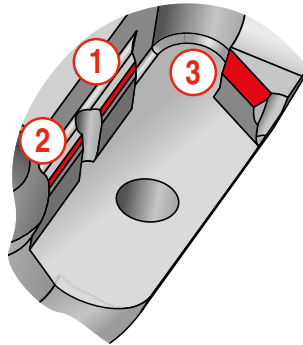
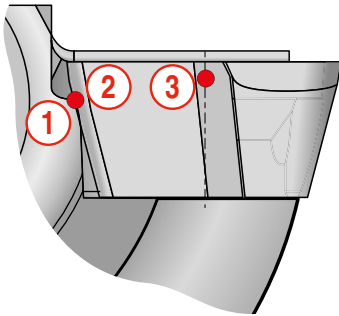
|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 161-165 | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 160+163 |
| Bezpečnostné pokyny | → 159     |                            |           |

## MaxiMill HSC-19

Pre stredne vysoké až vysoké frézovacie otáčky

**i**  $n_{\max} = 34400 \text{ min}^{-1}$   
 $a_{p \max} = 18 \text{ mm}$

19

**(1) (2)** Radiálne dosadacie body

- ▲ zabezpečujú rohový uhol  $90^\circ$  a minimálnu obvodovú hádzavosť

**(3)** Axiálny dosadací bod

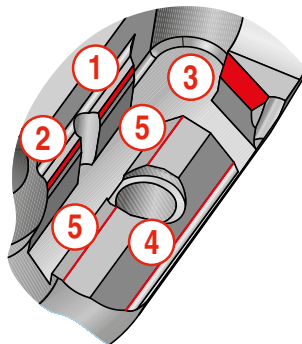
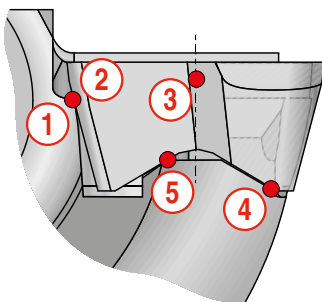
- ▲ zabezpečuje presné čelné hádzanie

## MaxiMill HPC-19

Pre maximálne frézovacie otáčky

**i**  $n_{\max} = 45200 \text{ min}^{-1}$   
 $a_{p \max} = 18 \text{ mm}$

19

Tvarová dosadacia plocha s uhlom  $140^\circ$ 

- ▲ väčšia stabilita, vyššia bezpečnosť
- ▲ zaručuje zámkové spojenie medzi vymeniteľnou britovou doštičkou a nástrojom

**(1) (2)** Radiálne dosadacie body

- ▲ zabezpečujú rohový uhol  $90^\circ$  a minimálnu obvodovú hádzavosť

**(3)** Axiálny dosadací bod

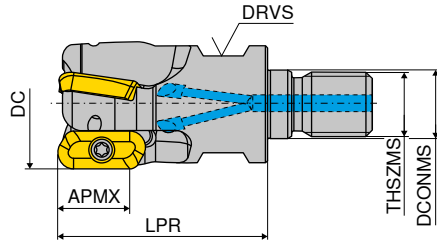
- ▲ zabezpečuje presné čelné hádzanie

**(4) (5)** Dosadacie body

- ▲ absorpcia rezných popr. odstredivých síl

## MaxiMill – Skrutkovacia fréza 90° G HSC-19

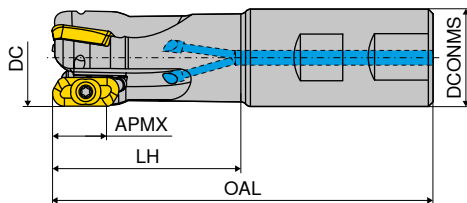
▲ rádius britovej doštičky > 4,0 mm: modifikujte základné teleso.



| Označenie       | DC | ZNF | APMX | DCONMS | LPR | THSZMS | DRVS | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40      |     |
|-----------------|----|-----|------|--------|-----|--------|------|--------|-------------------|----------------------|------------|-----|
|                 |    |     |      |        |     |        |      |        |                   |                      | Artikel č. |     |
|                 | mm |     | mm   | mm     | mm  |        | mm   | 1/min. | Nm                |                      | 55 108 ... |     |
| GHSC.25.R.02-19 | 25 | 2   | 18   | 12,5   | 45  | M12    | 17   | 34400  | 5                 | XDHT 1904..          | EUR 315,60 | 025 |
| GHSC.32.R.03-19 | 32 | 3   | 18   | 17,0   | 52  | M16    | 24   | 29100  | 5                 | XDHT 1904..          | EUR 408,80 | 032 |
| GHSC.40.R.03-19 | 40 | 3   | 18   | 17,0   | 52  | M16    | 24   | 24900  | 5                 | XDHT 1904..          | EUR 434,70 | 040 |

## MaxiMill – Stopková fréza 90° C HSC-19

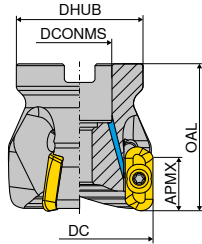
▲ rádius britovej doštičky > 4,0 mm: modifikujte základné teleso.



| Označenie            | DC | ZNF | APMX | DCONMS <sub>h5</sub> | OAL | LH | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40      |            |
|----------------------|----|-----|------|----------------------|-----|----|--------|-------------------|----------------------|------------|------------|
|                      |    |     |      |                      |     |    |        |                   |                      | Artikel č. | Artikel č. |
|                      | mm |     | mm   | mm                   | mm  | mm | 1/min. | Nm                |                      | 50 679 ... | 50 679 ... |
| CHSC.25.R.02-19-A-50 | 25 | 2   | 18   | 25                   | 121 | 50 | 32400  | 5                 | XDHT 1904..          | EUR 315,60 | 225        |
| CHSC.25.R.02-19      | 25 | 2   | 18   | 25                   | 121 | 65 | 32400  | 5                 | XDHT 1904..          | EUR 315,60 | 025        |
| CHSC.25.R.02-19-A-63 | 25 | 2   | 18   | 25                   | 165 | 63 | 24700  | 5                 | XDHT 1904..          | EUR 315,60 | 325        |
| CHSC.32.R.02-19-A-63 | 32 | 2   | 18   | 32                   | 125 | 63 | 28900  | 5                 | XDHT 1904..          | EUR 331,20 | 232        |
| CHSC.32.R.03-19-A-63 | 32 | 3   | 18   | 32                   | 125 | 63 | 28900  | 5                 | XDHT 1904..          | EUR 408,80 | 432        |
| CHSC.32.R.03-19      | 32 | 3   | 18   | 32                   | 125 | 65 | 28900  | 5                 | XDHT 1904..          | EUR 416,50 | 033        |
| CHSC.32.R.02-19      | 32 | 2   | 18   | 32                   | 125 | 65 | 28900  | 5                 | XDHT 1904..          | EUR 338,90 | 032        |
| CHSC.32.R.02-19-A-80 | 32 | 2   | 18   | 32                   | 165 | 80 | 24400  | 5                 | XDHT 1904..          | EUR 331,20 | 332        |
| CHSC.32.R.03-19-A-80 | 32 | 3   | 18   | 32                   | 165 | 80 | 24400  | 5                 | XDHT 1904..          | EUR 408,80 | 532        |

## MaxiMill – Nástrčná fréza 90° A HSC-19

▲ rádius britovej doštičky &gt; 4,0 mm: modifikujte základné teleso.

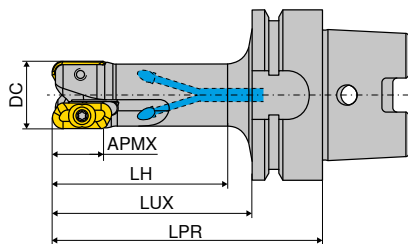


| Označenie        | DC  | ZNF | APMX | DCONMS <sub>H6</sub> | DHUB | OAL | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|------------------|-----|-----|------|----------------------|------|-----|--------|-------------------------|-------------------------|--------------------------|-----|
|                  |     |     |      |                      |      |     |        |                         |                         | Artikel č.<br>50 716 ... |     |
|                  | mm  |     | mm   | mm                   | mm   | mm  | 1/min. |                         |                         | EUR                      |     |
| AHSC.40.R.03-19  | 40  | 3   | 18   | 16                   | 38   | 50  | 24900  | 5                       | XDHT 1904..             | 423,00                   | 040 |
| AHSC.50.R.04-19  | 50  | 4   | 18   | 22                   | 43   | 50  | 21600  | 5                       | XDHT 1904..             | 531,60                   | 050 |
| AHSC.63.R.04-19  | 63  | 4   | 18   | 22                   | 48   | 50  | 18800  | 5                       | XDHT 1904..             | 595,10                   | 163 |
| AHSC.63.R.05-19  | 63  | 5   | 18   | 22                   | 48   | 50  | 18800  | 5                       | XDHT 1904..             | 608,00                   | 063 |
| AHSC.80.R.04-19  | 80  | 4   | 18   | 27                   | 58   | 50  | 16400  | 5                       | XDHT 1904..             | 618,30                   | 180 |
| AHSC.80.R.05-19  | 80  | 5   | 18   | 27                   | 58   | 50  | 16400  | 5                       | XDHT 1904..             | 632,50                   | 080 |
| AHSC.100.R.04-19 | 100 | 4   | 18   | 32                   | 78   | 50  | 14500  | 5                       | XDHT 1904..             | 663,70                   | 200 |
| AHSC.100.R.05-19 | 100 | 5   | 18   | 32                   | 78   | 50  | 14500  | 5                       | XDHT 1904..             | 677,90                   | 100 |
| AHSC.125.R.05-19 | 125 | 5   | 18   | 40                   | 88   | 63  | 12800  | 5                       | XDHT 1904..             | 783,80                   | 125 |
| AHSC.125.R.06-19 | 125 | 6   | 18   | 40                   | 88   | 63  | 12800  | 5                       | XDHT 1904..             | 796,80                   | 225 |

## MaxiMill – Fréza 90° M HSC-19 s HSK 63-A

▲ vyváženie G 6,3

▲ rádius britovej doštičky &gt; 4,0 mm: modifikujte základné teleso



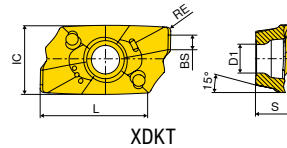
| Označenie                | DC | ZNF | APMX | LPR | LH  | LUX | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|--------------------------|----|-----|------|-----|-----|-----|--------|-------------------------|-------------------------|--------------------------|-----|
|                          |    |     |      |     |     |     |        |                         |                         | Artikel č.<br>50 720 ... |     |
|                          | mm |     | mm   | mm  | mm  | mm  | 1/min. |                         |                         | EUR                      |     |
| MHSC.25.R.02-19-H63A-50  | 25 | 2   | 18   | 90  | 50  | 64  | 35000  | 5                       | XDHT 1904..             | 763,20                   | 525 |
| MHSC.25.R.02-19-H63A-63  | 25 | 2   | 18   | 100 | 63  | 74  | 32700  | 5                       | XDHT 1904..             | 763,20                   | 625 |
| MHSC.32.R.02-19-H63A-63  | 32 | 2   | 18   | 100 | 63  | 74  | 29100  | 5                       | XDHT 1904..             | 778,90                   | 532 |
| MHSC.32.R.02-19-H63A-80  | 32 | 2   | 18   | 120 | 80  | 94  | 27200  | 5                       | XDHT 1904..             | 778,90                   | 632 |
| MHSC.32.R.03-19-H63A-63  | 32 | 3   | 18   | 100 | 63  | 74  | 29100  | 5                       | XDHT 1904..             | 791,80                   | 732 |
| MHSC.32.R.03-19-H63A-80  | 32 | 3   | 18   | 120 | 80  | 94  | 27200  | 5                       | XDHT 1904..             | 791,80                   | 832 |
| MHSC.40.R.03-19-H63A-63  | 40 | 3   | 18   | 100 | 63  | 74  | 24900  | 5                       | XDHT 1904..             | 807,30                   | 540 |
| MHSC.40.R.03-19-H63A-80  | 40 | 3   | 18   | 120 | 80  | 94  | 24900  | 5                       | XDHT 1904..             | 807,30                   | 640 |
| MHSC.50.R.03-19-H63A-100 | 50 | 3   | 18   | 140 | 100 | 114 | 21600  | 5                       | XDHT 1904..             | 807,30                   | 550 |

| Náhradné diely<br>DC | Y7                       |     | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|----------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                      | Výmenná vložka<br>TORX®  |     | Upínací klúč T           |     | Kľúč D                   |     | Silová skrutka           |     | Pasta<br>Molykote        |     | Upínacia skrutka         |     | Rukoväť                  |     |
|                      | Artikel č.<br>80 950 ... |     | Artikel č.<br>80 397 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     |
|                      | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     |
| 25                   | 4,76                     | 036 |                          |     | 9,28                     | 113 |                          |     | 4,38                     | 303 | 2,86                     | 172 | 131,90                   | 193 |
| 32                   | 4,76                     | 036 |                          |     | 9,28                     | 113 |                          |     | 4,38                     | 303 | 3,40                     | 173 | 131,90                   | 193 |
| 40                   | 4,76                     | 036 | 3,91                     | 040 | 9,28                     | 113 | 12,48                    | 151 | 4,38                     | 303 | 3,40                     | 173 | 131,90                   | 193 |
| 50 - 63              | 4,76                     | 036 | 4,24                     | 050 | 9,28                     | 113 | 17,14                    | 154 | 4,38                     | 303 | 3,40                     | 174 | 131,90                   | 193 |
| 80 - 125             | 4,76                     | 036 |                          |     | 9,28                     | 113 |                          |     | 4,38                     | 303 | 3,40                     | 174 | 131,90                   | 193 |



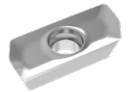
## XDHT

| Označenie     | IC   | D1   | L  | BS  | S    |
|---------------|------|------|----|-----|------|
|               | mm   | mm   | mm | mm  | mm   |
| XDHT 190402.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHT 190404.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHT 190408.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHT 190412.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHT 190416.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHT 190420.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHT 190425.. | 9,52 | 4,65 | 19 | 1,4 | 4,76 |
| XDHT 190432.. | 9,52 | 4,65 | 19 | 1   | 4,76 |
| XDHT 190440.. | 9,52 | 4,65 | 19 | 1   | 4,76 |
| XDHT 190450.. | 9,52 | 4,65 | 19 | -   | 4,76 |



## XDHT

| ISO      | RE  |       |                   |
|----------|-----|-------|-------------------|
|          | mm  |       |                   |
| 190402FR | 0,2 | 27,36 | 552               |
| 190404FR | 0,4 | 27,36 | 554               |
| 190408FR | 0,8 | 27,36 | 556               |
| 190412FR | 1,2 | 27,36 | 557               |
| 190416FR | 1,6 | 27,36 | 558               |
| 190420FR | 2,0 | 27,36 | 560               |
| 190425FR | 2,5 | 27,36 | 562               |
| 190432FR | 3,2 | 27,36 | 564               |
| 190440FR | 4,0 | 27,36 | 566               |
| 190450FR | 5,0 | 27,36 | 568 <sup>1)</sup> |

-27P  
H216T-ALP  
CWK26XDHT  
1A/90Artikel č.  
50 487 ...

EUR

|                       |   |
|-----------------------|---|
| Oceľ                  |   |
| Nehrdzavejúca oceľ    |   |
| Liatina               | ○ |
| Neželezné kovy        | ● |
| Žiaruvzdorná zliatina |   |
| Kalená oceľ           |   |

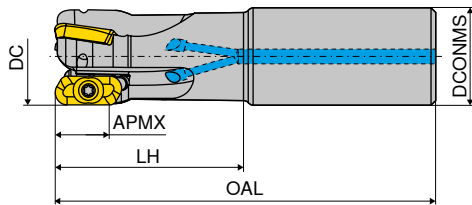
1) Rádus britovej doštičky &gt; 4,0 mm: modifikujte základné teleso

## Sprievodca frézovaním

|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 161-165 | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 160+163 |
| Bezpečnostné pokyny | → 159     |                            |           |

## MaxiMill – Stopková fréza 90° C HPC-19

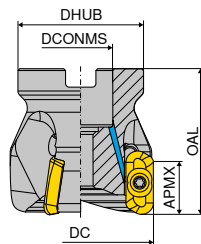
- ▲ prevedenie stopky podľa DIN 1835-A
- ▲ rádius britovej doštičky > 4,0 mm: modifikujte základné teleso



| Označenie            | DC | ZNF | APMX | DCONMS <sub>h5</sub> | OAL | LH | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 680 ...<br>EUR |     |
|----------------------|----|-----|------|----------------------|-----|----|--------|-------------------------|-------------------------|------------------------------------------|-----|
|                      | mm |     | mm   | mm                   | mm  | mm | 1/min. |                         |                         |                                          |     |
| CHPC.22.R.02-19-A-40 | 22 | 2   | 18   | 22                   | 165 | 40 | 31900  | 5                       | XDHX 1904..             | 380,20                                   | 122 |
| CHPC.25.R.02-19-A-50 | 25 | 2   | 18   | 25                   | 121 | 50 | 41800  | 5                       | XDHX 1904..             | 393,30                                   | 125 |
| CHPC.25.R.02-19-A-63 | 25 | 2   | 18   | 25                   | 165 | 63 | 31900  | 5                       | XDHX 1904..             | 393,30                                   | 225 |
| CHPC.32.R.02-19-A-63 | 32 | 2   | 18   | 32                   | 125 | 63 | 39800  | 5                       | XDHX 1904..             | 408,80                                   | 132 |
| CHPC.32.R.02-19-A-80 | 32 | 2   | 18   | 32                   | 165 | 80 | 33500  | 5                       | XDHX 1904..             | 408,80                                   | 232 |
| CHPC.32.R.03-19-A-63 | 32 | 3   | 18   | 32                   | 125 | 63 | 39800  | 5                       | XDHX 1904..             | 485,10                                   | 332 |
| CHPC.32.R.03-19-A-80 | 32 | 3   | 18   | 32                   | 165 | 80 | 33500  | 5                       | XDHX 1904..             | 485,10                                   | 432 |

## MaxiMill – Nástrčná fréza 90° A HPC-19

- ▲ rádius britovej doštičky > 4,0 mm: modifikujte základné teleso

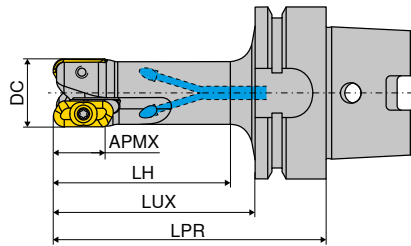


| Označenie       | DC | ZNF | APMX | DCONMS <sub>H6</sub> | DHUB | OAL | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 717 ...<br>EUR |     |
|-----------------|----|-----|------|----------------------|------|-----|--------|-------------------------|-------------------------|------------------------------------------|-----|
|                 | mm |     | mm   | mm                   | mm   | mm  | 1/min. |                         |                         |                                          |     |
| AHPC.40.R.03-19 | 40 | 3   | 18   | 16                   | 38   | 50  | 35700  | 5                       | XDHX 1904..             | 494,20                                   | 040 |
| AHPC.50.R.03-19 | 50 | 3   | 18   | 22                   | 43   | 50  | 31900  | 5                       | XDHX 1904..             | 514,80                                   | 050 |
| AHPC.63.R.03-19 | 63 | 3   | 18   | 22                   | 48   | 50  | 28500  | 5                       | XDHX 1904..             | 539,50                                   | 063 |
| AHPC.63.R.04-19 | 63 | 4   | 18   | 22                   | 48   | 50  | 28500  | 5                       | XDHX 1904..             | 553,70                                   | 163 |

## MaxiMill – Fréza 90° M HPC-19 s HSK 63-A

▲ vyváženie G 6,3

▲ rádius britovej doštičky &gt; 4,0 mm: modifikujte základné teleso

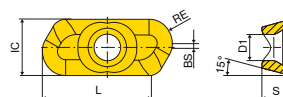


| Označenie                | DC<br>mm | ZNF | APMX<br>mm | LPR<br>mm | LH<br>mm | LUX<br>mm | RPMX<br>1/min. | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40<br>Artikel č.<br>50 721 ...<br>EUR |     |
|--------------------------|----------|-----|------------|-----------|----------|-----------|----------------|-------------------------|-------------------------|------------------------------------------|-----|
|                          |          |     |            |           |          |           |                |                         |                         |                                          |     |
| MHPC.25.R.02-19-H63A-50  | 25       | 2   | 18         | 90        | 50       | 64        | 45200          | 5                       | XDHX 1904..             | 984,40                                   | 025 |
| MHPC.25.R.02-19-H63A-63  | 25       | 2   | 18         | 100       | 63       | 74        | 42300          | 5                       | XDHX 1904..             | 984,40                                   | 125 |
| MHPC.25.R.02-19-H63A-80  | 25       | 2   | 18         | 120       | 80       | 94        | 38400          | 5                       | XDHX 1904..             | 984,40                                   | 225 |
| MHPC.25.R.02-19-H63A-100 | 25       | 2   | 18         | 140       | 100      | 114       | 33900          | 5                       | XDHX 1904..             | 984,40                                   | 325 |
| MHPC.32.R.02-19-H63A-63  | 32       | 2   | 18         | 100       | 63       | 74        | 40000          | 5                       | XDHX 1904..             | 1.001,00                                 | 032 |
| MHPC.32.R.03-19-H63A-63  | 32       | 3   | 18         | 100       | 63       | 74        | 40000          | 5                       | XDHX 1904..             | 1.105,00                                 | 532 |
| MHPC.32.R.02-19-H63A-80  | 32       | 2   | 18         | 120       | 80       | 94        | 37500          | 5                       | XDHX 1904..             | 1.001,00                                 | 132 |
| MHPC.32.R.03-19-H63A-80  | 32       | 3   | 18         | 120       | 80       | 94        | 37500          | 5                       | XDHX 1904..             | 1.105,00                                 | 632 |
| MHPC.32.R.02-19-H63A-100 | 32       | 2   | 18         | 140       | 100      | 114       | 34300          | 5                       | XDHX 1904..             | 1.001,00                                 | 232 |
| MHPC.40.R.03-19-H63A-63  | 40       | 3   | 18         | 100       | 63       | 74        | 35700          | 5                       | XDHX 1904..             | 1.136,00                                 | 040 |
| MHPC.40.R.03-19-H63A-80  | 40       | 3   | 18         | 120       | 80       | 94        | 35700          | 5                       | XDHX 1904..             | 1.136,00                                 | 140 |
| MHPC.40.R.03-19-H63A-100 | 40       | 3   | 18         | 140       | 100      | 114       | 33500          | 5                       | XDHX 1904..             | 1.136,00                                 | 240 |
| MHPC.50.R.03-19-H63A-63  | 50       | 3   | 18         | 100       | 63       | 74        | 31900          | 5                       | XDHX 1904..             | 1.155,00                                 | 050 |
| MHPC.50.R.03-19-H63A-80  | 50       | 3   | 18         | 120       | 80       | 94        | 31900          | 5                       | XDHX 1904..             | 1.155,00                                 | 150 |
| MHPC.50.R.03-19-H63A-100 | 50       | 3   | 18         | 140       | 100      | 114       | 31900          | 5                       | XDHX 1904..             | 1.155,00                                 | 250 |

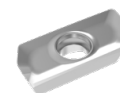
| Náhradné diely<br>DC | Y7                              |     | Y7                              |     | Y7                              |     | 2A/28                           |     | 2A/28                           |     | 2A/28                           |     | Y7                              |     |
|----------------------|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|---------------------------------|-----|
|                      | Výmenná vložka<br>TORX®         |     | Upínací klúč T                  |     | Klúč D                          |     | Silová skrutka                  |     | Pasta<br>Molykote               |     | Upínacia skrutka                |     | Rukoväť                         |     |
|                      | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>80 397 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>70 950 ...<br>EUR |     | Artikel č.<br>80 950 ...<br>EUR |     |
| 22 - 25              | 4,76                            | 036 |                                 |     | 9,28                            | 113 |                                 |     | 4,38                            | 303 | 2,86                            | 172 | 131,90                          | 193 |
| 32                   | 4,76                            | 036 |                                 |     | 9,28                            | 113 |                                 |     | 4,38                            | 303 | 3,40                            | 173 | 131,90                          | 193 |
| 40                   | 4,76                            | 036 | 3,91                            | 040 | 9,28                            | 113 | 12,48                           | 151 | 4,38                            | 303 | 3,40                            | 173 | 131,90                          | 193 |
| 50 - 63              | 4,76                            | 036 | 4,24                            | 050 | 9,28                            | 113 | 17,14                           | 154 | 4,38                            | 303 | 3,40                            | 174 | 131,90                          | 193 |

## XDHX

| Označenie     | IC   | D1   | L  | BS  | S    |
|---------------|------|------|----|-----|------|
|               | mm   | mm   | mm | mm  | mm   |
| XDHX 190402.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHX 190404.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHX 190408.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHX 190412.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHX 190416.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHX 190420.. | 9,52 | 4,65 | 19 | 2   | 4,76 |
| XDHX 190425.. | 9,52 | 4,65 | 19 | 1,4 | 4,76 |
| XDHX 190432.. | 9,52 | 4,65 | 19 | 1   | 4,76 |
| XDHX 190440.. | 9,52 | 4,65 | 19 | 1   | 4,76 |
| XDHX 190450.. | 9,52 | 4,65 | 19 | -   | 4,76 |



## XDHX

-27P  
H216T-ALP  
CWK26XDHX  
1H/D4Artikel č.  
50 488 ...

| ISO      | RE  |       |                   |
|----------|-----|-------|-------------------|
|          | mm  | EUR   |                   |
| 190402FR | 0,2 | 35,72 | 552               |
| 190404FR | 0,4 | 35,72 | 554               |
| 190408FR | 0,8 | 35,72 | 556               |
| 190412FR | 1,2 | 35,72 | 557               |
| 190416FR | 1,6 | 35,72 | 558               |
| 190420FR | 2,0 | 35,72 | 560               |
| 190425FR | 2,5 | 35,72 | 562               |
| 190432FR | 3,2 | 35,72 | 564               |
| 190440FR | 4,0 | 35,72 | 566               |
| 190450FR | 5,0 | 35,72 | 568 <sup>1)</sup> |

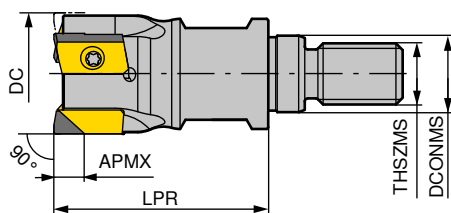
|                       |   |
|-----------------------|---|
| Oceľ                  |   |
| Nehrdzavejúca oceľ    |   |
| Liatina               | ○ |
| Neželezné kovy        | ● |
| Žiaruvzdorná zliatina |   |
| Kalená oceľ           |   |

1) Rádus britovej doštičky &gt; 4,0 mm: modifikujte základné teleso

## Sprievodca frézovaním

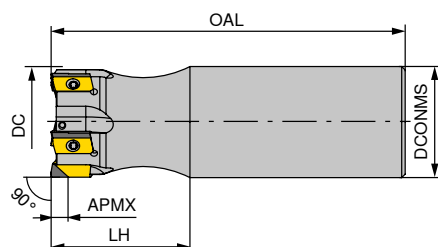
|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 163-165 | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 163     |
| Bezpečnostné pokyny | → 159     |                            |           |

## MaxiMill – Skrutkovacia fréza G HPC-04



| Označenie       | DC | ZNF | APMX | THSZMS | DCONMS | LPR | RPMX   | Dotahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW 2B/40<br>Artikel č.<br>50 785 ...<br>EUR |
|-----------------|----|-----|------|--------|--------|-----|--------|-------------------------|-------------------------|----------------------------------------------|
|                 | mm |     | mm   |        | mm     | mm  | 1/min. |                         |                         |                                              |
| GHPC.20.R.03-04 | 20 | 3   | 4    | M10    | 10,5   | 35  | 52000  | 5                       | ZNHW 04T3..             | 261,70 20003                                 |
| GHPC.25.R.04-04 | 25 | 4   | 4    | M12    | 12,5   | 35  | 45000  | 5                       | ZNHW 04T3..             | 292,90 25004                                 |
| GHPC.32.R.05-04 | 32 | 5   | 4    | M16    | 17,0   | 35  | 38000  | 5                       | ZNHW 04T3..             | 324,10 32005                                 |
| GHPC.40.R.06-04 | 40 | 6   | 4    | M16    | 17,0   | 35  | 34000  | 5                       | ZNHW 04T3..             | 355,10 40006                                 |

## MaxiMill – Stopková fréza C HPC-04



| Označenie            | DC | ZNF | APMX | DCONMS | OAL | LH | RPMX   | Dotahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW 2B/40<br>Artikel č.<br>50 680 ...<br>EUR |
|----------------------|----|-----|------|--------|-----|----|--------|-------------------------|-------------------------|----------------------------------------------|
|                      | mm |     | mm   | mm     | mm  | mm | 1/min. |                         |                         |                                              |
| CHPC.20.R.03-04-A-25 | 20 | 3   | 4    | 20     | 77  | 25 | 52000  | 5                       | ZNHW 04T3..             | 261,70 02003                                 |
| CHPC.25.R.04-04-A-32 | 25 | 4   | 4    | 25     | 90  | 32 | 45000  | 5                       | ZNHW 04T3..             | 292,90 02504                                 |
| CHPC.32.R.05-04-A-40 | 32 | 5   | 4    | 32     | 102 | 40 | 38000  | 5                       | ZNHW 04T3..             | 324,10 03205                                 |
| CHPC.40.R.06-04-A-50 | 40 | 6   | 4    | 32     | 112 | 50 | 34000  | 5                       | ZNHW 04T3..             | 355,10 04006                                 |

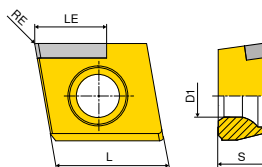
Náhradné diely  
DC

20 - 40

| Y7                              | Y7                              | 2A/28                           | 2A/28                           | Y7                              |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|                                 |                                 |                                 |                                 |                                 |
| Výmenná vložka<br>TORX®         | Kľúč D                          | Pasta<br>Molykote               | Upínacia skrutka                | Rukoväť                         |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 4,76 043                        | 10,20 125                       | 4,38 303                        | 4,09 131                        | 118,90 191                      |

## ZNHW

| Označenie   | LE | D1  | L  | S    |
|-------------|----|-----|----|------|
|             | mm | mm  | mm | mm   |
| ZNHW 04T3.. | 4  | 2,8 | 11 | 3,97 |
| ZNHW 04T3.. | 4  | 2,8 | 11 | 3,97 |
| ZNHW 04T3.. | 4  | 2,8 | 11 | 3,97 |
| ZNHW 04T3.. | 4  | 2,8 | 11 | 3,97 |



## ZNHW



| ISO                   | RE  |  |  |  |
|-----------------------|-----|--|--|--|
|                       | mm  |  |  |  |
| 04T304ER              | 0,4 |  |  |  |
| 04T305ER              | 0,5 |  |  |  |
| 04T308ER              | 0,8 |  |  |  |
| 04T3POER              |     |  |  |  |
| Oceľ                  |     |  |  |  |
| Nehrdzavejúca oceľ    |     |  |  |  |
| Liatina               |     |  |  |  |
| Neželezné kovy        |     |  |  |  |
| Žiaruvzdorná zliatina |     |  |  |  |
| Kalená oceľ           |     |  |  |  |

|                          |                          |
|--------------------------|--------------------------|
| CTD4205                  | CTL3215                  |
|                          | CWB3215                  |
| DIAMOND<br>ZNHW          | CBN<br>ZNHW              |
| NEW 1G/22                | NEW 1G/21                |
| Artikel č.<br>51 137 ... | Artikel č.<br>51 137 ... |
| EUR                      | EUR                      |
| 105,00 75400             | 126,80 85500             |
| 105,00 75800             |                          |
| 105,00 77000             |                          |

## Sprievodca frézovaním

|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 166     | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 166     |

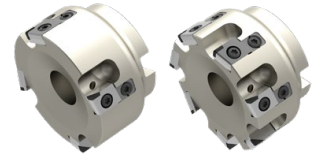
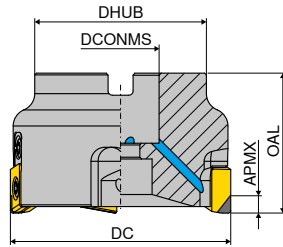
## MaxiMill – Nástrčná fréza HPC-12

▲ 50 723 ... Normálna rozteč zubov

▲ 50 724 ... Úzka rozteč zubov

### Rozsah dodávky:

nástroj, nastavovacie klinky a nastavovacie kľúče vr. drevenej škatule



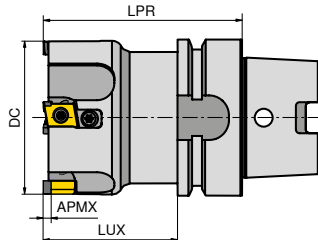
| Označenie        | DC  | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX  | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                           |                                 |
|------------------|-----|-----|------|-----|------|----------------------|-------|-------------------------|-------------------------|---------------------------------|---------------------------------|
|                  |     |     |      |     |      |                      |       |                         |                         | Artikel č.<br>50 723 ...<br>EUR | Artikel č.<br>50 724 ...<br>EUR |
| AHPC.40.R.04-12  | 40  | 4   | 11   | 40  | 34   | 16                   | 32000 | 5                       | ZNHW 1205..             | 652,90                          | 040                             |
| AHPC.50.R.04-12  | 50  | 4   | 11   | 40  | 49   | 22                   | 32000 | 5                       | ZNHW 1205..             | 667,90                          | 050                             |
| AHPC.50.R.05-12  | 50  | 5   | 11   | 40  | 49   | 22                   | 32000 | 5                       | ZNHW 1205..             |                                 |                                 |
| AHPC.63.R.04-12  | 63  | 4   | 11   | 40  | 49   | 22                   | 29000 | 5                       | ZNHW 1205..             | 688,00                          | 063                             |
| AHPC.63.R.07-12  | 63  | 7   | 11   | 40  | 49   | 22                   | 29000 | 5                       | ZNHW 1205..             |                                 |                                 |
| AHPC.80.R.09-12  | 80  | 9   | 11   | 50  | 60   | 27                   | 26000 | 5                       | ZNHW 1205..             |                                 |                                 |
| AHPC.80.R.05-12  | 80  | 5   | 11   | 50  | 60   | 27                   | 26000 | 5                       | ZNHW 1205..             | 972,20                          | 080                             |
| AHPC.100.R.06-12 | 100 | 6   | 11   | 50  | 70   | 32                   | 24000 | 5                       | ZNHW 1205..             | 1.097,00                        | 100                             |
| AHPC.100.R.12-12 | 100 | 12  | 11   | 50  | 70   | 32                   | 24000 | 5                       | ZNHW 1205..             |                                 |                                 |
| AHPC.125.R.08-12 | 125 | 8   | 11   | 63  | 72   | 40                   | 22000 | 5                       | ZNHW 1205..             | 1.301,00                        | 125                             |
| AHPC.125.R.14-12 | 125 | 14  | 11   | 63  | 72   | 40                   | 22000 | 5                       | ZNHW 1205..             |                                 |                                 |
| AHPC.160.R.10-12 | 160 | 10  | 11   | 63  | 118  | 40                   | 18000 | 5                       | ZNHW 1205..             | 1.620,00                        | 16010                           |
| AHPC.160.R.16-12 | 160 | 16  | 11   | 63  | 118  | 40                   | 18000 | 5                       | ZNHW 1205..             |                                 |                                 |
| AHPC.200.R.12-12 | 200 | 12  | 11   | 63  | 153  | 60                   | 16000 | 5                       | ZNHW 1205..             | 4.832,00                        | 20000                           |
| AHPC.250.R.14-12 | 250 | 14  | 11   | 63  | 200  | 60                   | 14000 | 5                       | ZNHW 1205..             | 5.457,00                        | 25014                           |
| AHPC.315.R.18-12 | 315 | 18  | 11   | 80  | 265  | 60                   | 12000 | 5                       | ZNHW 1205..             | 6.874,00                        | 31518                           |

## MaxiMill – Monobloková fréza HPC-12

▲ vyváženie G 6,3

### Rozsah dodávky:

nástroj, nastavovacie klinky a nastavovacie kľúče vr. drevenej škatule



| Označenie                 | DC  | ZNF | APMX | LPR | LUX | RPMX  | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                           |                                 |
|---------------------------|-----|-----|------|-----|-----|-------|-------------------------|-------------------------|---------------------------------|---------------------------------|
|                           |     |     |      |     |     |       |                         |                         | Artikel č.<br>50 721 ...<br>EUR | Artikel č.<br>50 721 ...<br>EUR |
| MHPC.40.R.04-12-H63A-70   | 40  | 4   | 11   | 70  | 44  | 32000 | 5                       | ZNHW 1205..             |                                 | 972,20                          |
| MHPC.50.R.04-12-H63A-80   | 50  | 4   | 11   | 80  | 54  | 32000 | 5                       | ZNHW 1205..             |                                 | 972,20                          |
| MHPC.50.R.05-12-H63A-80   | 50  | 5   | 11   | 80  | 54  | 32000 | 5                       | ZNHW 1205..             | 1.052,00                        | 05005                           |
| MHPC.63.R.04-12-H63A-80   | 63  | 4   | 11   | 80  | 54  | 29000 | 5                       | ZNHW 1205..             |                                 |                                 |
| MHPC.63.R.07-12-H63A-80   | 63  | 7   | 11   | 80  | 54  | 29000 | 5                       | ZNHW 1205..             | 1.211,00                        | 06307                           |
| MHPC.80.R.05-12-H63A-90   | 80  | 5   | 11   | 90  | 64  | 26000 | 5                       | ZNHW 1205..             |                                 |                                 |
| MHPC.80.R.09-12-H63A-90   | 80  | 9   | 11   | 90  | 64  | 26000 | 5                       | ZNHW 1205..             | 1.512,00                        | 08009                           |
| MHPC.100.R.06-12-H63A-90  | 100 | 6   | 11   | 90  | 64  | 24000 | 5                       | ZNHW 1205..             |                                 |                                 |
| MHPC.100.R.12-12-H63A-90  | 100 | 12  | 11   | 90  | 64  | 24000 | 5                       | ZNHW 1205..             | 1.900,00                        | 10012                           |
| MHPC.125.R.08-12-H63A-123 | 125 | 8   | 11   | 123 | 97  | 22000 | 5                       | ZNHW 1205..             |                                 |                                 |
| MHPC.160.R.10-12-H63A-123 | 160 | 10  | 11   | 123 | 97  | 18000 | 5                       | ZNHW 1205..             |                                 |                                 |

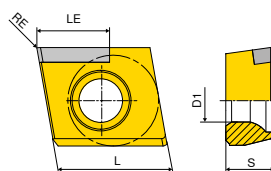
### Náhradné diely DC

40 - 315

| Y7                              | 2A/28                           | 2A/28                           | 2A/28                           | Y7                              |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|                                 |                                 |                                 |                                 |                                 |
| Výmenná vložka<br>TORX®         | Pasta<br>Molykote               | Upínacia skrutka                | Čap                             | Rukoväť                         |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 4,76 036                        | 4,38 303                        | 3,40 174                        | 36,80 199                       | 131,90 193                      |

## ZNHW

| Označenie          | LE | D1   | L    | S    |
|--------------------|----|------|------|------|
|                    | mm | mm   | mm   | mm   |
| ZNHW 120504ER-1503 | 3  | 4,85 | 12,7 | 5,40 |
| ZNHW 120504FR-0007 | 7  | 4,85 | 12,7 | 5,40 |
| ZNHW 120508ER-1503 | 3  | 4,85 | 12,7 | 5,40 |
| ZNHW 120508SR-0003 | 3  | 4,85 | 12,7 | 5,40 |
| ZNHW 1205EOER-1002 | 2  | 4,85 | 12,7 | 5,40 |
| ZNHW 1205POER-1511 | 11 | 4,85 | 12,7 | 5,40 |
| ZNHW 1205POSR-1003 | 3  | 4,85 | 12,7 | 5,40 |
| ZNHW 1205POSR-1503 | 3  | 4,85 | 12,7 | 5,40 |
| ZNHW 1205POSR-1506 | 6  | 4,85 | 12,7 | 5,40 |
| ZNHW 1205POSR-3003 | 3  | 4,85 | 12,7 | 5,40 |
| ZNHW 1205ZZSR-5003 | 3  | 4,85 | 12,7 | 5,40 |



## ZNHW

| ISO                   | RE  |                       |                       |                       |                          |
|-----------------------|-----|-----------------------|-----------------------|-----------------------|--------------------------|
|                       |     | CTD4205               | -R CTD4205            | CTD4205               | -Q CTD4205               |
|                       |     | CWD4205               | CWD4205               | CWD4205               | -Q CWD4205               |
|                       |     |                       |                       |                       |                          |
|                       |     | DIAMOND ZNHW          | DIAMOND ZNHW          | DIAMOND ZNHW          | DIAMOND ZNHW             |
|                       |     | 1G/22                 | NEW 1G/22             | 1G/22                 | 1G/22                    |
|                       |     | Artikel č. 50 467 ... | Artikel č. 50 517 ... | Artikel č. 50 468 ... | Artikel č. 50 466 ...    |
|                       |     | EUR                   | EUR                   | EUR                   | EUR                      |
| 120504ER-1503         | 0,4 |                       |                       | 116,10                | 906                      |
| 120504FR-0007         | 0,4 |                       |                       | 141,40                | 904                      |
| 120508ER-1503         | 0,8 |                       |                       | 116,10                | 910                      |
| 120508SR-0003         | 0,8 |                       |                       | 115,50                | 908                      |
| 1205POER-1511         |     | 167,30                | 902                   |                       |                          |
| 1205POSR-1003         |     | 116,10                | 90600                 |                       |                          |
| 1205POSR-1503         |     | 105,00                | 900                   |                       |                          |
| 1205POSR-1506         |     | 136,20                | 90800                 |                       |                          |
| 1205POSR-3003         |     | 115,50                | 904                   |                       |                          |
| 1205ZZSR-5003         |     |                       |                       |                       | 147,80 900 <sup>1)</sup> |
| Oceľ                  |     |                       |                       |                       |                          |
| Nehrdzavejúca oceľ    |     |                       |                       |                       |                          |
| Liatina               |     |                       |                       |                       |                          |
| Neželezné kovy        |     |                       |                       |                       |                          |
| Žiaruvzdorná zliatina |     |                       |                       |                       |                          |
| Kalená oceľ           |     |                       |                       |                       |                          |

1) -Q = hladiaca britová doštička

## ZNHW

|                       |                       |
|-----------------------|-----------------------|
|                       | CTL3215               |
|                       | CWB3215               |
|                       |                       |
|                       | CBN ZNHW              |
|                       | 1G/21                 |
|                       | Artikel č. 50 515 ... |
|                       | EUR                   |
| 1205EOER-1002         | 133,90 952            |
| Oceľ                  |                       |
| Nehrdzavejúca oceľ    |                       |
| Liatina               |                       |
| Neželezné kovy        |                       |
| Žiaruvzdorná zliatina |                       |
| Kalená oceľ           |                       |

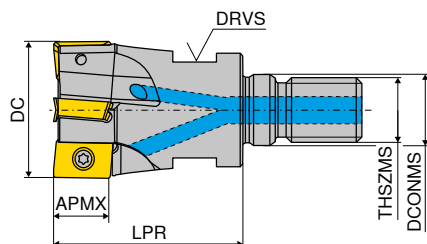
## Sprievodca frézovaním

|                            |           |
|----------------------------|-----------|
| Stratégia obrábania        | → 166+167 |
| Systém označovania         | → 194+195 |
| Popis sort                 | → 209+210 |
| Orientačné rezné parametre | → 166     |



## MaxiMill – Skrutkovacia fréza G 141

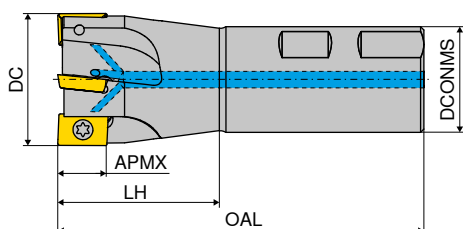
▲ rádius britovej doštičky > 3,2 mm: modifikujte základné teleso



| Označenie       | DC | ZNF | APMX | LPR | THSZMS | DCONMS | DRVS | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B         |     |
|-----------------|----|-----|------|-----|--------|--------|------|-------------------------|-------------------------|------------|-----|
|                 | mm |     | mm   | mm  |        | mm     | mm   |                         |                         | Artikel č. |     |
| G141.25.R.02.IK | 25 | 2   | 14   | 35  | M12    | 12,5   | 17   | 3,2                     | LD.. 1504..             | 50 770 ... | 025 |
| G141.32.R.03.IK | 32 | 3   | 14   | 40  | M16    | 17,0   | 24   | 3,2                     | LD.. 1504..             | EUR 166,70 | 032 |
| G141.40.R.04.IK | 40 | 4   | 14   | 40  | M16    | 17,0   | 24   | 3,2                     | LD.. 1504..             | 200,20     | 040 |
|                 |    |     |      |     |        |        |      |                         |                         | 230,70     |     |

## MaxiMill – Stopková fréza C 141

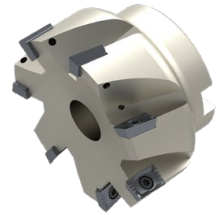
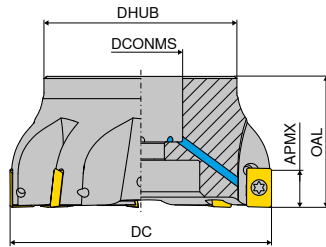
▲ rádius britovej doštičky > 3,2 mm: modifikujte základné teleso



| Označenie    | DC | ZNF | APMX | DCONMS | OAL | LH | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | B          |     |
|--------------|----|-----|------|--------|-----|----|-------------------------|-------------------------|------------|-----|
|              | mm |     | mm   | mm     | mm  | mm |                         |                         | 2B         |     |
| C141.20.R.01 | 20 | 1   | 14   | 25     | 95  | 39 | 3,2                     | LD.. 1504..             | 50 771 ... | 020 |
| C141.25.R.02 | 25 | 2   | 14   | 25     | 100 | 44 | 3,2                     | LD.. 1504..             | EUR 170,90 | 025 |
| C141.32.R.03 | 32 | 3   | 14   | 32     | 108 | 48 | 3,2                     | LD.. 1504..             | 227,50     | 032 |
|              |    |     |      |        |     |    |                         |                         | 264,30     |     |

## MaxiMill – Nástrčná fréza A 241

▲ rádius britovej doštičky &gt; 3,2 mm: modifikujte základné teleso



| Označenie     | DC  | ZNF | APMX | DHUB | DCONMS | OAL | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B<br>Artikel č.<br>50 769 ...<br>EUR |     |
|---------------|-----|-----|------|------|--------|-----|-------------------------|-------------------------|---------------------------------------|-----|
| A241.40.R.04  | 40  | 4   | 14   | 33   | 16     | 40  | 3,2                     | LD.. 1504..             | 274,70                                | 040 |
| A241.50.R.05  | 50  | 5   | 14   | 43   | 22     | 40  | 3,2                     | LD.. 1504..             | 336,60                                | 050 |
| A241.52.R.05  | 52  | 5   | 14   | 43   | 22     | 40  | 3,2                     | LD.. 1504..             | 329,30                                | 052 |
| A241.63.R.06  | 63  | 6   | 14   | 48   | 22     | 40  | 3,2                     | LD.. 1504..             | 405,80                                | 063 |
| A241.66.R.06  | 66  | 6   | 14   | 58   | 27     | 50  | 3,2                     | LD.. 1504..             | 398,40                                | 066 |
| A241.80.R.07  | 80  | 7   | 14   | 58   | 27     | 50  | 3,2                     | LD.. 1504..             | 477,20                                | 080 |
| A241.100.R.08 | 100 | 8   | 14   | 75   | 32     | 50  | 3,2                     | LD.. 1504..             | 554,70                                | 100 |

Náhradné diely  
DC

|          |      |     |      |     |      |     |      |     |        |     |
|----------|------|-----|------|-----|------|-----|------|-----|--------|-----|
| 20 - 40  | 4,76 | 036 | 9,28 | 113 | 4,38 | 303 | 3,14 | 110 | 128,60 | 192 |
| 50 - 100 | 4,76 | 036 | 9,28 | 113 | 4,38 | 303 | 3,14 | 304 | 128,60 | 192 |

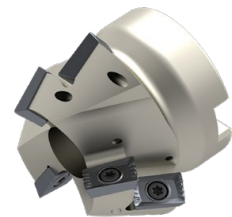
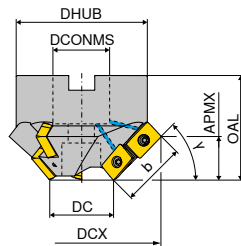
| Y7                              | Y7                              | 2A/28                           | 2A/28                           | Y7                              |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Výmenná vložka<br>TORX®         | Kľúč D                          | Pasta<br>Molykote               | Upínacia skrutka                | Rukoväť                         |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 4,76                            | 9,28                            | 4,38                            | 3,14                            | 128,60                          |
| 036                             | 113                             | 303                             | 110                             | 192                             |
|                                 |                                 |                                 | 304                             | 128,60                          |
|                                 |                                 |                                 |                                 | 192                             |

## MaxiMill – Uhlová fréza A 242

▲ Pozor: používajte vymeniteľné britové doštičky s rádiusom menším ako 1,6 mm

▲ ZEFP = počet vymeniteľných britových doštičiek

▲ ZNP = počet zubových radov



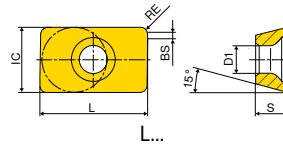
| KAPR | DC | DCX ±0,3 | ZNF | APMX ±0,3 | ZEFP | b ±0,3<br>mm | OAL | DCONMS | DHUB | ZNP | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B<br>Artikel č.<br>50 768 ...<br>EUR |                   |
|------|----|----------|-----|-----------|------|--------------|-----|--------|------|-----|-------------------------|-------------------------|---------------------------------------|-------------------|
| °    | mm | mm       |     | mm        |      |              | mm  | mm     | mm   |     |                         |                         |                                       |                   |
| 15   | 35 | 92,2     | 3   | 7,6       | 6    | 29,6         | 50  | 27     | 62,5 | 2   | 3,2                     | LD.. 1504..             | 376,40                                | 015               |
| 30   | 35 | 86,3     | 3   | 14,8      | 6    | 29,6         | 50  | 27     | 62,5 | 2   | 3,2                     | LD.. 1504..             | 376,40                                | 030               |
| 45   | 35 | 76,9     | 3   | 20,9      | 6    | 29,6         | 50  | 27     | 62,5 | 2   | 3,2                     | LD.. 1504..             | 376,40                                | 045               |
| 60   | 35 | 64,6     | 3   | 25,6      | 6    | 29,6         | 50  | 22     | 62,5 | 2   | 3,2                     | LD.. 1504..             | 376,40                                | 060 <sup>1)</sup> |
| 75   | 35 | 50,3     | 3   | 28,5      | 6    | 29,6         | 60  | 22     | 49,0 | 2   | 3,2                     | LD.. 1504..             | 376,40                                | 075 <sup>1)</sup> |

1) Provedenie so silovou skrutkou

| Y7                              | Y7                              | Y7                              | 2A/28                           | 2A/28                           | 2A/28                           | Y7                              | Y8                              |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Výmenná vložka<br>TORX®         | Upínací kľúč T                  | Kľúč D                          | Silová skrutka                  | Pasta<br>Molykote               | Upínacia skrutka                | Rukoväť                         | Uťahovacia<br>skrutka           |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 397 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>83 950 ...<br>EUR |
| 4,76                            | 4,24                            | 9,28                            | 17,14                           | 4,38                            | 3,14                            | 128,60                          | 3,67                            |
| 036                             | 050                             | 113                             | 154                             | 303                             | 304                             | 192                             | 125                             |
|                                 |                                 |                                 |                                 | 303                             | 304                             | 192                             |                                 |
|                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |

## LDFW / LDFT / LDMT

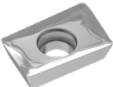
| Označenie     | IC   | D1  | L  | BS  | S    |
|---------------|------|-----|----|-----|------|
|               | mm   | mm  | mm | mm  | mm   |
| LD.. 1504PD.. | 9,52 | 4,4 | 15 | 1,2 | 4,76 |
| LDFT 150408.. | 9,52 | 4,4 | 15 | 1,2 | 4,76 |
| LDFT 1504PD.. | 9,52 | 4,4 | 15 | 0,8 | 4,76 |



## LDFW / LDFT / LDMT

| ISO                   | RE  | CTCP230               |     | -29 CTCP230           |     | -29 CTCP230           |     | -29 CTPP235           |     | -29 CTPP235           |     |
|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                       |     | DCX1230               |     | -29 DCX1230           |     | -29 DCX1230           |     | -29 DPX1235           |     | -29 DPX1235           |     |
|                       |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     |
|                       |     |                       |     |                       |     |                       |     |                       |     |                       |     |
|                       |     | LDFW                  |     | LDFT                  |     | LDMT                  |     | LDFT                  |     | LDMT                  |     |
|                       |     | 1B/61                 |     | 1B/61                 |     | 1B/61                 |     | 1B/61                 |     | 1B/61                 |     |
|                       |     | Artikel č. 51 043 ... |     | Artikel č. 51 079 ... |     | Artikel č. 51 080 ... |     | Artikel č. 51 079 ... |     | Artikel č. 51 080 ... |     |
|                       |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 1504PDSR              | 0,8 | 15,97                 | 020 | 19,13                 | 020 | 9,77                  | 020 | 19,13                 | 120 | 9,77                  | 120 |
| Oceľ                  |     |                       |     |                       |     |                       |     |                       |     |                       |     |
| Nehrdzavejúca oceľ    |     |                       |     |                       |     |                       |     |                       |     |                       |     |
| Liatina               |     |                       |     |                       |     |                       |     |                       |     |                       |     |
| Neželezné kovy        |     |                       |     |                       |     |                       |     |                       |     |                       |     |
| Žiaruvzdorná zliatina |     |                       |     |                       |     |                       |     |                       |     |                       |     |
| Kalená oceľ           |     |                       |     |                       |     |                       |     |                       |     |                       |     |

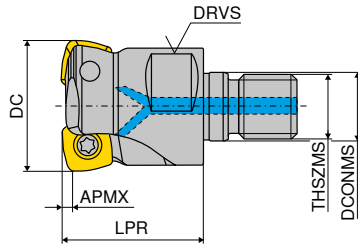
## LDFT / LDFW

|                       |     |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
|-----------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                       |     | <div>-33<br/>CTPM240</div> <div>-33<br/>DPX2240</div> <div>DRAGONSKIN</div> <div></div> <div>LDFT<br/>1B/61</div> <div>Artikel č.<br/>51 042 ...<br/>EUR</div> <div>18,27420</div> | <div>CTCK215</div> <div>DCX3215</div> <div>DRAGONSKIN</div> <div></div> <div>LDFW<br/>1B/61</div> <div>Artikel č.<br/>51 043 ...<br/>EUR</div> <div>15,97520</div> | <div>-27P<br/>H216T</div> <div>-ALP<br/>CWK26</div> <div></div> <div>LDFT<br/>1A/90</div> <div>Artikel č.<br/>50 409 ...<br/>EUR</div> <div>19,85550</div> |   |
| ISO                   | RE  |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
|                       | mm  |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
| 150408FR              | 0,8 |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
| 1504PDSR              | 0,8 |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
| 1504PDSR              | 1,2 |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
| Oceľ                  |     | ○                                                                                                                                                                                                                                                                       | ○                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                 |   |
| Nehrdzavejúca oceľ    |     | ●                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
| Liatina               |     |                                                                                                                                                                                                                                                                         | ●                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                 | ○ |
| Neželezné kovy        |     |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 | ● |
| Žiaruvzdorná zliatina |     |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |
| Kalená oceľ           |     |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |   |

## Sprievodca frézovaním

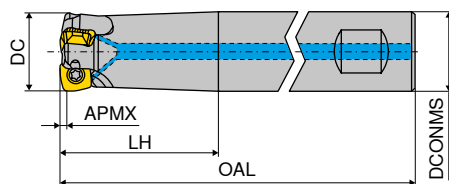
|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 168     | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 168     |

## MaxiMill – Skrutkovacia fréza G HFC



| Označenie       | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40                 |       |
|-----------------|----|-----|------|-----|--------|--------|------|--------|-------------------|----------------------|-----------------------|-------|
|                 |    |     |      |     |        |        |      |        |                   |                      | Artikel č. 50 682 ... |       |
|                 | mm |     | mm   | mm  | mm     |        | mm   | 1/min. | Nm                |                      | EUR                   |       |
| GHFC.16.R.02-06 | 16 | 2   | 0,8  | 27  | 8,5    | M8     | 10   | 20800  | 1,2               | XPLX 0603..          | 230,50                | 616   |
| GHFC.20.R.03-06 | 20 | 3   | 0,8  | 33  | 10,5   | M10    | 15   | 19800  | 1,2               | XPLX 0603..          | 261,70                | 620   |
| GHFC.25.R.04-06 | 25 | 4   | 0,8  | 35  | 12,5   | M12    | 17   | 18700  | 1,2               | XPLX 0603..          | 292,90                | 625   |
| GHFC.32.R.05-06 | 32 | 5   | 0,8  | 35  | 17,0   | M16    | 24   | 22000  | 1,2               | XPLX 0603..          | 324,10                | 632   |
| GHFC.42.R.07-06 | 42 | 7   | 0,8  | 35  | 17,0   | M16    | 24   | 15000  | 1,2               | XPLX 0603..          | 356,60                | 04207 |
| GHFC.25.R.02-09 | 25 | 2   | 1,0  | 35  | 12,5   | M12    | 17   | 30000  | 3,2               | XDLX 09T3..          | 276,00                | 025   |
| GHFC.25.R.03-09 | 25 | 3   | 1,0  | 35  | 12,5   | M12    | 17   | 30000  | 3,2               | XDLX 09T3..          | 296,30                | 125   |
| GHFC.32.R.03-09 | 32 | 3   | 1,0  | 35  | 17,0   | M16    | 24   | 27000  | 3,2               | XDLX 09T3..          | 309,50                | 032   |
| GHFC.42.R.05-19 | 42 | 5   | 1,0  | 35  | 17,0   | M16    | 24   | 26100  | 3,2               | XDLX 09T3..          | 346,70                | 04205 |
| GHFC.32.R.02-12 | 32 | 2   | 2,0  | 35  | 17,0   | M16    | 24   | 21600  | 5                 | XOLX 1204..          | 289,50                | 132   |
| GHFC.35.R.03-12 | 35 | 3   | 2,0  | 35  | 17,0   | M16    | 24   | 21360  | 5                 | XOLX 1204..          | 309,50                | 035   |
| GHFC.42.R.04-12 | 42 | 4   | 2,0  | 35  | 17,0   | M16    | 24   | 20800  | 5                 | XOLX 1204..          | 334,30                | 04204 |

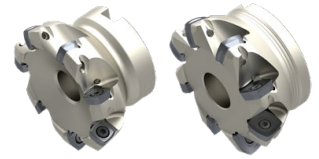
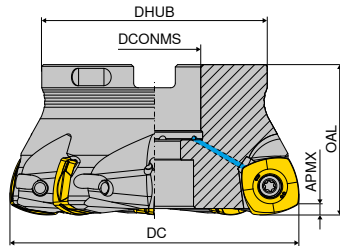
## MaxiMill – Stopková fréza C HFC



| Označenie                   | DC | ZNF | APMX | OAL | LH | DCONMS <sub>h6</sub> | RPMX   | Doťahovací moment | Vymeniteľná doštička | 2B/40                 |                       |
|-----------------------------|----|-----|------|-----|----|----------------------|--------|-------------------|----------------------|-----------------------|-----------------------|
|                             |    |     |      |     |    |                      |        |                   |                      | Artikel č. 50 681 ... | Artikel č. 50 681 ... |
|                             | mm |     | mm   | mm  | mm | mm                   | 1/min. | Nm                |                      | EUR                   | EUR                   |
| CHFC.16.R.02-06-A-40-200    | 16 | 2   | 0,8  | 200 | 40 | 16                   | 4600   | 1,2               | XPLX 0603..          | 230,50                | 716                   |
| CHFC.16.R.02-06-B-40        | 16 | 2   | 0,8  | 89  | 40 | 16                   | 17300  | 1,2               | XPLX 0603..          |                       |                       |
| CHFC.20.R.03-06-B-50        | 20 | 3   | 0,8  | 101 | 50 | 20                   | 14500  | 1,2               | XPLX 0603..          | 261,70                | 616                   |
| CHFC.20.R.03-06-A-50-225    | 20 | 3   | 0,8  | 225 | 50 | 20                   | 4200   | 1,2               | XPLX 0603..          | 261,70                | 620                   |
| CHFC.25.R.04-06-B-50        | 25 | 4   | 0,8  | 107 | 50 | 25                   | 15600  | 1,2               | XPLX 0603..          |                       |                       |
| CHFC.25.R.04-06-A-50-225    | 25 | 4   | 0,8  | 225 | 50 | 25                   | 4600   | 1,2               | XPLX 0603..          | 292,90                | 625                   |
| CHFC.32.R.05-06-B-25-60     | 32 | 5   | 0,8  | 117 | 60 | 25                   | 11000  | 1,2               | XPLX 0603..          |                       |                       |
| CHFC.32.R.05-06-A-25-60-225 | 32 | 5   | 0,8  | 225 | 60 | 25                   | 3900   | 1,2               | XPLX 0603..          | 324,10                | 632                   |
| CHFC.25.R.02-09-A-50-225    | 25 | 2   | 1,0  | 225 | 50 | 25                   | 9000   | 3,2               | XDLX 09T3..          | 276,00                | 025                   |
| CHFC.25.R.03-09-A-50-225    | 25 | 3   | 1,0  | 225 | 50 | 25                   | 9000   | 3,2               | XDLX 09T3..          | 296,30                | 125                   |
| CHFC.32.R.03-09-A-63-250    | 32 | 3   | 1,0  | 250 | 63 | 32                   | 8100   | 3,2               | XDLX 09T3..          | 309,50                | 032                   |
| CHFC.32.R.02-12-A-63-250    | 32 | 2   | 2,0  | 250 | 63 | 32                   | 6480   | 5                 | XOLX 1204..          | 289,50                | 132                   |
| CHFC.35.R.03-12-A-63-250    | 35 | 3   | 2,0  | 250 | 63 | 32                   | 6480   | 5                 | XOLX 1204..          | 309,50                | 035                   |



## MaxiMill – Nástrčná fréza A HFC



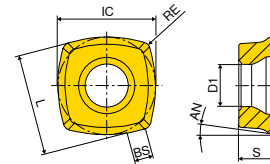
| Označenie        | DC  | ZNF | APMX | OAL | DCONMS <sub>H6</sub> | DHUB | RPMX   | Doŕahovací moment | Vymeniteľná doštička | 2B/40                    | 2B/40                      |
|------------------|-----|-----|------|-----|----------------------|------|--------|-------------------|----------------------|--------------------------|----------------------------|
|                  |     |     |      |     |                      |      |        |                   |                      | Artikel č.<br>50 683 ... | Artikel č.<br>50 683 ...   |
|                  | mm  |     | mm   | mm  | mm                   | mm   | 1/min. | Nm                |                      | EUR                      | EUR                        |
| AHFC.32.R.03-09  | 32  | 3   | 1,0  | 40  | 16                   | 38   | 27700  | 3,2               | XDLX 09T3..          | 309,50                   | 032                        |
| AHFC.35.R.04-09  | 35  | 4   | 1,0  | 40  | 16                   | 38   | 26700  | 3,2               | XDLX 09T3..          | 329,70                   | 035                        |
| AHFC.40.R.04-09  | 40  | 4   | 1,0  | 40  | 16                   | 38   | 26400  | 3,2               | XDLX 09T3..          | 343,20                   | 140                        |
| AHFC.42.R.05-09  | 42  | 5   | 1,0  | 40  | 16                   | 38   | 26100  | 3,2               | XDLX 09T3..          | 363,30                   | 142                        |
| AHFC.50.R.05-09  | 50  | 5   | 1,0  | 40  | 22                   | 43   | 23500  | 3,2               | XDLX 09T3..          | 403,80                   | 150                        |
| AHFC.52.R.06-09  | 52  | 6   | 1,0  | 40  | 22                   | 43   | 23000  | 3,2               | XDLX 09T3..          | 424,00                   | 152                        |
| AHFC.63.R.06-09  | 63  | 6   | 1,0  | 40  | 22                   | 48   | 20500  | 3,2               | XDLX 09T3..          | 464,30                   | 163                        |
| AHFC.66.R.07-09  | 66  | 7   | 1,0  | 40  | 22                   | 48   | 20000  | 3,2               | XDLX 09T3..          | 484,50                   | 16600                      |
| AHFC.40.R.03-12  | 40  | 3   | 2,0  | 40  | 16                   | 38   | 21120  | 5                 | XOLX 1204..          | 323,10                   | 040                        |
| AHFC.42.R.04-12  | 42  | 4   | 2,0  | 40  | 16                   | 38   | 20880  | 5                 | XOLX 1204..          | 343,20                   | 042                        |
| AHFC.50.R.04-12  | 50  | 4   | 2,0  | 40  | 22                   | 43   | 18800  | 5                 | XOLX 1204..          | 383,50                   | 050                        |
| AHFC.52.R.05-12  | 52  | 5   | 2,0  | 40  | 22                   | 43   | 18400  | 5                 | XOLX 1204..          | 403,80                   | 052                        |
| AHFC.63.R.05-12  | 63  | 5   | 2,0  | 40  | 22                   | 48   | 16400  | 5                 | XOLX 1204..          | 444,00                   | 063                        |
| AHFC.66.R.06-12  | 66  | 6   | 2,0  | 40  | 22                   | 48   | 16000  | 5                 | XOLX 1204..          | 464,30                   | 066                        |
| AHFC.80.R.07-12  | 80  | 7   | 2,0  | 50  | 27                   | 58   | 14000  | 5                 | XOLX 1204..          | 524,90                   | 080                        |
| AHFC.100.R.08-12 | 100 | 8   | 2,0  | 50  | 32                   | 78   | 12000  | 5                 | XOLX 1204..          | 585,60                   | 100                        |
| AHFC.63.R.05-19  | 63  | 5   | 3,3  | 40  | 22                   | 48   | 5500   | 5                 | XOLX 1906..          |                          | 464,90 263                 |
| AHFC.80.R.06-19  | 80  | 6   | 3,3  | 50  | 27                   | 58   | 4700   | 5                 | XOLX 1906..          |                          | 564,90 280                 |
| AHFC.100.R.08-19 | 100 | 8   | 3,3  | 52  | 32                   | 78   | 4100   | 5                 | XOLX 1906..          |                          | 672,40 300                 |
| AHFC.125.R.10-19 | 125 | 10  | 3,3  | 63  | 40                   | 88   | 3600   | 5                 | XOLX 1906..          |                          | 844,60 325                 |
| AHFC.160.R.11-19 | 160 | 11  | 3,3  | 63  | 40                   | 98   | 3100   | 5                 | XOLX 1906..          |                          | 1.021,00 360 <sup>1)</sup> |

1) So 4 závitovými otvormi M12 na čele, Ø rázv. kruž. = 66,7 mm

| Náhradné diely          | Y7                       | Y7                       | Y7                       | 2A/28                    | 2A/28                    | 2A/28                    | Y7                       |
|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                         |                          |                          |                          |                          |                          |                          |                          |
|                         | Artikel č.<br>80 950 ... | Artikel č.<br>80 397 ... | Artikel č.<br>80 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>70 950 ... | Artikel č.<br>80 950 ... |
|                         | EUR                      | EUR                      | EUR                      | EUR                      | EUR                      | EUR                      | EUR                      |
| XDLX 09T3..             | 4,76 036                 |                          | 9,28 113                 |                          | 4,38 303                 | 3,14 110                 | 128,60 192               |
| XDLX 09T3.. (Ø32 – Ø42) | 4,76 036                 | 3,91 040                 | 9,28 113                 | 12,48 151                | 4,38 303                 | 3,14 110                 | 128,60 192               |
| XOLX 1204..             | 4,76 037                 |                          | 9,95 114                 |                          | 4,38 303                 | 2,52 280                 | 131,90 193               |
| XOLX 1204.. (Ø40 – Ø42) | 4,76 037                 | 3,91 040                 | 9,95 114                 | 12,48 151                | 4,38 303                 | 2,52 280                 | 131,90 193               |
| XOLX 1906..             | 4,76 037                 |                          | 9,95 114                 |                          | 4,38 303                 | 4,09 302                 | 131,90 193               |
| XPLX 0603..             | 4,76 033                 |                          | 7,80 110                 |                          | 4,38 303                 | 2,57 116                 | 128,60 192               |

## XPLX / XDLX / XOLX

| Označenie   | IC    | D1  | L  | BS  | S    | AN |
|-------------|-------|-----|----|-----|------|----|
|             | mm    | mm  | mm | mm  | mm   | °  |
| XPLX 0603.. | 6,35  | 2,8 | 6  | 1   | 2,75 | 11 |
| XDLX 09T3.. | 9,52  | 4,4 | 9  | 1,9 | 3,97 | 15 |
| XOLX 1204.. | 12,70 | 5,5 | 12 | 1,3 | 4,76 | -  |
| XOLX 1906.. | 19,14 | 6,0 | 19 | -   | 6,35 | 10 |



## XPLX

| ISO                   | RE  | -M50 CTCP220          |  | -M50 CTPP225          |  | -M50 CTPP235          |  | -M50 CTPM225          |  | -M50 CTPM240          |  | -F40 CTPM245          |  |
|-----------------------|-----|-----------------------|--|-----------------------|--|-----------------------|--|-----------------------|--|-----------------------|--|-----------------------|--|
|                       |     | -M50 DCX1220          |  | -M50 DPX1225          |  | -M50 DPX1235          |  | -M50 DPX2225          |  | -M50 DPX2240          |  | -F40 DPX2245          |  |
|                       |     | DRAGONSKIN            |  | DRAGONSKIN            |  | DRAGONSKIN            |  | DRAGONSKIN            |  | DRAGONSKIN            |  | DRAGONSKIN            |  |
|                       |     |                       |  |                       |  |                       |  |                       |  |                       |  |                       |  |
|                       |     | XPLX 1B/61            |  | XPLX 1B/61            |  | XPLX 1B/61            |  | XPLX 1B/61            |  | XPLX 1B/61            |  | XPLX 1H/17            |  |
|                       |     | Artikel č. 51 019 ... |  | Artikel č. 51 019 ... |  | Artikel č. 51 019 ... |  | Artikel č. 51 019 ... |  | Artikel č. 51 019 ... |  | Artikel č. 51 116 ... |  |
|                       |     | EUR                   |  | EUR                   |  | EUR                   |  | EUR                   |  | EUR                   |  | EUR                   |  |
| 060305ER              | 0,5 | 12,34 255             |  | 12,34 055             |  | 12,34 105             |  | 12,34 205             |  | 12,34 405             |  | 15,06 455             |  |
| 060305SR              | 0,5 | 12,34 255             |  | 12,34 055             |  | 12,34 105             |  | 12,34 205             |  | 12,34 405             |  | 15,06 455             |  |
| Oceľ                  |     | ●                     |  | ●                     |  | ●                     |  | ○                     |  | ○                     |  | ●                     |  |
| Nehrdzavejúca oceľ    |     |                       |  |                       |  | ○                     |  | ●                     |  | ●                     |  | ●                     |  |
| Liatina               |     |                       |  |                       |  |                       |  |                       |  |                       |  |                       |  |
| Neželezné kovy        |     |                       |  |                       |  |                       |  |                       |  |                       |  |                       |  |
| Žiaruvzdorná zliatina |     |                       |  |                       |  |                       |  |                       |  |                       |  |                       |  |
| Kalená oceľ           |     |                       |  |                       |  |                       |  |                       |  |                       |  |                       |  |

## XPLX

|                       |     | <div>-M50<br/>CTCK215</div> <div>-M50<br/>DCX3215</div> <div>DRAGONSKIN</div> <div></div> <div>XPLX<br/>1B/61</div> |     | <div>-F40<br/>CTC5240</div> <div>-F40<br/>HCF5240</div> <div>DRAGONSKIN</div> <div></div> <div>XPLX<br/>1H/D4</div> |     | <div>-F40<br/>CTCS245</div> <div></div> <div>DRAGONSKIN</div> <div></div> <div>XPLX<br/>1H/D4</div> |       |
|-----------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ISO                   | RE  | Artikel č.                                                                                                                                                                                             |     | Artikel č.                                                                                                                                                                                             |     | NEW Artikel č.                                                                                                                                                                         |       |
|                       | mm  | 51 019 ...                                                                                                                                                                                             |     | 50 518 ...                                                                                                                                                                                             |     | 51 116 ...                                                                                                                                                                             |       |
| 060305ER              | 0,5 | EUR                                                                                                                                                                                                    |     | EUR                                                                                                                                                                                                    |     | EUR                                                                                                                                                                                    |       |
| 060305SR              | 0,5 | 12,34                                                                                                                                                                                                  | 505 | 15,06                                                                                                                                                                                                  | 558 | 15,06                                                                                                                                                                                  | 55500 |
| Oceľ                  |     | ○                                                                                                                                                                                                      |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                        |       |
| Nehrdzavejúca oceľ    |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                        |       |
| Liatina               |     | ●                                                                                                                                                                                                      |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                        |       |
| Neželezné kovy        |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                        |       |
| Žiaruvzdorná zliatina |     | ●                                                                                                                                                                                                      |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                        |       |
| Kalená oceľ           |     | ●                                                                                                                                                                                                      |     |                                                                                                                                                                                                        |     |                                                                                                                                                                                        |       |

## XDLX

|                       |     | -M50<br>CTCP220                                                                     | -M50<br>CTPP225                                                                       | -M50<br>CTCP230                                                                       | -M50<br>CTPP235                                                                       |
|-----------------------|-----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     | -M50<br>DCX1220                                                                     | -M50<br>DPX1225                                                                       | -M50<br>DCX1230                                                                       | -M50<br>DPX1235                                                                       |
|                       |     | DRAGONSKIN                                                                          | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            | DRAGONSKIN                                                                            |
|                       |     |  |  |  |  |
|                       |     | XDLX<br>1B/61                                                                       | XDLX<br>1B/61                                                                         | XDLX<br>1B/61                                                                         | XDLX<br>1B/61                                                                         |
|                       |     | Artikel č.<br>51 016 ...                                                            | Artikel č.<br>51 016 ...                                                              | Artikel č.<br>51 016 ...                                                              | Artikel č.<br>51 016 ...                                                              |
|                       |     | EUR<br>12,72                                                                        | EUR<br>12,72                                                                          | EUR<br>12,72                                                                          | EUR<br>12,72                                                                          |
|                       |     | 258                                                                                 | 058                                                                                   | 008                                                                                   | 108                                                                                   |
| ISO                   | RE  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|                       | mm  |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 09T308SR              | 0,8 |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Oceľ                  |     | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| Nehrdzavejúca oceľ    |     |                                                                                     |                                                                                       | ○                                                                                     | ○                                                                                     |
| Liatina               |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Neželezné kovy        |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Žiaruvzdorná zliatina |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Kalená oceľ           |     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

## XDLX

| ISO                   | RE  | -M50 CTPM225                                                                      |  | -M50 CTCM235                                                                      |  | -M50 CTPM240                                                                        |  | -F40 CTPM245                                                                        |  | -M50 CTPM245                                                                        |  |
|-----------------------|-----|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       |     | -M50 DPX2225                                                                      |  | -M50 DCX2235                                                                      |  | -M50 DPX2240                                                                        |  | -F40 DPX2245                                                                        |  | -M50 DPX2245                                                                        |  |
|                       |     | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                        |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  | DRAGONSKIN                                                                          |  |
|                       |     |  |  |  |  |  |  |  |  |  |  |
|                       |     | XDLX 1B/61                                                                        |  | XDLX 1B/61                                                                        |  | XDLX 1B/61                                                                          |  | XDLX 1H/17                                                                          |  | XDLX 1H/17                                                                          |  |
|                       |     | Artikel č. 51 016 ...                                                             |  | Artikel č. 51 016 ...                                                             |  | Artikel č. 51 016 ...                                                               |  | Artikel č. 51 115 ...                                                               |  | Artikel č. 51 016 ...                                                               |  |
|                       |     | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 09T308ER              | 0,8 | 12,72                                                                             |  | 12,72                                                                             |  | 12,72                                                                               |  | 15,36                                                                               |  | 15,36                                                                               |  |
| 09T308SR              | 0,8 | 208                                                                               |  | 308                                                                               |  | 408                                                                                 |  | 458                                                                                 |  | 458                                                                                 |  |
| Oceľ                  |     | ○                                                                                 |  | ○                                                                                 |  | ○                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |
| Nehrdzavejúca oceľ    |     | ●                                                                                 |  | ●                                                                                 |  | ●                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |
| Litina                |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Neželezné kovy        |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Žiaruvzdorná zliatina |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Kalená oceľ           |     |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |

## XDLX

| ISO                   | RE  | -M50 CTCK215                                                                          |  | -F40 CTC5240                                                                          |  | -F40 CTC5245                                                                          |  |
|-----------------------|-----|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
|                       |     | -M50 DCX3215                                                                          |  | -F40 HCF5240                                                                          |  |                                                                                       |  |
|                       |     | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  | DRAGONSKIN                                                                            |  |
|                       |     |  |  |  |  |  |  |
|                       |     | XDLX 1B/61                                                                            |  | XDLX 1H/D4                                                                            |  | XDLX 1H/D4                                                                            |  |
|                       |     | Artikel č. 51 016 ...                                                                 |  | Artikel č. 50 503 ...                                                                 |  | Artikel č. 51 115 ...                                                                 |  |
|                       |     | EUR                                                                                   |  | EUR                                                                                   |  | EUR                                                                                   |  |
| 09T308ER              | 0,8 | 12,72                                                                                 |  | 15,36                                                                                 |  | 15,36                                                                                 |  |
| 09T308SR              | 0,8 | 508                                                                                   |  | 558                                                                                   |  | 558                                                                                   |  |
| Oceľ                  |     | ○                                                                                     |  |                                                                                       |  |                                                                                       |  |
| Nehrdzavejúca oceľ    |     |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Litina                |     |                                                                                       |  | ●                                                                                     |  |                                                                                       |  |
| Neželezné kovy        |     |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Žiaruvzdorná zliatina |     |                                                                                       |  | ●                                                                                     |  | ●                                                                                     |  |
| Kalená oceľ           |     |                                                                                       |  |                                                                                       |  |                                                                                       |  |



## XOLX

| ISO                   | RE  | -M50 CTCP220                                                                      |     | -M50 CTPP225                                                                      |     | -M50 CTCP230                                                                        |     | -M50 CTPP235                                                                        |     | -R50 CTPP235                                                                        |     |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |     | -M50 DCX1220                                                                      |     | -M50 DPX1225                                                                      |     | -M50 DCX1230                                                                        |     | -M50 DPX1235                                                                        |     | -R50 DPX1235                                                                        |     |
|                       |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |     |  |     |  |     |  |     |  |     |  |     |
|                       |     | XOLX 1B/61                                                                        |     | XOLX 1B/61                                                                        |     | XOLX 1B/61                                                                          |     | XOLX 1B/61                                                                          |     | XOLX 1B/61                                                                          |     |
|                       |     | Artikel č. 51 017 ...                                                             |     | Artikel č. 51 017 ...                                                             |     | Artikel č. 51 017 ...                                                               |     | Artikel č. 51 017 ...                                                               |     | Artikel č. 51 018 ...                                                               |     |
|                       |     | EUR                                                                               |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 120410SR              | 1,0 | 15,26                                                                             | 260 | 15,26                                                                             | 060 | 15,26                                                                               | 010 | 15,26                                                                               | 110 | 15,26                                                                               | 110 |
| Oceľ                  |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Nehrdzavejúca oceľ    |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Liatina               |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |     |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

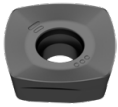
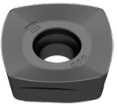
## XOLX

| ISO                   | RE  | -M50 CTPM225                                                                        |     | -M50 CTCM235                                                                        |     | -M50 CTPM240                                                                          |     | -F40 CTPM245                                                                          |     | -M50 CTPM245                                                                          |     |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                       |     | -M50 DPX2225                                                                        |     | -M50 DCX2235                                                                        |     | -M50 DPX2240                                                                          |     | -F40 DPX2245                                                                          |     | -M50 DPX2245                                                                          |     |
|                       |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     |
|                       |     |  |     |  |     |  |     |  |     |  |     |
|                       |     | XOLX 1B/61                                                                          |     | XOLX 1B/61                                                                          |     | XOLX 1B/61                                                                            |     | XOLX 1H/17                                                                            |     | XOLX 1H/17                                                                            |     |
|                       |     | Artikel č. 51 017 ...                                                               |     | Artikel č. 51 017 ...                                                               |     | Artikel č. 51 017 ...                                                                 |     | Artikel č. 51 022 ...                                                                 |     | Artikel č. 51 017 ...                                                                 |     |
|                       |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |     | EUR                                                                                   |     |
| 120410ER              | 1,0 |                                                                                     |     |                                                                                     |     |                                                                                       |     | 17,96                                                                                 | 460 |                                                                                       |     |
| 120410SR              | 1,0 | 15,26                                                                               | 210 | 15,26                                                                               | 310 | 15,26                                                                                 | 410 |                                                                                       |     | 17,96                                                                                 | 460 |
| Oceľ                  |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Nehrdzavejúca oceľ    |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Liatina               |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Neželezné kovy        |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Kalená oceľ           |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |

## XOLX / XOHX

|                       |     | -M50<br>CTCK215                                                                   |     | -F40<br>CTC5240                                                                   |     | -F50<br>CTC5240                                                                     |       | -F40<br>CTCS245                                                                     |     | -F50<br>CTCS245                                                                     |       |
|-----------------------|-----|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-------|
|                       |     | -M50<br>DCX3215                                                                   |     | -F40<br>HCF5240                                                                   |     | DRAGONSKIN                                                                          |       | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |       |
|                       |     |  |     |  |     |  |       |  |     |  |       |
|                       |     | XOLX<br>1B/61                                                                     |     | XOLX<br>1H/D4                                                                     |     | NEW XOHX<br>1H/D4                                                                   |       | NEW XOLX<br>1H/D4                                                                   |     | NEW XOLX<br>1H/D4                                                                   |       |
| ISO                   |     | Artikel č.<br>51 017 ...                                                          |     | Artikel č.<br>50 504 ...                                                          |     | Artikel č.<br>51 124 ...                                                            |       | Artikel č.<br>51 022 ...                                                            |     | Artikel č.<br>51 124 ...                                                            |       |
|                       |     | mm                                                                                |     | mm                                                                                |     | mm                                                                                  |       | mm                                                                                  |     | mm                                                                                  |       |
|                       |     | EUR                                                                               |     | EUR                                                                               |     | EUR                                                                                 |       | EUR                                                                                 |     | EUR                                                                                 |       |
| 120410ER              | 1,0 |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| 120410SR              | 1,0 | 15,26                                                                             | 510 | 17,96                                                                             | 558 | 23,35                                                                               | 16000 | 17,96                                                                               | 560 | 23,35                                                                               | 56000 |
| Oceľ                  |     | ○                                                                                 |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Nehrdzavejúca oceľ    |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Liatina               |     | ●                                                                                 |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Neželezné kovy        |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Žiaruvzdorná zliatina |     | ●                                                                                 |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |
| Kalená oceľ           |     |                                                                                   |     |                                                                                   |     |                                                                                     |       |                                                                                     |     |                                                                                     |       |

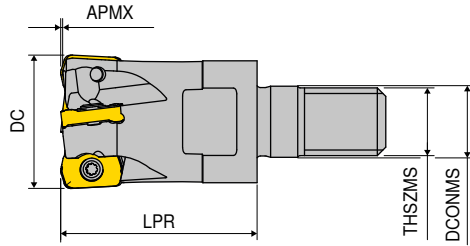
## XOLX

|                       |     | -M50<br>CTCP230                                                                     |     | -M50<br>CTPP235                                                                     |     | -M50<br>CTPM240                                                                     |     | -F40<br>CTPM245                                                                     |     | -M50<br>CTCK215                                                                       |     | -F40<br>CTC5240                                                                       |     | -F40<br>CTCS245                                                                       |       |
|-----------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-------|
|                       |     | -M50<br>DCX1230                                                                     |     | -M50<br>DPX1235                                                                     |     | -M50<br>DPX2240                                                                     |     | -F40<br>DPX2245                                                                     |     | -M50<br>DCX3215                                                                       |     | -F40<br>HCF5240                                                                       |     | DRAGONSKIN                                                                            |       |
|                       |     |  |     |  |     |  |     |  |     |  |     |  |     |  |       |
|                       |     | XOLX<br>1B/61                                                                       |     | XOLX<br>1B/61                                                                       |     | XOLX<br>1B/61                                                                       |     | XOLX<br>1H/17                                                                       |     | XOLX<br>1B/61                                                                         |     | XOLX<br>1H/D4                                                                         |     | NEW XOLX<br>1H/D4                                                                     |       |
| ISO                   |     | Artikel č.<br>51 017 ...                                                            |     | Artikel č.<br>51 017 ...                                                            |     | Artikel č.<br>51 017 ...                                                            |     | Artikel č.<br>51 022 ...                                                            |     | Artikel č.<br>51 017 ...                                                              |     | Artikel č.<br>50 504 ...                                                              |     | Artikel č.<br>51 022 ...                                                              |       |
|                       |     | mm                                                                                  |     | mm                                                                                  |     | mm                                                                                  |     | mm                                                                                  |     | mm                                                                                    |     | mm                                                                                    |     | mm                                                                                    |       |
|                       |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |     | EUR                                                                                   |       |
| 190615ER              | 1,5 |                                                                                     |     |                                                                                     |     |                                                                                     |     | 27,26                                                                               |     |                                                                                       |     | 27,26                                                                                 |     | 27,26                                                                                 |       |
| 190615SR              | 1,5 | 22,17                                                                               | 015 | 22,17                                                                               | 115 | 22,17                                                                               | 415 |                                                                                     | 465 | 22,17                                                                                 | 515 |                                                                                       | 515 | 27,26                                                                                 | 56500 |
| Oceľ                  |     | ●                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     | ○                                                                                     |     |                                                                                       |       |
| Nehrdzavejúca oceľ    |     | ○                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |       |
| Liatina               |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     | ●                                                                                     |     |                                                                                       |       |
| Neželezné kovy        |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |       |
| Žiaruvzdorná zliatina |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     | ●                                                                                     |     | ●                                                                                     |       |
| Kalená oceľ           |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |       |

## Sprievodca frézovaním

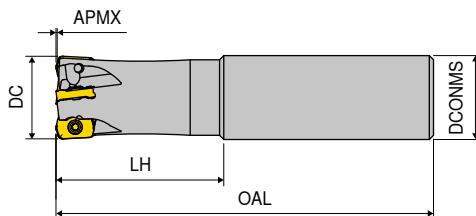
|                      |           |                            |           |
|----------------------|-----------|----------------------------|-----------|
| Stratégia obrábania  | → 170-173 | Systém označovania         | → 194+195 |
| Popis sort           | → 209+210 | Orientačné rezné parametre | → 170-173 |
| Počiatkové parametre | → 170-173 |                            |           |

## MaxiMill – Skrutkovacia fréza G DHFC



| Označenie        | DC<br>mm | ZNF | APMX<br>mm | LPR<br>mm | DCONMS<br>mm | THSZMS | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW<br>Artikel č.<br>56 411 ...<br>EUR | WA<br>01602<br>01603<br>02004<br>02505<br>03205<br>03506<br>04206 |
|------------------|----------|-----|------------|-----------|--------------|--------|-------------------------|-------------------------|----------------------------------------|-------------------------------------------------------------------|
|                  |          |     |            |           |              |        |                         |                         |                                        |                                                                   |
| GDHFC.16.R.02-09 | 16       | 2   | 0,75       | 29        | 8,5          | M8     | 0,65                    | LNKX 0925..             | 213,00                                 | 01602                                                             |
| GDHFC.16.R.03-09 | 16       | 3   | 0,75       | 29        | 8,5          | M8     | 0,65                    | LNKX 0925..             | 232,30                                 | 01603                                                             |
| GDHFC.20.R.04-09 | 20       | 4   | 0,75       | 29        | 10,5         | M10    | 0,65                    | LNKX 0925..             | 266,50                                 | 02004                                                             |
| GDHFC.25.R.05-09 | 25       | 5   | 0,75       | 33        | 12,5         | M12    | 0,65                    | LNKX 0925..             | 309,30                                 | 02505                                                             |
| GDHFC.32.R.05-09 | 32       | 5   | 0,75       | 42        | 17,0         | M16    | 0,65                    | LNKX 0925..             | 330,70                                 | 03205                                                             |
| GDHFC.35.R.06-09 | 35       | 6   | 0,75       | 42        | 17,0         | M16    | 0,65                    | LNKX 0925..             | 350,00                                 | 03506                                                             |
| GDHFC.42.R.06-09 | 42       | 6   | 0,75       | 42        | 17,0         | M16    | 0,65                    | LNKX 0925..             | 365,00                                 | 04206                                                             |

## MaxiMill – Stopková fréza C DHFC



| Označenie             | DC<br>mm | ZNF | APMX<br>mm | OAL<br>mm | LH<br>mm | DCONMS <sup>h6</sup><br>mm | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | NEW<br>Artikel č.<br>56 417 ...<br>EUR | WA<br>01603<br>02004 |
|-----------------------|----------|-----|------------|-----------|----------|----------------------------|-------------------------|-------------------------|----------------------------------------|----------------------|
|                       |          |     |            |           |          |                            |                         |                         |                                        |                      |
| CDHFC.16.R.05-09-A-32 | 16       | 3   | 0,75       | 80        | 32       | 16                         | 0,65                    | LNKX 0925..             | 232,30                                 | 01603                |
| CDHFC.20.R.04-09-A-40 | 20       | 4   | 0,75       | 90        | 40       | 20                         | 0,65                    | LNKX 0925..             | 266,50                                 | 02004                |

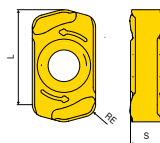
Náhradné diely  
DC

16 - 42

| Y7                              | Y7                              | 2A/28                           | WA                              | Y7                              |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|                                 |                                 |                                 |                                 |                                 |
| Výmenná vložka<br>TORX®         | Kľúč D                          | Pasta<br>Molykote               | Upínacia skrutka                | Rukoväť                         |
| Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR | Artikel č.<br>70 950 ...<br>EUR | Artikel č.<br>56 950 ...<br>EUR | Artikel č.<br>80 950 ...<br>EUR |
| 5,26 051                        | 7,95 117                        | 4,38 303                        | 3,32 15000                      | 118,90 191                      |

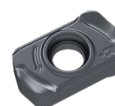
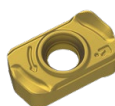
## LNKX

| Označenie   | L  | S    |
|-------------|----|------|
|             | mm | mm   |
| LNKX 0925.. | 9  | 2,50 |



## LNKX

|                 |                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| -R50<br>CTPP231 | -M50<br>CTPP236 | -R50<br>CTPP236 | -M50<br>CTPM241 | -R50<br>CTPK221 |
|-----------------|-----------------|-----------------|-----------------|-----------------|

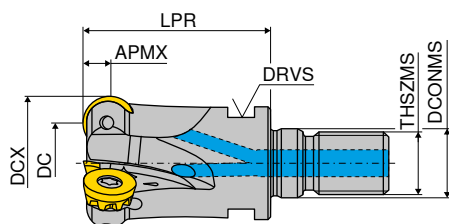


| ISO                   | RE | LNKX       |       | LNKX       |       | LNKX       |       | LNKX       |       | LNKX       |       |
|-----------------------|----|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|
|                       |    | NEW        | WB    | NEW        | WB    | NEW        | WB    | NEW        | WB    | NEW        | WB    |
|                       |    | Artikel č. |       | Artikel č. |       | Artikel č. |       | Artikel č. |       | Artikel č. |       |
|                       |    | 56 353 ... |       | 56 355 ... |       | 56 353 ... |       | 56 355 ... |       | 56 353 ... |       |
|                       | mm | EUR        |       | EUR        |       | EUR        |       | EUR        |       | EUR        |       |
| 0925ZSR               | 1  | 17,68      | 12000 | 17,68      | 02500 | 17,68      | 02000 | 17,68      | 42500 | 17,68      | 27000 |
| Oceľ                  |    |            | •     |            | •     |            | •     |            | •     |            | •     |
| Nehrdzavejúca oceľ    |    |            |       |            |       |            |       |            | •     |            |       |
| Litina                |    |            | •     |            | •     |            | •     |            |       |            | •     |
| Neželezné kovy        |    |            |       |            |       |            |       |            |       |            |       |
| Žiaruvzdorná zliatina |    |            |       |            |       |            |       |            | •     |            |       |
| Kalená oceľ           |    |            | •     |            | •     |            | •     |            |       |            | •     |

## Sprievodca frézovaním

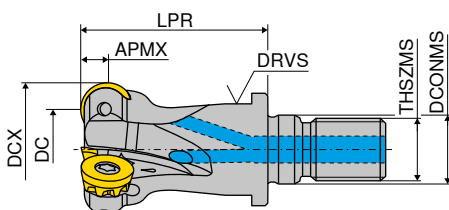
|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 174     | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 174     |

## MaxiMill – Skrutkovacia fréza G 251 RS



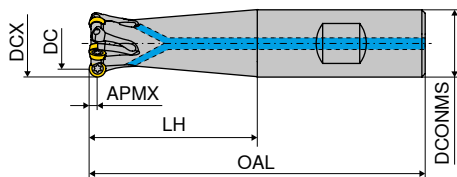
| Označenie             | DC | DCX | ZNF | APMX | DCONMS | LPR | THSZMS | DRVS | RPMX   | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|-----------------------|----|-----|-----|------|--------|-----|--------|------|--------|-------------------------|-------------------------|--------------------------|-----|
|                       |    |     |     |      |        |     |        |      |        |                         |                         | Artikel č.<br>50 684 ... |     |
|                       | mm | mm  |     | mm   | mm     | mm  |        | mm   | 1/min. |                         |                         | EUR                      |     |
| G251.20.R.05-05-RS    | 15 | 20  | 5   | 2,5  | 10,5   | 33  | M10    | 15   | 31800  | 0,7                     | RDHX 0501..             | 278,80                   | 220 |
| G251.25.R.06-05-RS    | 20 | 25  | 6   | 2,5  | 12,5   | 35  | M12    | 17   | 24450  | 0,7                     | RDHX 0501..             | 321,00                   | 225 |
| G251.32.R.07-05-RS    | 27 | 32  | 7   | 2,5  | 17,0   | 35  | M16    | 24   | 19850  | 0,7                     | RDHX 0501..             | 385,10                   | 232 |
| G251.20.R.03-08-RS    | 12 | 20  | 3   | 4,0  | 10,5   | 33  | M10    | 15   | 25000  | 1,2                     | RDHX 0802..             | 261,70                   | 120 |
| G251.25.R.04-08-RS    | 17 | 25  | 4   | 4,0  | 12,5   | 35  | M12    | 17   | 19000  | 1,2                     | RDHX 0802..             | 292,90                   | 125 |
| G251.32.R.05-08-35-RS | 24 | 32  | 5   | 4,0  | 17,0   | 35  | M16    | 24   | 19000  | 1,2                     | RDHX 0802..             | 356,10                   | 132 |
| G251.20.R.02-10-RS    | 10 | 20  | 2   | 5,0  | 10,5   | 33  | M10    | 15   | 30000  | 2                       | RP.X 10T3..             | 211,70                   | 020 |
| G251.25.R.03-10-RS    | 15 | 25  | 3   | 5,0  | 12,5   | 35  | M12    | 17   | 30000  | 2                       | RP.X 10T3..             | 284,60                   | 025 |
| G251.32.R.04-10-RS    | 22 | 32  | 4   | 5,0  | 17,0   | 35  | M16    | 24   | 25000  | 2                       | RP.X 10T3..             | 331,20                   | 032 |
| G251.25.R.02-12-35-RS | 13 | 25  | 2   | 6,0  | 12,5   | 35  | M12    | 17   | 25000  | 3,2                     | RP.X 1204..             | 205,30                   | 525 |
| G251.32.R.03-12-35-RS | 20 | 32  | 3   | 6,0  | 17,0   | 35  | M16    | 24   | 19850  | 3,2                     | RP.X 1204..             | 250,50                   | 532 |
| G251.35.R.03-12-35-RS | 23 | 35  | 3   | 6,0  | 17,0   | 35  | M16    | 24   | 15900  | 3,2                     | RP.X 1204..             | 250,50                   | 535 |
| G251.42.R.04-12-42-RS | 30 | 42  | 4   | 6,0  | 17,0   | 42  | M16    | 24   | 15000  | 3,2                     | RP.X 1204..             | 297,70                   | 542 |

## MaxiMill – Skrutkovacia fréza G 251



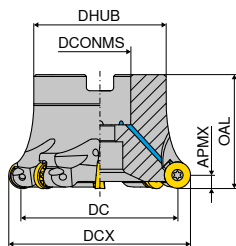
| Označenie          | DC | DCX | ZNF | APMX | THSZMS | LPR | DCONMS | DRVS | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B                       |     |
|--------------------|----|-----|-----|------|--------|-----|--------|------|-------------------------|-------------------------|--------------------------|-----|
|                    |    |     |     |      |        |     |        |      |                         |                         | Artikel č.<br>55 112 ... |     |
|                    | mm | mm  |     | mm   |        | mm  | mm     | mm   |                         |                         | EUR                      |     |
| G251.10.R.02-05    | 5  | 10  | 2   | 2,5  | M8     | 20  | 8,5    | 10   | 0,7                     | RDHX 0501..             | 151,00                   | 110 |
| G251.12.R.03-05    | 7  | 12  | 3   | 2,5  | M8     | 20  | 8,5    | 10   | 0,7                     | RDHX 0501..             | 203,40                   | 112 |
| G251.15.R.04-05    | 10 | 15  | 4   | 2,5  | M8     | 20  | 8,5    | 10   | 0,7                     | RDHX 0501..             | 238,00                   | 115 |
| G251.16.R.04-05    | 11 | 16  | 4   | 2,5  | M8     | 20  | 8,5    | 10   | 0,7                     | RDHX 0501..             | 238,00                   | 216 |
| G251.20.R.05-05    | 15 | 20  | 5   | 2,5  | M10    | 25  | 10,5   | 15   | 0,7                     | RDHX 0501..             | 281,00                   | 320 |
| G251.20.R.03-08    | 12 | 20  | 3   | 4,0  | M10    | 28  | 10,5   | 15   | 1,2                     | RDHX 0802..             | 203,40                   | 420 |
| G251.25.R.04-08    | 17 | 25  | 4   | 4,0  | M12    | 28  | 12,5   | 17   | 1,2                     | RDHX 0802..             | 254,80                   | 425 |
| G251.32.R.06-08    | 24 | 32  | 6   | 4,0  | M16    | 28  | 17,0   | 24   | 1,2                     | RDHX 0802..             | 336,60                   | 432 |
| G251.35.R.06-08    | 27 | 35  | 6   | 4,0  | M16    | 28  | 17,0   | 24   | 1,2                     | RDHX 0802..             | 336,60                   | 435 |
| G251.20.R.02-10    | 10 | 20  | 2   | 5,0  | M10    | 33  | 10,5   | 15   | 2                       | RP.X 10T3..             | 216,00                   | 220 |
| G251.32.R.04-10    | 22 | 32  | 4   | 5,0  | M16    | 35  | 17,0   | 24   | 2                       | RP.X 10T3..             | 315,60                   | 232 |
| G251.35.R.05-10    | 25 | 35  | 5   | 5,0  | M16    | 35  | 17,0   | 24   | 2                       | RP.X 10T3..             | 353,40                   | 235 |
| G251.25.R.02-12.IK | 13 | 25  | 2   | 6,0  | M12    | 35  | 12,5   | 17   | 3,2                     | RP.X 1204..             | 212,90                   | 525 |
| G251.32.R.03-12.IK | 20 | 32  | 3   | 6,0  | M16    | 35  | 17,0   | 24   | 3,2                     | RP.X 1204..             | 259,00                   | 532 |
| G251.35.R.03-12.IK | 23 | 35  | 3   | 6,0  | M16    | 35  | 17,0   | 24   | 3,2                     | RP.X 1204..             | 259,00                   | 535 |
| G251.42.R.04-12.IK | 30 | 42  | 4   | 6,0  | M16    | 42  | 17,0   | 24   | 3,2                     | RP.X 1204..             | 308,30                   | 542 |

## MaxiMill – Stopková fréza C 251 RS



| Označenie                   | DC | DCX | ZNF | APMX | OAL | LH   | DCONMS | RPMX   | Vymeniteľná doštička | A  |     | B  |     |
|-----------------------------|----|-----|-----|------|-----|------|--------|--------|----------------------|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                             | mm | mm  |     | mm   | mm  | mm   | mm     | 1/min. |                      | Artikel č. 50 685 ...<br>EUR                                                          |     | Artikel č. 50 685 ...<br>EUR                                                          |     |
| C251.10.R-02-05-B-12-20-RS  | 5  | 10  | 2   | 2,5  | 67  | 21,5 | 12     | 40000  | RDHX 0501..          |                                                                                       |     | 192,80                                                                                | 010 |
| C251.10.R-02-05-A-25-165-RS | 5  | 10  | 2   | 2,5  | 165 | 25,0 | 10     | 12000  | RDHX 0501..          | 186,20                                                                                | 110 | 243,20                                                                                | 012 |
| C251.12.R-03-05-B-16-25-RS  | 7  | 12  | 3   | 2,5  | 75  | 25,0 | 16     | 40000  | RDHX 0501..          |                                                                                       |     | 284,60                                                                                | 316 |
| C251.12.R-03-05-A-32-165-RS | 7  | 12  | 3   | 2,5  | 165 | 32,0 | 12     | 16000  | RDHX 0501..          | 234,20                                                                                | 112 | 331,20                                                                                | 620 |
| C251.16.R-04-05-B-32-RS     | 11 | 16  | 4   | 2,5  | 81  | 32,0 | 16     | 40000  | RDHX 0501..          |                                                                                       |     |                                                                                       |     |
| C251.16.R-04-05-A-40-165-RS | 11 | 16  | 4   | 2,5  | 165 | 40,0 | 16     | 18000  | RDHX 0501..          | 278,10                                                                                | 016 | 324,90                                                                                | 120 |
| C251.20.R-05-05-B-40-RS     | 15 | 20  | 5   | 2,5  | 91  | 40,0 | 20     | 31800  | RDHX 0501..          |                                                                                       |     |                                                                                       |     |
| C251.20.R-05-05-A-50-165-RS | 15 | 20  | 5   | 2,5  | 165 | 50,0 | 20     | 18000  | RDHX 0501..          | 324,90                                                                                | 120 |                                                                                       |     |
| C251.16.R-02-08-B-32-RS     | 8  | 16  | 2   | 4,0  | 81  | 32,0 | 16     | 40000  | RDHX 0802..          |                                                                                       |     | 200,60                                                                                | 116 |
| C251.16.R-02-08-A-40-165-RS | 8  | 16  | 2   | 4,0  | 165 | 40,0 | 16     | 18000  | RDHX 0802..          | 192,80                                                                                | 216 | 254,90                                                                                | 220 |
| C251.20.R-03-08-B-40-RS     | 12 | 20  | 3   | 4,0  | 91  | 40,0 | 20     | 31800  | RDHX 0802..          |                                                                                       |     |                                                                                       |     |
| C251.20.R-03-08-A-60-RS     | 12 | 20  | 3   | 4,0  | 110 | 50,0 | 20     | 30000  | RDHX 0802..          | 261,70                                                                                | 020 |                                                                                       |     |
| C251.20.R-03-08-A-50-200-RS | 12 | 20  | 3   | 4,0  | 200 | 50,0 | 20     | 25000  | RDHX 0802..          | 247,10                                                                                | 320 | 301,40                                                                                | 625 |
| C251.25.R-04-08-B-50-RS     | 17 | 25  | 4   | 4,0  | 107 | 50,0 | 25     | 25500  | RDHX 0802..          |                                                                                       |     |                                                                                       |     |
| C251.25.R-04-08-A-60-RS     | 17 | 25  | 4   | 4,0  | 116 | 60,0 | 25     | 19000  | RDHX 0802..          | 292,90                                                                                | 125 |                                                                                       |     |
| C251.25.R-04-08-A-60-225-RS | 17 | 25  | 4   | 4,0  | 225 | 60,0 | 25     | 18000  | RDHX 0802..          | 293,60                                                                                | 225 |                                                                                       |     |
| C251.20.R-02-10-A-50-RS     | 10 | 20  | 2   | 5,0  | 102 | 50,0 | 20     | 25000  | RP.X 10T3..          | 213,50                                                                                | 420 |                                                                                       |     |
| C251.20.R-02-10-A-50-200-RS | 10 | 20  | 2   | 5,0  | 200 | 50,0 | 20     | 25000  | RP.X 10T3..          | 213,50                                                                                | 520 |                                                                                       |     |
| C251.25.R-03-10-A-60-RS     | 15 | 25  | 3   | 5,0  | 116 | 60,0 | 25     | 25000  | RP.X 10T3..          | 288,50                                                                                | 025 |                                                                                       |     |
| C251.25.R-03-10-B-60-RS     | 15 | 25  | 3   | 5,0  | 116 | 60,0 | 25     | 20000  | RP.X 10T3..          |                                                                                       |     | 288,50                                                                                | 325 |
| C251.25.R-03-10-A-60-225-RS | 15 | 25  | 3   | 5,0  | 225 | 60,0 | 25     | 18000  | RP.X 10T3..          | 288,50                                                                                | 425 |                                                                                       |     |
| C251.32.R-04-10-A-70-RS     | 22 | 32  | 4   | 5,0  | 127 | 70,0 | 32     | 25000  | RP.X 10T3..          | 324,90                                                                                | 032 |                                                                                       |     |
| C251.25.R-02-12-B-30-RS     | 13 | 25  | 2   | 6,0  | 86  | 30,0 | 25     | 25000  | RP.X 1204..          |                                                                                       |     | 263,10                                                                                | 525 |
| C251.32.R-03-12-A-RS        | 20 | 32  | 3   | 6,0  | 100 | 40,0 | 32     | 19000  | RP.X 1204..          | 304,30                                                                                | 232 | 304,30                                                                                | 132 |
| C251.32.R-03-12-B-40-RS     | 20 | 32  | 3   | 6,0  | 100 | 40,0 | 32     | 19000  | RP.X 1204..          |                                                                                       |     |                                                                                       |     |

## MaxiMill – Nástrčná fréza A 251 RS



| Označenie           | DC  | DCX | ZNF | APMX | OAL | DHUB | DCONMS <sub>H6</sub> | RPMX   | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |     |
|---------------------|-----|-----|-----|------|-----|------|----------------------|--------|-------------------------|-------------------------|--------------------------|-----|
|                     |     |     |     |      |     |      |                      |        |                         |                         | Artikel č.<br>50 686 ... |     |
|                     | mm  | mm  |     | mm   | mm  | mm   | mm                   | 1/min. |                         |                         | EUR                      |     |
| A251.40.R.03-10-RS  | 30  | 40  | 3   | 5    | 40  | 38   | 16                   | 15900  | 2                       | RP.X 10T3..             | 315,60                   | 240 |
| A251.40.R.05-10-RS  | 30  | 40  | 5   | 5    | 40  | 38   | 16                   | 16000  | 2                       | RP.X 10T3..             | 355,70                   | 140 |
| A251.42.R.06-10-RS  | 32  | 42  | 6   | 5    | 40  | 38   | 16                   | 16000  | 2                       | RP.X 10T3..             | 408,80                   | 142 |
| A251.50.R.04-10-RS  | 40  | 50  | 4   | 5    | 40  | 43   | 22                   | 12700  | 2                       | RP.X 10T3..             | 346,60                   | 350 |
| A251.50.R.06-10-RS  | 40  | 50  | 6   | 5    | 40  | 43   | 22                   | 12500  | 2                       | RP.X 10T3..             | 423,00                   | 150 |
| A251.52.R.06-10-RS  | 42  | 52  | 6   | 5    | 40  | 43   | 22                   | 12500  | 2                       | RP.X 10T3..             | 423,00                   | 152 |
| A251.40.R.04-12-RS  | 28  | 40  | 4   | 6    | 40  | 38   | 16                   | 15900  | 3,2                     | RP.X 1204..             | 327,20                   | 340 |
| A251.50.R.04-12-RS  | 38  | 50  | 4   | 6    | 40  | 43   | 22                   | 12700  | 3,2                     | RP.X 1204..             | 337,70                   | 250 |
| A251.50.R.05-12-RS  | 38  | 50  | 5   | 6    | 40  | 43   | 22                   | 12500  | 3,2                     | RP.X 1204..             | 397,10                   | 050 |
| A251.52.R.05-12-RS  | 40  | 52  | 5   | 6    | 40  | 43   | 22                   | 12500  | 3,2                     | RP.X 1204..             | 416,50                   | 052 |
| A251.63.R.06-12-RS  | 51  | 63  | 6   | 6    | 40  | 48   | 22                   | 10000  | 3,2                     | RP.X 1204..             | 490,30                   | 063 |
| A251.66.R.07-12-RS  | 54  | 66  | 7   | 6    | 40  | 48   | 22                   | 9000   | 3,2                     | RP.X 1204..             | 516,90                   | 166 |
| A251.80.R.05-12-RS  | 68  | 80  | 5   | 6    | 50  | 58   | 27                   | 7950   | 3,2                     | RP.X 1204..             | 447,50                   | 180 |
| A251.80.R.07-12-RS  | 68  | 80  | 7   | 6    | 50  | 58   | 27                   | 8000   | 3,2                     | RP.X 1204..             | 553,10                   | 080 |
| A251.100.R.06-12-RS | 88  | 100 | 6   | 6    | 50  | 78   | 32                   | 6350   | 3,2                     | RP.X 1204..             | 499,40                   | 100 |
| A251.100.R.10-12-RS | 88  | 100 | 10  | 6    | 50  | 78   | 32                   | 6350   | 3,2                     | RP.X 1204..             | 729,60                   | 200 |
| A251.50.R.04-16-RS  | 34  | 50  | 4   | 8    | 40  | 48   | 22                   | 12700  | 5                       | RP.X 1605..             | 397,10                   | 450 |
| A251.52.R.04-16-RS  | 36  | 52  | 4   | 8    | 40  | 48   | 22                   | 10100  | 5                       | RP.X 1605..             | 397,10                   | 452 |
| A251.63.R.05-16-RS  | 47  | 63  | 5   | 8    | 40  | 48   | 22                   | 10100  | 5                       | RP.X 1605..             | 500,60                   | 163 |
| A251.66.R.05-16-RS  | 50  | 66  | 5   | 8    | 40  | 48   | 22                   | 7950   | 5                       | RP.X 1605..             | 504,30                   | 466 |
| A251.80.R.06-16-RS  | 64  | 80  | 6   | 8    | 50  | 58   | 27                   | 7950   | 5                       | RP.X 1605..             | 608,00                   | 280 |
| A251.100.R.07-16-RS | 84  | 100 | 7   | 8    | 50  | 78   | 32                   | 6350   | 5                       | RP.X 1605..             | 710,30                   | 300 |
| A251.125.R.08-16-RS | 109 | 125 | 8   | 8    | 63  | 88   | 40                   | 5050   | 5                       | RP.X 1605..             | 751,80                   | 225 |
| A251.80.R.05-20-RS  | 60  | 80  | 5   | 10   | 50  | 58   | 27                   | 7950   | 5                       | RP.X 2006..             | 514,80                   | 380 |
| A251.100.R.06-20-RS | 80  | 100 | 6   | 10   | 50  | 78   | 32                   | 6350   | 5                       | RP.X 2006..             | 615,80                   | 400 |
| A251.125.R.06-20-RS | 105 | 125 | 6   | 10   | 63  | 88   | 40                   | 5050   | 5                       | RP.X 2006..             | 623,50                   | 125 |

## Náhradné diely

## Vymeniteľná doštička

|             | Y7                       |     | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|-------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|             | Artikel č.<br>80 950 ... |     | Artikel č.<br>80 397 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     |
|             | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     |
| RDHX 0501.. | 4,76                     | 031 |                          |     | 8,44                     | 108 |                          |     | 4,38                     | 303 | 2,57                     | 149 | 118,90                   | 191 |
| RDHX 0802.. | 4,76                     | 033 |                          |     | 7,80                     | 110 |                          |     | 4,38                     | 303 | 2,57                     | 116 | 118,90                   | 191 |
| RP.X 10T3.. | 4,76                     | 035 | 3,91                     | 040 | 9,14                     | 112 | 12,48                    | 151 | 4,38                     | 303 | 2,57                     | 840 | 128,60                   | 192 |
| RP.X 1204.. | 4,76                     | 036 | 3,91                     | 040 | 9,28                     | 113 | 12,48                    | 151 | 4,38                     | 303 | 3,14                     | 304 | 128,60                   | 192 |
| RP.X 1605.. | 4,76                     | 037 | 4,24                     | 050 | 9,95                     | 114 | 17,14                    | 154 | 4,38                     | 303 | 2,52                     | 280 | 131,90                   | 193 |
| RP.X 2006.. | 4,76                     | 037 |                          |     | 9,95                     | 114 |                          |     | 4,38                     | 303 | 4,09                     | 302 | 131,90                   | 193 |

Výmenná vložka  
TORX®Artikel č.  
80 950 ...

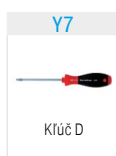
EUR



Upínací klíč T

Artikel č.  
80 397 ...

EUR



Klíč D

Artikel č.  
80 950 ...

EUR



Silová skrutka

Artikel č.  
70 950 ...

EUR

Pasta  
MolykoteArtikel č.  
70 950 ...

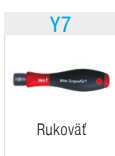
EUR



Upínacia skrutka

Artikel č.  
70 950 ...

EUR



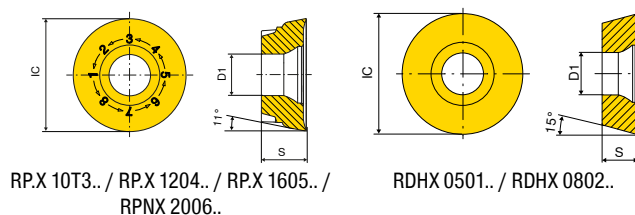
Rukoväť

Artikel č.  
80 950 ...

EUR

## RDHX / RPHX / RPNX

| Označenie   | IC | D1  | S    |
|-------------|----|-----|------|
|             | mm | mm  | mm   |
| RDHX 0501.. | 5  | 2,5 | 1,59 |
| RDHX 0802.. | 8  | 2,8 | 2,38 |
| RP.X 10T3.. | 10 | 3,4 | 3,97 |
| RP.X 1204.. | 12 | 4,4 | 4,76 |
| RP.X 1605.. | 16 | 5,5 | 5,56 |
| RP.X 2006.. | 20 | 6,0 | 6,35 |

RP.X 10T3.. / RP.X 1204.. / RP.X 1605.. /  
RPNX 2006..

RDHX 0501.. / RDHX 0802..

## RDHX

| ISO                   | -SN CTCP230           |     | -SN CTPP235           |     | -F50 CTPM240          |     | -F50 CTPM245          |     |
|-----------------------|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                       | -SN DCX1230           |     | -SN DPX1235           |     | -F50 DPX2240          |     | -F50 DPX2245          |     |
|                       | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |     |
|                       | RDHX 1B/61            |     | RDHX 1B/61            |     | RDHX 1B/61            |     | RDHX 1H/17            |     |
|                       | Artikel č. 51 048 ... |     | Artikel č. 51 048 ... |     | Artikel č. 51 083 ... |     | Artikel č. 51 083 ... |     |
|                       | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 0501MOSN              | 12,11                 | 020 | 12,11                 | 120 |                       |     | 11,12                 | 465 |
| 0802M4SN              |                       |     |                       |     |                       |     | 14,64                 | 471 |
| 0802MOSN              | 12,36                 | 025 | 12,36                 | 125 | 12,36                 | 420 | 14,64                 | 470 |
| Oceľ                  |                       | ●   |                       | ●   |                       | ○   |                       | ●   |
| Nehrdzavejúca oceľ    |                       | ○   |                       | ○   |                       | ●   |                       | ●   |
| Liatina               |                       |     |                       |     |                       |     |                       |     |
| Neželezné kovy        |                       |     |                       |     |                       |     |                       |     |
| Žiaruvzdorná zliatina |                       |     |                       |     |                       |     |                       |     |
| Kalená oceľ           |                       |     |                       |     |                       |     |                       |     |

## RDHX

| ISO                   | -EN CTCK215           |     | -FN H216T             |     | -M31 CTC5240          |       | -F50 CTC5245          |     |
|-----------------------|-----------------------|-----|-----------------------|-----|-----------------------|-------|-----------------------|-----|
|                       | -EN DCX3215           |     | -FN CWK26             |     | -M31 HCF5240          |       |                       |     |
|                       | DRAGONSKIN            |     | DRAGONSKIN            |     | DRAGONSKIN            |       | DRAGONSKIN            |     |
|                       | RDHX 1B/61            |     | RDHX 1B/61            |     | RDHX 1H/D4            |       | RDHX 1H/D4            |     |
|                       | Artikel č. 51 048 ... |     | Artikel č. 50 481 ... |     | Artikel č. 50 481 ... |       | Artikel č. 51 083 ... |     |
|                       | EUR                   |     | EUR                   |     | EUR                   |       | EUR                   |     |
| 0501MOFN              |                       |     | 9,61                  | 600 |                       |       |                       |     |
| 0802M4EN              |                       |     |                       |     | 14,64                 | 50100 |                       |     |
| 0802MOEN              | 12,36                 | 520 |                       |     | 14,64                 | 500   | 14,64                 | 570 |
| 0802MOFN              |                       |     | 9,91                  | 602 |                       |       |                       |     |
| Oceľ                  |                       | ○   |                       |     |                       |       |                       |     |
| Nehrdzavejúca oceľ    |                       |     |                       | ○   |                       |       |                       |     |
| Liatina               |                       | ●   |                       |     |                       |       |                       |     |
| Neželezné kovy        |                       |     |                       | ●   |                       |       |                       |     |
| Žiaruvzdorná zliatina |                       |     |                       |     |                       | ●     |                       | ●   |
| Kalená oceľ           |                       |     |                       |     |                       |       |                       |     |



## RPHX / RPNX

| ISO                   | -SN<br>TCM10                                                                      |  | -F50<br>CTCP230                                                                   |  | -M50<br>CTCP230                                                                     |  | -SN<br>CTCP230                                                                      |  | -SN<br>CTCP230                                                                      |  |
|-----------------------|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
|                       | -SN<br>CWC10                                                                      |  | -F50<br>DCX1230                                                                   |  | -M50<br>DCX1230                                                                     |  | -SN<br>DCX1230                                                                      |  | -SN<br>DCX1230                                                                      |  |
|                       |  |  |  |  |  |  |  |  |  |  |
|                       | CERMET<br>RPHX                                                                    |  | RPNX                                                                              |  | RPNX                                                                                |  | RPHX                                                                                |  | RPNX                                                                                |  |
|                       | 1B/79                                                                             |  | 1B/18                                                                             |  | 1B/61                                                                               |  | 1B/61                                                                               |  | 1B/61                                                                               |  |
|                       | Artikel č.<br>50 483 ...                                                          |  | Artikel č.<br>51 055 ...                                                          |  | Artikel č.<br>51 054 ...                                                            |  | Artikel č.<br>51 052 ...                                                            |  | Artikel č.<br>51 057 ...                                                            |  |
|                       | EUR                                                                               |  | EUR                                                                               |  | EUR                                                                                 |  | EUR                                                                                 |  | EUR                                                                                 |  |
| 10T3MOEN              |                                                                                   |  | 12,83                                                                             |  | 9,77                                                                                |  | 12,83                                                                               |  |                                                                                     |  |
| 10T3MOSN              | 12,83                                                                             |  | 900                                                                               |  | 020                                                                                 |  | 020                                                                                 |  |                                                                                     |  |
| 1204MOEN              |                                                                                   |  | 11,22                                                                             |  | 025                                                                                 |  |                                                                                     |  |                                                                                     |  |
| 1204MOSN              | 14,06                                                                             |  | 902                                                                               |  | 025                                                                                 |  | 14,06                                                                               |  | 11,22                                                                               |  |
| 1605MOSN              |                                                                                   |  |                                                                                   |  | 15,26                                                                               |  | 19,13                                                                               |  | 15,26                                                                               |  |
| 2006MOSN              |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  | 19,85                                                                               |  |
|                       |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  | 035                                                                                 |  |
| Oceľ                  | ●                                                                                 |  | ●                                                                                 |  | ●                                                                                   |  | ●                                                                                   |  | ●                                                                                   |  |
| Nehrdzavejúca oceľ    | ●                                                                                 |  | ○                                                                                 |  | ○                                                                                   |  | ○                                                                                   |  | ○                                                                                   |  |
| Liatina               | ○                                                                                 |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Neželezné kovy        |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Žiaruvzdorná zliatina |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |
| Kalená oceľ           |                                                                                   |  |                                                                                   |  |                                                                                     |  |                                                                                     |  |                                                                                     |  |

## RPHX / RPNX

| ISO                   | -F50<br>CTPP235                                                                     |  | -F50<br>CTPP235                                                                       |  | -M30<br>CTPP235                                                                       |  | -M30<br>CTPP235                                                                       |  |
|-----------------------|-------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
|                       | -F50<br>DPX1235                                                                     |  | -F50<br>DPX1235                                                                       |  | -M30<br>DPX1235                                                                       |  | -M30<br>DPX1235                                                                       |  |
|                       |  |  |  |  |  |  |  |  |
|                       | RPHX                                                                                |  | RPNX                                                                                  |  | RPHX                                                                                  |  | RPNX                                                                                  |  |
|                       | 1B/61                                                                               |  | 1B/61                                                                                 |  | 1B/61                                                                                 |  | 1B/61                                                                                 |  |
|                       | Artikel č.<br>51 051 ...                                                            |  | Artikel č.<br>51 055 ...                                                              |  | Artikel č.<br>51 049 ...                                                              |  | Artikel č.<br>51 053 ...                                                              |  |
|                       | EUR                                                                                 |  | EUR                                                                                   |  | EUR                                                                                   |  | EUR                                                                                   |  |
| 10T3MOEN              |                                                                                     |  | 12,83                                                                                 |  | 12000                                                                                 |  | 9,77                                                                                  |  |
| 10T3MOSN              | 12,83                                                                               |  | 120                                                                                   |  | 120                                                                                   |  | 11,22                                                                                 |  |
| 1204MOEN              |                                                                                     |  |                                                                                       |  |                                                                                       |  | 14,06                                                                                 |  |
| 1204MOSN              | 14,06                                                                               |  | 125                                                                                   |  |                                                                                       |  |                                                                                       |  |
| 1605MOSN              |                                                                                     |  |                                                                                       |  | 15,26                                                                                 |  | 130                                                                                   |  |
| 2006MOEN              |                                                                                     |  |                                                                                       |  |                                                                                       |  | 19,85                                                                                 |  |
|                       |                                                                                     |  |                                                                                       |  |                                                                                       |  | 120                                                                                   |  |
| Oceľ                  | ●                                                                                   |  | ●                                                                                     |  | ●                                                                                     |  | ●                                                                                     |  |
| Nehrdzavejúca oceľ    | ○                                                                                   |  | ○                                                                                     |  | ○                                                                                     |  | ○                                                                                     |  |
| Liatina               | ○                                                                                   |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Neželezné kovy        |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Žiaruvzdorná zliatina |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |
| Kalená oceľ           |                                                                                     |  |                                                                                       |  |                                                                                       |  |                                                                                       |  |

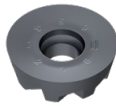
## RPNX / RPHX

|                       | -M50<br>CTPP235                                                                   |       | -M50<br>CTPP235                                                                     |       | -SN<br>CTPP235                                                                      |     | -SN<br>CTPP235                                                                      |     |
|-----------------------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       | -M50<br>DPX1235                                                                   |       | -M50<br>DPX1235                                                                     |       | -SN<br>DPX1235                                                                      |     | -SN<br>DPX1235                                                                      |     |
|                       | DRAGONSKIN                                                                        |       | DRAGONSKIN                                                                          |       | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |  |       |  |       |  |     |  |     |
|                       | RPNX<br>1B/61                                                                     |       | RPHX<br>1B/61                                                                       |       | RPHX<br>1B/61                                                                       |     | RPNX<br>1B/18                                                                       |     |
| ISO                   | Artikel č.<br>51 054 ...                                                          |       | Artikel č.<br>51 050 ...                                                            |       | Artikel č.<br>51 052 ...                                                            |     | Artikel č.<br>51 057 ...                                                            |     |
|                       | EUR                                                                               |       | EUR                                                                                 |       | EUR                                                                                 |     | EUR                                                                                 |     |
| 10T3MOSN              | 9,77                                                                              | 12000 | 12,83                                                                               | 12000 | 12,83                                                                               | 120 |                                                                                     |     |
| 1204MOSN              | 11,22                                                                             | 125   |                                                                                     |       | 14,06                                                                               | 125 | 11,22                                                                               | 125 |
| 1605MOSN              | 15,26                                                                             | 130   |                                                                                     |       | 19,13                                                                               | 130 | 15,26                                                                               | 130 |
| 2006MOSN              |                                                                                   |       |                                                                                     |       |                                                                                     |     | 19,85                                                                               | 135 |
| Oceľ                  |                                                                                   | ●     |                                                                                     | ●     |                                                                                     | ●   |                                                                                     | ●   |
| Nehrdzavejúca oceľ    |                                                                                   | ○     |                                                                                     | ○     |                                                                                     | ○   |                                                                                     | ○   |
| Liatina               |                                                                                   |       |                                                                                     |       |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |                                                                                   |       |                                                                                     |       |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |                                                                                   |       |                                                                                     |       |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |                                                                                   |       |                                                                                     |       |                                                                                     |     |                                                                                     |     |

## RPHX

|                       | -F50<br>CTPM225                                                                     |     | -M30<br>CTPM225                                                                     |     | -SN<br>CTPM225                                                                        |     | -F50<br>CTCM235                                                                       |     | -M30<br>CTCM235                                                                       |     |
|-----------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                       | -F50<br>DPX2225                                                                     |     | -M30<br>DPX2225                                                                     |     | -SN<br>DPX2225                                                                        |     | -F50<br>DCX2235                                                                       |     | -M30<br>DCX2235                                                                       |     |
|                       | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     | DRAGONSKIN                                                                            |     |
|                       |  |     |  |     |  |     |  |     |  |     |
|                       | RPHX<br>1B/61                                                                       |     | RPHX<br>1B/61                                                                       |     | RPHX<br>1B/61                                                                         |     | RPHX<br>1B/61                                                                         |     | RPHX<br>1B/61                                                                         |     |
| ISO                   | Artikel č.<br>51 051 ...                                                            |     | Artikel č.<br>51 049 ...                                                            |     | Artikel č.<br>51 052 ...                                                              |     | Artikel č.<br>51 051 ...                                                              |     | Artikel č.<br>51 049 ...                                                              |     |
|                       | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                   |     | EUR                                                                                   |     | EUR                                                                                   |     |
| 1204MOEN              |                                                                                     |     | 14,06                                                                               | 225 |                                                                                       |     | 14,06                                                                                 | 325 |                                                                                       |     |
| 1204MOSN              | 14,06                                                                               | 225 |                                                                                     |     | 14,06                                                                                 | 225 |                                                                                       |     | 14,06                                                                                 | 325 |
| Oceľ                  |                                                                                     | ○   |                                                                                     | ○   |                                                                                       | ○   |                                                                                       | ○   |                                                                                       | ○   |
| Nehrdzavejúca oceľ    |                                                                                     | ●   |                                                                                     | ●   |                                                                                       | ●   |                                                                                       | ●   |                                                                                       | ●   |
| Liatina               |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Neželezné kovy        |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Žiaruvzdorná zliatina |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |
| Kalená oceľ           |                                                                                     |     |                                                                                     |     |                                                                                       |     |                                                                                       |     |                                                                                       |     |

## RPHX / RPNX

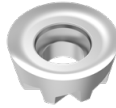
|                       | -F50<br>CTPM240                                                                   |     | -F50<br>CTPM240                                                                   |     | -M30<br>CTPM240                                                                     |     | -M30<br>CTPM240                                                                     |     | -M50<br>CTPM240                                                                     |     |
|-----------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       | -F50<br>DPX2240                                                                   |     | -F50<br>DPX2240                                                                   |     | -M30<br>DPX2240                                                                     |     | -M30<br>DPX2240                                                                     |     | -M50<br>DPX2240                                                                     |     |
|                       | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |  |     |  |     |  |     |  |     |  |     |
| ISO                   | RPHX<br>1B/61                                                                     |     | RPNX<br>1B/61                                                                     |     | RPHX<br>1B/61                                                                       |     | RPNX<br>1B/61                                                                       |     | RPHX<br>1B/61                                                                       |     |
|                       | Artikel č.<br>51 051 ...                                                          |     | Artikel č.<br>51 055 ...                                                          |     | Artikel č.<br>51 049 ...                                                            |     | Artikel č.<br>51 053 ...                                                            |     | Artikel č.<br>51 050 ...                                                            |     |
|                       | EUR                                                                               |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 10T3MOEN              |                                                                                   |     |                                                                                   |     | 12,83                                                                               | 420 |                                                                                     |     | 12,83                                                                               | 420 |
| 10T3MOSN              | 12,83                                                                             | 420 |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| 1204MOEN              |                                                                                   |     |                                                                                   |     | 14,06                                                                               | 425 |                                                                                     |     | 14,06                                                                               | 425 |
| 1204MOSN              | 14,06                                                                             | 425 |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| 1605MOEN              |                                                                                   |     |                                                                                   |     | 19,13                                                                               | 430 |                                                                                     |     |                                                                                     |     |
| 1605MOSN              | 19,13                                                                             | 430 |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| 2006MOEN              |                                                                                   |     |                                                                                   |     |                                                                                     |     | 19,85                                                                               | 420 |                                                                                     |     |
| 2006MOSN              |                                                                                   |     | 19,85                                                                             | 435 |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Oceľ                  |                                                                                   | ○   |                                                                                   | ○   |                                                                                     | ○   |                                                                                     | ○   |                                                                                     | ○   |
| Nehrdzavejúca oceľ    |                                                                                   | ●   |                                                                                   | ●   |                                                                                     | ●   |                                                                                     | ●   |                                                                                     | ●   |
| Liatina               |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

## RPHX / RPNX

|                       | CTPM245                                                                             |                   | -F50<br>CTPM245                                                                     |                   | -F50<br>CTPM245                                                                       |                   | -M32<br>CTPM245                                                                       |                   | -M50<br>CTPM245                                                                       |                   |
|-----------------------|-------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-------------------|
|                       | DPX2245                                                                             |                   | -F50<br>DPX2245                                                                     |                   | -F50<br>DPX2245                                                                       |                   | -M32<br>DPX2245                                                                       |                   | -M50<br>DPX2245                                                                       |                   |
|                       | DRAGONSKIN                                                                          |                   | DRAGONSKIN                                                                          |                   | DRAGONSKIN                                                                            |                   | DRAGONSKIN                                                                            |                   | DRAGONSKIN                                                                            |                   |
|                       |  |                   |  |                   |  |                   |  |                   |  |                   |
| ISO                   | RPHX<br>1H/17                                                                       |                   | RPHX<br>1H/17                                                                       |                   | RPNX<br>1H/17                                                                         |                   | RPHX<br>1H/17                                                                         |                   | RPHX<br>1H/17                                                                         |                   |
|                       | Artikel č.<br>51 052 ...                                                            |                   | Artikel č.<br>51 051 ...                                                            |                   | Artikel č.<br>51 055 ...                                                              |                   | Artikel č.<br>51 108 ...                                                              |                   | Artikel č.<br>51 050 ...                                                              |                   |
|                       | EUR                                                                                 |                   | EUR                                                                                 |                   | EUR                                                                                   |                   | EUR                                                                                   |                   | EUR                                                                                   |                   |
| 10T3M4SN              |                                                                                     |                   | 16,19                                                                               | 470 <sup>1)</sup> | 13,46                                                                                 | 470 <sup>1)</sup> |                                                                                       |                   | 16,19                                                                                 | 470 <sup>1)</sup> |
| 10T3M8SN              |                                                                                     |                   | 16,19                                                                               | 471               | 13,46                                                                                 | 471               |                                                                                       |                   | 16,19                                                                                 | 471               |
| 1204M4EN              | 17,84                                                                               | 475 <sup>1)</sup> |                                                                                     |                   |                                                                                       |                   | 17,84                                                                                 | 475 <sup>1)</sup> |                                                                                       |                   |
| 1204M4SN              |                                                                                     |                   | 17,84                                                                               | 475 <sup>1)</sup> | 15,84                                                                                 | 475 <sup>1)</sup> |                                                                                       |                   | 17,84                                                                                 | 475 <sup>1)</sup> |
| 1204M6SN              |                                                                                     |                   | 17,84                                                                               | 476               |                                                                                       |                   |                                                                                       |                   | 17,84                                                                                 | 476               |
| 1204M8SN              |                                                                                     |                   | 17,84                                                                               | 477               | 15,84                                                                                 | 476               |                                                                                       |                   | 17,84                                                                                 | 477               |
| 1605M8SN              |                                                                                     |                   | 24,34                                                                               | 480               |                                                                                       |                   |                                                                                       |                   |                                                                                       |                   |
| 2006M4SN              |                                                                                     |                   | 30,83                                                                               | 485 <sup>1)</sup> |                                                                                       |                   |                                                                                       |                   |                                                                                       |                   |
| 2006M8SN              |                                                                                     |                   |                                                                                     |                   | 24,34                                                                                 | 485               |                                                                                       |                   |                                                                                       |                   |
| Oceľ                  |                                                                                     | ●                 |                                                                                     | ●                 |                                                                                       | ●                 |                                                                                       | ●                 |                                                                                       | ●                 |
| Nehrdzavejúca oceľ    |                                                                                     | ●                 |                                                                                     | ●                 |                                                                                       | ●                 |                                                                                       | ●                 |                                                                                       | ●                 |
| Liatina               |                                                                                     |                   |                                                                                     |                   |                                                                                       |                   |                                                                                       |                   |                                                                                       |                   |
| Neželezné kovy        |                                                                                     |                   |                                                                                     |                   |                                                                                       |                   |                                                                                       |                   |                                                                                       |                   |
| Žiaruvzdorná zliatina |                                                                                     |                   |                                                                                     |                   |                                                                                       |                   |                                                                                       |                   |                                                                                       |                   |
| Kalená oceľ           |                                                                                     |                   |                                                                                     |                   |                                                                                       |                   |                                                                                       |                   |                                                                                       |                   |

1) Vymeniteľná doštička so 4násobným indexovaním

## RPNX / RPHX

|                       | -R30<br>CTCK215                                                                   |     | -SN<br>CTCK215                                                                    |     | -SN<br>CTCK215                                                                      |     | -SN<br>CTPK220                                                                      |     | -27P<br>H216T                                                                       |     |
|-----------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       | -R30<br>DCX3215                                                                   |     | -SN<br>DCX3215                                                                    |     | -SN<br>DCX3215                                                                      |     | -SN<br>DPX3220                                                                      |     | -ALP<br>CWK26                                                                       |     |
|                       | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |                                                                                     |     |
|                       |  |     |  |     |  |     |  |     |  |     |
| ISO                   | RPNX 1B/18                                                                        |     | RPHX 1B/61                                                                        |     | RPNX 1B/18                                                                          |     | RPNX 1B/61                                                                          |     | RPHX 1A/90                                                                          |     |
|                       | Artikel č. 51 056 ...                                                             |     | Artikel č. 51 052 ...                                                             |     | Artikel č. 51 057 ...                                                               |     | Artikel č. 51 057 ...                                                               |     | Artikel č. 50 483 ...                                                               |     |
|                       | EUR                                                                               |     | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 10T3MOEN              | 9,77                                                                              | 520 |                                                                                   |     |                                                                                     |     |                                                                                     |     | 14,65                                                                               | 600 |
| 10T3MOFN              |                                                                                   |     | 12,83                                                                             | 520 |                                                                                     |     | 9,77                                                                                | 620 |                                                                                     |     |
| 10T3MOSN              |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| 1204MOEN              | 11,22                                                                             | 525 |                                                                                   |     |                                                                                     |     |                                                                                     |     | 16,24                                                                               | 602 |
| 1204MOFN              |                                                                                   |     | 14,06                                                                             | 525 | 11,22                                                                               | 525 | 11,22                                                                               | 625 |                                                                                     |     |
| 1204MOSN              |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| 1605MOFN              |                                                                                   |     | 19,13                                                                             | 530 | 15,26                                                                               | 530 | 15,26                                                                               | 630 | 22,16                                                                               | 604 |
| 1605MOSN              |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| 2006MOSN              |                                                                                   |     |                                                                                   |     | 19,85                                                                               | 535 | 19,85                                                                               | 635 |                                                                                     |     |
| Oceľ                  | ○                                                                                 |     | ○                                                                                 |     | ○                                                                                   |     | ○                                                                                   |     | ○                                                                                   |     |
| Nehrdzavejúca oceľ    |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Liatina               | ●                                                                                 |     | ●                                                                                 |     | ●                                                                                   |     | ●                                                                                   |     | ○                                                                                   |     |
| Neželezné kovy        |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     | ●                                                                                   |     |
| Žiaruvzdorná zliatina |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |                                                                                   |     |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

## RPHX / RPNX

|                       | -M31<br>CTC5240                                                                     |                   | -F50<br>CTCS245                                                                       |                   | -F50<br>CTCS245                                                                       |     | -R60<br>CTP6215                                                                       |     |
|-----------------------|-------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|                       | -M31<br>HCF5240                                                                     |                   |                                                                                       |                   |                                                                                       |     | -R60<br>CCN6215                                                                       |     |
|                       | DRAGONSKIN                                                                          |                   | DRAGONSKIN                                                                            |                   | DRAGONSKIN                                                                            |     |                                                                                       |     |
|                       |  |                   |  |                   |  |     |  |     |
| ISO                   | RPHX 1H/D4                                                                          |                   | NEW RPHX 1H/D4                                                                        |                   | NEW RPNX 1H/D4                                                                        |     | RPNX 1B/61                                                                            |     |
|                       | Artikel č. 50 493 ...                                                               |                   | Artikel č. 51 051 ...                                                                 |                   | Artikel č. 51 055 ...                                                                 |     | Artikel č. 50 508 ...                                                                 |     |
|                       | EUR                                                                                 |                   | EUR                                                                                   |                   | EUR                                                                                   |     | EUR                                                                                   |     |
| 10T3M4EN              | 16,19                                                                               | 550 <sup>1)</sup> | 16,19                                                                                 | 570 <sup>1)</sup> |                                                                                       |     |                                                                                       |     |
| 10T3M4SN              |                                                                                     |                   | 16,19                                                                                 | 571               |                                                                                       |     |                                                                                       |     |
| 10T3M8EN              | 16,19                                                                               | 551               |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| 10T3M8SN              |                                                                                     |                   |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| 1204M4EN              | 17,84                                                                               | 552 <sup>1)</sup> | 17,84                                                                                 | 575               |                                                                                       |     |                                                                                       |     |
| 1204M4SN              |                                                                                     |                   | 17,84                                                                                 | 57800             |                                                                                       |     |                                                                                       |     |
| 1204M6EN              | 17,84                                                                               | 56200             |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| 1204M8EN              | 17,84                                                                               | 582               | 17,84                                                                                 | 577               |                                                                                       |     | 12,11                                                                                 | 300 |
| 1204M8SN              |                                                                                     |                   |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| 1605M8EN              | 24,34                                                                               | 555               | 24,34                                                                                 | 58100             |                                                                                       |     |                                                                                       |     |
| 2006M8SN              |                                                                                     |                   |                                                                                       |                   | 24,34                                                                                 | 585 |                                                                                       |     |
| Oceľ                  |                                                                                     |                   |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| Nehrdzavejúca oceľ    |                                                                                     |                   |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| Liatina               |                                                                                     |                   |                                                                                       |                   |                                                                                       |     | ●                                                                                     |     |
| Neželezné kovy        |                                                                                     |                   |                                                                                       |                   |                                                                                       |     |                                                                                       |     |
| Žiaruvzdorná zliatina | ●                                                                                   |                   | ●                                                                                     |                   | ●                                                                                     |     |                                                                                       |     |
| Kalená oceľ           |                                                                                     |                   |                                                                                       |                   |                                                                                       |     | ●                                                                                     |     |

1) Vymeniteľná doštička so 4násobným indexovaním

## Sprievodca frézovaním

Stratégia obrábania

→ 176

Systém označovania

→ 194+195

Popis sort

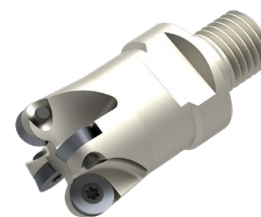
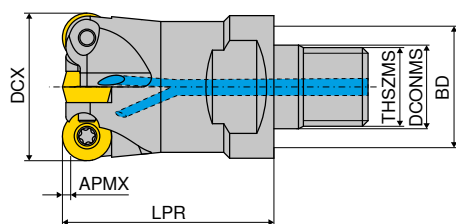
→ 209+210

Orientačné rezné parametre

→ 175

## Fréza s kruhovými doštičkami R 1000 G

▲ uhol doštičky 0°

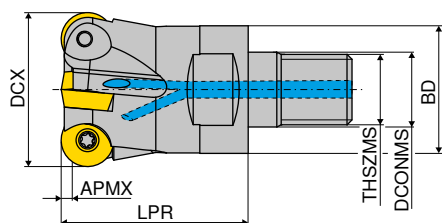


| Označenie             | DCX<br>mm | ZNF | APMX<br>mm | THSZMS | LPR<br>mm | DCONMS<br>mm | BD<br>mm | Dotahovací moment<br>Nm | Vymeniteľná<br>doštička | WA                       |     |
|-----------------------|-----------|-----|------------|--------|-----------|--------------|----------|-------------------------|-------------------------|--------------------------|-----|
|                       |           |     |            |        |           |              |          |                         |                         | Artikel č.<br>56 403 ... |     |
| R1000G.15.4.M8-05.IK  | 15        | 4   | 1,3        | M8     | 20,5      | 8,5          | 13,8     | 0,43                    | RDHX 0501..             | 166,70                   | 151 |
| R1000G.20.5.M10-05.IK | 20        | 5   | 1,3        | M10    | 25,5      | 10,5         | 18,0     | 0,43                    | RDHX 0501..             | 197,20                   | 201 |
| R1000G.12.2.M8-07.IK  | 12        | 2   | 1,5        | M8     | 28,5      | 8,5          | 11,8     | 0,75                    | RD.X 07T1..             | 108,10                   | 123 |
| R1000G.15.3.M8-07.IK  | 15        | 3   | 1,5        | M8     | 28,5      | 8,5          | 13,8     | 0,75                    | RD.X 07T1..             | 130,10                   | 152 |
| R1000G.20.4.M10-07.IK | 20        | 4   | 1,5        | M10    | 28,5      | 10,5         | 18,0     | 0,75                    | RD.X 07T1..             | 167,70                   | 202 |
| R1000G.25.5.M12-07.IK | 25        | 5   | 1,5        | M12    | 28,5      | 10,5         | 21,0     | 0,75                    | RD.X 07T1..             | 191,90                   | 251 |
| R1000G.15.2.M8-07.IK  | 15        | 2   | 1,5        | M8     | 28,5      | 8,5          | 13,8     | 0,9                     | RD.X 0702..             | 110,10                   | 153 |
| R1000G.16.3.M8-07.IK  | 16        | 3   | 1,5        | M8     | 28,5      | 8,5          | 13,8     | 0,9                     | RD.X 0702..             | 133,20                   | 161 |
| R1000G.20.4.M10-07.IK | 20        | 4   | 1,5        | M10    | 28,5      | 10,5         | 18,0     | 0,9                     | RD.X 0702..             | 167,70                   | 203 |
| R1000G.25.5.M12-07.IK | 25        | 5   | 1,5        | M12    | 28,5      | 12,5         | 21,0     | 0,9                     | RD.X 0702..             | 191,90                   | 252 |
| R1000G.30.5.M16-07.IK | 30        | 5   | 1,5        | M16    | 28,5      | 17,0         | 29,0     | 0,9                     | RD.X 0702..             | 195,00                   | 301 |
| R1000G.35.6.M16-07.IK | 35        | 6   | 1,5        | M16    | 28,5      | 17,0         | 29,0     | 0,9                     | RD.X 0702..             | 219,20                   | 351 |
| R1000G.42.7.M16-07.IK | 42        | 7   | 1,5        | M16    | 42,5      | 17,0         | 29,0     | 0,9                     | RD.X 0702..             | 260,00                   | 421 |
| R1000G.20.2.M10-10.IK | 20        | 2   | 2,8        | M10    | 29,0      | 10,5         | 18,0     | 2,4                     | RD.X 1003..             | 117,40                   | 204 |
| R1000G.25.2.M12-10.IK | 25        | 2   | 2,8        | M12    | 33,0      | 12,5         | 21,0     | 2,4                     | RD.X 1003..             | 117,40                   | 253 |
| R1000G.25.3.M12-10.IK | 25        | 3   | 2,8        | M12    | 33,0      | 12,5         | 21,0     | 2,4                     | RD.X 1003..             | 122,70                   | 254 |
| R1000G.30.4.M12-10.IK | 30        | 4   | 2,3        | M12    | 33,0      | 12,5         | 21,0     | 2,4                     | RD.X 1003..             | 168,90                   | 302 |
| R1000G.30.4.M16-10.IK | 30        | 4   | 2,8        | M16    | 43,0      | 17,0         | 23,0     | 2,4                     | RD.X 1003..             | 168,90                   | 303 |
| R1000G.35.5.M16-10.IK | 35        | 5   | 2,8        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 1003..             | 207,70                   | 352 |
| R1000G.42.5.M16-10.IK | 42        | 5   | 2,8        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 1003..             | 219,20                   | 422 |
| R1000G.42.6.M16-10.IK | 42        | 6   | 2,8        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 1003..             | 231,70                   | 423 |
| R1000G.24.2.M12-12.IK | 24        | 2   | 3,0        | M12    | 33,0      | 12,5         | 21,0     | 2,4                     | RD.X 12T3..             | 121,60                   | 241 |
| R1000G.35.3.M16-12.IK | 35        | 3   | 3,0        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 12T3..             | 136,30                   | 353 |
| R1000G.35.4.M16-12.IK | 35        | 4   | 3,0        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 12T3..             | 176,20                   | 354 |
| R1000G.42.4.M16-12.IK | 42        | 4   | 3,0        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 12T3..             | 192,90                   | 424 |
| R1000G.42.5.M16-12.IK | 42        | 5   | 3,0        | M16    | 43,0      | 17,0         | 29,0     | 2,4                     | RD.X 12T3..             | 213,90                   | 425 |
| R1000G.32.2.M16-16.IK | 32        | 2   | 4,0        | M16    | 43,5      | 17,0         | 29,0     | 4,3                     | RD.X 1604..             | 141,60                   | 321 |
| R1000G.35.3.M16-16.IK | 35        | 3   | 4,0        | M16    | 43,5      | 17,0         | 29,0     | 4,3                     | RD.X 1604..             | 174,10                   | 355 |
| R1000G.40.2.M16-20.IK | 40        | 2   | 7,0        | M16    | 53,5      | 17,0         | 29,0     | 4,3                     | RD.X 2006..             | 197,20                   | 401 |

## Fréza s kruhovými doštičkami R 1007 G

▲ uhol doštičky 7°

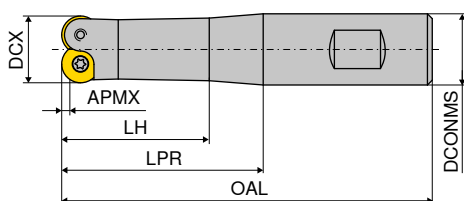
▲ na oceľ &lt; 10 % Cr



| Označenie             | DCX | ZNF | APMX | THSZMS | LPR  | DCONMS | BD | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | WA         |     |
|-----------------------|-----|-----|------|--------|------|--------|----|-------------------------|-------------------------|------------|-----|
|                       |     |     |      |        |      |        |    |                         |                         | Artikel č. |     |
| R1007G.25.3.M12-10.IK | 25  | 3   | 2,5  | M12    | 32,5 | 12,5   | 21 | 2,4                     | RD.X 1003..             | 56 405 ... | 251 |
| R1007G.42.6.M16-10.IK | 42  | 6   | 2,5  | M16    | 42,5 | 17,0   | 29 | 2,4                     | RD.X 1003..             | EUR 122,70 | 421 |
| R1007G.35.3.M16-12.IK | 35  | 3   | 3,0  | M16    | 42,5 | 17,0   | 29 | 2,4                     | RD.X 12T3..             | EUR 154,10 | 351 |
| R1007G.35.4.M16-12.IK | 35  | 4   | 3,0  | M16    | 42,5 | 17,0   | 29 | 2,4                     | RD.X 12T3..             | EUR 176,20 | 352 |

## Fréza s kruhovými doštičkami R 1000 C

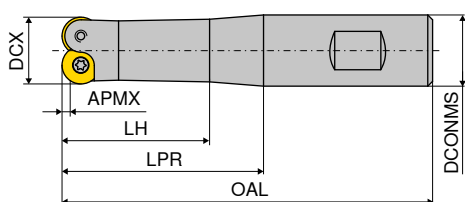
▲ uhol doštičky 0°



| Označenie         | DCX | ZNF | APMX | OAL | LPR | LH | DCONMS | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | WA         |     |
|-------------------|-----|-----|------|-----|-----|----|--------|-------------------------|-------------------------|------------|-----|
|                   |     |     |      |     |     |    |        |                         |                         | Artikel č. |     |
| R1000C.8.1.30-05  | 8   | 1   | 1,3  | 75  | 30  | 18 | 10     | 0,43                    | RDHX 0501..             | 56 441 ... | 081 |
| R1000C.10.2.30-05 | 10  | 2   | 1,3  | 75  | 30  | 23 | 10     | 0,43                    | RDHX 0501..             | EUR 120,60 | 101 |
| R1000C.12.3.30-05 | 12  | 3   | 1,3  | 81  | 30  | 23 | 12     | 0,43                    | RDHX 0501..             | EUR 133,20 | 121 |
| R1000C.12.2.30-07 | 12  | 2   | 1,5  | 76  | 30  | 23 | 12     | 0,75                    | RD.X 07T1..             | EUR 148,90 | 122 |

## Fréza s kruhovými doštičkami R 1002 C

▲ uhol doštičky 0°

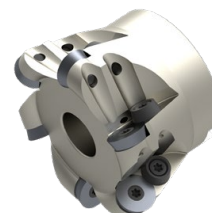
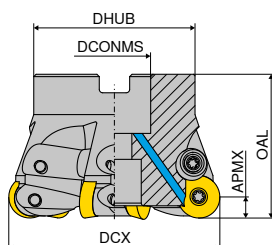


B

| Označenie          | DCX | ZNF | APMX | OAL | LPR | LH   | DCONMS | Vymeniteľná doštička | WA         |     |
|--------------------|-----|-----|------|-----|-----|------|--------|----------------------|------------|-----|
|                    |     |     |      |     |     |      |        |                      | Artikel č. |     |
|                    | mm  |     | mm   | mm  | mm  | mm   | mm     |                      | 56 443 ... |     |
| R1002C.12.2.40-07  | 12  | 2   | 1,5  | 89  | 40  | 19,5 | 16     | RD.X 07T1..          | EUR 97,30  | 121 |
| R1002C.12.2.60-07  | 12  | 2   | 1,5  | 110 | 60  | 19,5 | 16     | RD.X 07T1..          | 104,30     | 122 |
| R1002C.12.2.80-07  | 12  | 2   | 1,5  | 129 | 80  | 19,5 | 16     | RD.X 07T1..          | 111,10     | 123 |
| R1002C.15.2.40-07  | 15  | 2   | 2,6  | 89  | 40  | 23,0 | 16     | RD.X 0702..          | 97,30      | 151 |
| R1002C.15.2.60-07  | 15  | 2   | 2,6  | 109 | 60  | 23,0 | 16     | RD.X 0702..          | 103,50     | 152 |
| R1002C.15.2.80-07  | 15  | 2   | 2,6  | 131 | 80  | 22,0 | 20     | RD.X 0702..          | 111,10     | 153 |
| R1002C.15.2.100-07 | 15  | 2   | 2,6  | 151 | 100 | 22,0 | 20     | RD.X 0702..          | 119,60     | 154 |
| R1002C.20.2.40-10  | 20  | 2   | 4,0  | 91  | 40  | 23,0 | 20     | RD.X 1003..          | 110,10     | 201 |
| R1002C.20.2.60-10  | 20  | 2   | 4,0  | 111 | 60  | 23,0 | 20     | RD.X 1003..          | 113,30     | 202 |
| R1002C.20.2.80-10  | 20  | 2   | 4,0  | 137 | 80  | 23,0 | 25     | RD.X 1003..          | 118,50     | 203 |
| R1002C.20.2.100-10 | 20  | 2   | 4,0  | 157 | 100 | 23,0 | 25     | RD.X 1003..          | 124,80     | 204 |
| R1002C.20.2.120-10 | 20  | 2   | 4,0  | 177 | 125 | 23,0 | 25     | RD.X 1003..          | 131,10     | 205 |

## Fréza s kruhovými doštičkami R 1000 A

▲ uhol doštičky 0°

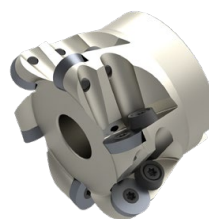
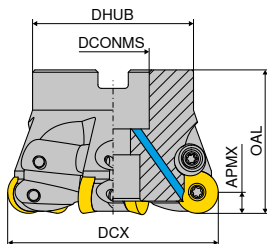


| Označenie              | DCX | ZNF | APMX | OAL  | DCONMS | DHUB | Doťahovací moment Nm | Vymeniteľná doštička | WA         |     |
|------------------------|-----|-----|------|------|--------|------|----------------------|----------------------|------------|-----|
|                        |     |     |      |      |        |      |                      |                      | Artikel č. |     |
|                        | mm  |     | mm   | mm   | mm     | mm   |                      |                      | 56 407 ... |     |
| R1000A.42.6.43-10.IK   | 42  | 6   | 2,8  | 43,0 | 16     | 35   | 2,4                  | RD.X 1003..          | EUR 231,70 | 420 |
| R1000A.42.4.43-12.IK   | 42  | 4   | 3,0  | 43,0 | 16     | 35   | 2,4                  | RD.X 12T3..          | 186,70     | 421 |
| R1000A.42.5.43-12.IK   | 42  | 5   | 3,0  | 43,0 | 16     | 35   | 2,4                  | RD.X 12T3..          | 213,90     | 422 |
| R1000A.52.5.53-12.IK   | 52  | 5   | 3,5  | 53,0 | 22     | 40   | 2,4                  | RD.X 12T3..          | 231,70     | 521 |
| R1000A.52.4.53,5-16.IK | 52  | 4   | 4,7  | 53,5 | 22     | 40   | 4,3                  | RD.X 1604..          | 227,50     | 522 |
| R1000A.66.5.53,5-16.IK | 66  | 5   | 5,1  | 53,5 | 27     | 48   | 4,3                  | RD.X 1604..          | 269,50     | 661 |
| R1000A.80.6.53,5-16.IK | 80  | 6   | 5,8  | 53,5 | 27     | 60   | 4,3                  | RD.X 1604..          | 345,00     | 801 |

## Fréza s kruhovými doštičkami R 1007 A

▲ uhol doštičky 7°

▲ na oceľ &lt; 10 % Cr + pre frézky s nižším výkonom



| Označenie              | DCX | ZNF | APMX | OAL  | DCONMS | DHUB | Doťahovací moment<br>Nm | Vymeniteľná<br>doštička | WA<br>Artikel č.<br>56 409 ... |                   |
|------------------------|-----|-----|------|------|--------|------|-------------------------|-------------------------|--------------------------------|-------------------|
|                        |     |     |      |      |        |      |                         |                         | EUR                            |                   |
| R1007A.42.6.42,5-10.IK | 42  | 6   | 3,5  | 42,5 | 16     | 35   | 2,4                     | RD.X 1003..             | 231,70                         | 421               |
| R1007A.52.7.52,5-10.IK | 52  | 7   | 3,5  | 52,5 | 22     | 40   | 2,4                     | RD.X 1003..             | 338,60                         | 521               |
| R1007A.52.5.52,5-12.IK | 52  | 5   | 3,5  | 52,5 | 22     | 40   | 2,4                     | RD.X 12T3..             | 231,70                         | 522               |
| R1007A.66.6.52,5-12.IK | 66  | 6   | 3,5  | 52,5 | 27     | 48   | 2,4                     | RD.X 12T3..             | 274,70                         | 661               |
| R1007A.80.7.54,5-12.IK | 80  | 7   | 3,5  | 54,5 | 27     | 60   | 2,4                     | RD.X 12T3..             | 345,00                         | 801               |
| R1007A.52.5.53-16.IK   | 52  | 5   | 4,1  | 53,0 | 22     | 40   | 4,3                     | RD.X 1604..             | 254,80                         | 523               |
| R1007A.66.5.53-16.IK   | 66  | 5   | 4,6  | 53,0 | 27     | 48   | 4,3                     | RD.X 1604..             | 269,50                         | 662               |
| R1007A.66.6.53-16.IK   | 66  | 6   | 5,1  | 53,0 | 27     | 48   | 4,3                     | RD.X 1604..             | 308,30                         | 663               |
| R1007A.80.6.53-16.IK   | 80  | 6   | 5,1  | 53,0 | 27     | 60   | 4,3                     | RD.X 1604..             | 345,00                         | 802               |
| R1007A.100.7.53-16     | 100 | 7   | 5,1  | 53,0 | 32     | 70   | 4,3                     | RD.X 1604..             | 426,70                         | 910 <sup>1)</sup> |
| R1007A.125.8.53-16     | 125 | 8   | 5,2  | 53,0 | 40     | 90   | 4,3                     | RD.X 1604..             | 483,40                         | 925 <sup>1)</sup> |
| R1007A.160.9.53-16     | 160 | 9   | 5,1  | 53,0 | 40     | 120  | 4,3                     | RD.X 1604..             | 661,70                         | 960 <sup>1)</sup> |
| R1007A.66.5.53-20.IK   | 66  | 5   | 7,0  | 53,0 | 27     | 48   | 4,3                     | RD.X 2006..             | 323,00                         | 664               |
| R1007A.80.5.53-20.IK   | 80  | 5   | 7,4  | 53,0 | 27     | 60   | 4,3                     | RD.X 2006..             | 399,50                         | 803               |

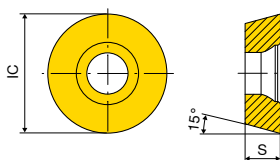
1) Bez vnútorného privádzania chladiaceho média

| Náhradné diely       | Y7                       |     | WA                       |     | WA                       |     | Y7                       |     | 2A/28                    |     | WA                       |     | Y7                       |     |
|----------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                      | Výmenná vložka<br>TORX®  |     | Upinacia skrutka         |     | Upinacia<br>podložka     |     | Kľúč D                   |     | Pasta<br>Molykote        |     | Upinacia skrutka         |     | Rukoväť                  |     |
| Vymeniteľná doštička | Artikel č.<br>80 950 ... |     | Artikel č.<br>56 950 ... |     | Artikel č.<br>56 950 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>56 950 ... |     | Artikel č.<br>80 950 ... |     |
| RD.X 0702..          | 4,76                     | 032 |                          |     |                          |     | 7,80                     | 109 | 4,38                     | 303 | 2,64                     | 006 | 118,90                   | 191 |
| RD.X 07T1..          | 4,76                     | 032 |                          |     |                          |     | 7,80                     | 109 | 4,38                     | 303 | 2,64                     | 004 | 118,90                   | 191 |
| RD.X 1003..          | 4,76                     | 036 |                          |     |                          |     | 9,28                     | 113 | 4,38                     | 303 | 3,40                     | 010 | 128,60                   | 192 |
| RD.X 12T3..          | 4,76                     | 036 | 2,07                     | 022 |                          |     | 9,28                     | 113 | 4,38                     | 303 | 3,40                     | 010 | 128,60                   | 192 |
| RD.X 1604..          | 4,76                     | 037 |                          |     | 1,45                     | 210 | 9,95                     | 114 | 4,38                     | 303 | 3,84                     | 012 | 128,60                   | 192 |
| RD.X 2006..          | 4,76                     | 037 |                          |     | 1,45                     | 210 | 9,95                     | 114 | 4,38                     | 303 | 3,84                     | 012 | 128,60                   | 192 |
| RDHX 0501..          |                          |     |                          |     |                          |     | 8,44                     | 108 | 4,38                     | 303 | 2,56                     | 002 | 118,90                   | 191 |



## RDHX / RDMX / RDEX / RDPX

| Označenie   | IC | S    |
|-------------|----|------|
|             | mm | mm   |
| RDHX 0501.. | 5  | 1,50 |
| RD.X 07T1.. | 7  | 1,99 |
| RD.X 0702.. | 7  | 2,38 |
| RD.X 1003.. | 10 | 3,18 |
| RD.X 12T3.. | 12 | 3,97 |
| RD.X 1604.. | 16 | 4,76 |
| RDHX 2006.. | 20 | 6,00 |

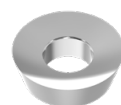
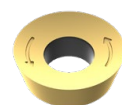
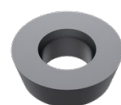
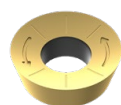
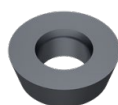


## RDHX / RDMX / RDEX / RDPX

WTN1205

WAN1240

WAX1240

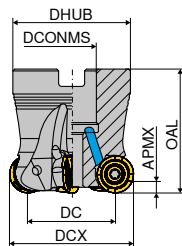
-HP  
WAN2225-F30P  
WUN4210

| ISO                   | RDHX<br>WB<br>Artikel č.<br>56 302 ...<br>EUR | RDMX<br>WB<br>Artikel č.<br>56 309 ...<br>EUR | RDEX<br>WB<br>Artikel č.<br>56 314 ...<br>EUR | RDPX<br>WB<br>Artikel č.<br>56 348 ...<br>EUR | RDHX<br>WB<br>Artikel č.<br>56 304 ...<br>EUR |
|-----------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| 0501MOT               | 12,00 100                                     |                                               |                                               |                                               |                                               |
| 0702MOE               |                                               |                                               |                                               |                                               | 11,56 611                                     |
| 0702MOT               | 12,32 111                                     |                                               | 8,58 611                                      |                                               |                                               |
| 07T1MOE               |                                               |                                               |                                               |                                               | 11,56 621                                     |
| 07T1MOT               | 12,32 121                                     |                                               | 8,44 621                                      |                                               |                                               |
| 1003MOS               |                                               |                                               |                                               | 12,43 231                                     |                                               |
| 1003MOT               | 12,43 131                                     | 9,17 731                                      | 9,03 631                                      |                                               | 12,97 631                                     |
| 12T3MOS               |                                               |                                               |                                               | 13,08 241                                     |                                               |
| 12T3MOT               | 13,08 141                                     | 10,62 741                                     | 10,29 641                                     |                                               | 15,89 641                                     |
| 1604MOS               |                                               |                                               |                                               | 16,43 251                                     |                                               |
| 1604MOT               | 13,08 151                                     | 11,68 751                                     | 11,46 651                                     |                                               | 19,24 651                                     |
| 2006MOT               | 17,95 161                                     |                                               |                                               |                                               | 21,08 661                                     |
| Oceľ                  | ●                                             | ●                                             | ●                                             |                                               |                                               |
| Nehrdzavejúca oceľ    | ○                                             | ○                                             |                                               | ●                                             |                                               |
| Liatina               | ●                                             | ○                                             | ○                                             |                                               |                                               |
| Neželezné kovy        | ○                                             |                                               |                                               |                                               | ●                                             |
| Žiaruvzdorná zliatina |                                               | ○                                             |                                               | ○                                             |                                               |
| Kalená oceľ           | ●                                             |                                               | ○                                             |                                               |                                               |

## Sprievodca frézovaním

|                     |           |                            |           |
|---------------------|-----------|----------------------------|-----------|
| Stratégia obrábania | → 180+181 | Systém označovania         | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné parametre | → 177-179 |

## MaxiMill – Nástrčná fréza A 252



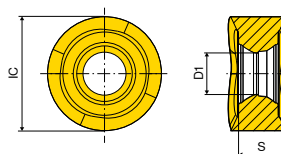
| Označenie        | DC  | DCX | ZNF | APMX | OAL | DHUB | DCONMS | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | 2B/40                    |       |
|------------------|-----|-----|-----|------|-----|------|--------|-------------------------|-------------------------|--------------------------|-------|
|                  |     |     |     |      |     |      |        |                         |                         | Artikel č.<br>50 689 ... |       |
|                  | mm  | mm  |     | mm   | mm  | mm   | mm     |                         |                         | EUR                      |       |
| A252.40.R.05-10  | 30  | 40  | 5   | 2,5  | 40  | 38   | 16     | 2                       | RNHU 1004..             | 409,50                   | 140   |
| A252.42.R.05-10  | 32  | 42  | 5   | 2,5  | 40  | 38   | 16     | 2                       | RNHU 1004..             | 469,60                   | 142   |
| A252.50.R.06-10  | 40  | 50  | 6   | 2,5  | 40  | 43   | 22     | 2                       | RNHU 1004..             | 486,90                   | 150   |
| A252.52.R.07-10  | 42  | 52  | 7   | 2,5  | 40  | 43   | 22     | 2                       | RNHU 1004..             | 528,80                   | 152   |
| A252.63.R.08-10  | 53  | 63  | 8   | 2,5  | 40  | 48   | 22     | 2                       | RNHU 1004..             | 599,30                   | 16300 |
| A252.80.R.10-10  | 70  | 80  | 10  | 2,5  | 50  | 58   | 27     | 2                       | RNHU 1004..             | 681,70                   | 18000 |
| A252.40.R.04-12  | 28  | 40  | 4   | 3,0  | 40  | 38   | 16     | 3,2                     | RNHU 1205..             | 376,20                   | 240   |
| A252.50.R.05-12  | 38  | 50  | 5   | 3,0  | 40  | 43   | 22     | 3,2                     | RNHU 1205..             | 456,80                   | 250   |
| A252.52.R.05-12  | 40  | 52  | 5   | 3,0  | 40  | 43   | 22     | 3,2                     | RNHU 1205..             | 457,90                   | 252   |
| A252.63.R.06-12  | 51  | 63  | 6   | 3,0  | 40  | 48   | 22     | 3,2                     | RNHU 1205..             | 564,30                   | 263   |
| A252.66.R.07-12  | 54  | 66  | 7   | 3,0  | 40  | 48   | 22     | 3,2                     | RNHU 1205..             | 594,40                   | 266   |
| A252.80.R.08-12  | 68  | 80  | 8   | 3,0  | 50  | 58   | 27     | 3,2                     | RNHU 1205..             | 649,20                   | 280   |
| A252.100.R.10-12 | 88  | 100 | 10  | 3,0  | 50  | 78   | 32     | 3,2                     | RNHU 1205..             | 772,60                   | 30000 |
| A252.125.R.12-12 | 113 | 125 | 12  | 3,0  | 63  | 88   | 40     | 3,2                     | RNHU 1205..             | 934,70                   | 32500 |

## Náhradné diely

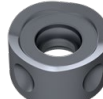
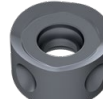
|                          | Y7                       |     | Y7                       |     | Y7                       |     | 2A/28                    |     | 2A/28                    |     | 2A/28                    |     | Y7                       |     |
|--------------------------|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                          |                          |     |                          |     |                          |     |                          |     |                          |     |                          |     |                          |     |
|                          | Artikel č.<br>80 950 ... |     | Artikel č.<br>80 397 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     |
|                          | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     |
| RNHU 1004.. (Ø40 – Ø80)  | 5,26                     | 053 |                          |     | 11,56                    | 127 |                          |     | 4,38                     | 303 | 3,09                     | 710 | 128,60                   | 192 |
| RNHU 1205.. (Ø40)        | 5,26                     | 054 | 3,91                     | 040 | 11,89                    | 128 | 12,48                    | 151 | 4,38                     | 303 | 3,18                     | 839 | 128,60                   | 192 |
| RNHU 1205.. (Ø50 – Ø125) | 5,26                     | 054 |                          |     | 11,89                    | 128 |                          |     | 4,38                     | 303 | 3,18                     | 839 | 128,60                   | 192 |

## RNHU

| Označenie   | IC | D1  | S    |
|-------------|----|-----|------|
|             | mm | mm  | mm   |
| RNHU 1004.. | 10 | 3,4 | 4,60 |
| RNHU 1205.. | 12 | 4,4 | 5,30 |



## RNHU

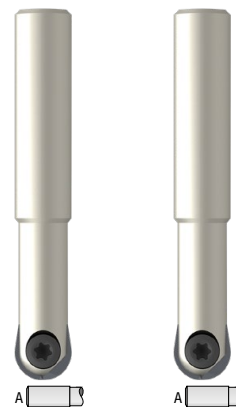
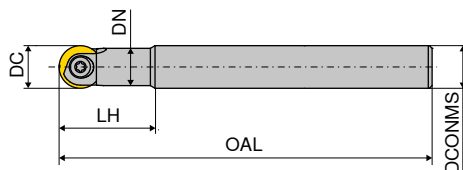
| ISO                   | -M50<br>CTPP235                                                                   |       | -F50<br>CTPM240                                                                   |       | -M31<br>CTPM245                                                                   |     | -M32<br>CTPM245                                                                     |     | -M31<br>CTC5240                                                                     |     | -M31<br>CTC5240                                                                     |     |
|-----------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       | DRAGONSKIN                                                                        |       | DRAGONSKIN                                                                        |       | DRAGONSKIN                                                                        |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     | DRAGONSKIN                                                                          |     |
|                       |  |       |  |       |  |     |  |     |  |     |  |     |
|                       | RNHU<br>NEW 1B/61                                                                 |       | RNHU<br>NEW 1B/61                                                                 |       | RNHU<br>1H/17                                                                     |     | RNHU<br>1H/17                                                                       |     | RNHU<br>1H/D4                                                                       |     | RNHU<br>1H/D4                                                                       |     |
|                       | Artikel č.<br>51 130 ...                                                          |       | Artikel č.<br>51 129 ...                                                          |       | Artikel č.<br>51 106 ...                                                          |     | Artikel č.<br>51 107 ...                                                            |     | Artikel č.<br>50 520 ...                                                            |     | Artikel č.<br>50 521 ...                                                            |     |
|                       | EUR                                                                               |       | EUR                                                                               |       | EUR                                                                               |     | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| 1004M4ER              | 18,34                                                                             | 12000 | 18,34                                                                             | 42000 | 24,81                                                                             | 470 | 24,81                                                                               | 470 | 24,81                                                                               | 550 |                                                                                     |     |
| 1205M4ER              |                                                                                   |       | 19,86                                                                             | 42500 | 27,16                                                                             | 475 | 27,16                                                                               | 475 |                                                                                     |     | 27,16                                                                               | 552 |
| 1205M4SR              | 19,86                                                                             | 12500 |                                                                                   |       |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Oceľ                  |                                                                                   | ●     |                                                                                   | ○     |                                                                                   | ●   |                                                                                     | ●   |                                                                                     |     |                                                                                     |     |
| Nehrdzavejúca oceľ    |                                                                                   | ○     |                                                                                   | ●     |                                                                                   | ●   |                                                                                     | ●   |                                                                                     |     |                                                                                     |     |
| Liatina               |                                                                                   |       |                                                                                   |       |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Neželezné kovy        |                                                                                   |       |                                                                                   |       |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Žiaruvzdorná zliatina |                                                                                   |       |                                                                                   |       |                                                                                   |     |                                                                                     |     |                                                                                     | ●   |                                                                                     | ●   |
| Kalená oceľ           |                                                                                   |       |                                                                                   |       |                                                                                   |     |                                                                                     |     |                                                                                     |     |                                                                                     |     |

## Sprievodca frézovaním

|                    |           |                          |       |
|--------------------|-----------|--------------------------|-------|
| Popis sort         | → 209+210 | Orientačné rezné hodnoty | → 182 |
| Systém označovania | → 194+195 |                          |       |

## Držiak doštičiek pre kopírovacie frézovanie K 2000C / K 2001C

▲ s TK stopkou



| Označenie               | DC | DN   | LH  | OAL | DCONMS <sub>h6</sub> | Dofahovací moment<br>Nm | WA                              |                                 |
|-------------------------|----|------|-----|-----|----------------------|-------------------------|---------------------------------|---------------------------------|
|                         |    |      |     |     |                      |                         | Artikel č.<br>56 100 ...<br>EUR | Artikel č.<br>56 101 ...<br>EUR |
| K2000C.6.16.100         | 6  | 5,3  | 16  | 100 | 8                    | 0,6                     | 358,60                          | 060 <sup>1)</sup>               |
| K2000C.6.20.100         | 6  | 5,8  | 20  | 100 | 6                    | 0,6                     | 358,60                          | 061 <sup>1)</sup>               |
| K2000C.6.70.150         | 6  | 5,8  | 70  | 150 | 6                    | 0,6                     | 465,50                          | 062 <sup>1)</sup>               |
| K2000C.6.100.200        | 6  | 5,8  | 100 | 200 | 6                    | 0,6                     | 564,10                          | 063 <sup>1)</sup>               |
| K2000C.8.25.80          | 8  | 7,0  | 25  | 80  | 8                    | 1                       | 379,60                          | 081 <sup>1)</sup>               |
| K2000C.8.25.100         | 8  | 7,0  | 25  | 100 | 8                    | 1                       | 379,60                          | 082 <sup>1)</sup>               |
| K2000C.8.25.150         | 8  | 7,0  | 40  | 150 | 8                    | 1                       | 421,50                          | 083 <sup>1)</sup>               |
| K2000C.10.35.80         | 10 | 8,8  | 35  | 80  | 10                   | 5                       | 458,20                          | 101 <sup>1)</sup>               |
| K2000C.10.35.120        | 10 | 8,8  | 35  | 120 | 10                   | 5                       | 471,90                          | 102 <sup>1)</sup>               |
| K2000C.10.50.150        | 10 | 8,8  | 50  | 150 | 10                   | 5                       | 523,30                          | 103 <sup>1)</sup>               |
| K2000C/K2001C.12.35.80  | 12 | 10,5 | 35  | 80  | 12                   | 5                       | 476,00                          | 121 <sup>1)</sup> 476,00 121    |
| K2000C/K2001C.12.35.120 | 12 | 10,5 | 35  | 120 | 12                   | 5                       | 497,00                          | 122 <sup>1)</sup> 497,00 122    |
| K2000C/K2001C.12.50.160 | 12 | 10,5 | 50  | 160 | 12                   | 5                       | 531,60                          | 123 <sup>1)</sup> 531,60 123    |
| K2001C.16.40.100        | 16 | 14,0 | 40  | 100 | 16                   | 5                       |                                 | 655,40 161                      |
| K2001C.16.40.140        | 16 | 14,0 | 40  | 140 | 16                   | 5                       |                                 | 655,40 162                      |
| K2001C.16.55.175        | 16 | 14,0 | 55  | 175 | 16                   | 5                       |                                 | 714,00 163                      |
| K2001C.20.50.100        | 20 | 18,0 | 50  | 100 | 20                   | 5                       |                                 | 834,60 201                      |
| K2001C.20.50.140        | 20 | 18,0 | 50  | 140 | 20                   | 5                       |                                 | 834,60 202                      |
| K2001C.20.75.190        | 20 | 18,0 | 75  | 190 | 20                   | 5                       |                                 | 992,00 203                      |
| K2001C.25.60.160        | 25 | 22,4 | 60  | 160 | 25                   | 5                       |                                 | 1.182,00 252                    |
| K2001C.25.90.210        | 25 | 22,4 | 90  | 210 | 25                   | 5                       |                                 | 1.478,00 253                    |

1) Bez vnútorného privádzania chladiaceho média

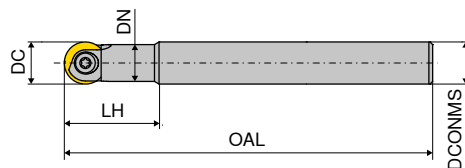
## Použitelné doštičky

|                                                                                     |                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|
|  | ROHX-FM3, ROHX-FM4, ROHX-FM6,<br>ROHX-MR5, ROGX-MR4 |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|

|                                                                                     |                        |
|-------------------------------------------------------------------------------------|------------------------|
|  | XOHX06..-MR2, XOHX-FM1 |
|-------------------------------------------------------------------------------------|------------------------|

## Držiak doštičiek pre kopírovacie frézovanie K 2002C

▲ s valcovou oceľovou stopkou



| Označenie        | DC | DN   | LH | OAL | DCONMS <sub>h6</sub> | Dofahovací moment<br>Nm | WA         |            |
|------------------|----|------|----|-----|----------------------|-------------------------|------------|------------|
|                  |    |      |    |     |                      |                         | Artikel č. | 56 102 ... |
|                  | mm | mm   | mm | mm  | mm                   |                         | EUR        |            |
| K2002C.12.32.90  | 12 | 10,5 | 32 | 90  | 12                   | 5                       | 93,53      | 121        |
| K2002C.12.32.130 | 12 | 10,5 | 32 | 130 | 12                   | 5                       | 93,53      | 122        |
| K2002C.12.46.150 | 12 | 10,5 | 46 | 150 | 12                   | 5                       | 97,83      | 123        |
| K2002C.16.36.100 | 16 | 14,0 | 36 | 100 | 16                   | 5                       | 99,09      | 161        |
| K2002C.16.36.140 | 16 | 14,0 | 36 | 140 | 16                   | 5                       | 99,09      | 162        |
| K2002C.16.53.160 | 16 | 14,0 | 53 | 160 | 16                   | 5                       | 104,40     | 163        |
| K2002C.20.45.160 | 20 | 18,0 | 45 | 160 | 20                   | 5                       | 103,40     | 202        |
| K2002C.20.61.175 | 20 | 18,0 | 61 | 175 | 20                   | 5                       | 123,70     | 203        |
| K2002C.25.45.160 | 25 | 22,4 | 45 | 160 | 25                   | 5                       | 145,70     | 252        |
| K2002C.25.70.190 | 25 | 22,4 | 70 | 190 | 25                   | 5                       | 151,00     | 253        |
| K2002C.32.56.175 | 32 | 28,6 | 56 | 175 | 32                   | 5                       | 185,60     | 322        |
| K2002C.32.80.210 | 32 | 28,6 | 80 | 210 | 32                   | 5                       | 195,00     | 323        |

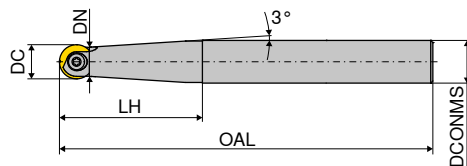
## Použiteľné doštičky

ROHX-FM3, ROHX-FM4, ROHX-FM6,  
ROHX-MR5, ROGX-MR4

XOHX-FM1

## Držiak doštičiek pre kopírovacie frézovanie K 2003C

▲ kónické prevedenie



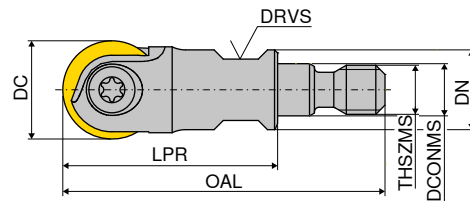
| Označenie         | DC | DN   | LH  | OAL | DCONMS <sub>h6</sub> | Dotahovací moment<br>Nm | WA<br>Artikel č.<br>56 104 ...<br>EUR |     |
|-------------------|----|------|-----|-----|----------------------|-------------------------|---------------------------------------|-----|
| K2003C.6.16.90    | 6  | 5,3  | 16  | 90  | 10                   | 0,6                     | 104,90                                | 061 |
| K2003C.8.50.85    | 8  | 7,5  | 50  | 85  | 12                   | 1                       | 124,80                                | 081 |
| K2003C.8.50.140   | 8  | 7,5  | 50  | 140 | 12                   | 1                       | 124,80                                | 082 |
| K2003C.10.35.85   | 10 | 9,0  | 35  | 85  | 12                   | 5                       | 124,80                                | 101 |
| K2003C.10.35.150  | 10 | 9,0  | 35  | 150 | 12                   | 5                       | 124,80                                | 102 |
| K2003C.12.60.110  | 12 | 10,5 | 60  | 110 | 16                   | 5                       | 126,90                                | 121 |
| K2003C.12.60.160  | 12 | 10,5 | 60  | 160 | 16                   | 5                       | 126,90                                | 122 |
| K2003C.16.67.120  | 16 | 14,0 | 67  | 120 | 20                   | 5                       | 136,30                                | 161 |
| K2003C.16.67.175  | 16 | 14,0 | 67  | 175 | 20                   | 5                       | 136,30                                | 162 |
| K2003C.20.80.190  | 20 | 18,0 | 80  | 190 | 25                   | 5                       | 158,40                                | 201 |
| K2003C.25.100.210 | 25 | 22,4 | 100 | 210 | 32                   | 5                       | 197,20                                | 251 |
| K2003C.32.123.240 | 32 | 28,6 | 123 | 240 | 40                   | 5                       | 252,70                                | 321 |

## Použiteľné doštičky

|  |                                                     |
|--|-----------------------------------------------------|
|  | ROHX-FM3, ROHX-FM4, ROHX-FM6,<br>ROHX-MR5, ROGX-MR4 |
|--|-----------------------------------------------------|

|  |          |
|--|----------|
|  | XOHX-FM1 |
|--|----------|

## Držiak doštičiek pre kopírovacie frézovanie K 2000G



| Označenie        | DC | LPR | DN | OAL  | DCONMS | THSZMS | DRVS | Dofahovací moment<br>Nm | WA<br>Artikel č.<br>56 120 ...<br>EUR |                   |
|------------------|----|-----|----|------|--------|--------|------|-------------------------|---------------------------------------|-------------------|
| K2000G.8.25.M6   | 8  | 25  | 10 | 39,5 | 6,5    | M6     | 8    | 1                       | 208,70                                | 081 <sup>1)</sup> |
| K2000G.10.25.M6  | 10 | 25  | 10 | 39,5 | 6,5    | M6     | 8    | 5                       | 206,50                                | 101 <sup>1)</sup> |
| K2000G.12.25.M6  | 12 | 25  | 10 | 39,5 | 6,5    | M6     | 8    | 5                       | 212,90                                | 121 <sup>1)</sup> |
| K2000G.12.26.M8  | 12 | 26  | 13 | 43,5 | 8,5    | M8     | 10   | 5                       | 212,90                                | 122               |
| K2000G.16.26.M8  | 16 | 26  | 13 | 43,5 | 8,5    | M8     | 10   | 5                       | 221,20                                | 161               |
| K2000G.20.30.M10 | 20 | 30  | 18 | 49,5 | 10,5   | M10    | 15   | 5                       | 225,50                                | 201               |
| K2000G.25.40.M12 | 25 | 40  | 21 | 62,0 | 12,5   | M12    | 17   | 5                       | 233,80                                | 251               |
| K2000G.32.45.M16 | 32 | 45  | 30 | 69,0 | 17,0   | M16    | 26   | 5                       | 249,50                                | 321               |

1) Bez vnútorného privádzania chladiaceho média

## Použiteľné doštičky

|  |                                                     |
|--|-----------------------------------------------------|
|  | ROHX-FM3, ROHX-FM4, ROHX-FM6,<br>ROHX-MR5, ROGX-MR4 |
|--|-----------------------------------------------------|

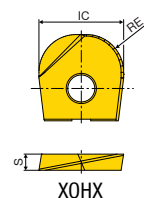
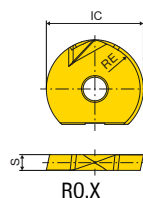
|  |          |
|--|----------|
|  | XOHX-FM1 |
|--|----------|

Náhradné diely  
DC

|    | Y7<br>Výmenná vložka<br>TORX®<br>Artikel č.<br>80 950 ...<br>EUR | Y7<br>Kľúč D<br>Artikel č.<br>80 950 ...<br>EUR | 2A/28<br>Pasta<br>Molykote<br>Artikel č.<br>70 950 ...<br>EUR | WA<br>Upínacia skrutka<br>Artikel č.<br>56 950 ...<br>EUR | Y7<br>Rukoväť<br>Artikel č.<br>80 950 ...<br>EUR |
|----|------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------|
| 6  | 4,76 031                                                         | 8,44 108                                        | 4,38 303                                                      | 6,10 041                                                  | 118,90 191                                       |
| 8  | 4,76 033                                                         | 7,80 110                                        | 4,38 303                                                      | 6,10 042                                                  | 118,90 191                                       |
| 10 | 4,76 036                                                         | 9,28 113                                        | 4,38 303                                                      | 6,10 043                                                  | 131,90 193                                       |
| 12 | 4,76 037                                                         | 9,95 114                                        | 4,38 303                                                      | 8,33 044                                                  | 131,90 193                                       |
| 16 | 4,76 037                                                         | 9,95 114                                        | 4,38 303                                                      | 8,33 045                                                  | 131,90 193                                       |
| 20 | 4,76 037                                                         | 9,95 114                                        | 4,38 303                                                      | 8,33 046                                                  | 131,90 193                                       |
| 25 |                                                                  | 12,10 131                                       | 4,38 303                                                      | 8,33 047                                                  |                                                  |
| 32 |                                                                  | 12,10 131                                       | 4,38 303                                                      | 8,45 048                                                  |                                                  |

## ROHX / XOHX / ROGX

| Označenie   | IC | S    |
|-------------|----|------|
|             | mm | mm   |
| ROHX0616R.. | 6  | 1,60 |
| ROHX0820R.. | 8  | 2,00 |
| XOHX10254.. | 10 | 2,50 |
| ROHX1025R.. | 10 | 2,50 |
| XOHX12255.. | 12 | 2,50 |
| RO.X1225R.. | 12 | 2,50 |
| XOHX16307.. | 16 | 3,00 |
| RO.X1630R.. | 16 | 3,00 |
| XOHX20309.. | 20 | 3,00 |
| RO.X2030R.. | 20 | 3,00 |
| RO.X2540R.. | 25 | 4,00 |
| RO.X3250R.. | 32 | 5,00 |



## ROHX / XOHX / ROGX

-MR5  
CTPP211-FM1  
CTPP216-FM3  
CTPP216-FM4  
CTPP216-FM4  
CTPK226-MR4  
CTPK231-FM6  
CTCN211

| ISO                   | RE<br>mm | ROHX<br>NEW WB<br>Artikel č.<br>56 149 ...<br>EUR |       | XOHX<br>NEW WB<br>Artikel č.<br>56 169 ...<br>EUR |       | ROHX<br>NEW WB<br>Artikel č.<br>56 147 ...<br>EUR |       | ROHX<br>NEW WB<br>Artikel č.<br>56 141 ...<br>EUR |       | ROHX<br>NEW WB<br>Artikel č.<br>56 141 ...<br>EUR |       | ROGX<br>NEW WB<br>Artikel č.<br>56 143 ...<br>EUR |       | ROHX<br>NEW WB<br>Artikel č.<br>56 145 ...<br>EUR |                   |
|-----------------------|----------|---------------------------------------------------|-------|---------------------------------------------------|-------|---------------------------------------------------|-------|---------------------------------------------------|-------|---------------------------------------------------|-------|---------------------------------------------------|-------|---------------------------------------------------|-------------------|
|                       |          |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |                   |
| 0616 R3               | 3,0      |                                                   |       |                                                   |       | 30,87                                             | 30200 | 25,73                                             | 90200 |                                                   |       |                                                   |       | 76,96                                             | 602 <sup>1)</sup> |
| 0820 R4               | 4,0      | 31,38                                             | 71300 |                                                   |       | 37,43                                             | 31300 | 24,72                                             | 71300 | 25,92                                             | 11300 |                                                   |       | 100,20                                            | 613 <sup>1)</sup> |
| 1025 R5               | 5,0      | 31,38                                             | 72400 |                                                   |       | 37,43                                             | 32400 | 24,72                                             | 72400 | 25,92                                             | 12400 |                                                   |       | 100,20                                            | 624 <sup>1)</sup> |
| 102540                | 4,0      |                                                   |       | 33,89                                             | 92400 |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |                   |
| 1225 R6               | 6,0      |                                                   |       |                                                   |       | 38,03                                             | 33500 | 25,73                                             | 73500 | 25,92                                             | 13500 | 25,22                                             | 53500 | 100,20                                            | 635 <sup>1)</sup> |
| 122550                | 5,0      |                                                   |       | 36,32                                             | 93500 |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |                   |
| 1630 R8               | 8,0      |                                                   |       |                                                   |       | 40,96                                             | 34600 | 29,56                                             | 74600 | 30,21                                             | 14600 | 29,56                                             | 54600 | 113,50                                            | 646 <sup>1)</sup> |
| 163070                | 7,0      |                                                   |       | 38,84                                             | 94700 |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |                   |
| 2030 R10              | 10,0     |                                                   |       |                                                   |       | 43,38                                             | 35700 | 33,89                                             | 75700 | 33,77                                             | 15700 | 33,89                                             | 55700 |                                                   |                   |
| 203090                | 9,0      |                                                   |       | 44,28                                             | 95900 |                                                   |       |                                                   |       |                                                   |       |                                                   |       |                                                   |                   |
| 2540 R12,5            | 12,5     |                                                   |       |                                                   |       | 53,98                                             | 36800 | 50,54                                             | 76800 | 50,37                                             | 16800 | 49,94                                             | 56800 |                                                   |                   |
| 3250 R16              | 16,0     |                                                   |       |                                                   |       | 72,33                                             | 37900 | 73,84                                             | 77900 | 74,69                                             | 17900 | 68,90                                             | 57900 |                                                   |                   |
| Oceľ                  |          | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |                   |
| Nehrdzavejúca oceľ    |          | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |                   |
| Liatina               |          | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |                   |
| Neželezné kovy        |          | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |                   |
| Žiaruvzdorná zliatina |          | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |                   |
| Kalená oceľ           |          | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |       | •                                                 |                   |

1) Špeciálne pre obrábanie grafitu!

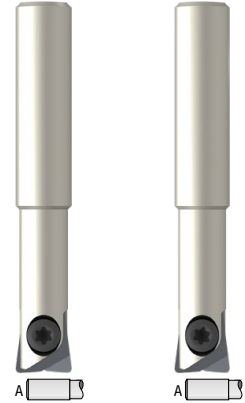
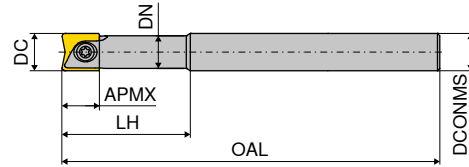
## Sprievodca frézovaním

|            |           |                            |           |
|------------|-----------|----------------------------|-----------|
| Prísuv     | → 185     | Systém označovania         | → 194+195 |
| Popis sort | → 209+210 | Orientačné rezné parametre | → 183+184 |



## Držiak doštičiek pre kopírovacie frézovanie K 2005C / K 2006C

▲ s TK stopkou



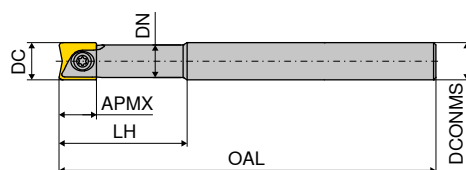
| Označenie               | DC | APMX | DN   | LH | OAL | DCONMS <sub>h6</sub> | Doťahovací moment<br>Nm | WA                              |                                 |
|-------------------------|----|------|------|----|-----|----------------------|-------------------------|---------------------------------|---------------------------------|
|                         |    |      |      |    |     |                      |                         | Artikel č.<br>56 110 ...<br>EUR | Artikel č.<br>56 111 ...<br>EUR |
| K2005C.8.27.82          | 8  | 9,5  | 7,0  | 27 | 82  | 8                    | 1                       | 379,60                          | 081 <sup>1)</sup>               |
| K2005C.8.27.102         | 8  | 9,5  | 7,0  | 27 | 102 | 8                    | 1                       | 379,60                          | 082 <sup>1)</sup>               |
| K2005C.8.42.152         | 8  | 9,5  | 7,0  | 42 | 152 | 8                    | 1                       | 421,50                          | 083 <sup>1)</sup>               |
| K2005C.10.37.82         | 10 | 11,5 | 8,8  | 37 | 82  | 10                   | 5                       | 458,20                          | 101 <sup>1)</sup>               |
| K2005C.10.37.122        | 10 | 11,5 | 8,8  | 37 | 122 | 10                   | 5                       | 471,90                          | 102 <sup>1)</sup>               |
| K2005C.10.52.152        | 10 | 11,5 | 8,8  | 52 | 152 | 10                   | 5                       | 523,30                          | 103 <sup>1)</sup>               |
| K2005C/K2006C.12.37.82  | 12 | 14,0 | 10,5 | 37 | 82  | 12                   | 5                       | 476,00                          | 121 <sup>1)</sup> 476,00 121    |
| K2005C/K2006C.12.37.122 | 12 | 14,0 | 10,5 | 37 | 122 | 12                   | 5                       | 497,00                          | 122 <sup>1)</sup> 497,00 122    |
| K2005C/K2006C.12.52.162 | 12 | 14,0 | 10,5 | 52 | 162 | 12                   | 5                       | 531,60                          | 123 <sup>1)</sup> 531,60 123    |
| K2006C.16.42.102        | 16 | 16,0 | 14,0 | 42 | 102 | 16                   | 5                       |                                 | 655,40 161                      |
| K2006C.16.42.142        | 16 | 16,0 | 14,0 | 42 | 142 | 16                   | 5                       |                                 | 655,40 162                      |
| K2006C.16.57.177        | 16 | 16,0 | 14,0 | 57 | 177 | 16                   | 5                       |                                 | 714,00 163                      |
| K2006C.20.52.102        | 20 | 18,0 | 18,0 | 52 | 102 | 20                   | 5                       |                                 | 834,60 201                      |
| K2006C.20.52.142        | 20 | 18,0 | 18,0 | 52 | 142 | 20                   | 5                       |                                 | 834,60 202                      |
| K2006C.20.77.192        | 20 | 18,0 | 18,0 | 77 | 192 | 20                   | 5                       |                                 | 979,40 203                      |
| K2006C.25.62.162        | 25 | 23,5 | 22,4 | 62 | 162 | 25                   | 5                       |                                 | 1.182,00 252                    |
| K2006C.25.92.212        | 25 | 23,5 | 22,4 | 92 | 212 | 25                   | 5                       |                                 | 1.478,00 253                    |

1) Bez vnútorného privádzania chladiaceho média

## Použiteľné doštičky

|  |                                      |
|--|--------------------------------------|
|  | XOHX-FM2 / -FM5 / -MR2 / -MR3 / -MR6 |
|  | XOGX-MF4                             |

## Držiak doštičiek pre kopírovacie frézovanie K 2007C

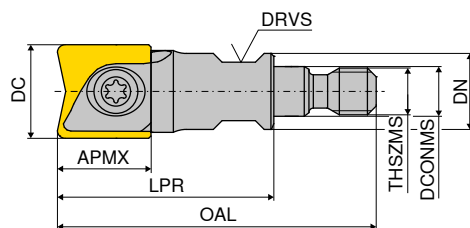


| Označenie        | DC | APMX | DN   | LH | OAL | DCONMS <sub>h6</sub> | Doťahovací moment<br>Nm | WA         |     |
|------------------|----|------|------|----|-----|----------------------|-------------------------|------------|-----|
|                  |    |      |      |    |     |                      |                         | Artikel č. |     |
|                  | mm | mm   | mm   | mm | mm  | mm                   |                         | 56 112 ... |     |
| K2007C.12.34.92  | 12 | 14,0 | 10,5 | 34 | 92  | 12                   | 5                       | 102,20     | 121 |
| K2007C.12.34.132 | 12 | 14,0 | 10,5 | 34 | 132 | 12                   | 5                       | 93,53      | 122 |
| K2007C.12.48.152 | 12 | 14,0 | 10,5 | 48 | 152 | 12                   | 5                       | 97,83      | 123 |
| K2007C.16.38.102 | 16 | 16,0 | 14,0 | 38 | 102 | 16                   | 5                       | 99,09      | 161 |
| K2007C.16.38.142 | 16 | 16,0 | 14,0 | 38 | 142 | 16                   | 5                       | 99,09      | 162 |
| K2007C.16.55.162 | 16 | 16,0 | 14,0 | 55 | 162 | 16                   | 5                       | 104,40     | 163 |
| K2007C.20.47.162 | 20 | 18,0 | 18,0 | 47 | 162 | 20                   | 5                       | 103,40     | 202 |
| K2007C.20.63.177 | 20 | 18,0 | 18,0 | 63 | 177 | 20                   | 5                       | 123,70     | 203 |
| K2007C.25.47.162 | 25 | 23,5 | 22,4 | 47 | 162 | 25                   | 5                       | 145,70     | 252 |
| K2007C.25.72.192 | 25 | 23,5 | 22,4 | 72 | 192 | 25                   | 5                       | 151,00     | 253 |
| K2007C.32.58.177 | 32 | 28,0 | 28,6 | 58 | 177 | 32                   | 5                       | 185,60     | 322 |
| K2007C.32.82.212 | 32 | 28,0 | 28,6 | 82 | 212 | 32                   | 5                       | 195,00     | 323 |

## Použiteľné doštičky

|  |                                      |
|--|--------------------------------------|
|  | XOHX-FM2 / -FM5 / -MR2 / -MR3 / -MR6 |
|  | XOGX-MF4                             |

## Držiak doštičiek pre kopírovacie frézovanie K 2005G



| Označenie        | DC | APMX | DN | LPR | OAL  | DCONMS | THSZMS | DRVS | Dotahovací moment<br>Nm | WA<br>Artikel č.<br>56 130 ...<br>EUR |                   |
|------------------|----|------|----|-----|------|--------|--------|------|-------------------------|---------------------------------------|-------------------|
| K2005G.8.25.M6   | 8  | 9,5  | 10 | 25  | 39,5 | 6,5    | M6     | 8    | 1                       | 208,70                                | 081 <sup>1)</sup> |
| K2005G.10.25.M6  | 10 | 11,5 | 10 | 25  | 39,5 | 6,5    | M6     | 8    | 5                       | 206,50                                | 101 <sup>1)</sup> |
| K2005G.12.25.M6  | 12 | 14,0 | 10 | 25  | 39,5 | 6,5    | M6     | 8    | 5                       | 212,90                                | 121 <sup>1)</sup> |
| K2005G.12.28.M8  | 12 | 14,0 | 13 | 28  | 45,5 | 8,5    | M8     | 8    | 5                       | 212,90                                | 122               |
| K2005G.16.28.M8  | 16 | 16,0 | 13 | 28  | 45,5 | 8,5    | M8     | 10   | 5                       | 221,20                                | 161               |
| K2005G.20.32.M10 | 20 | 18,0 | 18 | 32  | 51,5 | 10,5   | M10    | 15   | 5                       | 225,50                                | 201               |
| K2005G.25.42.M12 | 25 | 23,5 | 21 | 42  | 64,0 | 12,5   | M12    | 17   | 5                       | 233,80                                | 251               |
| K2005G.32.47.M16 | 32 | 28,0 | 30 | 47  | 71,0 | 17,0   | M16    | 26   | 5                       | 249,50                                | 321               |

1) Bez vnútorného privádzania chladiaceho média

## Použiteľné doštičky

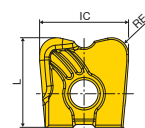
|  |                                      |
|--|--------------------------------------|
|  | XOHX-FM2 / -FM5 / -MR2 / -MR3 / -MR6 |
|  | XOGX-MF4                             |

Náhradné diely  
DC

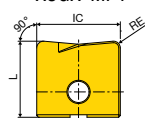
|    | Y7<br>Výmenná vložka<br>TORX®<br>Artikel č.<br>80 950 ...<br>EUR | Y7<br>Kľúč D<br>Artikel č.<br>80 950 ...<br>EUR | 2A/28<br>Pasta<br>Molykote<br>Artikel č.<br>70 950 ...<br>EUR | WA<br>Upínacia skrutka<br>Artikel č.<br>56 950 ...<br>EUR | Y7<br>Rukoväť<br>Artikel č.<br>80 950 ...<br>EUR |
|----|------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------|
| 8  | 4,76 033                                                         | 7,80 110                                        | 4,38 303                                                      | 6,10 042                                                  | 118,90 191                                       |
| 10 | 4,76 036                                                         | 9,28 113                                        | 4,38 303                                                      | 6,10 043                                                  | 131,90 193                                       |
| 12 | 4,76 037                                                         | 9,95 114                                        | 4,38 303                                                      | 8,33 044                                                  | 131,90 193                                       |
| 16 | 4,76 037                                                         | 9,95 114                                        | 4,38 303                                                      | 8,33 045                                                  | 131,90 193                                       |
| 20 | 4,76 037                                                         | 9,95 114                                        | 4,38 303                                                      | 8,33 046                                                  | 131,90 193                                       |
| 25 |                                                                  | 12,10 131                                       | 4,38 303                                                      | 8,33 047                                                  |                                                  |
| 32 |                                                                  | 12,10 131                                       | 4,38 303                                                      | 8,45 048                                                  |                                                  |

## XOHX / XOGX

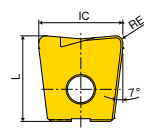
| Označenie   | IC | S    | L    |
|-------------|----|------|------|
|             | mm | mm   | mm   |
| XO.X10251.. | 10 | 2,50 | 11,5 |
| XO.X12251.. | 12 | 2,50 | 14,0 |
| XO.X12252.. | 12 | 2,50 | 14,0 |
| XO.X16301.. | 16 | 3,00 | 16,0 |
| XO.X16303.. | 16 | 3,00 | 16,0 |
| XO.X20301.. | 20 | 3,00 | 18,0 |
| XO.X20304.. | 20 | 3,00 | 18,0 |
| XOHX06160.. | 6  | 1,60 | 8,0  |
| XOHX08200.. | 8  | 2,00 | 9,5  |
| XOHX08201.. | 8  | 2,00 | 9,5  |
| XOHX10250.. | 10 | 2,50 | 11,5 |
| XOHX12252.. | 12 | 3,00 | 14,0 |
| XOHX20302.. | 20 | 3,00 | 18,0 |
| XOHX25401.. | 25 | 4,00 | 23,5 |
| XOHX25402.. | 25 | 4,00 | 23,5 |
| XOHX25405.. | 25 | 4,00 | 23,5 |
| XOHX32502.. | 32 | 5,00 | 28,0 |



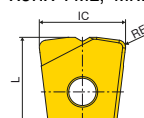
XOGX -MF4



XOHX -FM5, -MR6



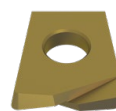
XOHX -FM2, -MR2



XOHX -MR3

## XOHX / XOGX

|                 |                 |                 |                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| -MR2<br>CTPP211 | -MR6<br>CTPP211 | -FM2<br>CTPP216 | -FM5<br>CTPP216 | -MF4<br>CTPP216 | -MR3<br>CTPK231 | -MR2<br>CTCN211 |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|



| ISO    | RE  | XOHX       |       | XOHX       |       | XOHX       |       | XOHX       |       | XOGX       |       | XOHX       |       | XOHX       |                   |
|--------|-----|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------------------|
|        |     | NEW        | WB    | NEW        | WB    | NEW        | WB    | NEW        | WB    | NEW        | WB    | NEW        | WB    | NEW        | WB                |
|        |     | Artikel č. |       | Artikel č. |       | Artikel č. |       | Artikel č. |       | Artikel č. |       | Artikel č. |       | Artikel č. |                   |
|        | mm  | 56 167 ... | EUR   | 56 163 ... | EUR   | 56 165 ... | EUR   | 56 159 ... | EUR   | 56 161 ... | EUR   | 56 171 ... | EUR   | 56 168 ... | EUR               |
| 061605 | 0,5 | 32,08      | 71000 |            |       |            |       |            |       |            |       |            |       | 76,96      | 610 <sup>1)</sup> |
| 082006 | 0,6 |            |       | 34,50      | 71000 | 30,37      | 71000 | 26,53      | 71000 |            |       |            |       |            |                   |
| 082010 | 1,0 | 35,11      | 71200 |            |       | 30,37      | 71200 |            |       |            |       |            |       | 92,10      | 612 <sup>1)</sup> |
| 102508 | 0,8 |            |       | 34,50      | 72100 | 30,37      | 72100 | 26,23      | 72100 |            |       | 38,23      | 32100 |            |                   |
| 102510 | 1,0 | 35,11      | 72200 |            |       | 30,37      | 72200 |            |       | 30,67      | 92200 |            |       | 97,94      | 622 <sup>1)</sup> |
| 122510 | 1,0 | 37,63      | 73200 | 37,63      | 73200 | 31,38      | 73200 | 29,56      | 73200 | 33,29      | 93200 | 38,23      | 53200 | 106,10     | 632 <sup>1)</sup> |
| 122520 | 2,0 | 37,63      | 73500 |            |       | 31,38      | 73500 |            |       | 33,29      | 93500 |            |       |            |                   |
| 163010 | 1,0 | 40,65      | 74200 |            |       | 36,32      | 74200 |            |       | 37,63      | 94200 |            |       | 131,90     | 642 <sup>1)</sup> |
| 163013 | 1,3 |            |       | 40,05      | 74300 | 36,32      | 74300 | 33,89      | 74300 |            |       |            |       |            |                   |
| 163015 | 1,5 |            |       |            |       |            |       |            |       |            |       | 40,65      | 54400 |            |                   |
| 163030 | 3,0 | 40,65      | 74700 |            |       | 36,32      | 74500 |            |       | 37,63      | 94700 |            |       |            |                   |
| 203010 | 1,0 | 46,81      | 75200 |            |       | 40,05      | 75200 |            |       | 42,47      | 95200 |            |       |            |                   |
| 203016 | 1,6 |            |       | 45,59      | 75400 | 40,05      | 75400 | 38,84      | 75400 |            |       |            |       |            |                   |
| 203020 | 2,0 |            |       |            |       |            |       |            |       |            |       | 48,02      | 55500 |            |                   |
| 203040 | 4,0 | 46,81      | 75800 |            |       | 40,05      | 75800 |            |       | 42,47      | 95800 |            |       |            |                   |
| 254010 | 1,0 | 59,72      | 76200 |            |       | 51,75      | 76200 |            |       |            |       |            |       |            |                   |
| 254020 | 2,0 |            |       | 62,74      | 76500 | 51,75      | 76500 | 54,17      | 76500 |            |       |            |       |            |                   |
| 254050 | 5,0 | 59,72      | 76900 |            |       | 51,75      | 76900 |            |       |            |       |            |       |            |                   |
| 325025 | 2,5 |            |       | 88,67      | 77600 |            |       | 75,16      | 77600 |            |       |            |       |            |                   |

|                       |   |   |   |   |   |   |
|-----------------------|---|---|---|---|---|---|
| Oceľ                  | • | • | • | • | • | • |
| Nehrdzavejúca oceľ    | • | • | • | • | • | • |
| Liatina               | • | • | • | • | • | • |
| Neželezné kovy        | ○ | ○ |   |   |   | • |
| Žiaruvzdorná zliatina | • | • | • | • | • | • |
| Kalená oceľ           | ○ | ○ | • | • | • |   |

1) Špeciálne pre obrábanie grafitu!

## Sprievodca frézovaním

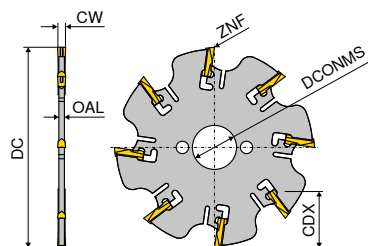
|            |           |                            |           |
|------------|-----------|----------------------------|-----------|
| Prísuv     | → 185     | Systém označovania         | → 194+195 |
| Popis sort | → 209+210 | Orientačné rezné parametre | → 183+184 |

## Kotúčová fréza – systém FM

▲ z bezpečnostných dôvodov nesmie prísť k prekročeniu reznej rýchlosti 250 m/min!

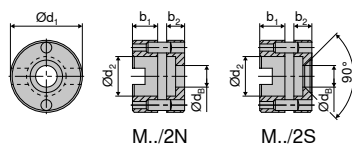
### Rozsah dodávky:

vr. vyhadzovača



| Označenie       | DC  | CW  | ZNF | CDX | OAL | DCONMS | RPMX   | Vymeniteľná doštička | 2B         |     |
|-----------------|-----|-----|-----|-----|-----|--------|--------|----------------------|------------|-----|
|                 |     |     |     |     |     |        |        |                      | Artikel č. |     |
|                 | mm  | mm  |     | mm  | mm  | mm     | 1/min. |                      | 50 756 ... |     |
| SF-1,8-Z 8-100  | 100 | 2,3 | 8   | 28  | 1,8 | 22     | 800    | FM-2.3 ...           | EUR 524,30 | 100 |
| SF-2,4-Z 8-100  | 100 | 3,0 | 8   | 28  | 2,4 | 22     | 800    | FM-3.0 ...           | EUR 476,00 | 102 |
| SF-2,8-Z 8-100  | 100 | 4,0 | 8   | 28  | 2,8 | 22     | 800    | FM-4.0 ...           | EUR 476,00 | 104 |
| SF-3,7-Z 8-100  | 100 | 5,0 | 8   | 28  | 3,7 | 22     | 800    | FM-5.0 ...           | EUR 608,10 | 106 |
| SF-4,7-Z 8-100  | 100 | 6,0 | 8   | 28  | 4,7 | 22     | 800    | FM-6.0 ...           | EUR 633,40 | 108 |
| SF-1,8-Z 10-125 | 125 | 2,3 | 10  | 40  | 1,8 | 22     | 650    | FM-2.3 ...           | EUR 623,90 | 110 |
| SF-2,4-Z 10-125 | 125 | 3,0 | 10  | 40  | 2,4 | 22     | 650    | FM-3.0 ...           | EUR 564,10 | 112 |
| SF-2,8-Z 10-125 | 125 | 4,0 | 10  | 40  | 2,8 | 22     | 650    | FM-4.0 ...           | EUR 564,10 | 114 |
| SF-3,7-Z 10-125 | 125 | 5,0 | 10  | 40  | 3,7 | 22     | 650    | FM-5.0 ...           | EUR 722,50 | 116 |
| SF-4,7-Z 10-125 | 125 | 6,0 | 10  | 40  | 4,7 | 22     | 650    | FM-6.0 ...           | EUR 766,50 | 118 |
| SF-2,4-Z 15-160 | 160 | 3,0 | 15  | 49  | 2,4 | 32     | 500    | FM-3.0 ...           | EUR 663,70 | 120 |
| SF-2,8-Z 15-160 | 160 | 4,0 | 15  | 49  | 2,8 | 32     | 500    | FM-4.0 ...           | EUR 663,70 | 122 |
| SF-3,7-Z 15-160 | 160 | 5,0 | 15  | 49  | 3,7 | 32     | 500    | FM-5.0 ...           | EUR 809,50 | 124 |
| SF-4,7-Z 15-160 | 160 | 6,0 | 15  | 49  | 4,7 | 32     | 500    | FM-6.0 ...           | EUR 844,10 | 126 |

## Unášač



| Typ    | d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | d <sub>8</sub><br>mm | b <sub>1</sub><br>mm | b <sub>2</sub><br>mm | Ø<br>mm | 2A         |     |
|--------|----------------------|----------------------|----------------------|----------------------|----------------------|---------|------------|-----|
|        |                      |                      |                      |                      |                      |         | Artikel č. |     |
| M22/2N | 40                   | 22                   | 12                   | 14,5                 | 10                   | 100/125 | EUR 53,16  | 800 |
| M32/2N | 58                   | 32                   | 18                   | 17,5                 | 15                   | 160     | EUR 56,31  | 801 |
| M22/2S | 40                   | 22                   | 12                   | 14,5                 | 10                   | 100/125 | EUR 59,56  | 802 |
| M32/2S | 58                   | 32                   | 18                   | 17,5                 | 15                   | 160     | EUR 65,22  | 803 |

## Vyhadzovač



| 2A | Artikel č. |     |
|----|------------|-----|
|    |            |     |
|    | 70 950 ... |     |
|    | EUR        |     |
|    | 3,72       | 804 |

## FM

|                       | -N<br>CWN35                                                                         |     | -KXF<br>CWN35                                                                       |     | -N<br>CWK12                                                                         |     |
|-----------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|                       |  |     |  |     |  |     |
|                       | FM<br>V5                                                                            |     | FM<br>V5                                                                            |     | FM<br>V5                                                                            |     |
| ISO                   | Artikel č.<br>50 491 ...                                                            |     | Artikel č.<br>50 492 ...                                                            |     | Artikel č.<br>50 491 ...                                                            |     |
|                       | EUR                                                                                 |     | EUR                                                                                 |     | EUR                                                                                 |     |
| FM-2.3-8              | 10,50                                                                               | 023 | 10,50                                                                               | 023 | 9,50                                                                                | 123 |
| FM-3.0-8              | 10,50                                                                               | 030 | 10,50                                                                               | 030 | 9,50                                                                                | 130 |
| FM-4.0-8              | 10,50                                                                               | 040 | 10,50                                                                               | 040 | 9,50                                                                                | 140 |
| FM-5.0-8              | 13,29                                                                               | 050 |                                                                                     |     | 12,97                                                                               | 150 |
| FM-6.0-8              | 13,29                                                                               | 060 |                                                                                     |     | 12,97                                                                               | 160 |
| Oceľ                  |                                                                                     | •   |                                                                                     | •   |                                                                                     |     |
| Nehrdzavejúca oceľ    |                                                                                     | •   |                                                                                     | •   |                                                                                     |     |
| Liatina               |                                                                                     |     |                                                                                     |     |                                                                                     | •   |
| Neželezné kovy        |                                                                                     |     |                                                                                     |     |                                                                                     | •   |
| Žiaruvzdorná zliatina |                                                                                     |     |                                                                                     |     |                                                                                     |     |
| Kalená oceľ           |                                                                                     |     |                                                                                     |     |                                                                                     |     |

## Sprievodca frézovaním

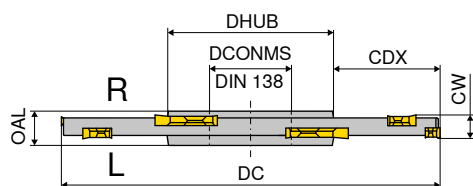
|                     |           |                          |           |
|---------------------|-----------|--------------------------|-----------|
| Stratégia obrábania | → 188     | Systém označovania       | → 194+195 |
| Popis sort          | → 209+210 | Orientačné rezné hodnoty | → 187     |

## Kotúčová rohová fréza TX

- ▲ Pozor: Kotúčové rohové frézy TX majú presadené zuby a osadzujú sa britovými doštičkami v pravom a ľavom prevedení
- ▲ ZEFP = počet vymeniteľných britových doštičiek

### Rozsah dodávky:

kotúčová fréza, 2 náhradné upínacie skrutky a 1 kľúč Torx



| Označenie           | DC  | CW | ZNF | CDX  | DCONMS | DHUB | OAL | ZEFP | Vymeniteľná doštička | Dotahovací moment Nm | V5                    |     |
|---------------------|-----|----|-----|------|--------|------|-----|------|----------------------|----------------------|-----------------------|-----|
|                     |     |    |     |      |        |      |     |      |                      |                      | Artikel č. 50 730 ... |     |
| TX.STF.80X27.03.Z4  | 80  | 3  | 4   | 18,0 | 27     | 40   | 8   | 8    | TX. 161702           | 0,9                  | 493,90                | 083 |
| TX.STF.100X32.03.Z5 | 100 | 3  | 5   | 25,0 | 32     | 46   | 8   | 10   | TX. 161702           | 0,9                  | 621,80                | 103 |
| TX.STF.125X40.03.Z6 | 125 | 3  | 6   | 32,0 | 40     | 54   | 10  | 12   | TX. 161702           | 0,9                  | 679,50                | 123 |
| TX.STF.160X40.03.Z8 | 160 | 3  | 8   | 50,0 | 40     | 54   | 10  | 16   | TX. 161702           | 0,9                  | 793,80                | 163 |
| TX.STF.80X27.04.Z4  | 80  | 4  | 4   | 18,0 | 27     | 40   | 8   | 8    | TX. 162302           | 1,3                  | 486,50                | 084 |
| TX.STF.100X32.04.Z5 | 100 | 4  | 5   | 25,0 | 32     | 46   | 8   | 10   | TX. 162302           | 1,3                  | 613,40                | 104 |
| TX.STF.125X40.04.Z6 | 125 | 4  | 6   | 32,0 | 40     | 54   | 10  | 12   | TX. 162302           | 1,3                  | 669,00                | 124 |
| TX.STF.160X40.04.Z8 | 160 | 4  | 8   | 50,0 | 40     | 54   | 10  | 16   | TX. 162302           | 1,3                  | 783,30                | 164 |
| TX.STF.80X27.06.Z4  | 80  | 6  | 4   | 21,0 | 27     | 36   | 10  | 8    | TX. 223202           | 2                    | 319,80                | 086 |
| TX.STF.80X22.06.Z4  | 80  | 6  | 4   | 22,0 | 22     | 33   | 10  | 8    | TX. 223202           | 2                    | 319,80                | 080 |
| TX.STF.100X32.06.Z5 | 100 | 6  | 5   | 25,5 | 32     | 47   | 10  | 10   | TX. 223202           | 2                    | 380,60                | 106 |
| TX.STF.125X40.06.Z6 | 125 | 6  | 6   | 32,5 | 40     | 58   | 10  | 12   | TX. 223202           | 2                    | 513,80                | 136 |
| TX.STF.160X40.06.Z8 | 160 | 6  | 8   | 50,0 | 40     | 58   | 10  | 16   | TX. 223202           | 2                    | 681,60                | 166 |
| TX.STF.80X27.08.Z4  | 80  | 8  | 4   | 21,0 | 27     | 36   | 12  | 8    | TX. 224302           | 2,8                  | 319,80                | 088 |
| TX.STF.100X32.08.Z5 | 100 | 8  | 5   | 25,5 | 32     | 47   | 12  | 10   | TX. 224302           | 2,8                  | 380,60                | 108 |
| TX.STF.125X40.08.Z6 | 125 | 8  | 6   | 32,5 | 40     | 58   | 12  | 12   | TX. 224302           | 2,8                  | 513,80                | 138 |
| TX.STF.160X40.08.Z8 | 160 | 8  | 8   | 50,0 | 40     | 58   | 12  | 16   | TX. 224302           | 2,8                  | 660,60                | 168 |
| TX.STF.80X27.10.Z4  | 80  | 10 | 4   | 21,0 | 27     | 36   | 12  | 8    | TX. 225402           | 3                    | 319,80                | 090 |
| TX.STF.100X32.10.Z5 | 100 | 10 | 5   | 25,5 | 32     | 47   | 12  | 10   | TX. 225402           | 3                    | 380,60                | 110 |
| TX.STF.125X40.10.Z6 | 125 | 10 | 6   | 32,5 | 40     | 58   | 14  | 12   | TX. 225402           | 3                    | 513,80                | 140 |
| TX.STF.160X40.10.Z8 | 160 | 10 | 8   | 50,0 | 40     | 58   | 14  | 16   | TX. 225402           | 3                    | 681,60                | 170 |

### Náhradné diely CW

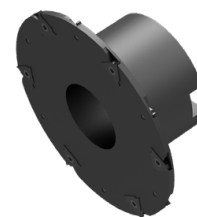
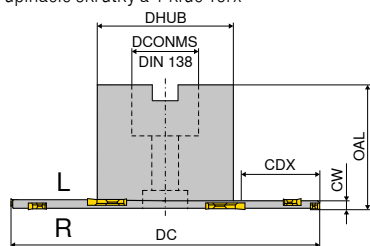
|    | Y7                    |     | Y7                    |     | 2A/28                 |     | V5                    |     | Y7                    |     |
|----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|    |                       |     |                       |     |                       |     |                       |     |                       |     |
|    | Artikel č. 80 950 ... |     | Artikel č. 80 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 80 950 ... |     |
|    | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| 3  | 4,76                  | 032 | 7,80                  | 109 | 4,38                  | 303 | 4,71                  | 858 | 118,90                | 191 |
| 4  | 4,76                  | 033 | 7,80                  | 110 | 4,38                  | 303 | 2,16                  | 218 | 118,90                | 191 |
| 6  | 4,76                  | 036 | 9,28                  | 113 | 4,38                  | 303 | 2,81                  | 101 | 128,60                | 192 |
| 8  | 4,76                  | 037 | 9,95                  | 114 | 4,38                  | 303 | 2,81                  | 135 | 128,60                | 192 |
| 10 | 4,76                  | 037 | 9,95                  | 114 | 4,38                  | 303 | 2,76                  | 146 | 128,60                | 192 |

## Nástrčná kotúčová fréza TX

- ▲ Pozor: Kotúčové rohové frézy TX majú presadené zuby a osadzujú sa britovými doštičkami v pravom a ľavom prevedení
- ▲ ZEFP = počet vymeniteľných britových doštičiek

### Rozsah dodávky:

kotúčová fréza, 2 náhradné upínacie skrutky a 1 kľúč Torx



| Označenie           | DC  | CW | ZNF | CDX  | DCONMS | DHUB | OAL | ZEFP | Dofahovací moment<br>Nm | Vymeniteľná<br>doštička | V5                       |     |
|---------------------|-----|----|-----|------|--------|------|-----|------|-------------------------|-------------------------|--------------------------|-----|
|                     |     |    |     |      |        |      |     |      |                         |                         | Artikel č.<br>50 734 ... |     |
| TX.ASF.100.R.03.Z5  | 100 | 3  | 5   | 25,0 | 27     | 48   | 50  | 10   | 0,9                     | TX. 161702              | 565,10                   | 300 |
| TX.ASF.125.R.03.Z6  | 125 | 3  | 6   | 37,5 | 27     | 48   | 50  | 12   | 0,9                     | TX. 161702              | 877,60                   | 225 |
| TX.ASF.160.R.03.Z8  | 160 | 3  | 8   | 44,0 | 40     | 70   | 50  | 16   | 0,9                     | TX. 161702              | 940,50                   | 260 |
| TX.ASF.100.R.04.Z5  | 100 | 4  | 5   | 25,0 | 27     | 48   | 50  | 10   | 3,2                     | TX. 162302              | 556,80                   | 100 |
| TX.ASF.125.R.04.Z6  | 125 | 4  | 6   | 37,5 | 27     | 48   | 50  | 12   | 3,2                     | TX. 162302              | 804,30                   | 025 |
| TX.ASF.125.R.04.Z6  | 125 | 4  | 6   | 26,5 | 40     | 70   | 50  | 12   | 3,2                     | TX. 162302              | 783,30                   | 125 |
| TX.ASF.160.R.04.Z8  | 160 | 4  | 8   | 55,0 | 27     | 48   | 50  | 16   | 3,2                     | TX. 162302              | 980,40                   | 060 |
| TX.ASF.160.R.04.Z8  | 160 | 4  | 8   | 44,0 | 40     | 70   | 50  | 16   | 3,2                     | TX. 162302              | 926,90                   | 160 |
| TX.ASF.180.R.04.Z9  | 180 | 4  | 9   | 54,0 | 40     | 70   | 50  | 18   | 3,2                     | TX. 162302              | 1.072,00                 | 180 |
| TX.ASF.200.R.04.Z10 | 200 | 4  | 10  | 64,0 | 40     | 70   | 50  | 20   | 3,2                     | TX. 162302              | 1.194,00                 | 200 |

| Náhradné diely<br>CW DCONMS |    | V5                       |     | Y7                       |     | V5                       |     | Y7                       |     | 2A/28                    |     | V5                       |     | Y7                       |     |
|-----------------------------|----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                             |    | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>70 950 ... |     | Artikel č.<br>80 950 ... |     |
|                             |    | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     |
| 3                           | 40 | 1,63                     | 222 | 4,76                     | 032 | 7,03                     | 220 | 7,80                     | 109 | 4,38                     | 303 | 4,71                     | 858 | 118,90                   | 191 |
| 3                           | 27 | 1,08                     | 221 | 4,76                     | 032 | 1,63                     | 219 | 7,80                     | 109 | 4,38                     | 303 | 4,71                     | 858 | 118,90                   | 191 |
| 4                           | 27 | 1,08                     | 221 | 4,76                     | 033 | 1,63                     | 219 | 7,80                     | 110 | 4,38                     | 303 | 2,16                     | 218 | 128,60                   | 192 |
| 4                           | 40 | 1,63                     | 222 | 4,76                     | 033 | 7,03                     | 220 | 7,80                     | 110 | 4,38                     | 303 | 2,16                     | 218 | 128,60                   | 192 |



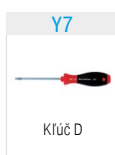
Podkladacia  
doštička



Výmenná vložka  
TORX®



Upínacia skrutka



Kľúč D



Pasta  
Molykote



Upínacia skrutka

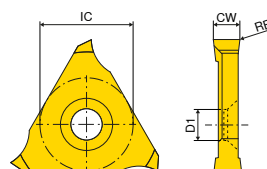


Rukoväť



## TX-L / TX-R

| Označenie   | IC | D1   | CW  |
|-------------|----|------|-----|
|             | mm | mm   | mm  |
| TX . 1617.. | 10 | 3,95 | 1,7 |
| TX . 1623.. | 10 | 3,95 | 2,3 |
| TX . 2232.. | 13 | 5,50 | 3,2 |
| TX . 2243.. | 13 | 5,50 | 4,3 |
| TX . 2254.. | 13 | 5,50 | 5,4 |



## TX-L / TX-R

|        |        |       |       |
|--------|--------|-------|-------|
| CWX500 | CWX500 | CWK10 | CWK10 |
|--------|--------|-------|-------|



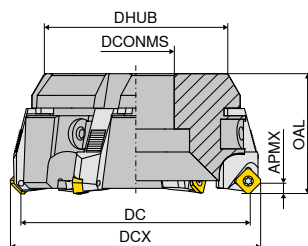
| ISO                   | RE  | TX-L<br>V5               |     | TX-R<br>V5               |     | TX-L<br>V5               |     | TX-R<br>V5               |     |
|-----------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|--------------------------|-----|
|                       |     | Artikel č.<br>50 382 ... |     | Artikel č.<br>50 381 ... |     | Artikel č.<br>50 382 ... |     | Artikel č.<br>50 381 ... |     |
|                       | mm  | EUR                      |     | EUR                      |     | EUR                      |     | EUR                      |     |
| TX 161702             | 0,2 | 19,78                    | 217 | 19,78                    | 217 |                          |     |                          |     |
| TX 162302             | 0,2 | 19,56                    | 223 | 19,56                    | 223 |                          |     |                          |     |
| TX 223202             | 0,2 | 29,52                    | 232 | 29,52                    | 232 | 26,16                    | 532 | 26,16                    | 532 |
| TX 224302             | 0,2 | 29,83                    | 243 | 29,83                    | 243 | 26,70                    | 543 | 26,70                    | 543 |
| TX 225402             | 0,2 | 22,16                    | 254 | 22,16                    | 254 | 19,02                    | 554 | 19,02                    | 554 |
| Oceľ                  |     |                          |     |                          |     |                          |     |                          |     |
| Nehrdzavejúca oceľ    |     |                          |     |                          |     |                          |     |                          |     |
| Liatina               |     |                          |     |                          |     |                          |     |                          |     |
| Neželezné kovy        |     |                          |     |                          |     |                          |     |                          |     |
| Žiaruvzdorná zliatina |     |                          |     |                          |     |                          |     |                          |     |
| Kalená oceľ           |     |                          |     |                          |     |                          |     |                          |     |

## Sprievodca frézovaním

|                          |           |                    |           |
|--------------------------|-----------|--------------------|-----------|
| Popis sort               | → 209+210 | Systém označovania | → 194+195 |
| Orientačné rezné hodnoty | → 187     |                    |           |

## MaxiMill – Základné teleso kazetovej frézy 260

▲ základné teleso s upínacími klinkami, bez kaziet



| DC  | ZNF | DCONMS | DHUB | OAL | WT | 2B/40      |              |
|-----|-----|--------|------|-----|----|------------|--------------|
| mm  |     | mm     | mm   | mm  | kg | Artikel č. | 50 715 ...   |
| 80  | 5   | 27     | 66   | 52  | 1  | EUR        | 367,30 080   |
| 100 | 6   | 32     | 86   | 52  | 2  | EUR        | 402,30 100   |
| 125 | 7   | 40     | 95   | 63  | 3  | EUR        | 560,20 125   |
| 160 | 10  | 40     | 130  | 63  | 6  | EUR        | 614,40 160   |
| 200 | 12  | 60     | 172  | 63  | 9  | EUR        | 785,20 200   |
| 250 | 14  | 60     | 222  | 63  | 17 | EUR        | 1.017,00 250 |
| 315 | 18  | 60     | 280  | 80  | 31 | EUR        | 1.063,00 315 |
| 400 | 22  | 60     | 365  | 80  | 52 | EUR        | 2.292,00 400 |

**i** Informácie o nastavení hádzavosti nájdete na → strane 189

Náhradné diely  
DC

80 - 400

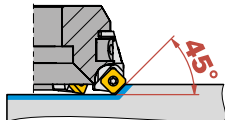
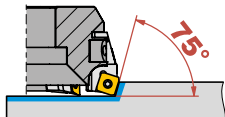
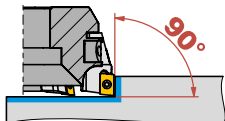
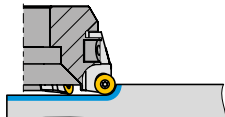
| 2A/28                     | 2A/28          | 2A/28      | 2A/28          | 2A/28            |
|---------------------------|----------------|------------|----------------|------------------|
|                           |                |            |                |                  |
| Skrutka u pinacieho klinu | Upínací klinok | Kľúč T     | Pasta Molykote | Excentrický kľúč |
| Artikel č.                | Artikel č.     | Artikel č. | Artikel č.     | Artikel č.       |
| 70 950 ...                | 70 950 ...     | 70 950 ... | 70 950 ...     | 70 950 ...       |
| EUR                       | EUR            | EUR        | EUR            | EUR              |
| 2,98 297                  | 17,47 296      | 7,09 317   | 4,38 303       | 12,37 298        |

## Priemery vymeniteľných doštičiek

|                      |             | Men. Ø v mm |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |
|----------------------|-------------|-------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
|                      |             | 80          |        | 100   |        | 120   |        | 160   |        | 200   |        | 250   |        | 315   |        | 400   |        |
| Vymeniteľná doštička |             | DC mm       | DCX mm | DC mm | DCX mm | DC mm | DCX mm | DC mm | DCX mm | DC mm | DCX mm | DC mm | DCX mm | DC mm | DCX mm | DC mm | DCX mm |
|                      | SD.. 0903.. | 80          | 88,4   | 100   | 108,4  | 123   | 131,4  | 158   | 166,4  | 198   | 206,4  | 248   | 256,4  | 313   | 321,4  | 398   | 406,4  |
|                      | SD.. 1204.. | 80          | 94,5   | 100   | 114,5  | 123   | 137,5  | 158   | 172,5  | 198   | 212,5  | 248   | 262,5  | 313   | 327,5  | 398   | 412,5  |
|                      | SE.. 1204.. | 80          | 93     | 100   | 113    | 123   | 136    | 158   | 171    | 198   | 211    | 248   | 261    | 313   | 326    | 398   | 411    |
|                      | SD.. 1504.. | 75          | 94     | 95    | 114    | 118   | 137    | 153   | 172    | 193   | 212    | 243   | 262    | 308   | 327    | 393   | 412    |
|                      | SP.. 1204.. | 82          | 88     | 102   | 108    | 125   | 131    | 160   | 166    | 200   | 206    | 250   | 256    | 315   | 321    | 400   | 406    |
|                      | OA.. 0605.. | 80          | 85,6   | 100   | 105,6  | 123   | 128,6  | 158   | 163,6  | 198   | 203,6  | 248   | 253,6  | 313   | 318,6  | 398   | 403,6  |
|                      | RP.X 1204.. | 80          | 92     | 100   | 112    | 123   | 135    | 158   | 170    | 198   | 210    | 248   | 260    | 313   | 325    | 398   | 410    |
|                      | RP.X 16..   | 76          | 92     | 96    | 112    | 119   | 135    | 154   | 170    | 194   | 210    | 244   | 260    | 309   | 325    | 394   | 410    |
|                      | SD.. 1205.. | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |
|                      | SD.. 09T3   | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |
|                      | LD..1504..  | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |
|                      | XD.T 11T3   | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |
|                      | XD.KT 1505  | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |
|                      | AP.. 1003.. | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |
|                      | TPKW 2204.. | 89          |        | 109   |        | 132   |        | 167   |        | 207   |        | 257   |        | 322   |        | 407   |        |

## Systém MaxiMill 260/kazetové frézy

Kazety pre vymeniteľné doštičky

|                           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Rovinné frézovanie        |  |  |  |  |  |  |  |  |                                                                                     |                                                                                     |                                                                                     |
|                           | Č. kazety<br>Artikel č. 70 950 ...                                                | SD.. 0903..<br>041<br>329                                                         | SD.. 1204..<br>031<br>411                                                         | SE.. 1204..<br>029<br>306                                                         | SD.. 1504..<br>032<br>412                                                         | OA.. 0605..<br>057<br>338                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Rohové frézovanie         |  |  |  |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                           | Č. kazety<br>Artikel č. 70 950 ...                                                | SP.. 1204..<br>018<br>310                                                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Rohové frézovanie         |  |  |  |  |  |  |  |  |  |  |  |
|                           | Č. kazety<br>Artikel č. 70 950 ...                                                | AP.. 1003..<br>042<br>307                                                         | LD.. 1504..<br>051<br>300                                                         | XD.T 11T3..<br>054<br>336                                                         | XDKT 1505..<br>056<br>339                                                         | SD.. 1205..<br>039<br>311                                                         | SD.. 09T3..<br>055<br>337                                                           | TPKW 2204..<br>025<br>313                                                           |                                                                                     |                                                                                     |                                                                                     |
| Rovinné/kopír. frézovanie |  |  |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                           | Č. kazety<br>Artikel č. 70 950 ...                                                | RPX 1204..<br>052<br>333                                                          | RPX 16....<br>053<br>707                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

| Vymeniteľná doštička | APMX | Kazeta |                       |
|----------------------|------|--------|-----------------------|
|                      |      | 2B/40  | Artikel č. 70 950 ... |
|                      | mm   | EUR    |                       |
| AP.. 1003..          | 8,0  | 84,26  | 307                   |
| LD.. 1504..          | 14,0 | 84,26  | 300                   |
| OA.. 0605..          | 3,5  | 84,26  | 338                   |
| RPX 1204..           | 6,0  | 84,26  | 333                   |
| RPX 16..             | 8,0  | 84,26  | 707                   |
| SD.. 0903..          | 4,0  | 84,26  | 329                   |
| SD.. 09T3..          | 8,0  | 84,26  | 337                   |
| SD.. 1204..          | 6,0  | 84,26  | 411                   |
| SD.. 1205..          | 6,0  | 84,26  | 311                   |
| SD.. 1504..          | 9,0  | 84,26  | 412                   |
| SE.. 1204..          | 6,0  | 84,26  | 306                   |
| SP.. 1204..          | 9,0  | 84,26  | 310                   |
| TPKW 2204..          | 18,0 | 84,26  | 313                   |
| XD.T 11T3            | 10,0 | 84,26  | 336                   |
| XDKT 1505..          | 14,0 | 84,26  | 339                   |

## Náhradné diely

|                                                                                              | Y7                    |     | Y7                    |     | 2A/28                 |     | 2A                    |     | Y7                    |     |
|----------------------------------------------------------------------------------------------|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|-----------------------|-----|
|                                                                                              |                       |     |                       |     |                       |     |                       |     |                       |     |
|                                                                                              | Artikel č. 80 950 ... |     | Artikel č. 80 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 70 950 ... |     | Artikel č. 80 950 ... |     |
|                                                                                              | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     | EUR                   |     |
| AP.. 1003..                                                                                  | 4,76                  | 033 | 7,80                  | 110 | 4,38                  | 303 | 2,36                  | 112 | 118,90                | 191 |
| OA.. 0605..                                                                                  | 4,76                  | 037 | 9,95                  | 114 | 4,38                  | 303 | 4,09                  | 302 | 131,90                | 193 |
| RPX 1204.. / LD.. 1504..                                                                     | 4,76                  | 036 | 9,28                  | 113 | 4,38                  | 303 | 3,14                  | 304 | 128,60                | 192 |
| SD.. 0903..                                                                                  | 4,76                  | 033 | 7,80                  | 110 | 4,38                  | 303 | 2,57                  | 115 | 118,90                | 191 |
| SD.. 09T3..                                                                                  | 4,76                  | 036 | 9,28                  | 113 | 4,38                  | 303 | 3,14                  | 110 | 128,60                | 192 |
| SD.. 1204.. / SE.. 1204.. / SP.. 1204.. / SD.. 1205.. / SD.. 1504.. / RPX 16.. / TPKW 2204.. | 4,76                  | 037 | 9,95                  | 114 | 4,38                  | 303 | 2,52                  | 280 | 131,90                | 193 |
| XD.T.. 11T3..                                                                                | 4,76                  | 043 | 10,20                 | 125 | 4,38                  | 303 | 4,09                  | 131 | 118,90                | 191 |
| XDKT 1505..                                                                                  | 5,26                  | 054 | 11,89                 | 128 | 4,38                  | 303 | 3,18                  | 839 | 128,60                | 192 |

## Príklady materiálov k tabuľkám rezných parametrov

|   | Index | Materiál                                   | Pevnosť<br>N/mm <sup>2</sup> / HB / HRC | Číslo<br>materiálu | Označenie materiálu     | Číslo<br>materiálu | Označenie materiálu   | Číslo<br>materiálu | Označenie materiálu |
|---|-------|--------------------------------------------|-----------------------------------------|--------------------|-------------------------|--------------------|-----------------------|--------------------|---------------------|
| P | 1.1   | Stavebná oceľ                              | < 800 N/mm <sup>2</sup>                 | 1.0037             | St 37-2                 | 1.0570             | St 52-3               | 1.0060             | St 60-2             |
|   | 1.2   | Automatová oceľ                            | < 800 N/mm <sup>2</sup>                 | 1.0718             | 9 SMnPb 28              | 1.0727             | 45 S 20               | 1.0757             | 46 SPb 2            |
|   | 1.3   | Cementačná oceľ, nelegovaná                | < 800 N/mm <sup>2</sup>                 | 1.0401             | C 15                    | 1.0481             | 17 Mn 4               | 1.1141             | Ck 15               |
|   | 1.4   | Cementačná oceľ, legovaná                  | < 1000 N/mm <sup>2</sup>                | 1.7131             | 16 MnCr 5               | 1.7015             | 13 Cr 3               | 1.5919             | 15 CrNi 6           |
|   | 1.5   | Oceľ na zušľachťovanie, nelegovaná         | < 850 N/mm <sup>2</sup>                 | 1.0503             | C 45                    | 1.1191             | Ck 45                 | 1.0535             | C 55                |
|   | 1.6   | Oceľ na zušľachťovanie, nelegovaná         | < 1000 N/mm <sup>2</sup>                | 1.0601             | C 60                    | 1.1221             | Ck 60                 | 1.0540             | C 50                |
|   | 1.7   | Oceľ na zušľachťovanie, legovaná           | < 800 N/mm <sup>2</sup>                 | 1.5131             | 50 MnSi 4               | 1.7030             | 28 Cr 4               | 1.7225             | 42 CrMo 4           |
|   | 1.8   | Oceľ na zušľachťovanie, legovaná           | < 1300 N/mm <sup>2</sup>                | 1.5755             | 31 NiCr 14              | 1.7033             | 34 Cr 4               | 1.3565             | 48 CrMo 4           |
|   | 1.9   | Oceľoliatina, oceľ na odlátky              | < 850 N/mm <sup>2</sup>                 | 0.9650             | G-X 260 Cr 27           | 1.6750             | GS-20 NiCrMo 3 7      | 1.6582             | GS-34 CrNiMo 6      |
|   | 1.10  | Nitridačná oceľ                            | < 1000 N/mm <sup>2</sup>                | 1.8504             | 34 CrAl 6               | 1.8507             | 34 AlMo 5             | 1.8509             | 41 CrAlMo 7         |
|   | 1.11  | Nitridačná oceľ                            | < 1200 N/mm <sup>2</sup>                | 1.8515             | 31 CrMo 12              | 1.8523             | 39 CrMoV 19 3         | 1.8550             | 34 CrAlNi 7         |
|   | 1.12  | Ložisková oceľ                             | < 1200 N/mm <sup>2</sup>                | 1.3505             | 100 Cr6 (W3)            | 1.3543             | X 192 CrMo 17         | 1.3520             | 100 CrMn 6          |
|   | 1.13  | Pružinová oceľ                             | < 1200 N/mm <sup>2</sup>                | 1.5026             | 55 Si 7                 | 1.7176             | 55 Cr 3               | 1.7701             | 51 CrMoV 4          |
|   | 1.14  | Rýchlorezná oceľ                           | < 1300 N/mm <sup>2</sup>                | 1.3344             | S 6-5-3                 | 1.3255             | S 18-1-2-5            | 1.3294             | PMHS6-5-3-8; ASP30  |
|   | 1.15  | Nástrojová oceľ pre prácu za studena       | < 1300 N/mm <sup>2</sup>                | 1.2312             | 40 CrMnMoS 8 6          | 1.2379             | X 155 CrVMo 12 1      | 1.2316             | X36 CrMo 16         |
|   | 1.16  | Nástrojová oceľ pre prácu za tepla         | < 1300 N/mm <sup>2</sup>                | 1.2343             | X 38 CrMoV 5 1          | 1.2567             | X 30 WCrV 5 3         | 1.2744             | 57 NiCrMoV 7 7      |
| M | 2.1   | Nehrdzavajúca oceľ na odlátky              | < 850 N/mm <sup>2</sup>                 | 1.3941             | G-X 4 CrNi 18 13        | 1.4027             | G-X 20 Cr 14          | 1.4107             | G-X 8 CrNi 12       |
|   | 2.2   | Nehrdzavajúca oceľ feritická               | < 750 N/mm <sup>2</sup>                 | 1.4510             | X 3 CrTi 17             | 1.4528             | X 105 CrCoMo 18 2     | 1.4016             | X 6 Cr 17           |
|   | 2.3   | Nehrdzavajúca oceľ martenzitická           | < 900 N/mm <sup>2</sup>                 | 1.4034             | X 46 Cr 13              | 1.4116             | X 50 CrMoV 15         | 1.4106             | X 2 CrMoSiS 18 2 1  |
|   | 2.4   | Nehrdzavajúca oceľ feriticko-martenzitická | < 1100 N/mm <sup>2</sup>                | 1.4313             | X 3CrNi 13 4            | 1.4028             | X 30 Cr 13            | 1.4104             | X 14 CrMoS 17       |
|   | 2.5   | Nehrdzavajúca oceľ austeniticko-feritická  | < 850 N/mm <sup>2</sup>                 | 1.4460             | X 8 CrNiMo 27 5         | 1.4821             | X 20 CrNiSi 25 4      | 1.4462             | X 2 CrNiMoN 22 5 3  |
|   | 2.6   | Nehrdzavajúca oceľ austenitická            | < 750 N/mm <sup>2</sup>                 | 1.4301             | X 5 CrNi 18 10          | 1.4571             | X 6 CrNiMoTi 17 12 2  | 1.4449             | X 3 CrNiMo 18 12 3  |
|   | 2.7   | Žiaruvzdorná oceľ                          | < 1100 N/mm <sup>2</sup>                | 1.4747             | X 80 CrNiSi 20          | 1.4876             | X 10 NiCrAlTi 32 21   | 1.4841             | X 10 NiCrAlTi 32 21 |
| K | 3.1   | Šedá liatina s lamelovým grafitom          | 100–350 N/mm <sup>2</sup>               | 0.6010             | GG-10                   | 0.6025             | GG-25                 |                    |                     |
|   | 3.2   | Šedá liatina s lamelovým grafitom          | 300–500 N/mm <sup>2</sup>               | 0.6030             | GG-30                   | 0.6045             | GG-45                 |                    |                     |
|   | 3.3   | Šedá liatina s guľčkovým grafitom          | 300–500 N/mm <sup>2</sup>               | 0.7040             | GGG-40                  | 0.7050             | GGG-50                |                    |                     |
|   | 3.4   | Šedá liatina s guľčkovým grafitom          | 500–900 N/mm <sup>2</sup>               | 0.7060             | GGG-60                  | 0.7080             | GGG-80                |                    |                     |
|   | 3.5   | Temperovaná liatina biela                  | 270–450 N/mm <sup>2</sup>               | 0.8035             | GTW-35                  | 0.8045             | GTW-45                |                    |                     |
|   | 3.6   | Temperovaná liatina biela                  | 500–650 N/mm <sup>2</sup>               | 0.8055             | GTW-55                  | 0.8065             | GTW-65                |                    |                     |
|   | 3.7   | Temperovaná liatina čierna                 | 300–450 N/mm <sup>2</sup>               | 0.8135             | GTS-35                  | 0.8145             | GTS-45                |                    |                     |
|   | 3.8   | Temperovaná liatina čierna                 | 500–800 N/mm <sup>2</sup>               | 0.8155             | GTS-55                  | 0.8170             | GTS-70                |                    |                     |
| N | 4.1   | Hliník (nelegovaný, nízkolegovaný)         | < 350 N/mm <sup>2</sup>                 | 3.0255             | Al99.5                  | 3.3308             | Al99.9Mg0.5           | 3.0256             | E-Al H              |
|   | 4.2   | Zliatina hliníka < 0,5% Si                 | < 500 N/mm <sup>2</sup>                 | 3.0515             | AlMn1                   | 3.1355             | AlCuMg2               | 3.3315             | AlMg1               |
|   | 4.3   | Zliatina hliníka 0,5–10% Si                | < 400 N/mm <sup>2</sup>                 | 3.2315             | AlMgSi1                 | 3.2373             | G-AlSi9Mg             | 3.2134             | G-AlSi5Cu1Mg        |
|   | 4.4   | Zliatina hliníka 10–15% Si                 | < 400 N/mm <sup>2</sup>                 | 3.2581             | G-AlSi12                | 3.2583             | G-AlSi12(Cu)          |                    |                     |
|   | 4.5   | Zliatina hliníka > 15% Si                  | < 400 N/mm <sup>2</sup>                 |                    | G-AlSi17Cu4             |                    | G-AlSi25CuNiMg        |                    | G-AlSi21CuNiMg      |
|   | 4.6   | Meď (nelegovaná, nízkolegovaná)            | < 350 N/mm <sup>2</sup>                 | 2.0060             | E-Cu57                  | 2.0090             | SF-Cu                 | 2.1522             | CuSi2Mn             |
|   | 4.7   | Meď - tvárna zliatina                      | < 700 N/mm <sup>2</sup>                 | 2.0205             | CuZn0.5                 | 2.1160             | CuPb1P                | 2.1366             | CuMn5               |
|   | 4.8   | Meď - špeciálna zliatina                   | < 200 HB                                | 2.0916             | CuAl5                   | 2.1525             | CuSi3Mn               |                    | Ampco 8-16          |
|   | 4.9   | Meď - špeciálna zliatina                   | < 300 HB                                | 2.0978             | CuAl11Ni6Fe5            |                    |                       |                    | Ampco18-26          |
|   | 4.10  | Meď - špeciálna zliatina                   | > 300 HB                                | 2.1247             | CuBe2F125               |                    |                       |                    | Ampco M-4           |
|   | 4.11  | Mosadz krehká, bronz, červená mosadz       | < 600 N/mm <sup>2</sup>                 | 2.0331             | CuZn36Pb1.5             | 2.0380             | CuZn39Pb2 (Ms58)      | 2.0410             | CuZn44Pb2           |
|   | 4.12  | Mosadz húževnatá                           | < 600 N/mm <sup>2</sup>                 | 2.0335             | CuZn36 (Ms63)           | 2.1293             | CuCrZr                | 2.1080             | CuSn6Zn6            |
|   | 4.13  | Termoplast                                 |                                         | PP                 | Hostalen                | PVC                | Makrolon, Novodur     |                    |                     |
|   | 4.14  | Duroplast                                  |                                         |                    | Ferrozell, Bakelit      |                    | Pertinax              |                    | Resopal             |
|   | 4.15  | Plast vystužený vláknami                   |                                         |                    | GFK*                    |                    | CFK**                 |                    | AFK***              |
|   | 4.16  | Horčík a zliatiny horčíka                  | < 850 N/mm <sup>2</sup>                 | 3.5200             | MgMn2                   | 3.5612             | MgAl6Zn1              | 3.5812             | MgAl8Zn1            |
|   | 4.17  | Grafit                                     |                                         |                    | R8500X                  |                    | R8650                 |                    | Technograph 15      |
|   | 4.18  | Wolfrám a zliatiny wolfrámu                |                                         |                    | W-NiFe (Densimet W)     |                    | W-Cu80/20             |                    | W93NiFe (DENAL)     |
|   | 4.19  | Molybdén a zliatiny molybdénu              |                                         |                    | Mo, Mo-50Re             |                    | TZC, TZM              |                    | MHC, ODS            |
| S | 5.1   | Čistý nikel                                |                                         | 2.4060             | Ni99.6                  | 2.4066             | Ni99.2                | 2.4068             | LC-Ni99             |
|   | 5.2   | Zliatina niklu                             |                                         | 1.3912             | Ni36 (Invar)            | 1.3924             | Ni54                  | 1.3921             | Ni49                |
|   | 5.3   | Zliatina niklu                             | < 850 N/mm <sup>2</sup>                 | 2.4360             | NiCu30Fe                | 2.4375             | NiCu30Al              | 2.4858             | NiCr21Mo            |
|   | 5.4   | Zliatina niklu a molybdénu                 |                                         | 2.4600             | NiMo29Cr                | 2.4617             | NiMo28                | 2.4819             | NiMo16Cr15W         |
|   | 5.5   | Zliatina niklu                             | < 1300 N/mm <sup>2</sup>                | 2.4886             | SG-NiMo16Cr16W          | 2.4854             | NiFe33Cr25Co          | 2.4816             | NiCr15Fe            |
|   | 5.6   | Zliatina kobaltu a chrómu                  | < 1300 N/mm <sup>2</sup>                | 2.4711             | CoCr20Ni15Mo            | 2.4964             | CoCr20W15Ni           | 2.4989             | CoCr20NiW           |
|   | 5.7   | Žiaruvzdorná zliatina                      | < 1300 N/mm <sup>2</sup>                | 1.4718             | X 45 CrSi 9 3           | 1.4747             | X 80 CrNiSi 20        | 1.4980             | X5 NiCrTi 2615      |
|   | 5.8   | Zliatina niklu a kobaltu (chrómu)          | < 1400 N/mm <sup>2</sup>                | 2.4806             | SG-NiCr20Nb, Inconel 82 | 2.4851             | NiCr23Fe, Inconel 601 | 2.4667             | SG-NiCr19NbMoTi     |
|   | 5.9   | Čistý titán                                | < 900 N/mm <sup>2</sup>                 | 3.7025             | Ti99.8                  | 3.7034             | Ti99.7                | 3.7064             | Ti99.5              |
|   | 5.10  | Zliatina titánu                            | < 700 N/mm <sup>2</sup>                 | 3.7114             | TiAl5Sn2                | 3.7174             | TiAl6V6Sn2            | 3.7124             | TiCu2               |
|   | 5.11  | Zliatina titánu                            | < 1200 N/mm <sup>2</sup>                | 3.7164             | TiAl5V4                 | 3.7144             | TiAl6Sn2Zr4Mo2        | 3.7154             | TiAl6Zr5            |
| H | 6.1   |                                            | < 45 HRC                                |                    |                         |                    |                       |                    |                     |
|   | 6.2   |                                            | 46–55 HRC                               |                    |                         |                    |                       |                    |                     |
|   | 6.3   | Kalená oceľ                                | 56–60 HRC                               |                    |                         |                    |                       |                    |                     |
|   | 6.4   |                                            | 61–65 HRC                               |                    |                         |                    |                       |                    |                     |
|   | 6.5   |                                            | 65–70 HRC                               |                    |                         |                    |                       |                    |                     |

\*vystužené skleným vláknom

\*\*vystužené uhlíkovým vláknom

\*\*\*vystužené aramidovým vláknom

## Orientačné rezné hodnoty

| Rezný materiál tvrdý (v <sub>c</sub> ↑) → húževnatý (v <sub>c</sub> ↓) |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
|------------------------------------------------------------------------|----------------------|------------------|----------------------|----------------------|----------------------|---------|----------------------|---------|----------------------|----------------------|----------------------|---------|----------------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|---------|--|
| Index                                                                  | DRAGONSKIN           |                  | DRAGONSKIN           |                      | DRAGONSKIN           |         | DRAGONSKIN           |         | DRAGONSKIN           |                      | DRAGONSKIN           |         | DRAGONSKIN           |     | DRAGONSKIN |     | DRAGONSKIN |     | DRAGONSKIN |     | DRAGONSKIN |     | DRAGONSKIN |     |         |  |
|                                                                        | CERMET               |                  | CERMET               |                      | CTCP220              |         | CTPP225              |         | CTCP230              |                      | CTPP231              |         | CTPP235              |     | CTPP236    |     | CTPM225    |     | CTCM235    |     | CTPM240    |     | CTPM241    |     | CTPM245 |  |
|                                                                        | CTEP210<br>(DCC1210) | TCM10<br>(CWC10) | CTCP220<br>(DCX1220) | CTPP225<br>(DPX1225) | CTCP230<br>(DCX1230) | CTPP231 | CTPP235<br>(DPX1235) | CTPP236 | CTPM225<br>(DPX2225) | CTCM235<br>(DCX2235) | CTPM240<br>(DPX2240) | CTPM241 | CTPM245<br>(DPX2245) |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 1.1                                                                    | 320                  | 280              | 320                  | 170                  | 300                  | 160     | 280                  | 170     | 200                  | 100                  | 240                  | 140     | 300                  | 180 | 270        | 160 | 240        | 140 | 220        | 130 | 200        | 100 | 170        | 90  |         |  |
| 1.2                                                                    | 400                  | 350              | 280                  | 150                  | 250                  | 130     | 230                  | 140     | 170                  | 90                   | 190                  | 110     | 250                  | 150 | 220        | 130 | 190        | 110 | 170        | 100 | 170        | 90  |            |     |         |  |
| 1.3                                                                    | 350                  | 300              | 320                  | 170                  | 300                  | 160     | 280                  | 170     | 200                  | 100                  | 240                  | 140     | 300                  | 180 | 270        | 160 | 240        | 140 | 220        | 130 | 200        | 100 |            |     |         |  |
| 1.4                                                                    | 330                  | 300              | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 220                  | 130     | 270                  | 160 | 240        | 140 | 210        | 130 | 200        | 120 | 170        | 90  | 250        |     |         |  |
| 1.5                                                                    | 400                  | 350              | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 210                  | 130     | 270                  | 160 | 230        | 140 | 210        | 130 | 190        | 110 | 170        | 90  |            |     |         |  |
| 1.6                                                                    | 350                  | 300              | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 210                  | 130     | 270                  | 160 | 230        | 140 | 210        | 130 | 190        | 110 | 170        | 90  |            |     |         |  |
| 1.7                                                                    | 280                  | 250              | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 220                  | 130     | 270                  | 160 | 240        | 140 | 210        | 130 | 200        | 120 | 170        | 90  | 220        |     |         |  |
| 1.8                                                                    | 320                  | 280              | 250                  | 120                  | 220                  | 110     | 190                  | 110     | 150                  | 80                   | 160                  | 100     | 210                  | 120 | 180        | 100 | 150        | 90  | 140        | 80  | 150        | 80  | 180        |     |         |  |
| 1.9                                                                    | 250                  | 230              | 280                  | 140                  | 250                  | 130     | 230                  | 140     | 200                  | 110                  | 200                  | 120     | 250                  | 150 | 220        | 130 | 200        | 120 | 180        | 100 | 180        | 100 | 250        |     |         |  |
| 1.10                                                                   | 280                  | 250              | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 220                  | 130     | 270                  | 160 | 240        | 140 | 210        | 130 | 200        | 120 | 170        | 100 | 220        |     |         |  |
| 1.11                                                                   | 300                  | 250              | 190                  | 100                  | 170                  | 90      | 140                  | 90      | 120                  | 70                   | 120                  | 70      | 160                  | 100 | 140        | 80  | 100        | 60  | 100        | 60  | 120        | 80  | 180        |     |         |  |
| 1.12                                                                   | 300                  | 250              | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 220                  | 130     | 270                  | 160 | 240        | 140 | 210        | 130 | 200        | 120 | 170        | 100 | 250        |     |         |  |
| 1.13                                                                   |                      |                  | 300                  | 150                  | 280                  | 140     | 250                  | 150     | 170                  | 90                   | 210                  | 130     | 270                  | 160 | 230        | 140 | 210        | 130 | 190        | 110 | 170        | 100 | 250        |     |         |  |
| 1.14                                                                   |                      |                  | 150                  | 70                   | 130                  | 70      | 100                  | 60      | 120                  | 70                   | 90                   | 50      | 150                  | 100 | 170        | 100 | 120        | 70  | 90         | 50  | 120        | 80  | 120        |     |         |  |
| 1.15                                                                   | 280                  | 250              | 180                  | 90                   | 150                  | 90      | 130                  | 80      | 140                  | 80                   | 110                  | 70      | 180                  | 140 | 180        | 110 | 150        | 90  | 120        | 70  | 140        | 90  | 220        |     |         |  |
| 1.16                                                                   | 280                  | 250              | 180                  | 90                   | 150                  | 90      | 130                  | 80      | 140                  | 80                   | 110                  | 70      | 180                  | 140 | 180        | 110 | 150        | 90  | 120        | 70  | 180        | 100 | 160        |     |         |  |
| 2.1                                                                    |                      |                  |                      |                      |                      |         | 90                   | 60      |                      |                      | 80                   | 50      |                      |     | 170        | 100 | 110        | 70  | 80         | 50  | 210        | 100 | 240        |     |         |  |
| 2.2                                                                    |                      | 280              |                      |                      |                      |         | 130                  | 80      |                      |                      | 110                  | 70      |                      |     | 180        | 110 | 150        | 90  | 120        | 70  | 210        | 100 | 240        |     |         |  |
| 2.3                                                                    |                      | 250              |                      |                      |                      |         | 90                   | 60      |                      |                      | 80                   | 50      |                      |     | 170        | 100 | 110        | 70  | 80         | 50  | 210        | 100 | 260        |     |         |  |
| 2.4                                                                    |                      |                  |                      |                      |                      |         | 130                  | 80      |                      |                      | 110                  | 70      |                      |     | 180        | 110 | 150        | 90  | 120        | 70  | 210        | 100 | 280        |     |         |  |
| 2.5                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      | 190                  | 110     |                      |     | 280        | 160 | 250        | 140 | 190        | 110 | 210        | 100 | 180        | 160 |         |  |
| 2.6                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      | 190                  | 110     |                      |     | 280        | 160 | 260        | 150 | 210        | 120 | 210        | 100 | 200        | 180 |         |  |
| 2.7                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      | 190                  | 110     |                      |     | 280        | 160 | 260        | 150 | 210        | 120 | 210        | 100 | 150        | 130 |         |  |
| 3.1                                                                    | 380                  |                  |                      |                      |                      |         |                      |         | 150                  | 110                  |                      |         | 360                  | 90  |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.2                                                                    | 300                  | 250              |                      |                      |                      |         |                      |         | 150                  | 110                  |                      |         | 360                  | 90  |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.3                                                                    | 400                  | 350              |                      |                      |                      |         |                      |         | 150                  | 110                  |                      |         | 230                  | 170 |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.4                                                                    | 350                  | 300              |                      |                      |                      |         |                      |         | 150                  | 110                  |                      |         | 160                  | 110 |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.5                                                                    | 380                  | 330              |                      |                      |                      |         |                      |         |                      |                      |                      |         | 250                  | 180 |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.6                                                                    | 250                  |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         | 250                  | 180 |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.7                                                                    | 350                  | 300              |                      |                      |                      |         |                      |         |                      |                      |                      |         | 210                  | 160 |            |     |            |     |            |     |            |     |            |     |         |  |
| 3.8                                                                    | 280                  |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         | 210                  | 160 |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.1                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.2                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.3                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.4                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.5                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.6                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.7                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.8                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.9                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.10                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.11                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.12                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.13                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.14                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.15                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.16                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.17                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.18                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 4.19                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 5.1                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.2                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.3                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.4                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.5                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.6                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.7                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.8                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.9                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 80         | 40  |            |     |         |  |
| 5.10                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 90         | 50  |            |     |         |  |
| 5.11                                                                   |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     | 90         | 50  |            |     |         |  |
| 6.1                                                                    |                      |                  |                      |                      |                      |         |                      |         | 120                  | 50                   |                      |         | 130                  | 60  |            |     |            |     |            |     |            |     |            |     |         |  |
| 6.2                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 6.3                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 6.4                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |
| 6.5                                                                    |                      |                  |                      |                      |                      |         |                      |         |                      |                      |                      |         |                      |     |            |     |            |     |            |     |            |     |            |     |         |  |

## Orientačné rezné hodnoty

| Rezný materiál tvrdý (v <sub>c</sub> ↑) → húževnatý (v <sub>c</sub> ↓) |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
|------------------------------------------------------------------------|----------|---------|----------|---------|---------|---------|------------|---------|------------|-------|--------|-----|------|---------|------------|---------|----------|---------|---------|---------|---------|-----|---------|--|
| Index                                                                  | CERAMIC  |         | CBN      |         | CTPK221 |         | DRAGONSKIN |         | DRAGONSKIN |       | H216T  |     | AMZ  |         | DRAGONSKIN |         | CTWN215  |         | CTC5240 |         | CTCS245 |     | CTP6215 |  |
|                                                                        | CTN3105  | CTS3105 | CTL3215  | CWB3215 | CTPK221 | CTCK215 | DCX3215    | CTPK220 | DPX3220    | H216T | CWK 26 | AMZ | AMZ  | CTWN215 | CWK 4615   | CTC5240 | HCF 5240 | CTCS245 | CTP6215 | CCN6215 |         |     |         |  |
|                                                                        |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.1                                                                    |          |         |          |         | 190     | 120     | 350        | 210     | 300        | 180   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.2                                                                    |          |         |          |         | 180     | 100     | 300        | 180     | 250        | 150   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.3                                                                    |          |         |          |         | 190     | 120     | 350        | 210     | 300        | 180   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.4                                                                    |          |         |          |         | 180     | 100     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.5                                                                    |          |         |          |         | 180     | 100     | 320        | 190     | 270        | 160   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.6                                                                    |          |         |          |         | 180     | 100     | 320        | 190     | 270        | 160   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.7                                                                    |          |         |          |         | 180     | 100     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.8                                                                    |          |         |          |         | 180     | 100     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.9                                                                    |          |         |          |         | 200     | 120     | 300        | 180     | 260        | 160   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.10                                                                   |          |         |          |         | 180     | 100     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.11                                                                   |          |         |          |         | 120     | 70      |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.12                                                                   |          |         |          |         | 180     | 100     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.13                                                                   |          |         |          |         | 180     | 100     | 320        | 190     | 270        | 160   |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.14                                                                   |          |         |          |         | 120     | 70      |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.15                                                                   |          |         |          |         | 210     | 120     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 1.16                                                                   |          |         |          |         | 210     | 120     |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.1                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.2                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.3                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.4                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.5                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.6                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 2.7                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 3.1                                                                    | 400–1500 |         | 500–1000 |         | 270     | 200     | 360        | 160     | 320        | 160   | 110    | 110 | 140  |         | 80         | 80      |          |         |         |         | 280     | 250 |         |  |
| 3.2                                                                    | 300–800  |         | 500–1000 |         | 270     | 200     | 360        | 160     | 320        | 160   | 110    | 110 | 140  |         | 80         | 80      |          |         |         |         | 280     | 250 |         |  |
| 3.3                                                                    |          |         |          |         | 250     | 180     | 230        | 140     | 210        | 130   | 130    | 130 | 150  |         | 80         | 80      |          |         |         |         | 180     | 150 |         |  |
| 3.4                                                                    |          |         | 350–650  |         | 180     | 120     | 160        | 100     | 140        | 80    | 130    | 130 | 150  |         | 80         | 80      |          |         |         |         | 180     | 150 |         |  |
| 3.5                                                                    |          |         |          |         | 270     | 190     | 250        | 150     | 200        | 120   | 130    | 130 | 150  |         | 80         | 80      |          |         |         |         | 250     | 220 |         |  |
| 3.6                                                                    |          |         |          |         | 270     | 190     | 250        | 150     | 200        | 120   | 130    | 130 | 150  |         | 80         | 80      |          |         |         |         | 250     | 220 |         |  |
| 3.7                                                                    |          |         |          |         | 220     | 170     | 210        | 130     | 170        | 100   | 130    | 130 | 150  |         | 80         | 80      |          |         |         |         | 190     | 160 |         |  |
| 3.8                                                                    |          |         |          |         | 220     | 170     | 210        | 130     | 170        | 100   | 130    | 130 | 150  |         | 80         | 80      |          |         |         |         | 190     | 160 |         |  |
| 4.1                                                                    |          |         |          |         |         |         |            |         |            |       | 1500   |     | 1500 |         | 280        |         |          |         |         |         |         |     |         |  |
| 4.2                                                                    |          |         |          |         |         |         |            |         |            |       | 1500   |     | 1500 |         | 250        |         |          |         |         |         |         |     |         |  |
| 4.3                                                                    |          |         |          |         |         |         |            |         |            |       | 400    |     | 400  |         | 800        |         |          |         |         |         |         |     |         |  |
| 4.4                                                                    |          |         |          |         |         |         |            |         |            |       | 350    |     | 350  |         | 800        |         |          |         |         |         |         |     |         |  |
| 4.5                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         | 500        |         |          |         |         |         |         |     |         |  |
| 4.6                                                                    |          |         |          |         |         |         |            |         |            |       | 500    |     | 500  |         | 200        |         |          |         |         |         |         |     |         |  |
| 4.7                                                                    |          |         |          |         |         |         |            |         |            |       | 500    |     | 500  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.8                                                                    |          |         |          |         |         |         |            |         |            |       | 500    |     | 500  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.9                                                                    |          |         |          |         |         |         |            |         |            |       | 500    |     | 500  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.10                                                                   |          |         |          |         |         |         |            |         |            |       | 300    |     | 300  | 70      | 70         |         |          |         |         |         |         |     |         |  |
| 4.11                                                                   |          |         |          |         |         |         |            |         |            |       | 800    |     | 800  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.12                                                                   |          |         |          |         |         |         |            |         |            |       | 800    |     | 800  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.13                                                                   |          |         |          |         |         |         |            |         |            |       | 350    |     | 350  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.14                                                                   |          |         |          |         |         |         |            |         |            |       | 350    |     | 350  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.15                                                                   |          |         |          |         |         |         |            |         |            |       | 350    |     | 350  | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.16                                                                   |          |         |          |         |         |         |            |         |            |       | 150    |     | 150  | 80      | 110        |         |          |         |         |         |         |     |         |  |
| 4.17                                                                   |          |         |          |         |         |         |            |         |            | 90    |        |     |      | 80      | 80         |         |          |         |         |         |         |     |         |  |
| 4.18                                                                   |          |         |          |         |         |         |            |         |            | 90    |        | 90  |      | 90      | 90         |         |          |         |         |         |         |     |         |  |
| 4.19                                                                   |          |         |          |         |         |         |            |         |            | 130   |        | 130 |      | 130     | 130        |         |          |         |         |         |         |     |         |  |
| 5.1                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 50       |         | 30–50   |         |         |     |         |  |
| 5.2                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 50       |         | 30–50   |         |         |     |         |  |
| 5.3                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 50       |         | 30–50   |         |         |     |         |  |
| 5.4                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 40       |         | 30–50   |         |         |     |         |  |
| 5.5                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 40       |         | 30–50   |         |         |     |         |  |
| 5.6                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 40       |         | 30–50   |         |         |     |         |  |
| 5.7                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 40       |         | 30–50   |         |         |     |         |  |
| 5.8                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 40       |         | 30–50   |         |         |     |         |  |
| 5.9                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 90       |         |         |         |         |     |         |  |
| 5.10                                                                   |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 60       |         |         |         |         |     |         |  |
| 5.11                                                                   |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         | 60       |         |         |         |         |     |         |  |
| 6.1                                                                    |          |         |          |         | 180     | 120     |            |         |            |       |        |     |      |         |            |         |          |         |         | 50      |         |     |         |  |
| 6.2                                                                    |          |         |          |         | 160     | 100     |            |         |            |       |        |     |      |         |            |         |          |         |         | 50      |         |     |         |  |
| 6.3                                                                    |          |         | 110–190  |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         | 40      |         |     |         |  |
| 6.4                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |
| 6.5                                                                    |          |         |          |         |         |         |            |         |            |       |        |     |      |         |            |         |          |         |         |         |         |     |         |  |

## Systém MaxiMill 274-04/-09

## Orientačné hodnoty rezných dát/technologické údaje

## Systém MaxiMill 274 OFHT-04

| Materiál              | F        |             |             | M        |             |             | R        |             |             |
|-----------------------|----------|-------------|-------------|----------|-------------|-------------|----------|-------------|-------------|
|                       | m/min    | $f_z$<br>mm | $a_p$<br>mm | m/min    | $f_z$<br>mm | $a_p$<br>mm | m/min    | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50–350   | 0,1–0,25    | 2,5         | 60–280   | 0,1–0,3     | 2,5         | 60–280   | 0,1–0,3     | 2,5         |
| Nehrdzavejúca oceľ    | 60–270   | 0,1–0,25    | 2,5         | 60–270   | 0,1–0,3     | 2,5         | 60–270   | 0,1–0,3     | 2,5         |
| Liatina               |          |             |             | 130–360  | 0,1–0,3     | 2,5         | 130–360  | 0,1–0,3     | 2,5         |
| Neželezné kovy        | 160–1500 | 0,05–0,4    | 2,5         | 160–1500 | 0,05–0,4    | 2,5         | 160–1500 | 0,05–0,4    | 2,5         |
| Žiaruvzdorná zliatina | 25–80    | 0,1–0,25    | 2,5         | 25–80    | 0,1–0,25    | 2,5         |          |             |             |
| Kalená oceľ           |          |             |             |          |             |             |          |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

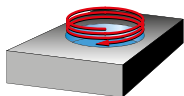
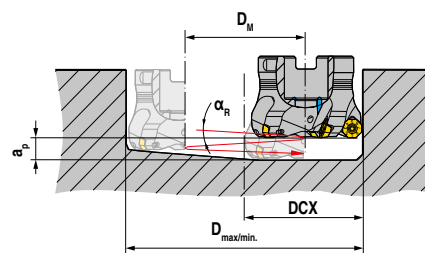
## Systém MaxiMill 274 SFKT-09

| Materiál              | F        |             |             | M        |             |             | R        |             |             |
|-----------------------|----------|-------------|-------------|----------|-------------|-------------|----------|-------------|-------------|
|                       | m/min    | $f_z$<br>mm | $a_p$<br>mm | m/min    | $f_z$<br>mm | $a_p$<br>mm | m/min    | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50–350   | 0,1–0,25    | 3,8         | 60–280   | 0,1–0,3     | 3,8         | 60–280   | 0,1–0,3     | 3,8         |
| Nehrdzavejúca oceľ    | 60–270   | 0,1–0,25    | 3,8         | 60–270   | 0,1–0,3     | 3,8         | 60–270   | 0,1–0,3     | 3,8         |
| Liatina               | 110–130  | 0,05–0,4    | 3,8         | 130–360  | 0,1–0,35    | 3,8         | 130–360  | 0,1–0,35    | 3,8         |
| Neželezné kovy        | 160–1500 | 0,05–0,4    | 3,8         | 160–1500 | 0,05–0,4    | 3,8         | 160–1500 | 0,05–0,4    | 3,8         |
| Žiaruvzdorná zliatina | 25–80    | 0,1–0,25    | 3,8         | 25–80    | 0,1–0,25    | 3,8         | 25–80    | 0,1–0,25    | 3,8         |
| Kalená oceľ           |          |             |             |          |             |             |          |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

## Cirkulárne utápanie

 $D_{max}$  v mm = najväčší priemer pre rovnú plochu dna $D_{min}$  v mm = najmenší priemer otvoru pre rovnú plochu dna $D_M$  =  $D_{max}$  - DCX popr.  $D_{min}$  - DCX

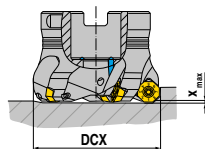
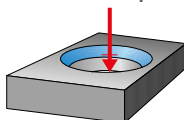
## OF.04

| DCX<br>mm | $D_{max}$<br>mm | $D_{min}$<br>mm | $\alpha_{R max}$<br>° |
|-----------|-----------------|-----------------|-----------------------|
| 25,6      | 45              | 39              | 2,3                   |
| 30,7      | 55              | 49              | 1,9                   |
| 37,7      | 69              | 63              | 1,4                   |
| 45,7      | 85              | 79              | 1,2                   |
| 55,7      | 105             | 99              | 0,9                   |
| 68,7      | 131             | 125             | 0,7                   |
| 85,7      | 165             | 159             | 0,6                   |
| 105,7     | 205             | 199             | 0,5                   |
| 130,7     | 255             | 249             | 0,4                   |

## SF.09

| DCX<br>mm | $D_{max}$<br>mm | $D_{min}$<br>mm | $\alpha_{R max}$<br>° |
|-----------|-----------------|-----------------|-----------------------|
| 27,4      | 45,00           | 42,0            | 1,9                   |
| 32,5      | 55,00           | 52,0            | 1,5                   |
| 39,2      | 69,00           | 66,0            | 1,1                   |
| 47,6      | 85,00           | 82,0            | 0,9                   |
| 57,6      | 105,00          | 102,0           | 0,7                   |
| 70,5      | 131,00          | 128,0           | 0,5                   |
| 87,5      | 165,00          | 162,0           | 0,4                   |
| 107,5     | 205,00          | 202,0           | 0,3                   |
| 132,5     | 255,00          | 252,0           | 0,3                   |

## Axiálne utápanie



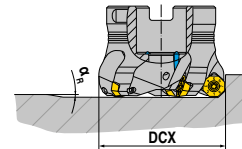
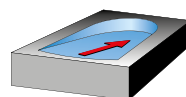
## OF.04

| DCX<br>mm | $X_{max}$<br>mm |
|-----------|-----------------|
| 25,6      | 2,5             |
| 30,7      | 2,5             |
| 37,7      | 2,5             |
| 45,7      | 2,5             |
| 55,7      | 2,5             |
| 68,7      | 2,5             |
| 85,7      | 2,5             |
| 105,7     | 2,5             |
| 130,7     | 2,5             |

## SF.09

| DCX<br>mm | $X_{max}$<br>mm |
|-----------|-----------------|
| 27,4      | 3,7             |
| 32,5      | 3,5             |
| 39,2      | 3,2             |
| 47,6      | 3,1             |
| 57,6      | 3,1             |
| 70,5      | 3,0             |
| 87,5      | 2,9             |
| 107,5     | 2,7             |
| 132,5     | 2,7             |

## Šikmé utápanie



## OF.04

| DCX<br>mm | $\alpha_{R max}$<br>° |
|-----------|-----------------------|
| 25,6      | 14,2                  |
| 30,7      | 9,5                   |
| 37,7      | 6,5                   |
| 45,7      | 4,7                   |
| 55,7      | 3,5                   |
| 68,7      | 2,7                   |
| 85,7      | 2,0                   |
| 105,7     | 1,6                   |
| 130,7     | 1,2                   |

## SF.09

| DCX<br>mm | $\alpha_{R max}$<br>° |
|-----------|-----------------------|
| 27,4      | 20,4                  |
| 32,5      | 13,0                  |
| 39,2      | 8,0                   |
| 47,6      | 5,8                   |
| 57,6      | 4,3                   |
| 70,5      | 3,2                   |
| 87,5      | 2,3                   |
| 107,5     | 1,7                   |
| 132,5     | 1,3                   |

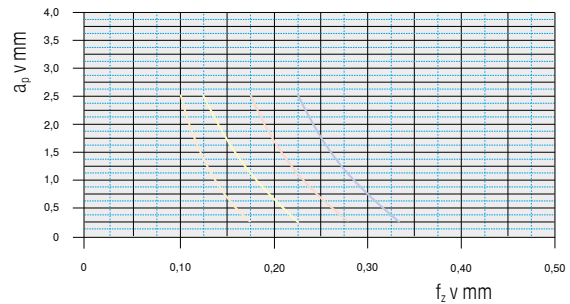
## Systém MaxiMill 274-04

## Počiatočné parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



OF.. 04



| Materiál              |        | Vymeniteľná doštička |                   | v <sub>c</sub> v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|------------------------|--------------------|
| Oceľ                  | 1.2312 | OFHT040305SN-M50     | CTPP235 (DPX1235) | 200                    | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | OFHT040305SN-F50     | CTPM240 (DPX2240) | 180                    | Obrábanie za sucha |
| Liatina               | 5.1301 | OFHT040305SN-M50     | CTCK215 (DCX3215) | 250                    | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | OFHT040305SN-F50     | CTC5240 (HCF5240) | 35                     | Emulzia            |

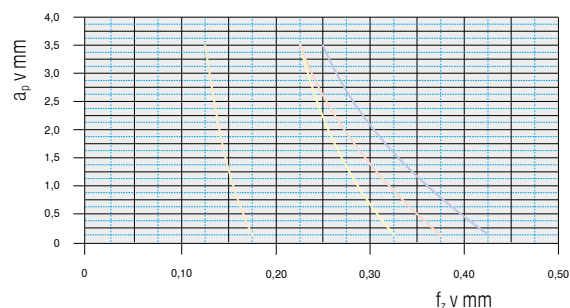
## Systém MaxiMill 274-09

## Počiatočné parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



SF.. 09



| Materiál              |        | Vymeniteľná doštička |                   | v <sub>c</sub> v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|------------------------|--------------------|
| Oceľ                  | 1.2312 | SFKT0903AFSR-M50     | CTPP235 (DPX1235) | 200                    | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | SFHT0903AFSR-F50     | CTPM240 (DPX2240) | 180                    | Obrábanie za sucha |
| Liatina               | 5.1301 | SFKT0903AFSR-R50     | CTCK215 (DCX3215) | 250                    | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | SFHT0903AFSR-F50     | CTC5240 (HCF5240) | 35                     | Emulzia            |



## Systém MaxiMill 274-05/-12

## Orientačné hodnoty rezných dát/technologické údaje

## Systém MaxiMill 274 OFHT-05

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-350         | 0,1-0,25    | 3           | 60-280         | 0,1-0,3     | 3           | 60-280         | 0,1-0,3     | 3           |
| Nehrdzavejúca oceľ    | 60-270         | 0,1-0,25    | 3           | 60-270         | 0,1-0,3     | 3           | 60-270         | 0,1-0,3     | 3           |
| Liatina               |                |             |             | 130-360        | 0,1-0,3     | 3           | 130-360        | 0,1-0,3     | 3           |
| Neželezné kovy        | 160-1500       | 0,05-0,4    | 3           | 160-1500       | 0,05-0,4    | 3           | 160-1500       | 0,05-0,4    | 3           |
| Žiaruvzdorná zliatina | 25-80          | 0,1-0,25    | 3           | 25-80          | 0,1-0,25    | 3           |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

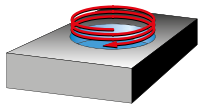
## Systém MaxiMill 274 SFKT-12

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-350         | 0,1-0,25    | 6           | 60-280         | 0,1-0,3     | 6           | 60-280         | 0,1-0,3     | 6           |
| Nehrdzavejúca oceľ    | 60-270         | 0,1-0,25    | 6           | 60-270         | 0,1-0,3     | 6           | 60-270         | 0,1-0,3     | 6           |
| Liatina               | 110-130        | 0,05-0,4    |             | 130-360        | 0,1-0,35    | 6           | 130-360        | 0,1-0,35    | 6           |
| Neželezné kovy        | 160-1500       | 0,05-0,4    | 6           | 160-1500       | 0,05-0,4    | 6           | 160-1500       | 0,05-0,4    | 6           |
| Žiaruvzdorná zliatina | 25-80          | 0,1-0,25    | 6           | 25-80          | 0,1-0,25    | 6           | 25-80          | 0,1-0,25    | 6           |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

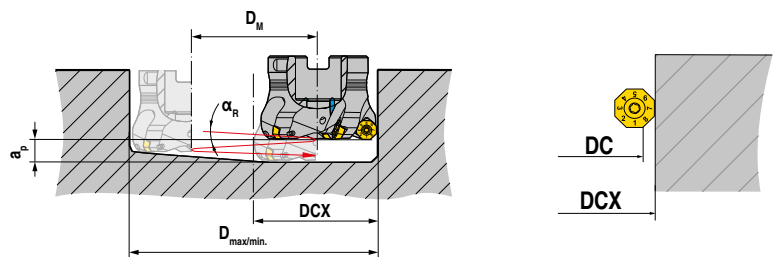
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

## Cirkulárne utápanie



$D_{max}$  v mm = najväčší priemer pre rovnú plochu dna  
 $D_{min}$  v mm = najmenší priemer otvoru pre rovnú plochu dna  
 $D_M$  =  $D_{max}$  - DCX popr.  $D_{min}$  - DCX



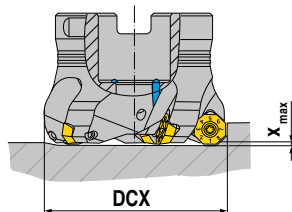
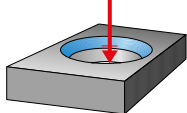
## OF..05

| DC<br>mm | DCX<br>mm | $D_{max}$<br>mm | $D_{min}$<br>mm | $\alpha_{Rmax}$<br>° |
|----------|-----------|-----------------|-----------------|----------------------|
| 50       | 58        | 107             | 99              | 1,1                  |
| 63       | 71        | 133             | 125             | 0,9                  |
| 80       | 88        | 167             | 159             | 0,7                  |
| 100      | 107,9     | 207             | 199             | 0,5                  |
| 125      | 132,9     | 257             | 249             | 0,4                  |

## SF..12

| DC<br>mm | DCX<br>mm | $D_{max}$<br>mm | $D_{min}$<br>mm | $\alpha_{Rmax}$<br>° |
|----------|-----------|-----------------|-----------------|----------------------|
| 47,0     | 61,0      | 107             | 105             | 0,5                  |
| 59,9     | 74,0      | 133             | 131             | 0,4                  |
| 76,9     | 90,9      | 167             | 165             | 0,3                  |
| 96,9     | 110,9     | 207             | 205             | 0,25                 |
| 121,9    | 135,9     | 257             | 255             | 0,2                  |

## Axiálne utápanie



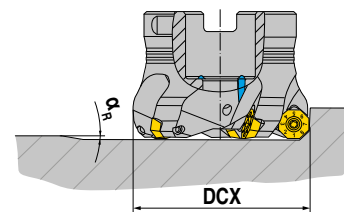
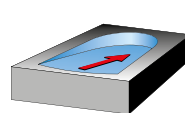
## OF..05

| DC<br>mm | DCX<br>mm | $X_{max}$<br>mm |
|----------|-----------|-----------------|
| 50       | 58        | 2,2             |
| 63       | 71        | 1,9             |
| 80       | 88        | 1,8             |
| 100      | 107,9     | 1,1             |
| 125      | 132,9     | 1,4             |

## SF..12

| DC<br>mm | DCX<br>mm | $X_{max}$<br>mm |
|----------|-----------|-----------------|
| 47,0     | 61,0      | 3,4             |
| 59,9     | 74,0      | 3,2             |
| 76,9     | 90,9      | 3,0             |
| 96,9     | 110,9     | 2,5             |
| 121,9    | 135,9     | 2,6             |

## Šikmé utápanie



## OF..05

| DC<br>mm | DCX<br>mm | $\alpha_{Rmax}$<br>° |
|----------|-----------|----------------------|
| 50       | 58        | 3,2                  |
| 63       | 71        | 2,0                  |
| 80       | 88        | 1,5                  |
| 100      | 107,9     | 0,7                  |
| 125      | 132,9     | 0,7                  |

## SF..12

| DC<br>mm | DCX<br>mm | $\alpha_{Rmax}$<br>° |
|----------|-----------|----------------------|
| 47,0     | 61,0      | 4,9                  |
| 59,9     | 74,0      | 3,4                  |
| 76,9     | 90,9      | 2,4                  |
| 96,9     | 110,9     | 1,6                  |
| 121,9    | 135,9     | 1,3                  |

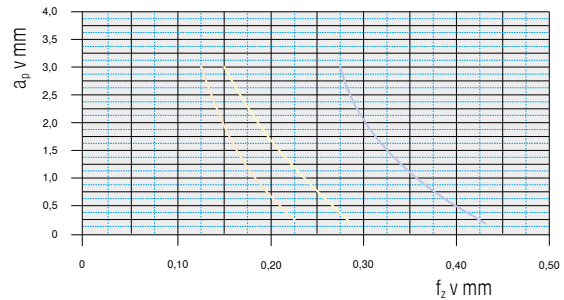
## Systém MaxiMill 274-05

## Počiatkové parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



OF.. 05



| Materiál              |        | Vymeniteľná doštička |                   | v <sub>c</sub> v m/min | Chladenie          |
|-----------------------|--------|----------------------|-------------------|------------------------|--------------------|
| Oceľ                  | 1.2312 | OFHT050410SN-M50     | CTCP230 (DCX1230) | 200                    | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | OFHT050410SN-F50     | CTPM240 (DPX2240) | 180                    | Obrábanie za sucha |
| Liatina               | 5.1301 |                      |                   |                        |                    |
| Žiaruvzdorná zliatina | 2.4856 | OFHT050410SN-F50     | CTC5240 (HCF5240) | 35                     | Emulzia            |

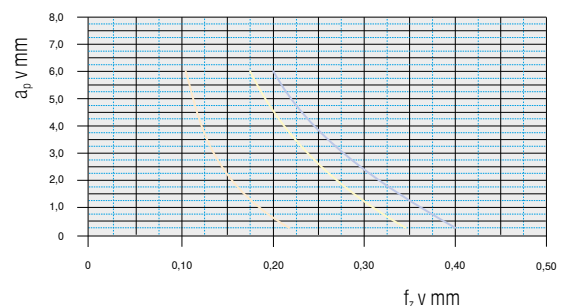
## Systém MaxiMill 274-12

## Počiatkové parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



SF.. 12



| Materiál              |        | Vymeniteľná doštička |                   | v <sub>c</sub> v m/min | Chladenie          |
|-----------------------|--------|----------------------|-------------------|------------------------|--------------------|
| Oceľ                  | 1.2312 | SFKT1204AFSR-M50     | CTPP235 (DPX1235) | 200                    | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | SFKT1204AFSR-M50     | CTPM240 (DPX2240) | 180                    | Obrábanie za sucha |
| Liatina               | 5.1301 |                      |                   |                        |                    |
| Žiaruvzdorná zliatina | 2.4856 | SFHT1204AFER-F40     | CTC5240 (HCF5240) | 35                     | Emulzia            |

# System MaxiMill 271

## Orientačné rezné hodnoty

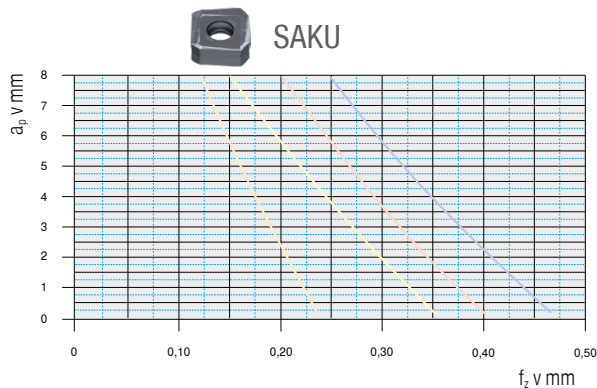
### MaxiMill 271

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-340         | 0,2-0,3     | 8,4         | 50-340         | 0,2-0,5     | 8,4         | 50-340         | 0,2-0,5     | 8,4         |
| Nehrdzavejúca oceľ    | 60-270         | 0,2-0,3     | 8,4         | 60-270         | 0,2-0,5     | 8,4         | 60-270         | 0,2-0,5     | 8,4         |
| Liatina               |                |             |             | 130-360        | 0,2-0,5     | 8,4         | 130-360        | 0,2-0,5     | 8,4         |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina | 25-80          | 0,2-0,3     | 8,4         | 25-80          | 0,2-0,3     | 8,4         | 25-80          | 0,2-0,3     | 8,4         |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Počiatkové parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



| Materiál              |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ                  | 1.2312 | SAKU 1706ABSR-M50    | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | SAKU 1706ABSR-F50    | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301 | SAKU 1706ABSR-R50    | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | SAKU 1706ABSR-F50    | CTC5240 (HCF5240) | 35            | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill 273 / 273 XAHT

## Orientačné rezné hodnoty

## MaxiMill 273

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 60-280         | 0,2-0,25    | 3,5         | 60-280         | 0,2-0,5     | 3,5         | 60-280         | 0,2-0,5     | 3,5         |
| Nehrdzavejúca oceľ    | 130-240        | 0,2-0,5     | 3,5         | 60-270         | 0,2-0,5     | 3,5         | 60-270         | 0,2-0,5     | 3,5         |
| Liatina               |                |             |             | 130-360        | 0,2-0,5     | 3,5         | 130-360        | 0,2-0,5     | 3,5         |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina | 25-80          | 0,2-0,25    | 3,5         | 25-80          | 0,2-0,25    | 3,5         | 25-80          | 0,2-0,25    | 3,5         |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

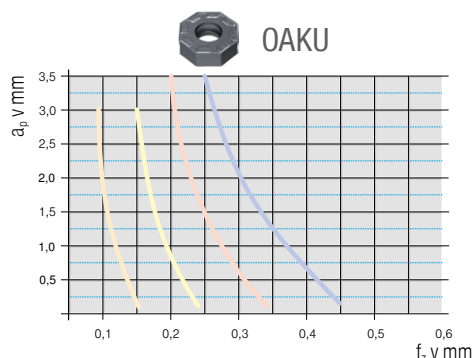
## Systém MaxiMill 273 - hladiaca britová doštička XAHT

| Materiál              | F              |             |             | M |  |  | R |  |  |
|-----------------------|----------------|-------------|-------------|---|--|--|---|--|--|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |   |  |  |   |  |  |
| Oceľ                  | 60-350         | 0,05-0,15   | 0,20-1,00   |   |  |  |   |  |  |
| Nehrdzavejúca oceľ    | 40-250         | 0,05-0,15   | 0,20-1,00   |   |  |  |   |  |  |
| Liatina               | 70-280         | 0,05-0,15   | 0,20-1,00   |   |  |  |   |  |  |
| Neželezné kovy        |                |             |             |   |  |  |   |  |  |
| Žiaruvzdorná zliatina | 10-100         | 0,05        | 0,20-1,00   |   |  |  |   |  |  |
| Kalená oceľ           |                |             |             |   |  |  |   |  |  |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Počiatkové parametre

| Príklad materiálov    |                        |      |             |                   |  |
|-----------------------|------------------------|------|-------------|-------------------|--|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |  |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |  |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |  |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |  |



| Materiál              |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladenie          |
|-----------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ                  | 1.2312 | OAKU 060508SR-M50    | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | OAKU 060508SR-F50    | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301 | OAKU 060508SR-R50    | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | OAKU 060508ER-F40    | CTC5240 (HCF5240) | 35            | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvížiť!

# Systém MaxiMill 270-09

## Orientačné hodnoty rezných dát/technologické údaje

### Pre štandardné britové doštičky

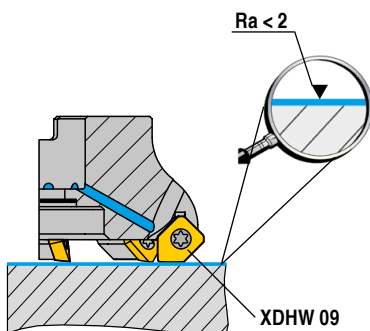
| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 60–280         | 0,1–0,3     | 4           | 60–280         | 0,1–0,3     | 4           | 60–280         | 0,1–0,3     | 4           |
| Nehrdzavajúca oceľ    | 60–270         | 0,1–0,25    | 4           | 60–270         | 0,1–0,25    | 4           | 60–270         | 0,1–0,25    | 4           |
| Liatina               | 110–130        | 0,05–0,4    | 4           | 130–360        | 0,1–0,35    | 4           | 130–360        | 0,1–0,35    | 4           |
| Neželezné kovy        | 160–1500       | 0,05–0,4    | 4           | 160–1500       | 0,05–0,4    | 4           | 160–1500       | 0,05–0,4    | 4           |
| Žiaruvzdorná zliatina | 25–80          | 0,1–0,25    | 4           | 25–80          | 0,1–0,25    | 4           | 25–80          | 0,1–0,25    | 4           |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

### Pre hladiace britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 150–350        | 0,05–0,25   | 0,10–2,0    |                |             |             |                |             |             |
| Nehrdzavajúca oceľ    | 110–200        | 0,05–0,25   | 0,10–2,0    |                |             |             |                |             |             |
| Liatina               | 150–280        | 0,05–0,25   | 0,10–2,0    |                |             |             |                |             |             |
| Neželezné kovy        | < 2000         | 0,05–0,25   | 0,10–2,0    |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania



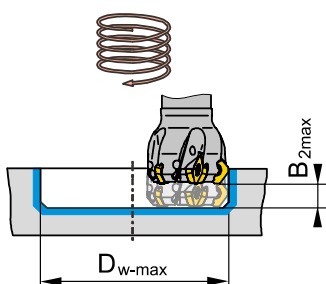
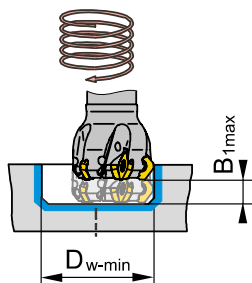
Dokončovacie frézovanie hladiacimi britovými doštičkami

Na každú frézovaciu hlavu sa namontuje jedna hladiaca britová doštička, od Ø 125 mm dve.



|                |      |              |          |   |      |          |          |
|----------------|------|--------------|----------|---|------|----------|----------|
| Oceľ           | SDNT | 0903AESN-29  | DPX 1235 | + | XDHW | 0903AESN | DPX 1235 |
|                | SDNT | 0903AESN-29  | DCX 1230 | + | XDHW | 0903AESN | DCX 1230 |
|                | SDHT | 0903AESN-33  | DCX 1230 | + | XDHW | 0903AESN | DCX 1230 |
|                | SDHW | 0903AESN     | CWC 10   | + | XDHW | 0903AESN | CWC 10   |
| Liatina        | SDNT | 0903AESN-31  | DCX 3215 | + | XDHW | 0903AEEN | DCX 3215 |
| Neželezné kovy | SDHT | 0903AEFN-ALP | CWK 26   | + | XDHW | 0903AEFN | CWK 26   |

### Cirkulárne utápanie (bez štartovacieho otvoru)



### C 270-09

| DC<br>mm | $D_{w-min}$<br>mm | $B_{1max}$<br>mm | $D_{w-max}$<br>mm | $B_{2max}$<br>mm |
|----------|-------------------|------------------|-------------------|------------------|
| 6        | 14,4              | 1,5              | 19,0              | 1,5              |
| 12       | 28,5              | 1,5              | 31,0              | 1,5              |
| 16       | 36,5              | 1,5              | 39,0              | 1,5              |
| 20       | 44,5              | 1,5              | 47,0              | 1,5              |
| 25       | 54,5              | 1,5              | 57,0              | 1,5              |
| 32       | 68,5              | 1,5              | 71,0              | 1,5              |

### A 270-09

| DC<br>mm | $D_{w-min}$<br>mm | $B_{1max}$<br>mm | $D_{w-max}$<br>mm | $B_{2max}$<br>mm |
|----------|-------------------|------------------|-------------------|------------------|
| 32       | 68,5              | 1,5              | 71,0              | 1,5              |
| 40       | 84,5              | 1,5              | 87,0              | 1,5              |
| 50       | 104,5             | 1,5              | 107,0             | 1,5              |
| 63       | 130,5             | 1,5              | 133,0             | 1,5              |
| 80       | 164,5             | 1,5              | 167,0             | 1,5              |
| 100      | 204,5             | 1,5              | 207,0             | 1,5              |
| 125      | 254,5             | 1,5              | 257,0             | 1,5              |
| 160      | 324,5             | 1,5              | 327,0             | 1,5              |

# Systém MaxiMill 270-12

## Orientačné hodnoty rezných dát/technologické údaje

### Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 30-280         | 0,1-0,3     | 6           | 60-280         | 0,1-0,3     | 6           | 60-280         | 0,1-0,3     | 6           |
| Nehrdzavejúca oceľ    | 60-270         | 0,1-0,25    | 6           | 60-270         | 0,1-0,25    | 6           | 60-270         | 0,1-0,25    | 6           |
| Liatina               | 150-200        | 0,05-0,4    | 6           | 130-360        | 0,1-0,35    | 6           | 130-360        | 0,1-0,3     | 6           |
| Neželezné kovy        | 160-3500       | 0,05-0,4    | 6           | 160-1500       | 0,05-0,4    | 6           | 160-1500       | 0,05-0,4    | 6           |
| Žiaruvzdorná zliatina | 25-80          | 0,1-0,25    | 6           | 25-80          | 0,1-0,25    | 6           | 25-80          | 0,1-0,25    | 6           |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

### Pre hladiacie britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 20-350         | 0,10-0,25   | 0,10-4,00   |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    | 40-120         | 0,10-0,25   | 0,10-4,00   |                |             |             |                |             |             |
| Liatina               | 120-290        | 0,10-0,25   | 0,10-4,00   |                |             |             |                |             |             |
| Neželezné kovy        | < 2000         | 0,10-0,25   | 0,10-4,00   |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

### Pre britové doštičky CBN

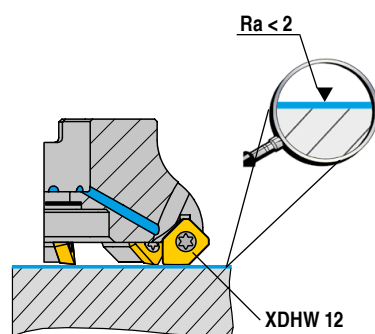
| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 600-1600       | 0,10-0,25   | 0,20-1,50   |                |             |             |                |             |             |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina | 350-700        | 0,08-0,15   | 0,20-1,00   |                |             |             |                |             |             |
| Kalená oceľ           | 350-600        | 0,08-0,12   | 0,20-0,40   |                |             |             |                |             |             |

### Pre britové doštičky PKD/MDC

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               |                |             |             |                |             |             |                |             |             |
| Neželezné kovy        | < 2000         | 0,05-0,25   | 0,10-2,00   |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania



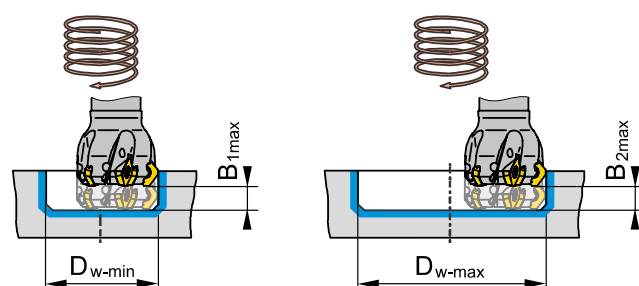
Dokončovacie frézovanie hladiacimi britovými doštičkami

Na každú frézovaciu hlavu sa namontuje jedna hladiacia britová doštička, od Ø 125 mm dve.



|                |                   |          |   |               |          |
|----------------|-------------------|----------|---|---------------|----------|
| Oceľ           | SDMT 1204AESN-29R | DPX 1235 | + | XDHW 1204AESN | DPX 1235 |
|                | SDMT 1204AESN-29R | DCX 1230 | + | XDHW 1204AESN | DCX 1230 |
|                | SDHW 1204AESN-R   | CWC 10   | + | XDHW 1204AESN | CWC 10   |
| Liatina        | SDMT 1204AEEN-31  | DCX 3215 | + | XDHW 1204AEEN | DCX 3215 |
|                | SDHW 1204AESN-R   | DCX 3215 | + | XDHW 1204AEEN | DCX 3215 |
| Neželezné kovy | SDHT 1204AEFN-ALP | CWK 26   | + | XDHW 1204AEFN | CWK 26   |

## Cirkulárne utápanie (bez štartovacieho otvoru)



| DC<br>mm | $D_{w-min}$<br>mm | $B_{1max}$<br>mm | $D_{w-max}$<br>mm | $B_{2max}$<br>mm |
|----------|-------------------|------------------|-------------------|------------------|
| 32       | 74,5              | 1,5              | 78,0              | 1,5              |
| 40       | 90,5              | 1,5              | 94,0              | 1,5              |
| 50       | 110,5             | 1,5              | 114,0             | 1,5              |
| 63       | 136,5             | 1,5              | 140,0             | 1,5              |
| 80       | 170,5             | 1,5              | 174,0             | 1,5              |
| 100      | 210,5             | 1,5              | 214,0             | 1,5              |
| 125      | 260,5             | 1,5              | 264,0             | 1,5              |
| 160      | 330,5             | 1,5              | 334,0             | 1,5              |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill 270-19

### Orientačné rezné hodnoty

Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             | 40-180         | 0,15-0,6    | 10          | 40-180         | 0,3-0,7     | 10          |
| Nehrdzavejúca oceľ    |                |             |             | 40-120         | 0,15-0,5    | 10          | 40-120         | 0,3-0,6     | 10          |
| Liatina               |                |             |             |                |             |             | 50-200         | 0,3-0,9     | 10          |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             | 20-70          | 0,15-0,5    | 10          |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill HEC

### Orientačné rezné hodnoty

MaxiMill HEC-11

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 100-800        | 0,08-0,3    | 6           | 100-360        | 0,08-0,3    | 6           | 100-360        | 0,1-0,45    | 6           |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

MaxiMill HEC-12

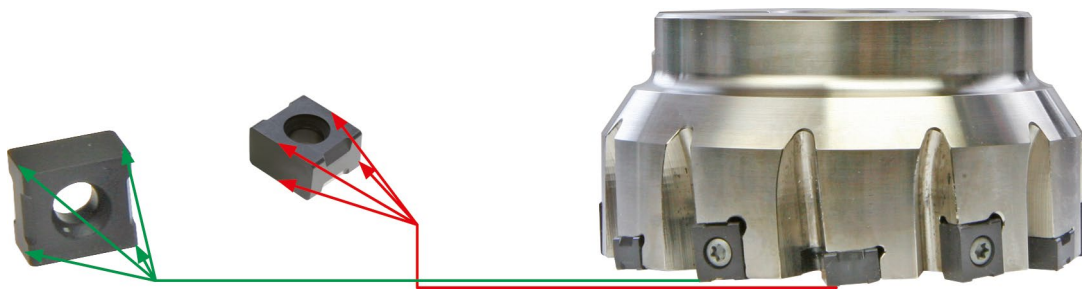
| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 100-360        | 0,08-0,3    | 8           | 100-360        | 0,08-0,3    | 8           | 100-360        | 0,1-0,45    | 8           |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

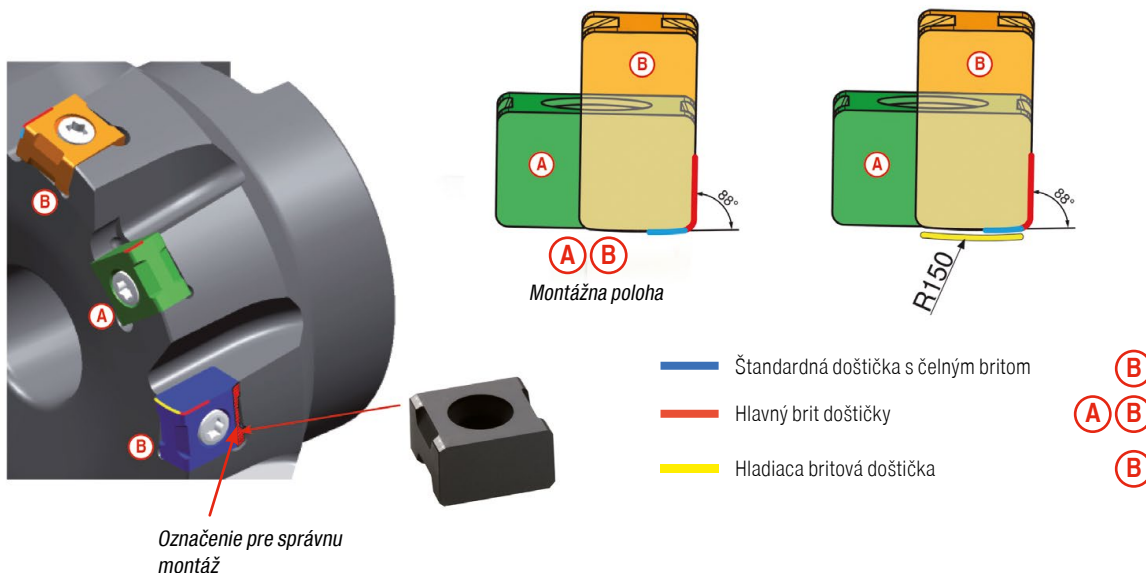
**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill HEC-11

Štyri rezné hrany na montážnu polohu

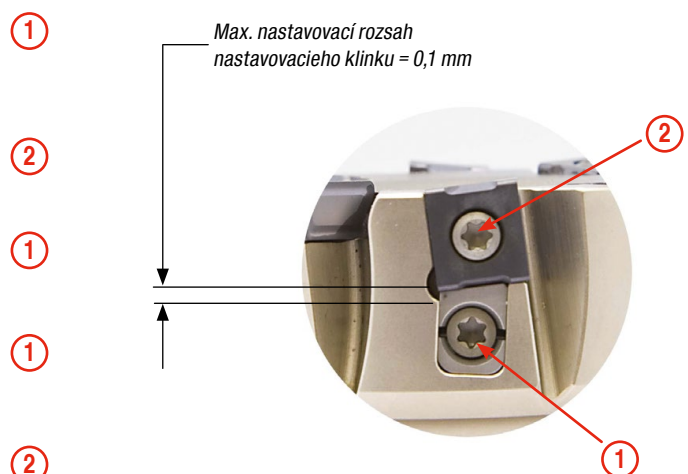


Správna montáž štandardnej britovej doštičky a doštičky s hladiacim britom



## Nastavenie nástrojov pomocou axiálneho nastavenia

- ▲ Nastavovací klin namontujte do frézy podľa obrázku a skrutku dotiahnite len natoľko, aby sa príslušný klin nepovoľoval.
- ▲ Podľa obrázku namontujte vymeniteľné doštičky a dotiahnite ich na kr. moment 1,0 Nm.
- ▲ Pomocou nastavovacieho prístroja označte najvyššiu reznú hranu.
- ▲ Postupným otáčaním nastavovacej skrutky nastavte rezné hrany na hodnotu čelného hádzania minimálne 0,005 mm či ešte lepšie.
- ▲ Vymeniteľnú britovú doštičku dotiahnite momentom 3,2 Nm.





# System MaxiMill 491-09

## Orientačné rezné hodnoty

### MaxiMill 491-09

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 60-280         | 0,1-0,2     | 6           | 60-280         | 0,1-0,2     | 6           | 60-280         | 0,1-0,2     | 6           |
| Nehrdzavejúca oceľ    | 60-280         | 0,05-0,2    | 6           | 130-240        | 0,05-0,25   | 6           | 130-240        | 0,1-0,25    | 6           |
| Liatina               | 110-130        | 0,05-0,25   | 6           | 100-360        | 0,1-0,25    | 6           | 100-360        | 0,1-0,25    | 6           |
| Neželezné kovy        | 160-1500       | 0,05-0,25   | 6           | 160-1500       | 0,05-0,25   | 6           | 160-1500       | 0,05-0,25   | 6           |
| Žiaruvzdorná zliatina | 25-75          | 0,08-0,15   | 6           | 25-75          | 0,08-0,15   | 6           | 25-75          | 0,08-0,15   | 6           |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

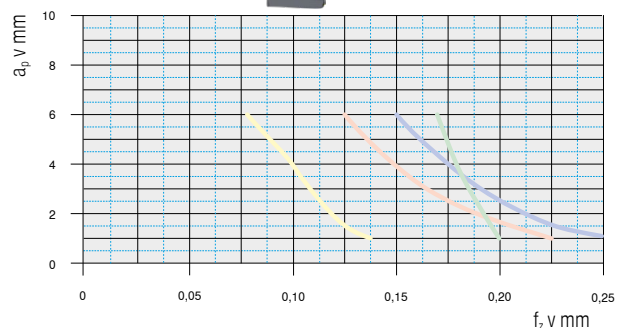
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Počiatkové parametre

| Príklad materiálov |                        |      |            |                   |
|--------------------|------------------------|------|------------|-------------------|
| Oceľ               | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312     | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571     | X6CrNiMoTi 1712 2 |
| Liatina            | 180 HB                 | 3.1  | EN-GJL-250 | EN-GJL-250 (GG25) |
| Neželezné kovy     | 450 N/mm <sup>2</sup>  | 4.3  | 3.2315     | AlMgSi1           |



SNHU 09



| Materiál           |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladenie          |
|--------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ               | 1.2312 | SNHU09T308SR-M50     | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ | 1.4571 | SNHU09T308SR-F50     | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina            | 5.1301 | SNHU09T308SR-R50     | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Neželezné kovy     | 3.2315 | SNHU09T308FR-F10     | CTWN215 (CWK4615) | 500           | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

# System MaxiMill 491-12

## Orientačné rezné hodnoty

### MaxiMill 491-12

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 60-280         | 0,1-0,2     | 8           | 60-280         | 0,1-0,2     | 8           | 60-280         | 0,1-0,2     | 8           |
| Nehrdzavejúca oceľ    | 60-280         | 0,05-0,2    | 8           | 130-240        | 0,05-0,25   | 8           | 130-240        | 0,1-0,25    | 8           |
| Liatina               | 110-130        | 0,05-0,25   | 8           | 100-360        | 0,1-0,25    | 8           | 100-360        | 0,1-0,25    | 8           |
| Neželezné kovy        | 160-1500       | 0,05-0,25   | 8           | 160-1500       | 0,05-0,25   | 8           | 160-1500       | 0,05-0,25   | 8           |
| Žiaruvzdorná zliatina | 25-75          | 0,08-0,15   | 8           | 25-75          | 0,08-0,15   | 8           | 25-75          | 0,08-0,15   | 8           |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

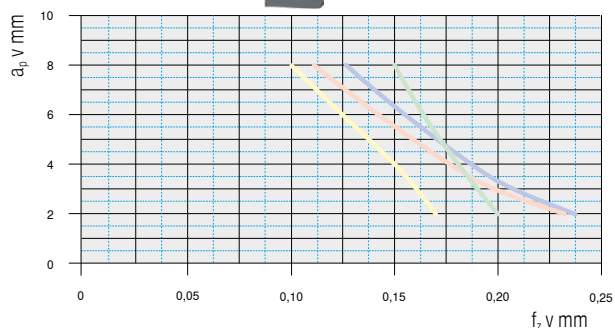
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Počítateľné parametre

| Príklad materiálov |                        |      |            |                   |
|--------------------|------------------------|------|------------|-------------------|
| Oceľ               | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312     | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571     | X6CrNiMoTi 1712 2 |
| Liatina            | 180 HB                 | 3.1  | EN-GJL-250 | EN-GJL-250 (GG25) |
| Neželezné kovy     | 450 N/mm <sup>2</sup>  | 4.3  | 3.2315     | AlMgSi1           |



SNHU 12



| Materiál           |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladenie          |
|--------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ               | 1.2312 | SNHU120408SR-M50     | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ | 1.4571 | SNHU120408SR-F50     | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina            | 5.1301 | SNHU120408SR-R50     | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Neželezné kovy     | 3.2315 | SNHU120408FR-F10     | CTWN215 (CWK4615) | 500           | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill 211-07

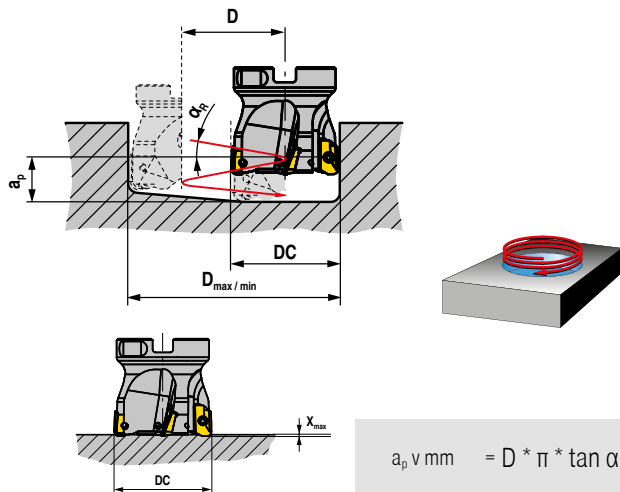
Orientačné hodnoty rezných dát/technologické údaje  
Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-340         | 0,1-0,2     | 6           | 50-340         | 0,1-0,2     | 6           | 50-340         | 0,1-0,2     | 6           |
| Nehrdzavejúca oceľ    | 60-280         | 0,05-0,2    | 6           | 60-280         | 0,05-0,3    | 6           | 60-280         | 0,1-0,3     | 6           |
| Liatina               |                |             |             | 100-360        | 0,1-0,3     | 6           | 100-360        | 0,1-0,3     | 6           |
| Neželezné kovy        | 160-1500       | 0,1-0,2     | 6           | 160-1500       | 0,1-0,2     | 6           | 160-1500       | 0,1-0,2     | 6           |
| Žiaruvzdorná zliatina | 25-75          | 0,05-0,15   | 6           | 25-75          | 0,05-0,15   | 6           | 25-75          | 0,05-0,15   | 6           |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

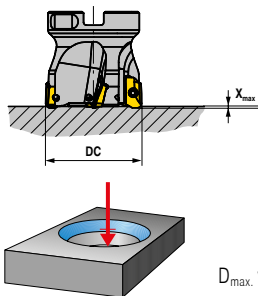
## Cirkulárne utápanie



| DC<br>mm | $D_{max} / RE 0,4$<br>mm | $D_{min}$<br>mm | $\alpha_{R \max}$<br>° |
|----------|--------------------------|-----------------|------------------------|
| 10       | 19                       | 13              | 5,5                    |
| 12       | 23                       | 17              | 6,0                    |
| 16       | 31                       | 25              | 3,0                    |
| 20       | 39                       | 33              | 2,0                    |
| 25       | 49                       | 43              | 1,5                    |
| 32       | 63                       | 57              | 1,2                    |
| 40       | 79                       | 73              | 0,8                    |
| 50       | 99                       | 93              | 0,7                    |

| DC<br>mm | D<br>mm | $\alpha_{R \max 360^\circ}$<br>° |
|----------|---------|----------------------------------|
| 10       | 13      | 5,5                              |
| 12       | 17      | 6,0                              |
| 16       | 25      | 3,0                              |
| 20       | 33      | 2,0                              |
| 25       | 43      | 1,5                              |
| 32       | 57      | 1,2                              |
| 40       | 73      | 0,8                              |
| 50       | 93      | 0,7                              |

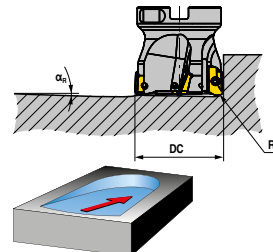
## Axiálne utápanie



| DC<br>mm | $X_{max}$<br>mm |
|----------|-----------------|
| 10       | 0,8             |
| 12       | 0,8             |
| 16       | 0,8             |
| 20       | 0,8             |
| 25       | 0,8             |
| 32       | 0,8             |
| 40       | 0,8             |
| 50       | 0,8             |

 $D_{max}$  v mm = najväčší priemer pre rovnú plochu dna $D_{min}$  v mm = najmenší priemer otvoru pre rovnú plochu dna

## Šikmé utápanie



| DC<br>mm | $\alpha$<br>° |
|----------|---------------|
| 10       | 11,0          |
| 12       | 7,9           |
| 16       | 4,3           |
| 20       | 3,0           |
| 25       | 2,5           |
| 32       | 1,6           |
| 40       | 1,2           |
| 50       | 1,0           |

$$D = D_{max} - DC / D_{min} - DC$$

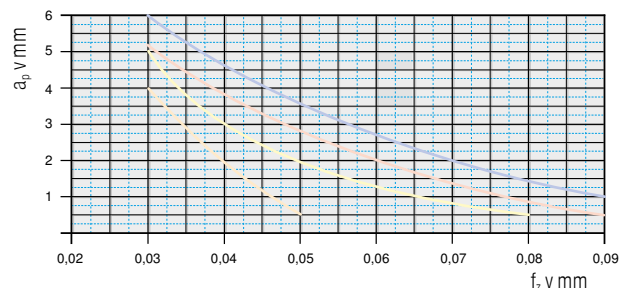
## Počítateľné parametre

## Príklad materiálov

|                       |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XDKT 07



| Materiál              | Vymeniteľná doštička | $v_c$ v m/min | Chladienie         |
|-----------------------|----------------------|---------------|--------------------|
| Oceľ                  | XDKT070308SR-M50     | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | XDKT070308SR-F50     | 180           | Obrábanie za sucha |
| Liatina               | CTCK215 (DCX3215)    | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | XDKT070308ER-F40     | 35            | Emulzia            |
|                       | CTC5240 (HCF5240)    |               |                    |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill 211-11

## Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky

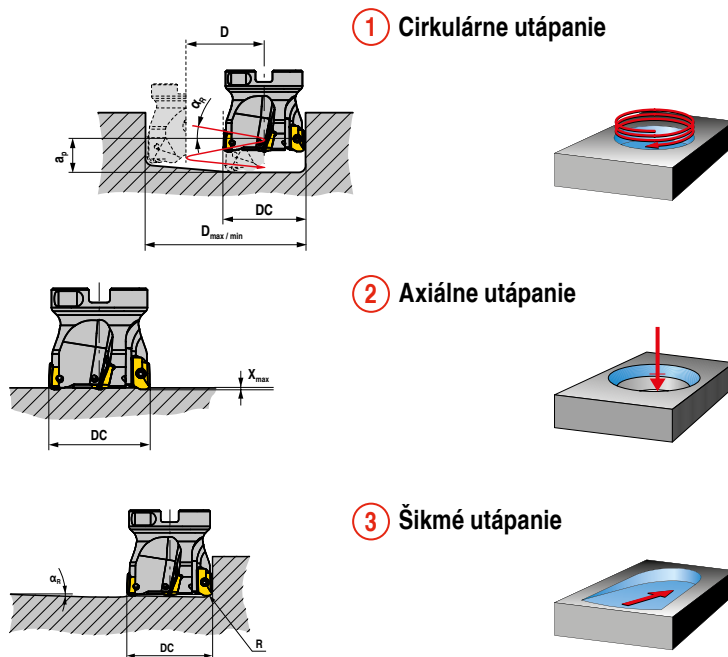
| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-340         | 0,1-0,2     | 10          | 50-340         | 0,1-0,2     | 10          | 50-340         | 0,1-0,2     | 10          |
| Nehrdzavejúca oceľ    | 60-280         | 0,05-0,2    | 10          | 60-280         | 0,05-0,25   | 10          | 60-280         | 0,1-0,25    | 10          |
| Liatina               |                |             |             | 100-360        | 0,1-0,25    | 10          | 100-360        | 0,1-0,25    | 10          |
| Neželezné kovy        | 160-1500       | 0,1-0,2     | 10          | 160-1500       | 0,1-0,2     | 10          | 160-1500       | 0,1-0,2     | 10          |
| Žiaruvzdorná zliatina | 25-75          | 0,05-0,15   | 10          | 25-75          | 0,05-0,15   | 10          | 25-75          | 0,05-0,15   | 10          |
| Kalená oceľ           |                |             |             | 40-60          | 0,05-0,2    | 10          |                |             |             |

## Pre valcové čelné frézy

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 100-300        | 0,05-0,20   | ≤ APMX      |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    | 80-200         | 0,05-0,20   | ≤ APMX      |                |             |             |                |             |             |
| Liatina               | 110-300        | 0,05-0,20   | ≤ APMX      |                |             |             |                |             |             |
| Neželezné kovy        | 300-2000       | 0,10-0,25   | ≤ APMX      |                |             |             |                |             |             |
| Žiaruvzdorná zliatina | 40-80          | 0,05-0,15   | ≤ APMX      |                |             |             |                |             |             |
| Kalená oceľ           | 30-50          | 0,05-0,10   | ≤ APMX      |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania



## ① Cirkulárne utápanie

## ② Axialné utápanie

## ③ Šikmé utápanie

| DC<br>mm | ① ② ③                                                   |                               |                              |
|----------|---------------------------------------------------------|-------------------------------|------------------------------|
|          | Cirkulárne utápanie<br>RE = 0,8 mm                      | Axiálne utápanie<br>$X_{max}$ | Šikmé utápanie<br>$\alpha_R$ |
| 12       | $\alpha_R$ 16°<br>$D_{max}$ 21 mm<br>$D_{min}$ 14 mm    | 1,3 mm                        | 18°                          |
| 16       | $\alpha_R$ 9,5°<br>$D_{max}$ 29 mm<br>$D_{min}$ 21 mm   | 1,5 mm                        | 10,8°                        |
| 20       | $\alpha_R$ 7°<br>$D_{max}$ 37 mm<br>$D_{min}$ 30 mm     | 2,0 mm                        | 9,8°                         |
| 25       | $\alpha_R$ 4,5°<br>$D_{max}$ 47 mm<br>$D_{min}$ 40 mm   | 2,0 mm                        | 7,5°                         |
| 32       | $\alpha_R$ 3,2°<br>$D_{max}$ 61 mm<br>$D_{min}$ 53 mm   | 1,0 mm                        | 4,8°                         |
| 40       | $\alpha_R$ 2,2°<br>$D_{max}$ 77 mm<br>$D_{min}$ 72 mm   | 1,6 mm                        | 2,9°                         |
| 50       | $\alpha_R$ 1,7°<br>$D_{max}$ 98 mm<br>$D_{min}$ 93 mm   | 1,6 mm                        | 2,2°                         |
| 63       | $\alpha_R$ 1,5°<br>$D_{max}$ 123 mm<br>$D_{min}$ 116 mm | 1,6 mm                        | 1,8°                         |
| 80       | $\alpha_R$ 1,0°<br>$D_{max}$ 157 mm<br>$D_{min}$ 153 mm | 1,6 mm                        | 1,4°                         |
| 100      | $\alpha_R$ 0,8°<br>$D_{max}$ 107 mm<br>$D_{min}$ 101 mm | 1,6 mm                        | 1,1°                         |

| Maximálne otáčky vziať na dĺžku vyloženia.<br>$n_{max}$ v $min^{-1}$ |                                      |                                      |                                    |                                    |                                    |
|----------------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| DC<br>mm                                                             | $l_a = 1-2 \times \varnothing$<br>mm | $l_a = 2,5 \times \varnothing$<br>mm | $l_a = 3 \times \varnothing$<br>mm | $l_a = 4 \times \varnothing$<br>mm | $l_a = 5 \times \varnothing$<br>mm |
| 12                                                                   | 55000                                | 51500                                | 47000                              | 42000                              | 37000                              |
| 16                                                                   | 42000                                | 38500                                | 34100                              | 28900                              | 24200                              |
| 20                                                                   | 36900                                | 33000                                | 28500                              | 23900                              | 19500                              |
| 25                                                                   | 33200                                | 29000                                | 24400                              | 19900                              | 15400                              |
| 32                                                                   | 30200                                | 26000                                | 20900                              | 16600                              | 11900                              |
| 40                                                                   | 27700                                | 23000                                | 18000                              | 13500                              | 9000                               |
| 50                                                                   | 25400                                | 20400                                | 15400                              | 10800                              | 6100                               |
| 63                                                                   | 23300                                | 18300                                | 12900                              | 8300                               | 3700                               |
| 80                                                                   | 21300                                | 16100                                | 10600                              | 5800                               |                                    |
| 100                                                                  | 19600                                | 14100                                | 8400                               |                                    |                                    |

 $D_{max}$  v mm = najväčší priemer pre rovnú plochu dna $D_{min}$  v mm = najmenší priemer pre rovnú plochu dna $a_p$  v mm =  $D \times \pi \times \tan(\alpha_R)$  = stúpanie $l_a$  v mm = dĺžka vyloženia

## Systém MaxiMill 211-15

## Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky

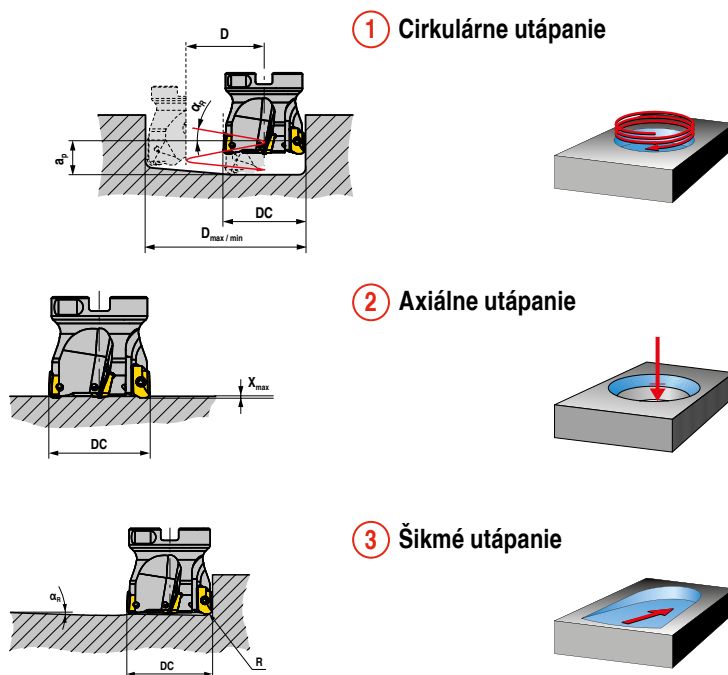
| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-340         | 0,1-0,2     | 14          | 50-340         | 0,1-0,2     | 14          | 50-340         | 0,1-0,2     | 14          |
| Nehrdzavejúca oceľ    | 60-280         | 0,05-0,2    | 14          | 60-280         | 0,05-0,25   | 14          | 60-280         | 0,1-0,25    | 14          |
| Liatina               |                |             |             | 100-360        | 0,1-0,25    | 14          | 100-360        | 0,1-0,25    | 14          |
| Neželezné kovy        | 160-1500       | 0,1-0,2     | 14          | 160-1500       | 0,1-0,2     | 14          | 160-1500       | 0,1-0,2     | 14          |
| Žiaruvzdorná zliatina | 25-75          | 0,05-0,15   | 14          | 25-75          | 0,05-0,15   | 14          | 25-75          | 0,05-0,15   | 14          |
| Kalená oceľ           |                |             |             | 40-60          | 0,05-0,2    | 14          |                |             |             |

## Pre valcové čelné frézy

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 120-300        | 0,08-0,35   | ≤ APMX      |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    | 150-200        | 0,08-0,35   | ≤ APMX      |                |             |             |                |             |             |
| Liatina               | 130-300        | 0,08-0,35   | ≤ APMX      |                |             |             |                |             |             |
| Neželezné kovy        | 400-2500       | 0,12-0,40   | ≤ APMX      |                |             |             |                |             |             |
| Žiaruvzdorná zliatina | 25-80          | 0,08-0,20   | ≤ APMX      |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania



## ① Cirkulárne utápanie

## ①

## ②

## ③

| DC<br>mm | Cirkulárne utápanie |        | Axiálne<br>utápanie | Šikmé<br>utápanie |
|----------|---------------------|--------|---------------------|-------------------|
|          | RE = 0,8 mm         |        | $X_{max}$           | $\alpha_R$        |
| 25       | $\alpha_R$          | 7,5°   |                     |                   |
|          | $D_{max}$           | 48 mm  | 2,7 mm              | 9,5°              |
|          | $D_{min}$           | 37 mm  |                     |                   |
| 32       | $\alpha_R$          | 5°     |                     |                   |
|          | $D_{max}$           | 62 mm  | 2,5 mm              | 6,8°              |
|          | $D_{min}$           | 47 mm  |                     |                   |
| 40       | $\alpha_R$          | 3,2°   |                     |                   |
|          | $D_{max}$           | 78 mm  | 2,5 mm              | 5,1°              |
|          | $D_{min}$           | 63 mm  |                     |                   |
| 50       | $\alpha_R$          | 2,5°   |                     |                   |
|          | $D_{max}$           | 98 mm  | 2,5 mm              | 2,5°              |
|          | $D_{min}$           | 86 mm  |                     |                   |
| 63       | $\alpha_R$          | 1,5°   |                     |                   |
|          | $D_{max}$           | 124 mm | 2,5 mm              | 2,5°              |
|          | $D_{min}$           | 111 mm |                     |                   |
| 80       | $\alpha_R$          | 1,3°   |                     |                   |
|          | $D_{max}$           | 158 mm | 2,5 mm              | 2,0°              |
|          | $D_{min}$           | 147 mm |                     |                   |
| 100      | $\alpha_R$          | 1,1°   |                     |                   |
|          | $D_{max}$           | 198 mm | 2,5 mm              | 1,5°              |
|          | $D_{min}$           | 190 mm |                     |                   |
| 125      | $\alpha_R$          | 0,9°   |                     |                   |
|          | $D_{max}$           | 248 mm | 2,5 mm              | 0,9°              |
|          | $D_{min}$           | 240 mm |                     |                   |
| 160      | $\alpha_R$          | 0,6°   |                     |                   |
|          | $D_{max}$           | 318 mm | 2,5 mm              | 0,7°              |
|          | $D_{min}$           | 310 mm |                     |                   |

 $D_{max}$  v mm = najväčší priemer pre rovnú plochu dna $D_{min}$  v mm = najmenší priemer pre rovnú plochu dna $a_p$  v mm =  $D \times \pi \times \tan(\alpha_R)$  = stúpanie $l_a$  v mm = dĺžka vyloženia

| Maximálne otáčky vzťahujúce sa na dĺžku vyloženia.<br>$n_{max}$ v $min^{-1}$ |                                  |                                  |                                  |
|------------------------------------------------------------------------------|----------------------------------|----------------------------------|----------------------------------|
| DC<br>mm                                                                     | $l_a = 2 \times \emptyset$<br>mm | $l_a = 3 \times \emptyset$<br>mm | $l_a = 5 \times \emptyset$<br>mm |
| 25                                                                           | 26560                            | 19520                            | 13320                            |
| 32                                                                           | 24160                            | 16720                            | 9520                             |
| 40                                                                           | 22160                            | 14400                            | 7200                             |
| 50                                                                           | 20320                            | 12320                            | 4880                             |
| 63                                                                           | 18640                            | 10320                            | 2960                             |
| 80                                                                           | 17040                            | 8480                             |                                  |
| 100                                                                          | 15680                            | 6720                             |                                  |
| 125                                                                          | 14320                            |                                  |                                  |
| 160                                                                          | 13200                            |                                  |                                  |

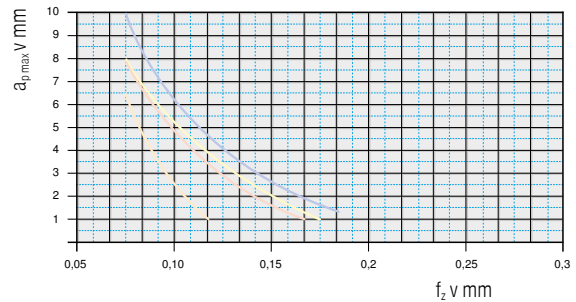
## Systém MaxiMill 211-11

## Počiatočné parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XDKT 11



| Materiál              |        | Vymeniteľná doštička |                   | v <sub>c</sub> v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|------------------------|--------------------|
| Oceľ                  | 1.2312 | XDKT11T308SR-M50     | CTPP235 (DPX1235) | 200                    | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | XDKT11T308SR-F50     | CTPM240 (DPX2240) | 180                    | Obrábanie za sucha |
| Liatina               | 5.1301 | XDKT11T308SR-R50     | CTCK215 (DCX3215) | 250                    | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | XDKT11T308ER-F50     | CTC5240 (HCF5240) | 35                     | Emulzia            |

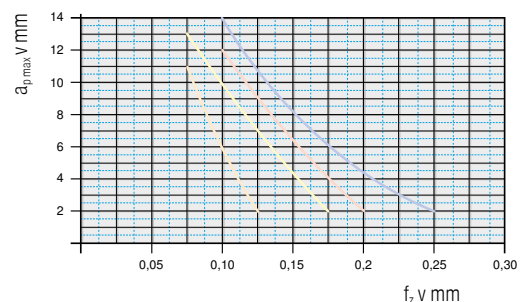
## Systém MaxiMill 211-15

## Počiatočné parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XDKT 15



| Materiál              |        | Vymeniteľná doštička |                   | v <sub>c</sub> v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|------------------------|--------------------|
| Oceľ                  | 1.2312 | XDKT150508SR-M50     | CTPP235 (DPX1235) | 200                    | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 |                      | CTPM240 (DPX2240) | 180                    | Obrábanie za sucha |
| Liatina               | 5.1301 | XDKT150508SR-R50     | CTCK215 (DCX3215) | 250                    | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | XDKT150508ER-F40     | CTC5240 (HCF5240) | 35                     | Emulzia            |

# Systém MaxiMill 211-20

## Orientačné hodnoty rezných dát/technologické údaje

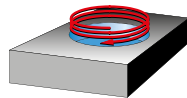
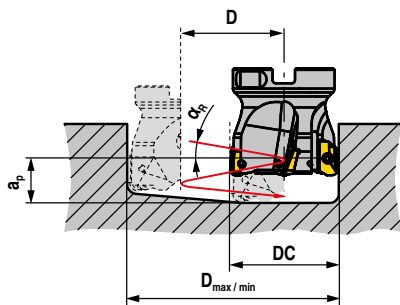
Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    | 130-280        | 0,08-0,2    | 19          | 130-280        | 0,08-0,3    | 19          | 180-280        | 0,1-0,25    | 19          |
| Liatina               |                |             |             |                |             |             |                |             |             |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina | 25-80          | 0,08-0,2    | 19          | 25-80          | 0,08-0,3    | 19          | 25-80          | 0,1-0,15    | 19          |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

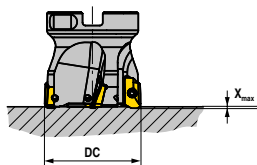
### Cirkulárne utápanie



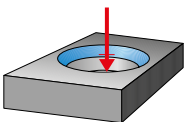
| DC<br>mm | $D_{max} / RE 0,4$<br>mm | $D_{min}$<br>mm | $\alpha_{Rmax}$<br>° |
|----------|--------------------------|-----------------|----------------------|
| 63       | 124                      | 107             | 2,2                  |
| 80       | 158                      | 143             | 1,7                  |
| 100      | 198                      | 183             | 1,3                  |

$$a_p \text{ v mm} = D * \pi * \tan \alpha_R$$

### Axiálne utápanie



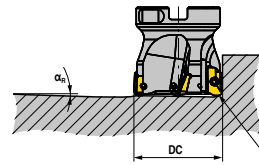
| DC<br>mm | $X_{max}$<br>mm |
|----------|-----------------|
| 63       | 2,0             |
| 80       | 2,0             |
| 100      | 2,0             |



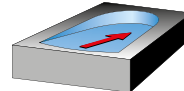
$D_{max}$  v mm = najväčší priemer pre rovnú plochu dna

$D_{min}$  v mm = najmenší priemer otvoru pre rovnú plochu dna

### Šikmé utápanie



| DC<br>mm | $\alpha$<br>° |
|----------|---------------|
| 63       | 2,2           |
| 80       | 1,7           |
| 100      | 1,3           |



$$D = D_{max} - DC / D_{min} - DC$$

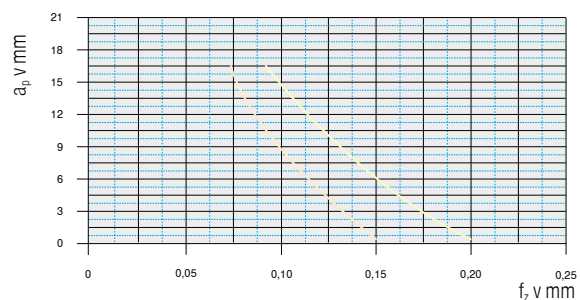
## Počiatkové parametre

### Príklad materiálov

|                       |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XDKT 20



| Materiál              |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ                  | 1.2312 |                      |                   |               |                    |
| Nehrdzavejúca oceľ    | 1.4571 | XDKT200708ER-F40     | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301 |                      |                   |               |                    |
| Žiaruvzdorná zliatina | 2.4856 | XDKT200708ER-F40     | CTC5240 (HCF5240) | 35            | Emulzia            |

❗ Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

# Systém MaxiMill 490-09

## Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-350         | 0,05-0,25   | 7,3         | 50-350         | 0,05-0,3    | 7,3         | 50-270         | 0,1-0,3     | 7,3         |
| Nehrdzavajúca oceľ    | 130-280        | 0,1-0,2     | 7,3         | 60-280         | 0,1-0,2     | 7,3         | 60-280         | 0,1-0,2     | 7,3         |
| Liatina               | 100-360        | 0,05-0,25   | 7,3         | 100-360        | 0,05-0,3    | 7,3         | 100-360        | 0,1-0,3     | 7,3         |
| Neželezné kovy        | 160-1500       | 0,08-0,35   | 7,3         | 160-1500       | 0,08-0,35   | 7,3         | 160-1500       | 0,08-0,35   | 7,3         |
| Žiaruvzdorná zliatina | 25-75          | 0,1-0,2     | 7,3         | 25-75          | 0,1-0,2     | 7,3         | 25-75          | 0,1-0,2     | 7,3         |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

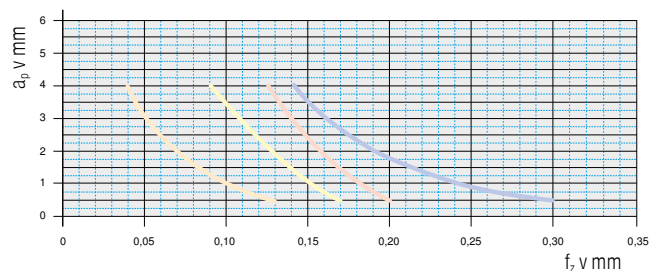
**i** Systém MaxiMill 490-09 nie je vhodný pre utápacie frézovanie!

## Počiatkové parametre

| Príklad materiálov    |                        |      |                   |
|-----------------------|------------------------|------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312            |
| Nehrdzavajúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571            |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250        |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625       |
|                       |                        |      | 40CrMnMoS 8-6     |
|                       |                        |      | X6CrNiMoTi 1712 2 |
|                       |                        |      | EN-GJL-250 (GG25) |
|                       |                        |      | Inconel 718       |



SDNT 09

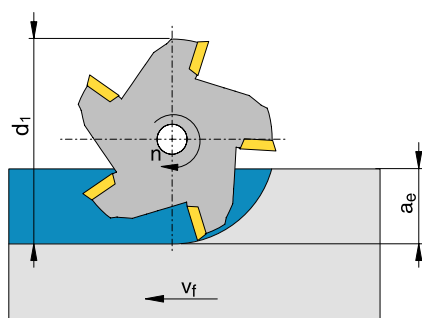


| Materiál              |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladienie         |
|-----------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ                  | 1.2312 | SDNT09T308SR-29      | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavajúca oceľ    | 1.4571 | SDNT09T308SR-33      | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301 | SDNT09T308SR-31      | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | SDNT09T308ER-M31     | CTC5240 (HCF5240) | 35            | Emulzia            |

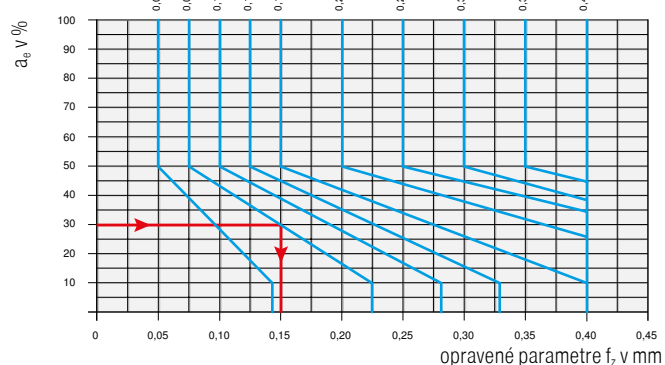
## Korekcia posuvu na zub $f_z$

Pre systémy 211-07/-11/-15/-20 a 490-09/-12

**i** Tieto hodnoty sú platné pre šírku záberu ( $a_e$ ) pod 50 %!



Počiatkové parametre  $f_z$  v mm z diagramu počiatkových parametrov



→ **Príklad:**  
počiatočná hodnota ( $f_z$ ) = 0,075 mm  
 $a_e$  = 30 %  
opravená hodnota ( $f_z$ ) = 0,15 mm



# Systém MaxiMill 490-12

## Orientačné rezné hodnoty

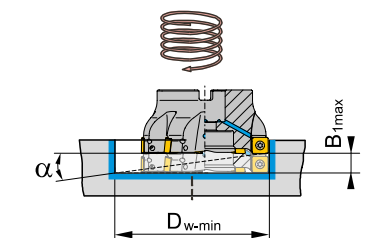
Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50-350         | 0,05-0,25   | 10,7        | 50-350         | 0,05-0,3    | 10,7        | 50-270         | 0,1-0,3     | 10,7        |
| Nehrdzavejúca oceľ    | 130-280        | 0,1-0,2     | 10,7        | 60-280         | 0,1-0,2     | 10,7        | 60-280         | 0,1-0,2     | 10,7        |
| Liatina               | 100-360        | 0,05-0,25   | 10,7        | 100-360        | 0,05-0,3    | 10,7        | 100-360        | 0,1-0,3     | 10,7        |
| Neželezné kovy        | 160-1500       | 0,08-0,35   | 10,7        | 160-1500       | 0,08-0,35   | 10,7        | 160-1500       | 0,08-0,35   | 10,7        |
| Žiaruvzdorná zliatina | 25-75          | 0,1-0,2     | 10,7        | 25-75          | 0,1-0,2     | 10,7        | 25-75          | 0,1-0,2     | 10,7        |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

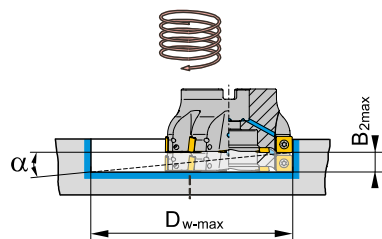
## Stratégia obrábania

### cirkulárne utápanie (bez štartovacieho otvoru)



$$B = (D_w - DC) \times \pi \times \tan \alpha$$

$D_w$  = priemer frézovaného otvoru  
 $DC$  = menovitý priemer frézy  
 $B$  = axiálny prísuv na kruhový pohyb 360°



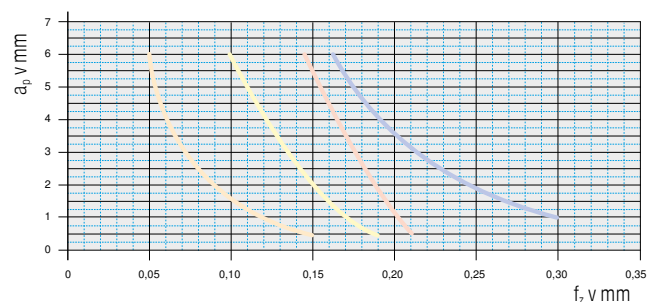
| DC<br>mm | $D_{w-min}$<br>mm | $B_{1max}$<br>mm | $D_{w-max}$<br>mm | $B_{2max}$<br>mm | $\alpha$<br>° |
|----------|-------------------|------------------|-------------------|------------------|---------------|
| 50       | 77                | 2,5              | 98                | 4,8              | 2,0           |
| 63       | 103               | 1,8              | 124               | 3,0              | 1,0           |
| 80       | 137               | 2,1              | 158               | 3,0              | 0,8           |
| 100      | 177               | 2,1              | 198               | 2,9              | 0,6           |
| 125      | 227               | 1,8              | 248               | 2,4              | 0,4           |

## Počiatkové parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



SDMT 12



| Materiál              |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladenie          |
|-----------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ                  | 1.2312 | SDMT1205ZZSN-29      | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | SDMT120512SR-33      | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301 | SDMT1205ZZSN-31      | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | SDMT120508ER-M31     | CTC5240 (HCF5240) | 35            | Emulzia            |

## Obrábanie HSC/HPC

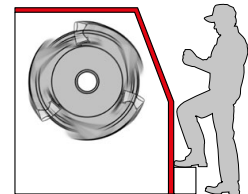
### Bezpečnostné pokyny

#### Spôsobilosť nástroja pre obrábanie HSC

Nástroje HSC spoločnosti CERATIZIT sú koncipované špeciálne pre túto stratégiu obrábania a zaručujú maximálnu prevádzkovú spoľahlivosť.

#### Dodržovanie bezpečnostných predpisov vydaných výrobcom stroja

Zabezpečte dodržovanie všetkých bezpečnostných predpisov vydaných výrobcom stroja (napr.: priestor obrábania zakrytý krytom).



#### Spôsobilosť nástrojových držiakov pre obrábanie HSC

Zvoľte si, v závislosti na druhu frézovania, optimálnu kombináciu nástroj-upínač. Pre vysokorýchlostné frézovanie je nutné, aby nástroj a upínač boli vzájomne dynamicky vyvážené (príslušné smernice ISO 1940).

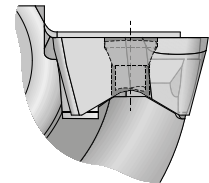
#### Upnutie vymeniteľnej britovej doštičky so zabezpečením proti odstredivej sile

Upnutie britovej doštičky: Europatent EP 1083017A1

Dbajte na to, aby bolo lôžko doštičky vyčistené a aby bol závitový otvor pre upínanie skrutky v bezvadnom stave.

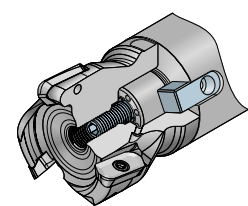
Prekontrolujte axiálne a radiálne dosadacie plochy britovej doštičky v lôžku.

Upínacie skrutky určené pre zámkové pripevnenie britových doštičiek sa musia dotiahnuť na uťahovací moment  $M$  (XDHT11 = 1,8 Nm; XDH.19 = 6,0 Nm).



#### Optimálne upnutie HSC fréz (DC = Ø 40–63) na frézovacích trňoch pomocou diferenciálnej skrutky

Silová skrutka zabezpečuje stabilné spojenie nástroja a frézovacieho trňa a manipulácia s ním je veľmi jednoduchá.



Silová skrutka

#### Maximálne prípustné pracovné otáčky

Dbajte na maximálne prípustné frézovacie otáčky uvedené na nástroji. Tieto otáčky sa vzťahujú výlučne na konkrétny nástroj a musia sa patrične prispôsobiť podľa zvoleného upnutia nástroja, celkovej dĺžky vyloženia a podľa konkrétneho typu obrábania.

Optimálna oblasť použitia nástroja ( $a_e$ ,  $a_p$ ,  $f_z$ ,  $n$ )

Aby sa zabezpečilo produktívne frézovanie, postupujte prosím podľa odporúčaní pre nastavenie rezných parametrov.



15

## Systém MaxiMill HSC-11

## Orientačné rezné hodnoty

Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 110–130        | 0,05–0,35   | 10          |                |             |             |                |             |             |
| Neželezné kovy        | 160–3000       | 0,05–0,35   | 10          | 160–3000       | 0,05–0,35   | 10          | 160–3000       | 0,05–0,35   | 10          |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

| Materiál obrodku | Povrchová úprava / zliatina            |                                     | Skupina VDI 3323 | Tvrdosť<br>HB | H216T<br>(CWK26)                                                                                  |                                                                                                   |
|------------------|----------------------------------------|-------------------------------------|------------------|---------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|                  |                                        |                                     |                  |               |  $v_c$ v m/min |  $v_c$ v m/min |
| N                | Hliník<br>Tvárna zliatina              | Nevytvrzovateľný                    | 21               | 60            |                                                                                                   | 200–3000                                                                                          |
|                  |                                        | Vytvrzovateľné                      | 22               | 100           |                                                                                                   | 200–2000                                                                                          |
|                  | Hliník<br>Zlievarenská zliatina        | Nevytvrzovateľný < 12% Si           | 23               | 80            |                                                                                                   | 200–2000                                                                                          |
|                  |                                        | Vytvrzovateľné < 12% Si             | 24               | 90            |                                                                                                   | 200–1800                                                                                          |
|                  |                                        | Nevytvrzovateľný > 12% Si           | 25               | 130           |                                                                                                   | 200–1000                                                                                          |
|                  | Meď a zliatiny medi<br>(bronz, mosadz) | Automatová zliatina (1% Pb)         | 26               |               |                                                                                                   | 200–600                                                                                           |
|                  |                                        | Mosadz, červený bronz               | 27               | 90            | 250–1000                                                                                          | 250–1000                                                                                          |
|                  |                                        | Bronz                               | 28               | 100           |                                                                                                   | 150–400                                                                                           |
|                  |                                        | Bezlovnatá meď a elektrolytická meď | 29               | 100           |                                                                                                   | 300–800                                                                                           |
|                  | Nekovové materiály                     | Duroplasty                          | 29               |               | 80–1000                                                                                           | 80–1000                                                                                           |
|                  |                                        | Plasty vystužené vláknami           | 29               |               | 70–500                                                                                            | 70–500                                                                                            |
|                  |                                        | Tvrdená guma                        | 30               |               | 80–300                                                                                            | 80–300                                                                                            |



= chladenie plným prúdom



= mazanie minimálnym množstvom maziva



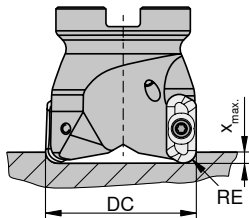
= obrábanie na sucho

## Systém MaxiMill HSC-11

## Technologické údaje

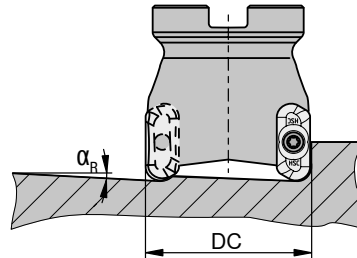
## Stratégia obrábania

## Axiálne utápanie



| DC<br>mm |  <b>11</b><br>RE 0,2-4,0<br>$x_{max}$<br>mm |
|----------|------------------------------------------------------------------------------------------------------------------------------|
| 16       | 1,70                                                                                                                         |
| 18       | 2,11                                                                                                                         |
| 19       | 2,24                                                                                                                         |
| 20       | 2,39                                                                                                                         |
| 22       | 2,70                                                                                                                         |
| 25       | 2,55                                                                                                                         |
| 32       | 2,40                                                                                                                         |
| 40       | 2,28                                                                                                                         |
| 50       | 2,26                                                                                                                         |
| 63       | 2,10                                                                                                                         |
| 80       | 1,75                                                                                                                         |
| 100      | 1,79                                                                                                                         |

## Lineárne utápanie



| DC<br>mm | $\alpha_R$ |
|----------|------------|
| 16       | 18,8       |
| 18       | 16,3       |
| 19       | 15,3       |
| 20       | 14,8       |
| 22       | 13,8       |
| 25       | 10,3       |
| 32       | 6,8        |
| 40       | 4,8        |
| 50       | 3,5        |
| 63       | 2,5        |
| 80       | 1,8        |
| 100      | 1,3        |

## Stratégia hrubovacieho dokončovacieho frézovania

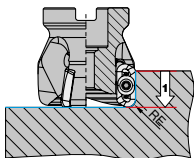
## S maximálnym objemom triesok

| Vymeniteľná britová doštička |  RE<br>mm |  $a_p$<br>mm |  $a_{p max}$<br>mm |
|------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| XDHT 11T302FR-ALP            | 0,2                                                                                         | 10                                                                                             | 9,8                                                                                                  |
| XDHT 11T304FR-ALP            | 0,4                                                                                         | 10                                                                                             | 9,6                                                                                                  |
| XDHT 11T308FR-ALP            | 0,8                                                                                         | 10                                                                                             | 9,2                                                                                                  |
| XDHT 11T312FR-ALP            | 1,2                                                                                         | 10                                                                                             | 8,8                                                                                                  |
| XDHT 11T316FR-ALP            | 1,6                                                                                         | 10                                                                                             | 8,4                                                                                                  |
| XDHT 11T320FR-ALP            | 2,0                                                                                         | 10                                                                                             | 8,0                                                                                                  |
| XDHT 11T325FR-ALP            | 2,5                                                                                         | 10                                                                                             | 7,5                                                                                                  |
| XDHT 11T332FR-ALP            | 3,2                                                                                         | 10                                                                                             | 6,8                                                                                                  |
| XDHT 11T340FR-ALP            | 4,0                                                                                         | 10                                                                                             | 6,0                                                                                                  |
| XDHT 11T350FR-ALP            | 5,0                                                                                         | 10                                                                                             | 5,0                                                                                                  |

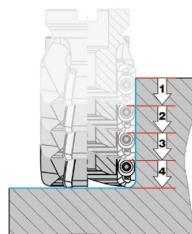
## S maximálnou kvalitou bočnej steny

| Vymeniteľná britová doštička |  RE<br>mm |  $a_{p max}$<br>mm |
|------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| XDHT 11T302FR-ALP            | 0,2                                                                                           | 7,8                                                                                                    |
| XDHT 11T304FR-ALP            | 0,4                                                                                           | 7,6                                                                                                    |
| XDHT 11T308FR-ALP            | 0,8                                                                                           | 7,2                                                                                                    |
| XDHT 11T312FR-ALP            | 1,2                                                                                           | 6,5                                                                                                    |
| XDHT 11T316FR-ALP            | 1,6                                                                                           | 6,8                                                                                                    |
| XDHT 11T320FR-ALP            | 2,0                                                                                           | 6,4                                                                                                    |
| XDHT 11T325FR-ALP            | 2,5                                                                                           | 5,5                                                                                                    |
| XDHT 11T332FR-ALP            | 3,2                                                                                           | 4,8                                                                                                    |
| XDHT 11T340FR-ALP            | 4,0                                                                                           | 4,0                                                                                                    |
| XDHT 11T350FR-ALP            | 5,0                                                                                           | 3,0                                                                                                    |

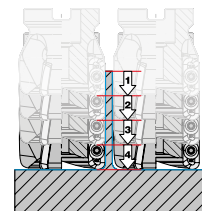
## Rohové frézovanie



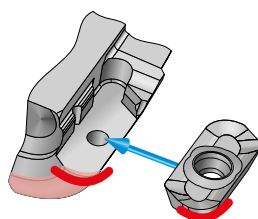
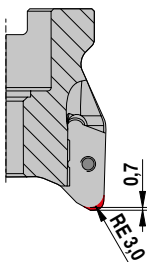
## Frézovanie káps



## Frézovanie káps s tenkými prepážkami



## Presústruženie čelného profilu



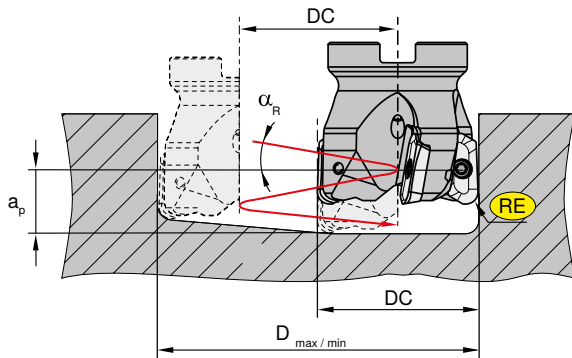
Pre britové doštičky so zaoblením hrany väčším ako 3,2 mm sa musí modifikovať základné teleso nástroja vid' obrázok vyššie.

## Systém MaxiMill HSC-11

## Technologické údaje

## Stratégia obrábania

## Cirkulárne utápanie



RE = rádius britovej doštičky  
 $\alpha_R$  v mm = maximálny uhol utápania (vo vzťahu ku stredu nástroja)

$a_p$  v mm = stúpanie  $\rightarrow D \times \pi \times \tan(\alpha_R)$

D v mm = stúpanie  $\rightarrow D_{\max} - DC$  popr.  $D_{\min} - DC$

## Pre rovné dno otvoru

$D_{\max}$  v mm = najväčší priemer otvoru  
 $D_{\min}$  v mm = najmenší priemer otvoru  
 $DN_{\max}$  v mm = najväčší priemer otvoru pre nerovné dno otvoru

| DC v mm              |            | XDHT-11 (HSC-11) |          |          |          |          |          |          |          |          |
|----------------------|------------|------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| (DN <sub>max</sub> ) |            | RE = 0,2         | RE = 0,4 | RE = 0,8 | RE = 1,2 | RE = 1,6 | RE = 2,0 | RE = 2,5 | RE = 3,2 | RE = 4,0 |
| 16<br>(31)           | $\alpha_R$ | 9,7°             | 10,0°    | 9,9°     | 9,4°     | 8,9°     | 8,4°     | 7,9°     | 7,0°     | 6,1°     |
|                      | $D_{\max}$ | 30               | 30       | 29       | 28       | 27       | 27       | 26       | 24       | 23       |
|                      | $D_{\min}$ | 18               | 18       | 18       | 18       | 18       | 18       | 18       | 18       | 18       |
| 18<br>(35)           | $\alpha_R$ | 9,4°             | 9,1°     | 8,7°     | 8,3°     | 7,9°     | 7,5°     | 6,9°     | 6,2°     | 5,3°     |
|                      | $D_{\max}$ | 34               | 34       | 33       | 32       | 31       | 31       | 30       | 28       | 27       |
|                      | $D_{\min}$ | 22               | 22       | 22       | 22       | 22       | 22       | 22       | 22       | 22       |
| 19<br>(37)           | $\alpha_R$ | 8,8°             | 8,6°     | 8,3°     | 7,9°     | 7,5°     | 7,5°     | 6,5°     | 5,9°     | 5,1°     |
|                      | $D_{\max}$ | 36               | 36       | 35       | 34       | 33       | 33       | 32       | 30       | 29       |
|                      | $D_{\min}$ | 24               | 24       | 24       | 24       | 24       | 24       | 24       | 24       | 24       |
| 20<br>(39)           | $\alpha_R$ | 8,4°             | 8,2°     | 7,8°     | 7,4°     | 7,7°     | 6,7°     | 6,2°     | 5,5°     | 4,8°     |
|                      | $D_{\max}$ | 38               | 38       | 37       | 36       | 35       | 35       | 34       | 32       | 31       |
|                      | $D_{\min}$ | 26               | 26       | 26       | 26       | 26       | 26       | 26       | 26       | 26       |
| 22<br>(43)           | $\alpha_R$ | 7,6°             | 7,4°     | 7,8°     | 6,7°     | 6,4°     | 6,5°     | 5,6°     | 5,2°     | 4,3°     |
|                      | $D_{\max}$ | 42               | 42       | 41       | 40       | 39       | 39       | 38       | 36       | 35       |
|                      | $D_{\min}$ | 30               | 30       | 30       | 30       | 30       | 30       | 30       | 30       | 30       |
| 25<br>(49)           | $\alpha_R$ | 6,7°             | 6,5°     | 6,2°     | 5,9°     | 5,6°     | 5,3°     | 4,9°     | 4,4°     | 3,8°     |
|                      | $D_{\max}$ | 48               | 48       | 47       | 46       | 45       | 45       | 44       | 42       | 41       |
|                      | $D_{\min}$ | 36               | 36       | 36       | 36       | 36       | 36       | 36       | 36       | 36       |
| 32<br>(63)           | $\alpha_R$ | 4,7°             | 4,7°     | 4,8°     | 4,6°     | 4,3°     | 4,1°     | 3,8°     | 3,4°     | 2,9°     |
|                      | $D_{\max}$ | 62               | 62       | 61       | 60       | 59       | 59       | 58       | 56       | 55       |
|                      | $D_{\min}$ | 50               | 50       | 50       | 50       | 50       | 50       | 50       | 50       | 50       |
| 40<br>(79)           | $\alpha_R$ | 3,3°             | 3,3°     | 3,4°     | 3,4°     | 3,5°     | 3,3°     | 3,0°     | 2,7°     | 2,3°     |
|                      | $D_{\max}$ | 78               | 78       | 77       | 76       | 75       | 75       | 74       | 72       | 71       |
|                      | $D_{\min}$ | 66               | 66       | 66       | 66       | 66       | 66       | 66       | 66       | 66       |
| 50<br>(99)           | $\alpha_R$ | 2,4°             | 2,5°     | 2,5°     | 2,5°     | 2,6°     | 2,6°     | 2,4°     | 2,2°     | 1,9°     |
|                      | $D_{\max}$ | 98               | 98       | 97       | 96       | 95       | 95       | 94       | 92       | 91       |
|                      | $D_{\min}$ | 86               | 86       | 86       | 86       | 86       | 86       | 86       | 86       | 86       |
| 63<br>(125)          | $\alpha_R$ | 1,7°             | 1,7°     | 1,7°     | 1,8°     | 1,8°     | 1,8°     | 1,8°     | 1,7°     | 1,5°     |
|                      | $D_{\max}$ | 124              | 124      | 123      | 122      | 121      | 121      | 120      | 118      | 117      |
|                      | $D_{\min}$ | 112              | 112      | 112      | 112      | 112      | 112      | 112      | 112      | 112      |
| 80<br>(159)          | $\alpha_R$ | 1,1°             | 1,1°     | 1,1°     | 1,1°     | 1,1°     | 1,1°     | 1,1°     | 1,2°     | 1,2°     |
|                      | $D_{\max}$ | 158              | 158      | 157      | 156      | 155      | 155      | 154      | 152      | 151      |
|                      | $D_{\min}$ | 146              | 146      | 146      | 146      | 146      | 146      | 146      | 146      | 146      |
| 100<br>(199)         | $\alpha_R$ | 0,8°             | 0,8°     | 0,9°     | 0,9°     | 0,9°     | 0,9°     | 0,9°     | 0,9°     | 0,9°     |
|                      | $D_{\max}$ | 198              | 198      | 197      | 196      | 195      | 195      | 194      | 192      | 191      |
|                      | $D_{\min}$ | 186              | 186      | 186      | 186      | 186      | 186      | 186      | 186      | 186      |

## Systém MaxiMill HSC/HPC-19

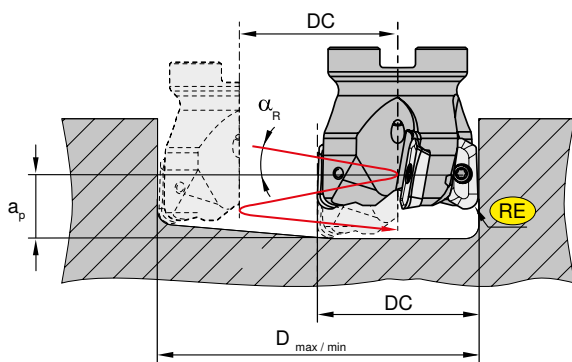
## Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 110–130        | 0,05–0,35   | 18          |                |             |             |                |             |             |
| Neželezné kovy        | 160–3000       | 0,05–0,35   | 18          | 160–3000       | 0,05–0,35   | 18          | 160–3000       | 0,05–0,35   | 18          |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Cirkulárne utápanie



RE = rádius britovej doštičky  
 $\alpha_R$  v mm = maximálny uhol utápania (vo vzťahu ku stredu nástroja)

$a_p$  v mm = stúpanie  $\rightarrow D \times \pi \times \tan(\alpha_R)$

D v mm = stúpanie  $\rightarrow D_{\max} - DC$  popr.  $D_{\min} - DC$

## Pre rovné dno otvoru

$D_{\max}$  v mm = najväčší priemer otvoru

$D_{\min}$  v mm = najmenší priemer otvoru

$DN_{\max}$  v mm = najväčší priemer otvoru pre nerovné dno otvoru

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 0,2 mm | 25       | 49                | 7°02'           | 48               | 32               |
|             | 32       | 63                | 4°34'           | 62               | 46               |
|             | 40       | 79                | 3°47'           | 78               | 62               |
|             | 50       | 99                | 3°01'           | 97               | 81               |
|             | 63       | 125               | 2°17'           | 124              | 107              |
|             | 80       | 159               |                 | 158              | 141              |
|             | 100      | 199               |                 | 198              | 181              |

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 0,4 mm | 25       | 49                | 7°08'           | 48               | 32               |
|             | 32       | 63                | 4°37'           | 62               | 46               |
|             | 40       | 79                | 3°49'           | 78               | 62               |
|             | 50       | 99                | 3°02'           | 98               | 81               |
|             | 63       | 125               | 2°18'           | 124              | 107              |
|             | 80       | 159               |                 | 158              | 141              |
|             | 100      | 199               |                 | 198              | 181              |

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 0,8 mm | 25       | 49                | 7°21'           | 47               | 32               |
|             | 32       | 63                | 4°44'           | 61               | 46               |
|             | 40       | 79                | 3°53'           | 77               | 62               |
|             | 50       | 99                | 3°05'           | 97               | 81               |
|             | 63       | 125               | 2°20'           | 123              | 107              |
|             | 80       | 159               |                 | 157              | 141              |
|             | 100      | 199               |                 | 197              | 181              |

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 2,0 mm | 25       | 49                | 8°40'           | 45               | 32               |
|             | 32       | 63                | 5°04'           | 59               | 46               |
|             | 40       | 79                | 4°06'           | 75               | 62               |
|             | 50       | 99                | 3°13'           | 95               | 81               |
|             | 63       | 125               | 2°25'           | 121              | 107              |
|             | 80       | 159               |                 | 155              | 141              |
|             | 100      | 199               |                 | 195              | 181              |

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 2,5 mm | 25       | 49                | 8°24'           | 44               | 32               |
|             | 32       | 63                | 5°13'           | 58               | 46               |
|             | 40       | 79                | 4°12'           | 74               | 62               |
|             | 50       | 99                | 3°17'           | 94               | 81               |
|             | 63       | 125               | 2°27'           | 120              | 107              |
|             | 80       | 159               |                 | 154              | 141              |
|             | 100      | 199               |                 | 194              | 181              |

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 3,2 mm | 25       | 49                | 8°54'           | 42               | 32               |
|             | 32       | 63                | 5°26'           | 56               | 46               |
|             | 40       | 79                | 4°20'           | 72               | 62               |
|             | 50       | 99                | 3°21'           | 92               | 81               |
|             | 63       | 125               | 2°30'           | 118              | 107              |
|             | 80       | 159               |                 | 152              | 141              |
|             | 100      | 199               |                 | 192              | 181              |

|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 4,0 mm | 25       | 49                | 9°32'           | 41               | 32               |
|             | 32       | 63                | 5°42'           | 55               | 46               |
|             | 40       | 79                | 4°30'           | 71               | 62               |
|             | 50       | 99                | 3°28'           | 91               | 81               |
|             | 63       | 125               | 2°33'           | 117              | 107              |
|             | 80       | 159               |                 | 151              | 141              |
|             | 100      | 199               |                 | 191              | 181              |

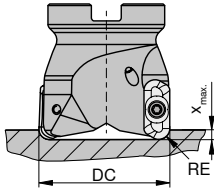
|             | DC<br>mm | $DN_{\max}$<br>mm | $\alpha_R$<br>° | $D_{\max}$<br>mm | $D_{\min}$<br>mm |
|-------------|----------|-------------------|-----------------|------------------|------------------|
| RE = 5,0 mm | 25       | 49                | 6°49'           | 39               | 32               |
|             | 32       | 63                | 3°59'           | 53               | 46               |
|             | 40       | 79                | 3°20'           | 69               | 62               |
|             | 50       | 99                | 2°13'           | 89               | 81               |
|             | 63       | 125               | 1°52'           | 115              | 107              |
|             | 80       | 159               |                 | 149              | 141              |
|             | 100      | 199               |                 | 189              | 181              |

# Systém MaxiMill HSC/HPC-19

## Technologické údaje

### Stratégia obrábania

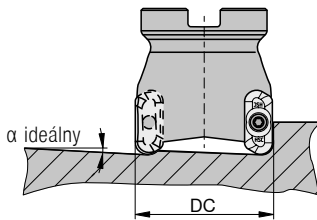
#### Axiálne utápanie



| HSC 19                      | DC<br>mm |  RE 0,2-4,0<br>X <sub>max.</sub><br>mm |  RE 5,0<br>X <sub>max.</sub><br>mm |
|-----------------------------|----------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| CHSC 19 / GHSC 19 / MHSC 19 | 25       | 5,0                                                                                                                       | 4,0                                                                                                                   |
| CHSC 19 / GHSC 19 / MHSC 19 | 32-40    | 4,0                                                                                                                       | 3,0                                                                                                                   |
| AHSC 19                     | 40-100   | 4,0                                                                                                                       | 3,0                                                                                                                   |

| HPC 19            | DC<br>mm |  RE 0,2-4,0<br>X <sub>max.</sub><br>mm |  RE 5,0<br>X <sub>max.</sub><br>mm |
|-------------------|----------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| CHPC 19 / MHPC 19 | 22-25    | 5,0                                                                                                                       | 4,0                                                                                                                   |
| CHPC 19 / MHPC 19 | 32-50    | 6,0                                                                                                                       | 5,0                                                                                                                   |
| AHPC 19           | 40-63    | 6,0                                                                                                                       | 5,0                                                                                                                   |

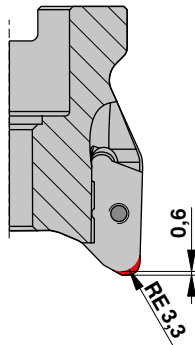
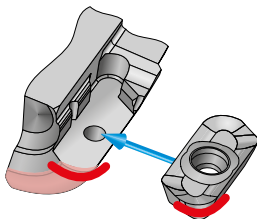
#### Lineárne utápanie



|          | α ideálny                                                                                    |                                                                                              |
|----------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| DC<br>mm | HSC 19  | HPC 19  |
| 25       | 11°                                                                                          | 11°                                                                                          |
| 32       | 7°                                                                                           | 7°                                                                                           |
| 40       | 5°                                                                                           | 5°                                                                                           |
| 50       | 4°                                                                                           | 4°                                                                                           |
| 63       | 3°                                                                                           | 3°                                                                                           |
| 80       | 2°                                                                                           |                                                                                              |
| 100      | 2°                                                                                           |                                                                                              |

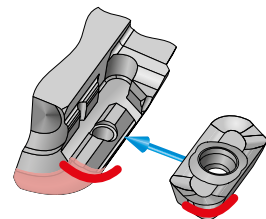
#### Dodatočná úprava tela nástroja

##### HSC 19



Presústruženie čelného profilu

##### HPC 19



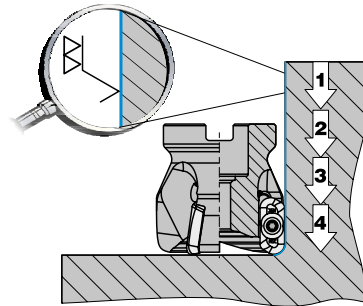
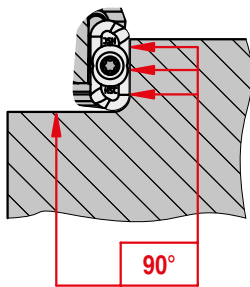
## Systém MaxiMill HSC/HPC-19

## Technologické údaje

## Stratégia obrábania



Vynikajúca kvalita bočnej steny po hrubovaní.  
Dodatočné dokončovacie obrábanie už nie je nutné.



## Stratégia hrubovacieho dokončovacieho frézovania

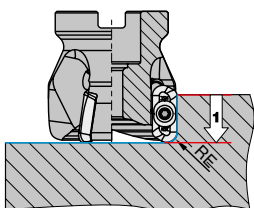
## S maximálnym objemom triesok

| Vymeniteľná britová doštička | RE<br>mm | $a_p$<br>mm | $a_{p \text{ max.}}$<br>mm |
|------------------------------|----------|-------------|----------------------------|
| XDH. 190402FR-ALP            | 0,2      | 18,0        | 17,8                       |
| XDH. 190404FR-ALP            | 0,4      | 18,0        | 17,6                       |
| XDH. 190408FR-ALP            | 0,8      | 18,0        | 17,2                       |
| XDH. 190420FR-ALP            | 2,0      | 18,0        | 16,0                       |
| XDH. 190425FR-ALP            | 2,5      | 18,0        | 15,0                       |
| XDH. 190432FR-ALP            | 3,2      | 18,0        | 14,8                       |
| XDH. 190440FR-ALP            | 4,0      | 18,0        | 14,0                       |
| XDH. 190450FR-ALP            | 5,0      | 17,0        | 13,0                       |

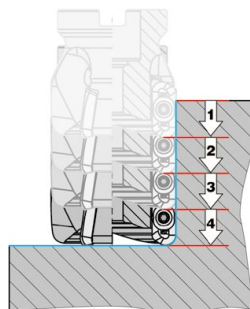
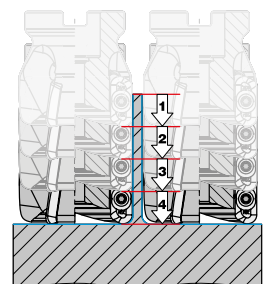
## S maximálnou kvalitou bočnej steny

| Rohové frézovanie | RE<br>mm | $a_{p \text{ max.}}$<br>mm |
|-------------------|----------|----------------------------|
| XDH. 190402FR-ALP | 0,2      | 11,8                       |
| XDH. 190404FR-ALP | 0,4      | 11,6                       |
| XDH. 190408FR-ALP | 0,8      | 11,2                       |
| XDH. 190420FR-ALP | 2,0      | 10,0                       |
| XDH. 190425FR-ALP | 2,5      | 9,5                        |
| XDH. 190432FR-ALP | 3,2      | 8,8                        |
| XDH. 190440FR-ALP | 4,0      | 8,0                        |
| XDH. 190450FR-ALP | 5,0      | 7,0                        |

Rohové frézovanie



Frézovanie káps

Frézovanie káps s  
tenkými prepážkami

Tieto údaje sú platné pre britové doštičky v prevedení XDHT 19 a XDHX 19.



# Systém MaxiMill HPC-04/12

## Orientačné hodnoty rezných dát/technologické údaje

### MaxiMill HPC-04

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 450–800        | 0,05–0,2    | 4           |                |             |             |                |             |             |
| Neželezné kovy        | 350–3500       | 0,05–0,2    | 4           | 350–3500       | 0,05–0,2    | 4           |                |             |             |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

### MaxiMill HPC-12

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  |                |             |             |                |             |             |                |             |             |
| Nehrdzavejúca oceľ    |                |             |             |                |             |             |                |             |             |
| Liatina               | 450–800        | 0,05–0,2    | 2           |                |             |             |                |             |             |
| Neželezné kovy        | 350–3500       | 0,1–0,35    | 11          | 350–3500       | 0,1–0,35    | 11          | 350–3500       | 0,1–0,4     | 11          |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

## Stratégia obrábania

### Na čo je treba dávať pozor?

- ▲ Stabilita stroja.
- ▲ Stabilné upnutie obrobníka aj nástroja.
- ▲ Používanie chladiaceho média nie je všeobecne nutné, avšak zjednoduší sa tým odvádzanie triesok - navyše sa zlepši kvalita povrchu.
- ▲ Zohľadnite pôsobenie teplotných zmien a kritickú teplotu 600 °C. S chladením pracujte v závislosti na materiáli.
- ▲ Zamedzenie vibrácií.
- ▲ Dodržovanie kvality vyváženia.
- ▲ Zohľadnite chemické reakcie diamantu s prvkami vytvárajúcimi karbidy (Fe, Ti, Ta, Co, Ni).

### Kedy má použitie hlbší zmysel?

- ▲ Komponenty z ťažkých a farebných kovov, plastov, laminátov, grafitu ...
- ▲ Pokiaľ môže jednoduché nastavenie ušetriť náklady investované do prednastavenia nástroja.
- ▲ Veľkosériová výroba.
- ▲ Vysoké požiadavky kladené na kvalitu povrchu obrobníka.
- ▲ Nutná dlhá životnosť za účelom obmedzenia časovo náročnej výmeny nástrojov a zamedzení drahým prestojom stroja.
- ▲ Už existujúci servis v mieste obrábania (prednastavenie, atď.).

### Kontrola kvality vyváženia

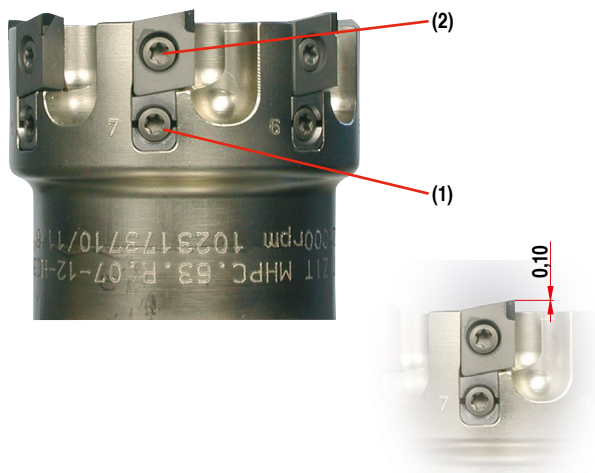
Kvalita vyváženia nástrojov by sa mala kontrolovať po ukončení montáže, upnutí britových doštičiek a nastavení čelnej hádzavosti. Vyváženie je obzvlášť nutné pri používaní nástrčných fréz, a to po spojení nástroja s upínačom.

### Priebeh nastavovania s hladiacimi britovými doštičkami

Pritom sa analogicky podľa vyššie popísaného priebehu nastavovania nastavujú štandardné doštičky na hodnotu obvodovej hádzavosti = 0,02 mm. Britové doštičky s hladiacim britom sa potom nastavujú o 0,02–0,03 mm nad najvyšší brit.

### Priebeh nastavovania

- 1 Montáž nastavovacích klinkov na nástroj (podľa stavu po dodaní nástroja). Dotiahnite nastavovaciu skrutku (1), bez toho aby sa zdeformovali klinky.
- 2 Namontujte doštičky PKD a dotiahnite upínacie skrutky (2) na hodnotu 1,0 Nm.
- 3 Pomocou prípravku pre prednastavenie označte „najvyšší brit“.
- 4 Zmeňte nastavenie tejto britovej doštičky PKD o 0,02 mm otočením nastavovacej skrutky (1) v smere otáčania hodinových ručičiek. Musí sa vytvoriť predpätie. Za týmto účelom použite uhlový skrutkovač TORX, ktorý ste obdržali!
- 5 Identické nastavenie ďalších britov s maximálnou odchýlkou 0,005 mm. Maximálny nastavovací rozsah = 0,10 mm.
- 6 Dotiahnutie všetkých upínacích skrutiek WSP (2) na hodnotu 5,0 Nm.
- 7 Kontrola čelnej hádzavosti všetkých britových doštičiek: pož. hodn. = 0,005 mm.



## Dokonalá presnosť – MaxiMill HPC-12

Nastaviteľný vysoko výkonný nástroj pre dokončovacie obrábanie hliníkových obrobkov

### Teleso nástroja z ocele

- ▲ Pre maximálnu stabilitu
- ▲ Maximálna odolnosť voči otieraniu
- ▲ Bimetalové prevedenie počínajúc priemerom 160 mm; jednoduchšia manipulácia a šetrné zaťaženie vretena v prípade veľkých nástrojov



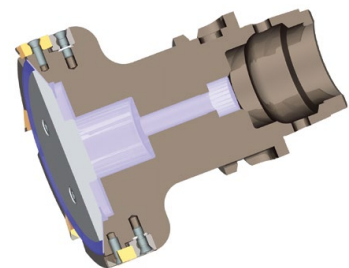
Obrázok predstavuje bimetalové prevedenie

### Prevedenie ako nástrčný alebo monoblokový variant

- ▲ Priame napojenie HSK63 akoby monoblokovej frézy
- ▲ Monoblokové nástroje, vyváženie G2,5 pri  $n = 20.000 \text{ min}^{-1}$  (ISO1940)

### Vnútorne privádzanie chladiaceho média koncipované špeciálne pre aplikácie HSC

- ▲ Lepšie odvádzanie triesky
- ▲ Vysoká kvalita povrchu
- ▲ Optimálne podmienky pre obrábanie
- ▲ Vhodné pre mazanie minimálnym množstvom maziva



Čas sú peniaze – systém MaxiMill HPC-12 je jednoduchý a predovšetkým umožňuje rýchle nastavenie!

### Vysoko pozitívny uhol čela +25°

- ▲ Nízke rezné sily
- ▲ Lepšia rovinnosť povrchu
- ▲ Minimalizovaná deformácia komponentov



### Tangenciálny koncept britov

- ▲ Stabilný základ pre segment PKD a maximálna procesná bezpečnosť

### Prispôbený brit PKD

- ▲ Vysoká razová pevnosť pri frézovaní!
- ▲ Maximálna stabilita hrany
- ▲ Nižšia miera otrepu vznikajúca na obrobku
- ▲ Obrábanie zliatín Al-Si s vyšším podielom kremíka ako 12 % je bezproblémové

### Typy vymeniteľných doštičiek

- ▲ Štandardná britová doštička
- ▲ Britová doštička so zaoblením hrany
- ▲ Britová doštička s hladiacim britom

## Systém MaxiMill 141 / 241

## Orientačné hodnoty rezných dát/technologické údaje

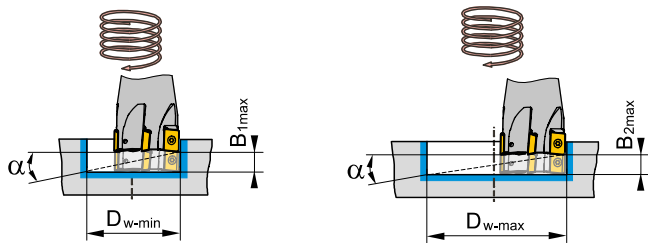
Pre štandardné britové doštičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 60–280         | 0,1–0,2     | 14          | 60–280         | 0,1–0,2     | 14          | 60–280         | 0,1–0,2     | 14          |
| Nehrdzavejúca oceľ    | 130–240        | 0,05–0,2    | 14          | 130–240        | 0,05–0,25   | 14          | 130–240        | 0,1–0,25    | 14          |
| Liatina               |                |             |             | 100–360        | 0,1–0,25    | 14          |                |             |             |
| Neželezné kovy        | 160–1500       | 0,1–0,2     | 14          | 160–1500       | 0,1–0,2     | 14          | 160–1500       | 0,1–0,2     | 14          |
| Žiaruvzdorná zliatina |                |             |             |                |             |             |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

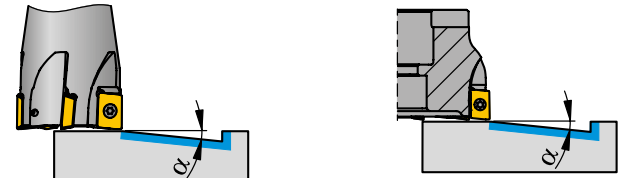
## Stratégia obrábania

## Cirkulárne utápanie (bez štartovacieho otvoru)



$D_w$  = priemer frézovaného otvoru  
 $DC$  = menovitý priemer frézy  
 $B$  = axiálny prísuv na kruhový pohyb 360°

## Šikmé utápanie



$$B = (D_w - DC) \times \pi \times \tan \alpha$$

## C 141

| DC<br>mm | $D_{w-min}$<br>mm | $B_{1max}$<br>mm | $D_{w-max}$<br>mm | $B_{2max}$<br>mm | $\alpha$<br>° |
|----------|-------------------|------------------|-------------------|------------------|---------------|
| 16       | 20,0              | 0,4              | 30,0              | 1,5              | 2,0           |
| 20       | 24,0              | 0,4              | 38,0              | 1,9              | 2,0           |
| 25       | 34,0              | 0,9              | 48,0              | 2,5              | 2,0           |
| 32       | 48,0              | 1,7              | 62,0              | 3,2              | 2,0           |
| 40       | 64,0              | 1,9              | 78,0              | 3,1              | 1,5           |

## A 241

| DC<br>mm | $D_{w-min}$<br>mm | $B_{1max}$<br>mm | $D_{w-max}$<br>mm | $B_{2max}$<br>mm | $\alpha$<br>° |
|----------|-------------------|------------------|-------------------|------------------|---------------|
| 40       | 64,0              | 1,9              | 78,0              | 3,1              | 1,5           |
| 50       | 84,0              | 1,8              | 98,0              | 2,6              | 1,0           |
| 63       | 110,0             | 1,2              | 124,0             | 1,6              | 0,5           |
| 80       | 144,0             | 1,4              | 158,0             | 1,7              | 0,4           |
| 100      | 184,0             | 1,3              | 198,0             | 1,6              | 0,3           |
| 125      | 234,0             | 1,2              | 248,0             | 1,3              | 0,2           |

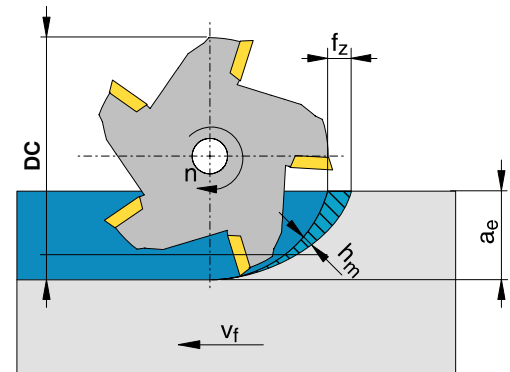
Stredná hrúbka triesky [ $h_m$ ] – postup

## Rohové frézovanie

**1** Vhodnú strednú hrúbku triesky [ $h_m$ ] pre príslušnú oceľ vyberte z tabuľky.

| Materiál | Pevnosť v ťahu<br>N/mm <sup>2</sup> | $h_m$<br>mm |
|----------|-------------------------------------|-------------|
| Oceľ     | ...-800                             | 0,16        |
| Oceľ     | 800-1000                            | 0,14        |
| Oceľ     | 1000-1200                           | 0,12        |
| Oceľ     | 1200-...                            | 0,10        |
| Antikoro | ...-750                             | 0,15        |
| Antikoro | 750-900                             | 0,13        |
| Antikoro | 900-1150                            | 0,11        |
| Antikoro | 1150-...                            | 0,09 *      |

**2** Prevezmite strednú hrúbku triesky [ $h_m$ ] a pomocou vhodnej šírky záberu [ $a_e$ ] si v tabuľke vyhľadajte upravenú hodnotu posuvu.



| $h_m$<br>mm | Upravená hodnota posuvu $f_z$ pre $h_m$ |                 |                 |                  |               |
|-------------|-----------------------------------------|-----------------|-----------------|------------------|---------------|
| 0,16        | 0,36                                    | 0,29            | 0,25            | 0,18             | 0,16          |
| 0,14        | 0,31                                    | 0,26            | 0,22            | 0,16             | 0,14          |
| 0,12        | 0,27                                    | 0,22            | 0,19            | 0,14             | 0,12          |
| 0,10        | 0,22                                    | 0,18            | 0,16            | 0,12             | 0,10          |
| 0,15        | 0,34                                    | 0,27            | 0,24            | 0,17             | 0,15          |
| 0,13        | 0,29                                    | 0,24            | 0,21            | 0,15             | 0,13          |
| 0,11        | 0,25                                    | 0,20            | 0,17            | 0,13             | 0,11          |
| 0,09 *      | 0,20                                    | 0,16            | 0,14            | 0,10             | 0,09 *        |
| $a_e =$     | <b>0,2 x DC</b>                         | <b>0,3 x DC</b> | <b>0,4 x DC</b> | <b>0,75 x DC</b> | <b>1 x DC</b> |

## Rovinné frézovanie

| Materiál | Pevnosť v ťahu<br>N/mm <sup>2</sup> | $h_m$<br>mm |
|----------|-------------------------------------|-------------|
| Oceľ     | ...-800                             | 0,2         |
| Oceľ     | 800-1000                            | 0,18        |
| Oceľ     | 1000-1200                           | 0,16        |
| Oceľ     | 1200-...                            | 0,14        |
| Antikoro | ... -750                            | 0,21        |
| Antikoro | 750-900                             | 0,19        |
| Antikoro | 900-1150                            | 0,17        |
| Antikoro | 1150- ...                           | 0,15        |

**i** Postup ako u rohových fréz.

| $h_m$<br>mm | Upravená hodnota posuvu $f_z$ pre $h_m$ |                 |                  |               |
|-------------|-----------------------------------------|-----------------|------------------|---------------|
| 0,20        | 0,40 **                                 | 0,40 **         | 0,33             | 0,28          |
| 0,18        | 0,40 **                                 | 0,40 **         | 0,29             | 0,25          |
| 0,16        | 0,40 **                                 | 0,36            | 0,26             | 0,23          |
| 0,14        | 0,36                                    | 0,31            | 0,23             | 0,20          |
| 0,21        | 0,40 **                                 | 0,40 **         | 0,34             | 0,30          |
| 0,19        | 0,40 **                                 | 0,40 **         | 0,31             | 0,27          |
| 0,17        | 0,40 **                                 | 0,38            | 0,28             | 0,24          |
| 0,15        | 0,39                                    | 0,34            | 0,24             | 0,21          |
| $a_e =$     | <b>0,3 x DC</b>                         | <b>0,4 x DC</b> | <b>0,75 x DC</b> | <b>1 x DC</b> |

\*  $f_z < 0,08$  mm: nebezpečenstvo, pretože nástroj sa už nechová ako rezný nástroj

\*\*  $f_z > 0,4$  mm: nebezpečenstvo kontaktu s podbrusom

## Systém MaxiMill HFC-06

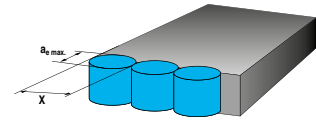
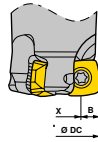
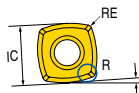
## Orientačné hodnoty rezných dát/technologické údaje

| Materiál              | F             |            |            | M             |            |            | R             |            |            |
|-----------------------|---------------|------------|------------|---------------|------------|------------|---------------|------------|------------|
|                       | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm |
| Oceľ                  |               |            |            | 60–280        | 0,2–1,25   | 0,8        | 60–280        | 0,2–1,25   | 0,8        |
| Nehrdzavejúca oceľ    |               |            |            | 60–270        | 0,2–1,25   | 0,8        | 60–270        | 0,2–1,25   | 0,8        |
| Liatina               |               |            |            | 130–360       | 0,2–1,25   | 0,8        | 130–360       | 0,2–1,25   | 0,8        |
| Neželezné kovy        |               |            |            |               |            |            |               |            |            |
| Žiaruvzdorná zliatina |               |            |            | 25–75         | 0,2–1,25   | 0,8        | 25–75         | 0,2–1,25   | 0,8        |
| Kalená oceľ           |               |            |            |               |            |            |               |            |            |

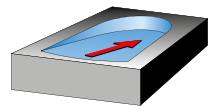
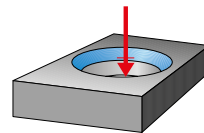
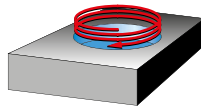
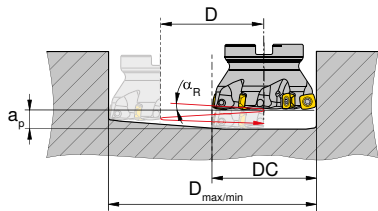
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

Programovateľný rádius R = 1,2 mm



| Hĺbka rezu a zostatkový materiál |         |                   | Šírka rezu pre rovné plochy |              |        | Záber pri utápaní |            |      |           |
|----------------------------------|---------|-------------------|-----------------------------|--------------|--------|-------------------|------------|------|-----------|
| IC v mm                          | RE v mm | $a_{p \max}$ v mm | DC v mm                     | X v mm       | B v mm | $a_{e \max}$ v mm | $f_z$ v mm |      | X         |
| 6,35                             | 0,5     | 0,8               | 16–32                       | DC – (2 x B) | 4,3    | 5,3               | iniciačný  | min. | max.      |
|                                  |         |                   |                             |              |        |                   | 0,10       | 0,08 | 0,15      |
|                                  |         |                   |                             |              |        |                   |            |      | <0,7 x DC |



| Cirkulárne                                               |                  |                  |                        |
|----------------------------------------------------------|------------------|------------------|------------------------|
| Zavrtávanie<br>(cirkulárne utápanie do plného materiálu) |                  |                  |                        |
| DC<br>mm                                                 | $D_{\max}$<br>mm | $D_{\min}$<br>mm | $\alpha_{R \max}$<br>° |
| 16                                                       | 31               | 22               | 4,5°                   |
| 20                                                       | 39               | 30               | 2,3°                   |
| 25                                                       | 49               | 40               | 1,3°                   |
| 32                                                       | 63               | 54               | 0,9°                   |

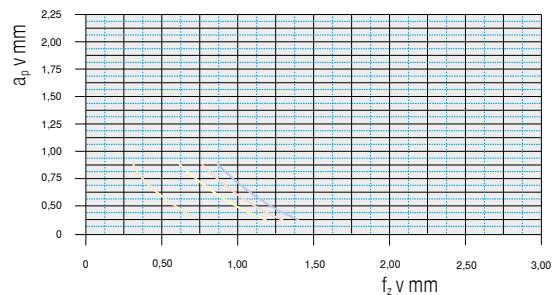
| Axiálne  |                         | Šikmé |                          |
|----------|-------------------------|-------|--------------------------|
| Utápanie |                         |       |                          |
|          | X <sub>max.</sub><br>mm |       | α <sub>R max.</sub><br>° |
|          |                         |       | 5,9°                     |
|          | 0,5                     |       | 3,2°                     |
|          |                         |       | 2°                       |
|          |                         |       | 1,3°                     |

## Počiatkové parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XPLX 06



| Materiál              |        | Vymeniteľná doštička |                   | $v_c$ v m/min | Chladenie          |
|-----------------------|--------|----------------------|-------------------|---------------|--------------------|
| Oceľ                  | 1.2312 | XPLX 060305SR-M50    | CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571 | XPLX 060305ER-M40    | CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301 | XPLX 060305ER-M50    | CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856 | XPLX 060305SR-F40    | CTC5240 (HCF5240) | 35            | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill HFC-09

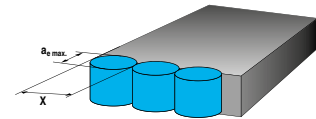
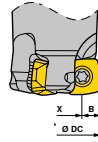
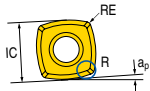
## Orientačné hodnoty rezných dát/technologické údaje

| Materiál              | F             |            |            | M             |            |            | R             |            |            |
|-----------------------|---------------|------------|------------|---------------|------------|------------|---------------|------------|------------|
|                       | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm |
| Oceľ                  |               |            |            | 60-280        | 0,2-2,5    | 1          | 60-280        | 0,2-2,5    | 1          |
| Nehrdzavejúca oceľ    |               |            |            | 60-270        | 0,2-2,5    | 1          | 60-270        | 0,2-2,5    | 1          |
| Liatina               |               |            |            | 130-360       | 0,2-2,5    | 1          | 130-360       | 0,2-2,5    | 1          |
| Neželezné kovy        |               |            |            |               |            |            |               |            |            |
| Žiaruvzdorná zliatina |               |            |            | 25-75         | 0,2-2,5    | 1          | 25-75         | 0,2-2,5    | 1          |
| Kalená oceľ           |               |            |            |               |            |            |               |            |            |

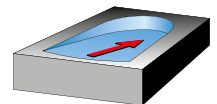
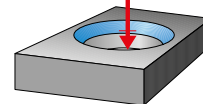
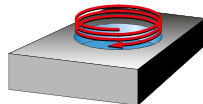
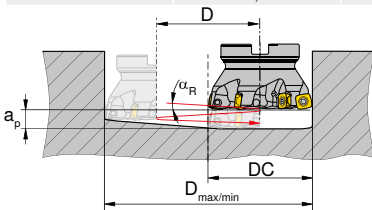
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

Programovateľný rádius R = 2 mm



| Hĺbka rezu a zostatkový materiál |         |                   | Šírka rezu pre rovné plochy |            |        | Záber pri utápaní |            |      |      |
|----------------------------------|---------|-------------------|-----------------------------|------------|--------|-------------------|------------|------|------|
| IC v mm                          | RE v mm | $a_{p \max}$ v mm | DC v mm                     | X v mm     | B v mm | $a_{e \max}$ v mm | $f_z$ v mm | X    |      |
| 9                                | 0,8     | 1                 | 25-66                       | DC-(2 x B) | 5,9    | 7,5               | iniciačný  | min. | max. |
|                                  |         |                   |                             |            |        |                   | 0,10       | 0,08 | 0,15 |



| Cirkulárne                                               |                  |                  |                        |
|----------------------------------------------------------|------------------|------------------|------------------------|
| Zavrtávanie<br>(cirkulárne utápanie do plného materiálu) |                  |                  |                        |
| DC<br>mm                                                 | $D_{\max}$<br>mm | $D_{\min}$<br>mm | $\alpha_{R \max}$<br>° |
| 25                                                       | 48               | 35               | 3,1°                   |
| 32                                                       | 62               | 49               | 1,7°                   |
| 35                                                       | 68               | 55               | 1,4°                   |
| 40                                                       | 78               | 65               | 1,0°                   |
| 42                                                       | 82               | 69               | 0,9°                   |
| 50                                                       | 98               | 85               | 0,8°                   |
| 52                                                       | 102              | 89               | 0,7°                   |
| 63                                                       | 124              | 111              | 0,7°                   |
| 66                                                       | 130              | 117              | 0,6°                   |

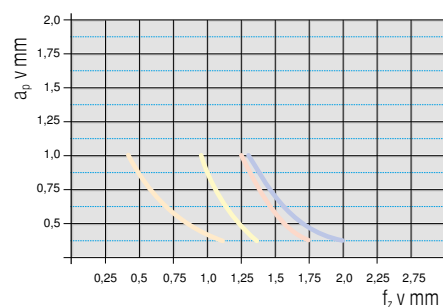
|          | Axiálne                 | Šikmé                    |
|----------|-------------------------|--------------------------|
|          | Utápanie                |                          |
| DC<br>mm | X <sub>max.</sub><br>mm | α <sub>R max.</sub><br>° |
| 25       | 0,75                    | 3,6°                     |
| 32       |                         | 2,0°                     |
| 35       |                         | 1,6°                     |
| 40       |                         | 1,2°                     |
| 42       |                         | 1,1°                     |
| 50       |                         | 0,9°                     |
| 52       |                         | 0,8°                     |
| 63       |                         | 0,8°                     |
| 66       |                         | 0,7°                     |

## Počítateľné parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XDLX 09



| Materiál              | Vymeniteľná doštička               | $v_c$ v m/min | Chladienie         |
|-----------------------|------------------------------------|---------------|--------------------|
| Oceľ                  | XDLX09T308SR-M50 CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | XDLX09T308SR-M50 CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | XDLX09T308SR-M50 CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | XDLX09T308ER-F40 CTC5240 (HCF5240) | 35            | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážať!

## Systém MaxiMill HFC-12

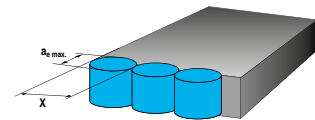
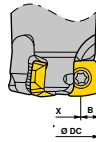
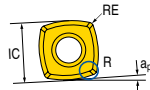
## Orientačné hodnoty rezných dát/technologické údaje

| Materiál              | F             |            |            | M             |            |            | R             |            |            |
|-----------------------|---------------|------------|------------|---------------|------------|------------|---------------|------------|------------|
|                       | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm |
| Oceľ                  |               |            |            | 60-280        | 0,2-3,0    | 2          | 60-280        | 0,2-3,0    | 2          |
| Nehrdzavejúca oceľ    |               |            |            | 60-270        | 0,2-3,0    | 2          | 60-270        | 0,2-3,0    | 2          |
| Liatina               |               |            |            | 130-360       | 0,2-3,0    | 2          | 130-360       | 0,2-3,0    | 2          |
| Neželezné kovy        |               |            |            |               |            |            |               |            |            |
| Žiaruvzdorná zliatina |               |            |            | 25-75         | 0,2-3,0    | 2          | 25-75         | 0,2-3,0    | 2          |
| Kalená oceľ           |               |            |            |               |            |            |               |            |            |

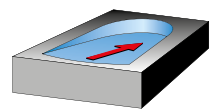
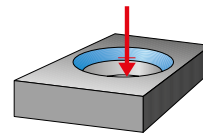
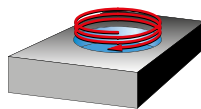
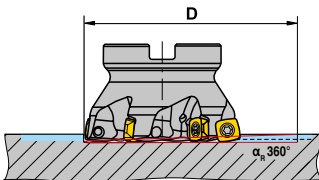
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

Programovateľný rádius R = 3 mm



| Hĺbka rezu a zostatkový materiál |         |                   | Šírka rezu pre rovné plochy |            |        | Záber pri utápaní |                   |              |              |
|----------------------------------|---------|-------------------|-----------------------------|------------|--------|-------------------|-------------------|--------------|--------------|
| IC v mm                          | RE v mm | $a_{p \max}$ v mm | DC v mm                     | X v mm     | B v mm | $a_{e \max}$ v mm | $f_z$ v mm        | X            |              |
| 12                               | 1,0     | 2                 | 32-100                      | DC-(2 x B) | 8,3    | 10                | iniciačný<br>0,15 | min.<br>0,10 | max.<br>0,20 |
|                                  |         |                   |                             |            |        |                   |                   |              | <0,7 x DC    |



| DC<br>mm | Cirkulárne<br>Zavrtávanie<br>(cirkulárne utápanie do plného materiálu) |                  |                        |
|----------|------------------------------------------------------------------------|------------------|------------------------|
|          | $D_{\max}$<br>mm                                                       | $D_{\min}$<br>mm | $\alpha_{R \max}$<br>° |
| 32       | 62                                                                     | 44               | 6,1°                   |
| 35       | 68                                                                     | 50               | 3,7°                   |
| 40       | 78                                                                     | 60               | 2,5°                   |
| 42       | 82                                                                     | 64               | 2,3°                   |
| 50       | 98                                                                     | 80               | 1,3°                   |
| 52       | 102                                                                    | 84               | 1,3°                   |
| 63       | 124                                                                    | 106              | 0,9°                   |
| 66       | 130                                                                    | 112              | 0,9°                   |
| 80       | 158                                                                    | 140              | 1,1°                   |
| 100      | 198                                                                    | 180              | 0,6°                   |

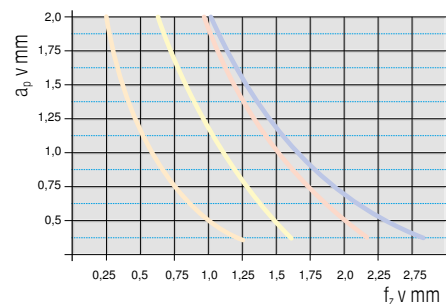
| DC<br>mm | Útápanie                    |                                 |
|----------|-----------------------------|---------------------------------|
|          | Axiálne<br>$X_{\max}$<br>mm | Šikmé<br>$\alpha_{R \max}$<br>° |
| 32       | 1,15                        | 7,2°                            |
| 35       |                             | 4,4°                            |
| 40       |                             | 2,9°                            |
| 42       |                             | 2,7°                            |
| 50 + 52  |                             | 1,5°                            |
| 63 + 66  |                             | 1,1°                            |
| 80       |                             | 1,3°                            |
| 100      |                             | 0,7°                            |

## Počiatočné parametre

| Príklad materiálov    |                        |      |             |                   |
|-----------------------|------------------------|------|-------------|-------------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      | 40CrMnMoS 8-6     |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      | X6CrNiMoTi 1712 2 |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  | EN-GJL-250 (GG25) |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 | Inconel 718       |



XOLX 12



| Materiál              | Vymeniteľná doštička               | $v_c$ v m/min | Chladienie         |
|-----------------------|------------------------------------|---------------|--------------------|
| Oceľ                  | XOLX120410SR-M50 CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | XOLX120410ER-M50 CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | XOLX120410ER-M50 CTCX215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | XOLX120410ER-F40 CTC5240 (HCF5240) | 35            | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvážiť!

## Systém MaxiMill HFC-19

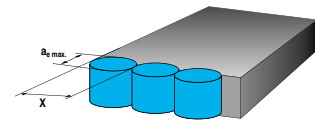
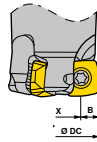
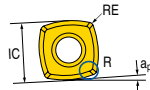
## Orientačné hodnoty rezných dát/technologické údaje

| Materiál              | F             |            |            | M             |            |            | R             |            |            |
|-----------------------|---------------|------------|------------|---------------|------------|------------|---------------|------------|------------|
|                       | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm | $v_c$ v m/min | $f_z$ v mm | $a_p$ v mm |
| Oceľ                  |               |            |            | 60–280        | 0,2–3,0    | 3,3        | 60–280        | 0,2–3,0    | 3,3        |
| Nehrdzavejúca oceľ    |               |            |            | 60–270        | 0,2–3,0    | 3,3        | 60–270        | 0,2–3,0    | 3,3        |
| Liatina               |               |            |            | 130–360       | 0,2–3,0    | 3,3        | 130–360       | 0,2–3,0    | 3,3        |
| Neželezné kovy        |               |            |            |               |            |            |               |            |            |
| Žiaruvzdorná zliatina |               |            |            | 25–75         | 0,2–3,0    | 3,3        | 25–75         | 0,2–3,0    | 3,3        |
| Kalená oceľ           |               |            |            |               |            |            |               |            |            |

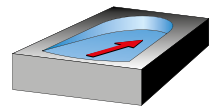
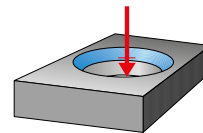
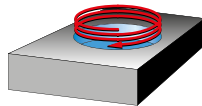
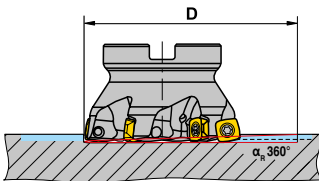
Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Stratégia obrábania

Programovateľný rádius R = 5 mm



| Hĺbka rezu a zostatkový materiál |         |                    | Šírka rezu pre rovné plochy |            |        | Záber pri utápaní  |                  |              |              |
|----------------------------------|---------|--------------------|-----------------------------|------------|--------|--------------------|------------------|--------------|--------------|
| IC v mm                          | RE v mm | $a_{p \max.}$ v mm | DC v mm                     | X v mm     | B v mm | $a_{e \max.}$ v mm | $f_z$ v mm       | X            |              |
| 19,14                            | 1,5     | 3,3                | 63–160                      | DC–(2 x B) | 13,1   | 12                 | iniciačný<br>0,2 | min.<br>0,10 | max.<br>0,25 |
|                                  |         |                    |                             |            |        |                    |                  |              | <0,65 x DC   |



| Cirkulárne                                               |                   |                   |                         |
|----------------------------------------------------------|-------------------|-------------------|-------------------------|
| Zavrtávanie<br>(cirkulárne utápanie do plného materiálu) |                   |                   |                         |
| DC<br>mm                                                 | $D_{\max.}$<br>mm | $D_{\min.}$<br>mm | $\alpha_{R \max.}$<br>° |
| 63                                                       | 97                | 123               | 2,5                     |
| 80                                                       | 131               | 157               | 1,4                     |
| 100                                                      | 171               | 197               | 1,0                     |
| 125                                                      | 221               | 247               | 0,7                     |
| 160                                                      | 291               | 317               | 0,5                     |

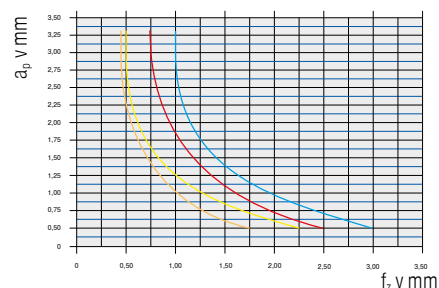
| DC<br>mm | Axiálne                 | Šikmé                    |                          |
|----------|-------------------------|--------------------------|--------------------------|
|          | Utápanie                |                          |                          |
|          | X <sub>max.</sub><br>mm | α <sub>R max.</sub><br>° | a <sub>p max</sub><br>mm |
| 63       | 1,7                     | 2,9                      | 3,3                      |
| 80       |                         | 1,8                      |                          |
| 100      |                         | 1,3                      |                          |
| 125      |                         | 1,0                      |                          |
| 160      |                         | 0,7                      |                          |

## Počítateľné parametre

| Príklad materiálov    |                        |      |             |
|-----------------------|------------------------|------|-------------|
| Oceľ                  | 1000 N/mm <sup>2</sup> | 1.15 | 1.2312      |
| Nehrdzavejúca oceľ    | 600 N/mm <sup>2</sup>  | 2.6  | 1.4571      |
| Liatina               | 180 HB                 | 3.1  | EN-GJL-250  |
| Žiaruvzdorná zliatina | 1450 N/mm <sup>2</sup> | 5.8  | Inconel 625 |
|                       |                        |      | Inconel 718 |



XOLX 19



| Materiál              | Vymeniteľná doštička |                                    | $v_c$ v m/min | Chladienie         |
|-----------------------|----------------------|------------------------------------|---------------|--------------------|
| Oceľ                  | 1.2312               | XOLX190615SR-M50 CTPP235 (DPX1235) | 200           | Obrábanie za sucha |
| Nehrdzavejúca oceľ    | 1.4571               | XOLX190615SR-M50 CTPM240 (DPX2240) | 180           | Obrábanie za sucha |
| Liatina               | 5.1301               | XOLX190615SR-M50 CTCK215 (DCX3215) | 250           | Obrábanie za sucha |
| Žiaruvzdorná zliatina | 2.4856               | XOLX190615ER-F40 CTC5240 (HCF5240) | 35            | Emulzia            |

**i** Počínajúc od  $v_c > 400$  m/min sa musí nástroj vyvíjať!



## Systém DHFC

### Orientačné hodnoty rezných dát/technologické údaje

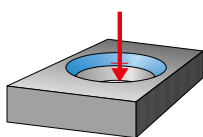
Pre štandardné britové dosťičky

| Materiál              | F              |             |             | M              |             |             | R              |             |             |
|-----------------------|----------------|-------------|-------------|----------------|-------------|-------------|----------------|-------------|-------------|
|                       | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm | $v_c$<br>m/min | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 130-300        | 0,25-1,0    | 0,7         | 130-300        | 0,25-1,0    | 0,7         | 130-300        | 0,25-1,0    | 0,7         |
| Nehrdzavejúca oceľ    |                |             |             | 80-210         | 0,25-1,0    | 0,6         |                |             |             |
| Liatina               |                |             |             | 120-250        | 0,2-1,1     | 0,7         | 120-270        | 0,2-1,2     | 0,75        |
| Neželezné kovy        |                |             |             |                |             |             |                |             |             |
| Žiaruvzdorná zliatina |                |             |             | 30-90          | 0,15-0,75   | 0,6         |                |             |             |
| Kalená oceľ           |                |             |             |                |             |             |                |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

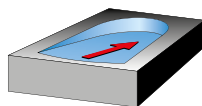
### Stratégia obrábania

#### Axiálne utápanie do plného materiálu



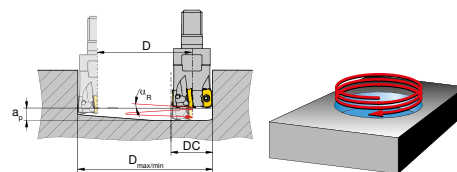
| DC<br>mm | $X_{max}$<br>mm |
|----------|-----------------|
| 16       | 0,35            |
| 20       | 0,40            |
| 25       | 0,45            |
| 32-35    | 0,50            |
| 40       | 0,55            |

#### Šikmé utápanie



| DC<br>mm | $\alpha^\circ$ | y<br>mm |
|----------|----------------|---------|
| 16       | <2,5           | 7       |
| 20       | <1,9           | 11      |
| 25       | <1,5           | 16      |
| 32       | <1,2           | 23      |
| 35       | <1,0           | 26      |
| 42       | <0,9           | 33      |

#### Cirkulárne frézovanie



| DC<br>mm | $D_{min}$<br>mm | $D_{max}$<br>mm |
|----------|-----------------|-----------------|
| 16       | 23              | 31              |
| 20       | 31              | 39              |
| 25       | 41              | 49              |
| 32       | 55              | 63              |
| 35       | 61              | 69              |
| 42       | 75              | 83              |

# Systém MaxiMill 251

## Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky

| Materiál              | F              |             |             |             |             |
|-----------------------|----------------|-------------|-------------|-------------|-------------|
|                       | $v_c$<br>m/min | 05          |             | 08          |             |
|                       |                | $f_z$<br>mm | $a_p$<br>mm | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50–350         | 0,08–0,35   | 2,5         | 0,08–0,35   | 4           |
| Nehrdzavejúca oceľ    | 130–280        | 0,08–0,35   | 2,5         | 0,08–0,35   | 4           |
| Liatina               | 100–360        |             |             | 0,1–0,4     | 4           |
| Neželezné kovy        | 160–1500       | 0,05–0,4    | 2,5         | 0,05–0,4    | 4           |
| Žiaruvzdorná zliatina | 25–75          |             |             | 0,08–0,35   | 4           |
| Kalená oceľ           |                |             |             |             |             |

| Materiál              | M              |             |             |             |             |             |             |
|-----------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       | $v_c$<br>m/min | 10          |             | 12          |             | 16          |             |
|                       |                | $f_z$<br>mm | $a_p$<br>mm | $f_z$<br>mm | $a_p$<br>mm | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50–350         | 0,08–0,4    | 5           | 0,08–0,4    | 6           | 0,08–0,4    | 8           |
| Nehrdzavejúca oceľ    | 60–280         | 0,08–0,35   | 5           | 0,08–0,35   | 6           | 0,08–0,35   | 8           |
| Liatina               | 100–360        | 0,1–0,4     | 5           | 0,1–0,4     | 6           | 0,1–0,4     | 8           |
| Neželezné kovy        | 160–1500       | 0,05–0,4    | 5           | 0,05–0,4    | 6           | 0,05–0,4    | 8           |
| Žiaruvzdorná zliatina | 25–75          | 0,08–0,38   | 5           | 0,08–0,38   | 6           | 0,08–0,38   | 8           |
| Kalená oceľ           | 40–60          |             |             | 0,05–0,35   | 6           |             |             |

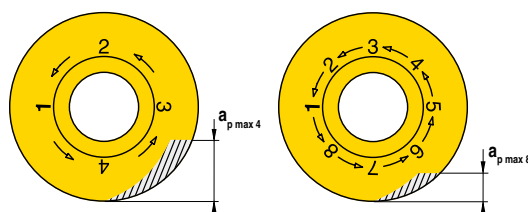
| Materiál              | R              |             |             |             |             |             |             |
|-----------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       | $v_c$<br>m/min | 20          |             |             |             |             |             |
|                       |                | $f_z$<br>mm | $a_p$<br>mm | $f_z$<br>mm | $a_p$<br>mm | $f_z$<br>mm | $a_p$<br>mm |
| Oceľ                  | 50–350         | 0,1–0,4     | 10          |             |             |             |             |
| Nehrdzavejúca oceľ    | 60–280         | 0,08–0,35   | 10          |             |             |             |             |
| Liatina               | 100–360        | 0,1–0,4     | 10          |             |             |             |             |
| Neželezné kovy        | 160–1500       | 0,05–0,4    | 10          |             |             |             |             |
| Žiaruvzdorná zliatina | 25–75          | 0,08–0,38   | 10          |             |             |             |             |
| Kalená oceľ           |                |             |             |             |             |             |             |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Odporučená rezná hĺbka

| Ø<br>mm | 4násobná           |                               | 8násobná           |
|---------|--------------------|-------------------------------|--------------------|
|         | $a_{p \max}$<br>mm | $a_{p \max}$ teoretická<br>mm | $a_{p \max}$<br>mm |
| 5       | 1,0                | 2,0                           | 0,7                |
| 8       | 1,5                | 3,5                           | 1,1                |
| 10      | 2,5                | 4,5                           | 1,4                |
| 12      | 3,0                | 5,5                           | 1,7                |
| 16      | 4,0                | 7,5                           | 2,3                |
| 20      | 4,0                | 9,5                           | 2,9                |

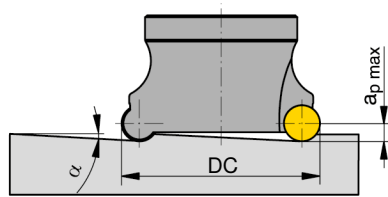
Rezná hĺbka pre 4násobné / 8násobné použitie vymeniteľnej doštičky



## Systém MaxiMill 251

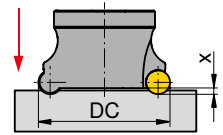
## Technologické údaje

## Lineárne utápanie



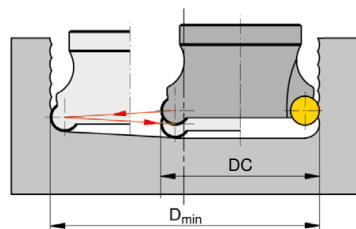
|         | 05   | 08   | 10  | 12  | 16  | 20  |
|---------|------|------|-----|-----|-----|-----|
| Ø DC mm | α °  | α °  | α ° | α ° | α ° | α ° |
| 10      | 3,4  |      |     |     |     |     |
| 12      | 16,0 |      |     |     |     |     |
| 16      | 8,0  | 5,0  |     |     |     |     |
| 20      | 5,5  | 20,0 | 1,3 |     |     |     |
| 25      | 4,0  | 13,0 | 2,0 | 6,0 |     |     |
| 32      | 3,0  | 8,0  | 3,0 | 4,0 |     |     |
| 40      |      |      | 3,3 | 2,8 |     |     |
| 42      |      |      | 3,1 |     |     |     |
| 50      |      |      | 2,4 | 2,6 | 4,0 |     |
| 52      |      |      | 2,2 | 2,3 |     |     |
| 63      |      |      |     | 1,9 | 2,8 |     |
| 66      |      |      |     | 1,6 |     |     |
| 80      |      |      |     | 1,3 | 2,0 | 3,2 |
| 100     |      |      |     | 1,0 | 1,5 | 2,3 |
| 125     |      |      |     |     |     | 1,7 |

## Axiálne utápanie

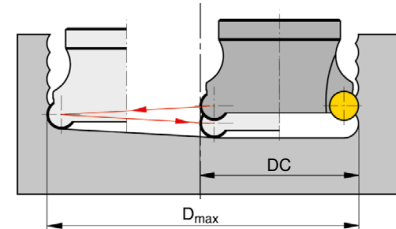


|         | 05        | 08        | 10        | 12        | 16        | 20        |
|---------|-----------|-----------|-----------|-----------|-----------|-----------|
| Ø DC mm | X max. mm | X max. mm | X max. mm | X max. mm | X max. mm | X max. mm |
| 10      | 0,5       |           |           |           |           |           |
| 12      | 1,3       |           |           |           |           |           |
| 16      | 1,3       | 0,5       |           |           |           |           |
| 20      | 1,3       | 2,7       | 0,2       |           |           |           |
| 25      | 1,3       | 2,7       | 0,4       | 1,0       |           |           |
| 32      | 1,3       | 2,7       | 0,8       | 1,1       |           |           |
| 40      |           |           | 1,5       | 1,2       |           |           |
| 42      |           |           | 1,5       | 1,5       |           |           |
| 50      |           |           | 1,5       | 1,5       | 2,0       |           |
| 52      |           |           | 1,5       | 1,5       | 2,0       |           |
| 63      |           |           |           | 1,5       | 2,0       |           |
| 66      |           |           |           | 1,5       | 2,0       |           |
| 80      |           |           |           | 1,5       | 2,0       | 3,0       |
| 100     |           |           |           | 1,5       | 2,0       | 3,0       |
| 125     |           |           |           |           |           | 3,0       |

## Cirkulárne frézovanie do plného materiálu



$D_{min.}$  = najmenší priemer otvoru v závislosti na priemere nástroja



$D_{max.}$  = najväčší priemer otvoru v závislosti na priemere nástroja

**i** Maximálny možný priemer diery =  $2 \times DC - 1 \text{ mm}$

|            | 05  |                        |                     | 08  |                        |                     | 10  |                        |                     | 12  |                        |                     | 16  |                        |                     | 20  |                        |                     |
|------------|----------------------------------------------------------------------------------------|------------------------|---------------------|----------------------------------------------------------------------------------------|------------------------|---------------------|----------------------------------------------------------------------------------------|------------------------|---------------------|-----------------------------------------------------------------------------------------|------------------------|---------------------|------------------------------------------------------------------------------------------|------------------------|---------------------|------------------------------------------------------------------------------------------|------------------------|---------------------|
| Ø DC<br>mm | D <sub>min</sub><br>mm                                                                 | D <sub>max</sub><br>mm | α <sub>R</sub><br>° | D <sub>min</sub><br>mm                                                                 | D <sub>max</sub><br>mm | α <sub>R</sub><br>° | D <sub>min</sub><br>mm                                                                 | D <sub>max</sub><br>mm | α <sub>R</sub><br>° | D <sub>min</sub><br>mm                                                                  | D <sub>max</sub><br>mm | α <sub>R</sub><br>° | D <sub>min</sub><br>mm                                                                   | D <sub>max</sub><br>mm | α <sub>R</sub><br>° | D <sub>min</sub><br>mm                                                                   | D <sub>max</sub><br>mm | α <sub>R</sub><br>° |
| 10         | 12                                                                                     | 15                     | 2,5                 |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                         |                        |                     |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 12         | 16                                                                                     | 19                     | 2,1                 |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                         |                        |                     |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 16         | 24                                                                                     | 27                     | 1,5                 | 21                                                                                     | 24                     | 2,4                 |                                                                                        |                        |                     |                                                                                         |                        |                     |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 20         | 32                                                                                     | 35                     | 1,2                 | 27                                                                                     | 32                     | 1,9                 | 26                                                                                     | 30                     | 1,3                 |                                                                                         |                        |                     |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 25         | 42                                                                                     | 45                     | 1,0                 | 37                                                                                     | 42                     | 1,5                 | 37                                                                                     | 40                     | 1,8                 | 31                                                                                      | 38                     | 2,2                 |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 32         | 56                                                                                     | 59                     | 0,7                 | 51                                                                                     | 56                     | 1,2                 | 50                                                                                     | 54                     | 1,5                 | 46                                                                                      | 52                     | 1,7                 |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 40         |                                                                                        |                        |                     |                                                                                        |                        |                     | 64                                                                                     | 70                     | 1,1                 | 62                                                                                      | 68                     | 1,4                 |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 42         |                                                                                        |                        |                     |                                                                                        |                        |                     | 68                                                                                     | 74                     | 1,1                 |                                                                                         |                        |                     |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 50         |                                                                                        |                        |                     |                                                                                        |                        |                     | 84                                                                                     | 90                     | 0,9                 | 81                                                                                      | 88                     | 1,1                 | 75                                                                                       | 84                     | 1,5                 |                                                                                          |                        |                     |
| 52         |                                                                                        |                        |                     |                                                                                        |                        |                     | 88                                                                                     | 94                     | 0,9                 | 86                                                                                      | 92                     | 1,0                 |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 63         |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                        |                        |                     | 107                                                                                     | 114                    | 0,9                 | 101                                                                                      | 110                    | 1,1                 |                                                                                          |                        |                     |
| 66         |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                        |                        |                     | 113                                                                                     | 120                    | 0,8                 |                                                                                          |                        |                     |                                                                                          |                        |                     |
| 80         |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                        |                        |                     | 142                                                                                     | 148                    | 0,7                 | 135                                                                                      | 144                    | 0,9                 | 128                                                                                      | 140                    | 1,1                 |
| 100        |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                        |                        |                     | 181                                                                                     | 188                    | 0,5                 | 175                                                                                      | 184                    | 0,7                 | 168                                                                                      | 180                    | 0,9                 |
| 125        |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                        |                        |                     |                                                                                         |                        |                     |                                                                                          |                        |                     | 218                                                                                      | 230                    | 0,7                 |

## Systém R100.

## Orientačné rezné hodnoty

|                                          | V <sub>c</sub><br>m/min | WTN<br>1205 | WAN<br>2225 | WAN<br>1240 | WAX<br>1240 | WUN<br>4210 |
|------------------------------------------|-------------------------|-------------|-------------|-------------|-------------|-------------|
| Oceľ                                     |                         |             |             |             |             |             |
| Nelegovaná oceľ                          | R                       | 150-250     |             | 100-250     | 100-300     |             |
|                                          | F                       | 200-400     |             |             | 150-350     |             |
| Legovaná nástrojová oceľ<br>Oceľoliatina | R                       | 150-250     |             | 100-200     | 100-250     |             |
|                                          | F                       | 200-350     |             |             | 150-300     |             |
| Vysoko legovaná nástrojová oceľ          | R                       | 120-200     |             | 100-150     | 150-180     |             |
|                                          | F                       | 150-300     |             |             | 150-250     |             |
| Nehrdzavejúca oceľ                       |                         |             |             |             |             |             |
|                                          | R                       |             | 80-200      |             |             |             |
|                                          | F                       | 100-200     | 80-230      |             |             |             |
| Liatina                                  |                         |             |             |             |             |             |
| Šedá liatina GG                          | R                       | 150-200     |             |             | 160-220     |             |
|                                          | F                       | 200-350     |             |             | 160-220     |             |
| Tvárna liatina GGG                       | R                       | 150-200     |             |             | 160-220     |             |
|                                          | F                       | 200-350     |             |             | 160-220     |             |
| Zušľachtená liatina                      | R                       | 100-180     |             |             | 160-220     |             |
|                                          | F                       | 200-350     |             |             | 160-220     |             |
| Neželezné kovy                           |                         |             |             |             |             |             |
| Hliník                                   | R                       |             |             |             |             | 100-800     |
|                                          | F                       |             |             |             |             | 100-800     |
| Meď                                      | R                       |             |             |             |             | 100-400     |
|                                          | F                       |             |             |             |             | 100-400     |
| Grafit                                   | R                       | 200-800     |             |             |             | 200-800     |
|                                          | F                       | 200-800     |             |             |             | 200-800     |
| Plasty                                   | R                       | 200-800     |             |             |             | 200-800     |
|                                          | F                       | 200-800     |             |             |             | 200-800     |
| Žiaruvzdorná zliatina                    |                         |             |             |             |             |             |
| Žiaruvzdorná zliatina                    | R                       |             |             |             |             |             |
|                                          | F                       |             |             |             |             |             |
| Zliatina titánu                          | R                       |             | 40-50       |             |             |             |
|                                          | F                       |             | 40-60       |             |             |             |
| Kalená oceľ                              |                         |             |             |             |             |             |
| do 48 HRC                                | R                       | 150-250     |             |             | 80-150      |             |
|                                          | F                       | 150-250     |             |             |             |             |
| do 55 HRC                                | R                       | 100-180     |             |             |             |             |
|                                          | F                       | 100-180     |             |             |             |             |
| do 65 HRC                                | R                       | 35-150      |             |             |             |             |
|                                          | F                       | 35-150      |             |             |             |             |

R (Hrubovanie)  
F (Dokončovanie)

## Systém R 1000, 1002, 1007

## Orientačné rezné hodnoty

|                                                                                   |      | $f_z, a_p$<br>mm | WTN1205  | WUN 4210 | WAN2225 | WAX1240  | WAN1240  |
|-----------------------------------------------------------------------------------|------|------------------|----------|----------|---------|----------|----------|
| Oceľ                                                                              |      |                  |          |          |         |          |          |
|  | 0501 | $f_z$            | 0,1-0,3  |          |         |          |          |
|                                                                                   |      | $a_p$            | 0,1-0,3  |          |         |          |          |
|  | 07T1 | $f_z$            | 0,1-0,3  | 0,1-0,2  |         | 0,1-0,3  |          |
|                                                                                   |      | $a_p$            | 0,1-0,5  | 0,1-0,2  |         | 0,1-0,7  |          |
|  | 0702 | $f_z$            | 0,1-0,3  |          |         | 0,2-0,5  |          |
|                                                                                   |      | $a_p$            | 0,1-0,7  |          |         | 0,1-0,75 |          |
|  | 1003 | $f_z$            | 0,1-0,3  | 0,15-0,3 |         | 0,2-0,7  | 0,2-0,9  |
|                                                                                   |      | $a_p$            | 0,1-1,0  | 0,1-0,3  |         | 0,2-1,5  | 0,2-1,5  |
|  | 12T3 | $f_z$            | 0,1-0,3  | 0,15-0,3 |         | 0,2-0,8  | 0,25-1,0 |
|                                                                                   |      | $a_p$            | 0,1-1,5  | 0,1-0,3  |         | 0,2-2,0  | 0,2-2,0  |
|  | 1604 | $f_z$            | 0,2-0,3  |          |         | 0,25-1,0 | 0,3-1,2  |
|                                                                                   |      | $a_p$            | 0,2-1,5  |          |         | 0,2-3,0  | 0,25-3,0 |
|  | 2006 | $f_z$            | 0,25-0,4 |          |         |          |          |
|                                                                                   |      | $a_p$            | 0,2-2,0  |          |         |          |          |

|                                                                                     |      |       |          |          |          |  |  |
|-------------------------------------------------------------------------------------|------|-------|----------|----------|----------|--|--|
| Nehrdzavejúca oceľ                                                                  |      |       |          |          |          |  |  |
|   | 0501 | $f_z$ | 0,1-0,15 |          |          |  |  |
|                                                                                     |      | $a_p$ | 0,1-0,15 |          |          |  |  |
|  | 07T1 | $f_z$ | 0,1-0,2  | 0,1-0,2  |          |  |  |
|                                                                                     |      | $a_p$ | 0,1-0,2  | 0,1-0,2  |          |  |  |
|  | 0702 | $f_z$ | 0,1-0,2  | 0,1-0,2  |          |  |  |
|                                                                                     |      | $a_p$ | 0,1-0,2  | 0,1-0,2  |          |  |  |
|  | 1003 | $f_z$ | 0,15-0,3 | 0,15-0,3 | 0,15-0,6 |  |  |
|                                                                                     |      | $a_p$ | 0,1-0,3  | 0,1-0,3  | 0,4-1,0  |  |  |
|  | 12T3 | $f_z$ | 0,15-0,3 | 0,15-0,3 | 0,2-0,8  |  |  |
|                                                                                     |      | $a_p$ | 0,1-0,3  | 0,1-0,3  | 0,5-2,0  |  |  |
|  | 1604 | $f_z$ | 0,15-0,3 | 0,15-0,3 | 0,3-1,0  |  |  |
|                                                                                     |      | $a_p$ | 0,1-0,3  | 0,1-0,3  | 0,6-3,0  |  |  |
|  | 2006 | $f_z$ |          | 0,15-0,3 |          |  |  |
|                                                                                     |      | $a_p$ |          | 0,1-0,4  |          |  |  |

|                                                                                     |             |       |          |          |  |         |         |
|-------------------------------------------------------------------------------------|-------------|-------|----------|----------|--|---------|---------|
| Liatina                                                                             |             |       |          |          |  |         |         |
|  | <b>0501</b> | $f_z$ | 0,1-0,2  |          |  |         |         |
|                                                                                     |             | $a_p$ | 0,1-0,3  |          |  |         |         |
|  | <b>07T1</b> | $f_z$ | 0,1-0,3  | 0,1-0,3  |  | 0,1-0,3 |         |
|                                                                                     |             | $a_p$ | 0,1-0,5  | 0,1-0,5  |  | 0,1-0,5 |         |
|  | <b>0702</b> | $f_z$ | 0,1-0,3  | 0,1-0,3  |  | 0,1-0,3 |         |
|                                                                                     |             | $a_p$ | 0,1-0,7  | 0,1-1,0  |  | 0,1-0,7 |         |
|  | <b>1003</b> | $f_z$ | 0,15-0,3 | 0,15-0,3 |  | 0,1-0,3 | 0,1-0,3 |
|                                                                                     |             | $a_p$ | 0,1-1,0  | 0,1-1,5  |  | 0,1-1,0 | 0,1-1,0 |
|  | <b>12T3</b> | $f_z$ | 0,15-0,4 | 0,15-0,4 |  | 0,1-0,4 | 0,1-0,4 |
|                                                                                     |             | $a_p$ | 0,1-1,5  | 0,1-2,0  |  | 0,1-1,5 | 0,1-1,5 |
|  | <b>1604</b> | $f_z$ | 0,2-0,5  | 0,2-0,5  |  | 0,2-0,5 | 0,2-0,5 |
|                                                                                     |             | $a_p$ | 0,2-3,0  | 0,2-3,0  |  | 0,2-3,0 | 0,2-2,0 |
|  | <b>2006</b> | $f_z$ | 0,25-0,6 | 0,25-0,6 |  |         |         |
|                                                                                     |             | $a_p$ | 0,2-4,0  | 0,2-4,0  |  |         |         |

## Systém R 1000, 1002, 1007

## Orientačné rezné hodnoty

|                                                                                   |      | $f_z, a_p$<br>mm | WTN1205  | WUN4210 | WAN2225 | WAX1240 | WAN1240 |
|-----------------------------------------------------------------------------------|------|------------------|----------|---------|---------|---------|---------|
| Neželezné kovy                                                                    |      |                  |          |         |         |         |         |
|  | 0501 | $f_z$            | 0,1–0,2  |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,1–0,3  |         |         |         |         |
|  | 07T1 | $f_z$            | 0,1–0,3  |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,1–0,7  |         |         |         |         |
|  | 0702 | $f_z$            | 0,1–0,3  |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,1–1,0  |         |         |         |         |
|  | 1003 | $f_z$            | 0,1–0,3  |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,1–1,5  |         |         |         |         |
|  | 12T3 | $f_z$            | 0,1–0,4  |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,1–2,0  |         |         |         |         |
|  | 1604 | $f_z$            | 0,2–0,5  |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,2–4,0  |         |         |         |         |
|  | 2006 | $f_z$            | 0,25–0,6 |         |         |         |         |
|                                                                                   |      | $a_p$            | 0,2–5,0  |         |         |         |         |

|                                                                                     |      |       |  |  |          |  |  |
|-------------------------------------------------------------------------------------|------|-------|--|--|----------|--|--|
| Žiaruvzdorná zliatina                                                               |      |       |  |  |          |  |  |
|   | 0501 | $f_z$ |  |  |          |  |  |
|                                                                                     |      | $a_p$ |  |  |          |  |  |
|  | 07T1 | $f_z$ |  |  |          |  |  |
|                                                                                     |      | $a_p$ |  |  |          |  |  |
|  | 0702 | $f_z$ |  |  |          |  |  |
|                                                                                     |      | $a_p$ |  |  |          |  |  |
|  | 1003 | $f_z$ |  |  | 0,1–0,4  |  |  |
|                                                                                     |      | $a_p$ |  |  | 0,2–1,0  |  |  |
|  | 12T3 | $f_z$ |  |  | 0,15–0,5 |  |  |
|                                                                                     |      | $a_p$ |  |  | 0,3–1,5  |  |  |
|  | 1604 | $f_z$ |  |  | 0,15–0,5 |  |  |
|                                                                                     |      | $a_p$ |  |  | 0,3–2,0  |  |  |
|  | 2006 | $f_z$ |  |  |          |  |  |
|                                                                                     |      | $a_p$ |  |  |          |  |  |

|                                                                                     |      |       |          |  |  |          |  |
|-------------------------------------------------------------------------------------|------|-------|----------|--|--|----------|--|
| Kalená oceľ                                                                         |      |       |          |  |  |          |  |
|  | 0501 | $f_z$ | 0,1–0,15 |  |  |          |  |
|                                                                                     |      | $a_p$ | 0,1–0,2  |  |  |          |  |
|  | 07T1 | $f_z$ | 0,1–0,15 |  |  | 0,1–0,2  |  |
|                                                                                     |      | $a_p$ | 0,1–0,2  |  |  | 0,1–0,3  |  |
|  | 0702 | $f_z$ | 0,1–0,2  |  |  | 0,1–0,2  |  |
|                                                                                     |      | $a_p$ | 0,1–0,3  |  |  | 0,1–0,3  |  |
|  | 1003 | $f_z$ | 0,1–0,2  |  |  | 0,1–0,2  |  |
|                                                                                     |      | $a_p$ | 0,1–0,5  |  |  | 0,1–0,5  |  |
|  | 12T3 | $f_z$ | 0,1–0,25 |  |  | 0,1–0,25 |  |
|                                                                                     |      | $a_p$ | 0,1–0,7  |  |  | 0,1–0,7  |  |
|  | 1604 | $f_z$ | 0,15–0,3 |  |  | 0,15–0,3 |  |
|                                                                                     |      | $a_p$ | 0,2–1,0  |  |  | 0,2–1,0  |  |
|  | 2006 | $f_z$ | 0,2–0,4  |  |  |          |  |
|                                                                                     |      | $a_p$ | 0,2–1,0  |  |  |          |  |

WTN 1205

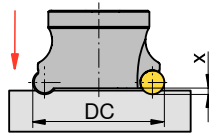
do 48 HRC: rozsah  $a_p$  podľa informácií v tabuľkedo 55 HRC: maximálna hodnota  $a_p \times 0,7$ do 65 HRC: maximálna hodnota  $a_p \times 0,5$

## Systém R 1000, 1002, 1007

## Technologické údaje

## Stratégia obrábania

## Axiálne utápanie

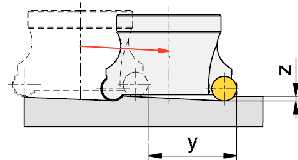
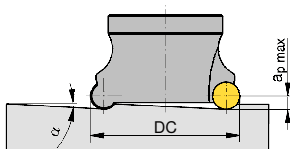


**i**  $f_z$  v súlade s aplikačnou tabuľkou znížte hodnotu na 30 %

→ v<sub>c</sub> strana 178+179

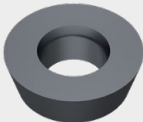
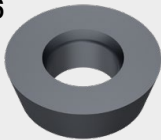
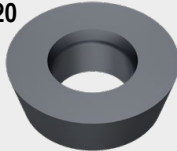
|            | 05                      | 07                      | 10                      | 12                      | 16                      | 20                      |
|------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|            |                         |                         |                         |                         |                         |                         |
| Ø DC<br>mm | X <sub>max.</sub><br>mm | X <sub>max.</sub><br>mm | X <sub>max.</sub><br>mm | X <sub>max.</sub><br>mm | X <sub>max.</sub><br>mm | X <sub>max.</sub><br>mm |
| 8–160      | 1,0                     | 1,2                     | 2,5                     | 3,0                     | 4,0                     | 5,0                     |

## Lineárne utápanie



**i**  $y$  = minimálna dráha pojazdu  
 $z$  = maximálna prípustná hĺbka utápania  
 $a_p / f_z$  v súlade s aplikačnou tabuľkou

→ v<sub>c</sub> strana 178+179

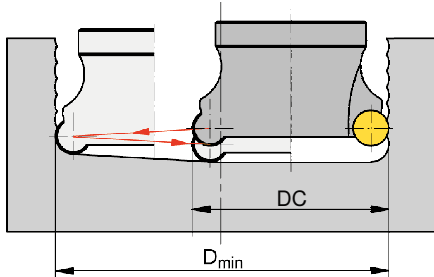
|           | 05                                                                                  |         |         | 07                                                                                  |         |         | 10                                                                                  |         |         | 12                                                                                   |         |         | 16                                                                                    |         |         | 20                                                                                    |         |         |
|-----------|-------------------------------------------------------------------------------------|---------|---------|-------------------------------------------------------------------------------------|---------|---------|-------------------------------------------------------------------------------------|---------|---------|--------------------------------------------------------------------------------------|---------|---------|---------------------------------------------------------------------------------------|---------|---------|---------------------------------------------------------------------------------------|---------|---------|
|           |  |         |         |  |         |         |  |         |         |  |         |         |  |         |         |  |         |         |
| ØDC<br>mm | α°                                                                                  | y<br>mm | z<br>mm | α°                                                                                  | y<br>mm | z<br>mm | α°                                                                                  | y<br>mm | z<br>mm | α°                                                                                   | y<br>mm | z<br>mm | α°                                                                                    | y<br>mm | z<br>mm | α°                                                                                    | y<br>mm | z<br>mm |
| 8         | 26,5                                                                                | 2       | < 1,0   |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 10        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 12        | 14,0                                                                                | 4       | < 1,0   |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 14        | 9,5                                                                                 | 6       | < 1,0   |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 15        | 8,1                                                                                 | 7       | < 1,0   | 26,5                                                                                | 2       | < 1,2   |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 16        | 7,1                                                                                 | 8       | < 1,0   | 14,0                                                                                | 4       | < 1,2   |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 18        | 5,7                                                                                 | 10      | < 1,0   | 11,3                                                                                | 6       | < 1,2   |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 20        | 4,7                                                                                 | 12      | < 1,0   | 8,5                                                                                 | 8       | < 1,2   |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 22        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 24        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 25        |                                                                                     |         |         | 5,3                                                                                 | 13      | < 1,2   | 19,7                                                                                | 7       | < 2,5   |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 30        |                                                                                     |         |         | 3,8                                                                                 | 18      | < 1,2   | 11,7                                                                                | 12      | < 2,5   |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 32        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 35        |                                                                                     |         |         | 3,0                                                                                 | 23      | < 1,2   | 8,4                                                                                 | 17      | < 2,5   | 13,0                                                                                 | 13      | < 3,0   | 38,7                                                                                  | 5       | < 4,0   |                                                                                       |         |         |
| 40        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         |                                                                                       |         |         |
| 42        |                                                                                     |         |         | 2,3                                                                                 | 30      | < 1,2   | 5,9                                                                                 | 24      | < 2,5   | 8,5                                                                                  | 20      | < 3,0   |                                                                                       |         |         |                                                                                       |         |         |
| 50        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         |                                                                                       |         |         | 22,6                                                                                  | 12      | < 5,0   |
| 52        |                                                                                     |         |         |                                                                                     |         |         | 4,2                                                                                 | 34      | < 2,5   | 5,7                                                                                  | 30      | < 3,0   | 10,3                                                                                  | 22      | < 4,0   |                                                                                       |         |         |
| 66        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         | 3,9                                                                                  | 44      | < 3,0   | 6,4                                                                                   | 36      | < 4,0   | 10,1                                                                                  | 28      | < 5,0   |
| 80        |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         | 3,0                                                                                  | 58      | < 3,0   | 4,6                                                                                   | 50      | < 4,0   | 6,8                                                                                   | 42      | < 5,0   |
| 100       |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         | 3,3                                                                                   | 70      | < 4,0   | 4,6                                                                                   | 62      | < 5,0   |
| 125       |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         | 2,4                                                                                   | 95      | < 4,0   | 3,3                                                                                   | 87      | < 5,0   |
| 160       |                                                                                     |         |         |                                                                                     |         |         |                                                                                     |         |         |                                                                                      |         |         | 1,8                                                                                   | 130     | < 4,0   | 2,3                                                                                   | 122     | < 5,0   |

## Systém R 1000, 1002, 1007

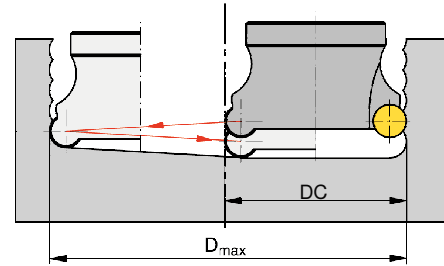
## Technologické údaje

## Stratégia obrábania

## Cirkulárne utápanie



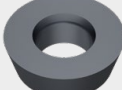
$D_{min}$  = najmenší priemer otvoru v závislosti na priemere nástroja



$D_{max}$  = najväčší priemer otvoru v závislosti na priemere nástroja

**i**  $a_p / f_z$  v súlade s aplikačnou tabuľkou

→  $v_c$  strana 178+179

|           | 05                                                                                  |                 | 07                                                                                  |                 | 10                                                                                  |                 | 12                                                                                   |                 | 16                                                                                    |                 | 20                                                                                    |                 |
|-----------|-------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|-----------------|
|           |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |
| ØDC<br>mm | $D_{min}$<br>mm                                                                     | $D_{max}$<br>mm | $D_{min}$<br>mm                                                                     | $D_{max}$<br>mm | $D_{min}$<br>mm                                                                     | $D_{max}$<br>mm | $D_{min}$<br>mm                                                                      | $D_{max}$<br>mm | $D_{min}$<br>mm                                                                       | $D_{max}$<br>mm | $D_{min}$<br>mm                                                                       | $D_{max}$<br>mm |
| 8         | 10                                                                                  | 16              |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 10        | 12                                                                                  | 20              |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 12        | 16                                                                                  | 24              | 14                                                                                  | 24              |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 14        | 20                                                                                  | 28              | 16                                                                                  | 28              |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 15        | 22                                                                                  | 30              | 17                                                                                  | 30              |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 16        | 24                                                                                  | 30              | 20                                                                                  | 32              |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 18        | 28                                                                                  | 36              | 24                                                                                  | 36              | 20                                                                                  | 36              |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 20        | 32                                                                                  | 40              | 28                                                                                  | 40              | 22                                                                                  | 40              |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 22        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 | 24                                                                                   | 44              |                                                                                       |                 |                                                                                       |                 |
| 24        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 | 26                                                                                   | 48              |                                                                                       |                 |                                                                                       |                 |
| 25        |                                                                                     |                 | 38                                                                                  | 50              | 32                                                                                  | 50              |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 30        |                                                                                     |                 | 48                                                                                  | 60              | 42                                                                                  | 60              |                                                                                      |                 |                                                                                       |                 |                                                                                       |                 |
| 32        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 | 34                                                                                    | 64              |                                                                                       |                 |
| 35        |                                                                                     |                 | 58                                                                                  | 80              | 72                                                                                  | 70              | 48                                                                                   | 70              | 40                                                                                    | 70              |                                                                                       |                 |
| 40        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 | 42                                                                                    | 80              |
| 42        |                                                                                     |                 | 72                                                                                  | 84              | 66                                                                                  | 84              | 62                                                                                   | 84              |                                                                                       |                 |                                                                                       |                 |
| 50        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 |                                                                                       |                 | 62                                                                                    | 100             |
| 52        |                                                                                     |                 |                                                                                     |                 | 86                                                                                  | 104             | 82                                                                                   | 104             | 74                                                                                    | 104             |                                                                                       |                 |
| 66        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 | 110                                                                                  | 132             | 102                                                                                   | 132             | 94                                                                                    | 132             |
| 80        |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 | 138                                                                                  | 160             | 130                                                                                   | 160             | 122                                                                                   | 160             |
| 100       |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 | 170                                                                                   | 200             | 162                                                                                   | 200             |
| 125       |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 | 220                                                                                   | 250             | 212                                                                                   | 250             |
| 160       |                                                                                     |                 |                                                                                     |                 |                                                                                     |                 |                                                                                      |                 | 290                                                                                   | 320             | 282                                                                                   | 320             |



## System MaxiMill 252

### Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky

| Materiál              | M                       |                      |                      |                      |                      |                      |                      |
|-----------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                       | V <sub>c</sub><br>m/min | 10                   |                      | 12                   |                      |                      |                      |
|                       |                         | f <sub>z</sub><br>mm | a <sub>p</sub><br>mm | f <sub>z</sub><br>mm | a <sub>p</sub><br>mm | f <sub>z</sub><br>mm | a <sub>p</sub><br>mm |
| Oceľ                  | 60-240                  | 0,08-0,35            | 2,5                  | 0,08-0,35            | 3                    |                      |                      |
| Nehrdzavejúca oceľ    | 60-280                  | 0,05-0,35            | 2,5                  | 0,05-0,35            | 3                    |                      |                      |
| Liatina               |                         |                      |                      |                      |                      |                      |                      |
| Neželezné kovy        |                         |                      |                      |                      |                      |                      |                      |
| Žiaruvzdorná zliatina | 25-75                   | 0,08-0,35            | 2,5                  | 0,08-0,35            | 3                    |                      |                      |
| Kalená oceľ           |                         |                      |                      |                      |                      |                      |                      |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

### MaxiMill 252 – odporučená hĺbka rezu

| Ø<br>mm | 4násobná                 |                                     |
|---------|--------------------------|-------------------------------------|
|         | a <sub>p max</sub><br>mm | a <sub>p max</sub> teoretická<br>mm |
| 10      | 2,5                      | 4,5                                 |
| 12      | 3,0                      | 5,5                                 |

## Orientačné rezné parametre pre kopírovacie frézy K200.

● 1. voľba

○ vhodná

|       | R                       | F                       | R                       | F                       | R                       | F                       | R                       | F                       | Vhodné chladiace médiá |              |                 |
|-------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|--------------|-----------------|
|       | CTPK226                 |                         | CTPP211                 |                         | CTPK231                 |                         | CTCN211                 |                         | Emulzia                | Tlak. vzduch | Min. mn. maziva |
| Index | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min |                        |              |                 |
| 1.1   |                         | 280-300                 | 180-220                 | 220-300                 | 160-200                 |                         |                         |                         | ○                      | ●            | ●               |
| 1.2   |                         | 280-300                 | 180-220                 | 220-300                 | 160-200                 |                         |                         |                         | ○                      |              | ●               |
| 1.3   |                         | 280-300                 | 180-220                 | 220-300                 | 160-200                 |                         |                         |                         | ○                      |              | ●               |
| 1.4   |                         | 280-300                 | 180-220                 | 220-300                 | 160-200                 |                         |                         |                         | ○                      |              | ●               |
| 1.5   |                         | 220-240                 | 180-220                 | 220-240                 | 160-200                 |                         |                         |                         | ○                      | ●            | ●               |
| 1.6   |                         | 220-240                 | 180-220                 | 220-240                 | 160-200                 |                         |                         |                         | ○                      |              | ●               |
| 1.7   |                         | 220-240                 | 180-220                 | 220-240                 | 160-200                 |                         |                         |                         | ○                      | ●            | ●               |
| 1.8   |                         | 220-240                 | 180-220                 | 220-240                 | 160-200                 |                         |                         |                         | ○                      |              | ●               |
| 1.9   |                         | 220-240                 | 180-220                 | 220-240                 | 160-200                 |                         |                         |                         | ○                      |              | ●               |
| 1.10  |                         | 280-300                 | 140-220                 | 200-300                 | 140-180                 |                         |                         |                         | ○                      | ●            | ●               |
| 1.11  |                         | 280-300                 | 140-220                 | 200-300                 | 140-180                 |                         |                         |                         | ○                      |              | ●               |
| 1.12  |                         | 280-300                 | 140-220                 | 200-300                 | 140-180                 |                         |                         |                         | ○                      |              | ●               |
| 1.13  |                         | 280-300                 | 140-220                 | 200-300                 | 140-180                 |                         |                         |                         | ○                      |              | ●               |
| 1.14  |                         | 280-300                 | 140-220                 | 200-300                 | 140-180                 |                         |                         |                         | ○                      |              | ●               |
| 1.15  |                         | 280-320                 | 180-220                 | 240-320                 | 160-200                 |                         |                         |                         | ○                      | ●            | ●               |
| 1.16  |                         | 280-320                 | 180-220                 | 240-320                 | 160-200                 |                         |                         |                         | ○                      | ●            | ●               |
| 2.1   |                         | 220-220                 | 140-180                 | 200-240                 | 120-180                 |                         |                         |                         | ●                      |              |                 |
| 2.2   |                         | 220-220                 | 140-180                 | 200-240                 | 120-180                 |                         |                         |                         | ●                      |              |                 |
| 2.3   |                         | 220-220                 | 140-180                 | 200-240                 | 120-180                 |                         |                         |                         | ●                      |              |                 |
| 2.4   |                         | 220-220                 | 140-180                 | 200-240                 | 120-180                 |                         |                         |                         | ●                      | ○            |                 |
| 2.5   |                         | 220-220                 | 140-180                 | 200-240                 | 120-160                 |                         |                         |                         | ●                      |              |                 |
| 2.6   |                         | 180-200                 | 140-160                 | 180-200                 | 120-160                 |                         |                         |                         | ●                      | ○            |                 |
| 2.7   |                         | 180-200                 | 140-160                 | 180-200                 | 120-160                 |                         |                         |                         | ●                      |              |                 |
| 3.1   |                         | 280-300                 | 160-200                 | 200-300                 | 120-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.2   |                         | 280-300                 | 160-200                 | 200-300                 | 120-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.3   |                         | 280-300                 | 160-200                 | 200-300                 | 120-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.4   |                         | 300-350                 | 180-220                 | 240-350                 | 180-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.5   |                         | 300-350                 | 180-220                 | 240-350                 | 180-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.6   |                         | 300-350                 | 180-220                 | 240-350                 | 180-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.7   |                         | 300-350                 | 180-220                 | 240-350                 | 180-200                 |                         |                         |                         |                        | ●            | ○               |
| 3.8   |                         | 240-260                 | 160-200                 | 220-260                 | 160-200                 |                         |                         |                         |                        | ●            | ○               |
| 4.1   |                         |                         | 240-280                 | 300-600                 | 300-600                 |                         |                         |                         | ●                      |              |                 |
| 4.2   |                         |                         | 240-280                 | 300-600                 | 300-600                 |                         |                         |                         | ●                      |              |                 |
| 4.3   |                         |                         | 240-280                 | 300-600                 | 300-600                 |                         |                         |                         | ●                      |              |                 |
| 4.4   |                         |                         | 240-280                 | 300-600                 | 300-600                 |                         |                         |                         | ●                      |              |                 |
| 4.5   |                         |                         |                         |                         |                         |                         |                         |                         | ●                      |              |                 |
| 4.6   |                         |                         | 240-280                 | 300-600                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.7   |                         |                         | 240-280                 | 300-600                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.8   |                         |                         | 240-280                 | 300-600                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.9   |                         |                         | 240-280                 | 300-600                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.10  |                         |                         | 240-280                 | 280-320                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.11  |                         |                         | 240-280                 | 280-320                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.12  |                         |                         | 240-280                 | 280-320                 | 240-280                 |                         |                         |                         | ●                      |              |                 |
| 4.13  |                         |                         | 500-600                 | 500-600                 |                         |                         | 400-600                 | 600-800                 |                        | ●            |                 |
| 4.14  |                         |                         | 300-400                 | 300-400                 |                         |                         |                         |                         |                        | ●            |                 |
| 4.15  |                         |                         | 300-400                 | 300-400                 |                         |                         |                         | 250-300                 |                        | ●            |                 |
| 4.16  |                         |                         | 300-400                 | 300-400                 |                         |                         |                         | 300-400                 | ●                      |              |                 |
| 4.17  |                         |                         |                         |                         |                         |                         | 400-600                 | 600-800                 |                        | ●            |                 |
| 4.18  |                         |                         |                         |                         |                         |                         | 100-140                 | 160-180                 | ●                      |              |                 |
| 4.19  |                         |                         |                         |                         |                         |                         | 100-140                 | 100-140                 | ●                      |              |                 |
| 5.1   |                         |                         |                         |                         | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.2   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.3   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.4   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.5   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.6   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.7   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.8   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.9   |                         |                         |                         | 80-120                  | 80-120                  |                         |                         |                         | ●                      |              |                 |
| 5.10  |                         |                         |                         | 60-80                   | 60-80                   |                         |                         |                         | ●                      | ○            |                 |
| 5.11  |                         |                         |                         | 60-80                   | 80-100                  |                         |                         |                         | ●                      | ○            |                 |
| 6.1   |                         | 240-260                 |                         | 60-80                   | 140-160                 |                         |                         |                         |                        |              |                 |
| 6.2   |                         | 240-260                 | 140-200                 | 220-300                 | 140-160                 |                         |                         |                         |                        | ●            | ○               |
| 6.3   |                         | 200-220                 | 120-160                 | 180-300                 | 80-100                  |                         |                         |                         |                        | ●            | ○               |
| 6.4   |                         | 120-140                 | 100-120                 | 120-200                 |                         |                         |                         |                         |                        | ●            | ○               |
| 6.5   |                         |                         |                         |                         |                         |                         |                         |                         |                        |              |                 |

## Orientačné rezné parametre pre kopírovacie frézy K200.

| Index | R                       |                         | F                    |                      | Hrubovanie (R)       |                      | Dokončovanie (F)     |                      | Iba pre hrubovanie (R)<br>-MR3 |                 | Vhodné chladiace médiá |  |  |
|-------|-------------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------------|-----------------|------------------------|--|--|
|       | CTPP216                 |                         | Ø 6–16               | Ø 20–32              | Ø 6–16               | Ø 20–32              | Ø 6–16               | Ø 20–32              | Emulzia                        | Tlak.<br>vzduch | Min. mn.<br>maziva     |  |  |
|       | V <sub>c</sub><br>m/min | V <sub>c</sub><br>m/min | f <sub>z</sub><br>mm | f <sub>z</sub><br>mm | f <sub>z</sub><br>mm | f <sub>z</sub><br>mm | f <sub>z</sub><br>mm | f <sub>z</sub><br>mm |                                |                 |                        |  |  |
| 1.1   | 220-300                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,2-1,5              | ○                              | ●               | ●                      |  |  |
| 1.2   | 220-300                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,2-1,5              | ○                              |                 | ●                      |  |  |
| 1.3   | 220-300                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,2-1,5              | ○                              |                 | ●                      |  |  |
| 1.4   | 220-300                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,2-1,5              | ○                              |                 | ●                      |  |  |
| 1.5   | 220-300                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,2-1,5              | ○                              | ●               | ●                      |  |  |
| 1.6   | 220-300                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ○                              |                 | ●                      |  |  |
| 1.7   | 260-340                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ○                              | ●               | ●                      |  |  |
| 1.8   | 260-340                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ○                              |                 | ●                      |  |  |
| 1.9   | 260-340                 | 280-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ○                              |                 | ●                      |  |  |
| 1.10  | 240-340                 | 240-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,20             | ○                              | ●               | ●                      |  |  |
| 1.11  | 240-340                 | 240-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              | ○                              |                 | ●                      |  |  |
| 1.12  | 240-340                 | 240-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              | ○                              |                 | ●                      |  |  |
| 1.13  | 240-340                 | 240-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              | ○                              |                 | ●                      |  |  |
| 1.14  | 240-340                 | 240-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              | ○                              |                 | ●                      |  |  |
| 1.15  | 250-360                 | 240-320                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              | ○                              | ●               | ●                      |  |  |
| 1.16  | 250-360                 | 240-320                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              | ○                              | ●               | ●                      |  |  |
| 2.1   | 220-300                 | 220-240                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ●                              |                 |                        |  |  |
| 2.2   | 220-300                 | 220-240                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ●                              |                 |                        |  |  |
| 2.3   | 220-300                 | 220-240                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ●                              |                 |                        |  |  |
| 2.4   | 220-300                 | 220-240                 | 0,08-0,4             | 0,25-0,45            | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ●                              | ○               |                        |  |  |
| 2.5   | 220-300                 | 220-240                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             | ●                              |                 |                        |  |  |
| 2.6   | 220-250                 | 220-240                 | 0,08-0,4             | 0,25-0,45            | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,5              | ●                              | ○               |                        |  |  |
| 2.7   | 220-250                 | 220-240                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,5              | ●                              |                 |                        |  |  |
| 3.1   | 240-350                 | 240-260                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              |                                | ●               | ○                      |  |  |
| 3.2   | 240-350                 | 240-260                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              |                                | ●               | ○                      |  |  |
| 3.3   | 240-350                 | 240-260                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,8              | 1,0-1,5              |                                | ●               | ○                      |  |  |
| 3.4   | 340-400                 | 240-360                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             |                                | ●               | ○                      |  |  |
| 3.5   | 340-400                 | 240-360                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             |                                | ●               | ○                      |  |  |
| 3.6   | 340-400                 | 240-360                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             |                                | ●               | ○                      |  |  |
| 3.7   | 340-400                 | 240-360                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             |                                | ●               | ○                      |  |  |
| 3.8   | 280-340                 | 220-300                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,3-0,6              | 0,8-1,25             |                                | ●               | ○                      |  |  |
| 4.1   |                         | 400-450                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.2   |                         | 400-450                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.3   |                         | 400-450                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.4   |                         | 400-450                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.5   |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.6   |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.7   |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.8   |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.9   |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.10  |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.11  |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.12  |                         | 300-400                 | 0,08-0,35            | 0,25-0,45            | 0,06-0,25            | 0,025-0,45           |                      |                      | ●                              |                 |                        |  |  |
| 4.13  |                         | 600-800                 | 0,25-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             |                      |                      |                                | ●               |                        |  |  |
| 4.14  |                         | 300-350                 | 0,25-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             |                      |                      |                                | ●               |                        |  |  |
| 4.15  |                         |                         | 0,25-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             |                      |                      |                                | ●               |                        |  |  |
| 4.16  |                         |                         | 0,25-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             |                      |                      | ●                              |                 |                        |  |  |
| 4.17  |                         |                         | 0,25-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             |                      |                      |                                | ●               |                        |  |  |
| 4.18  |                         |                         |                      |                      |                      |                      | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 4.19  |                         |                         |                      |                      |                      |                      | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.1   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.2   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.3   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.4   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.5   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.6   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,20-0,4             | 0,4-0,8              | ●                              |                 |                        |  |  |
| 5.7   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,25-0,5             | 0,6-1,0              | ●                              |                 |                        |  |  |
| 5.8   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,25-0,5             | 0,6-1,0              | ●                              |                 |                        |  |  |
| 5.9   |                         | 60-80                   | 0,08-0,3             | 0,15-0,4             | 0,05-0,2             | 0,15-0,25            | 0,25-0,5             | 0,6-1,0              | ●                              |                 |                        |  |  |
| 5.10  |                         | 60-80                   | 0,08-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             | 0,25-0,5             | 0,6-1,0              | ●                              | ○               |                        |  |  |
| 5.11  |                         | 60-80                   | 0,08-0,35            | 0,4-0,5              | 0,08-0,3             | 0,25-0,4             | 0,25-0,5             | 0,6-1,0              | ●                              | ○               |                        |  |  |
| 6.1   | 240-260                 | 240-260                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,25-0,5             | 0,6-1,0              |                                | ●               | ○                      |  |  |
| 6.2   | 240-260                 | 240-260                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              | 0,25-0,5             | 0,6-1,0              |                                | ●               | ○                      |  |  |
| 6.3   | 220-240                 | 160-240                 | 0,08-0,4             | 0,25-0,5             | 0,08-0,3             | 0,2-0,5              |                      |                      |                                | ●               | ○                      |  |  |
| 6.4   | 120-140                 | 100-140                 | 0,25-0,35            | 0,4-0,5              | 0,08-0,2             | 0,18-0,35            |                      |                      |                                | ●               | ○                      |  |  |
| 6.5   |                         |                         |                      |                      |                      |                      |                      |                      |                                |                 |                        |  |  |

Maximálna axiálna hĺbka rezu  $a_p$  pre kopírovacie frézy K200.

## Kruhové doštičky

| Ø Vymeniteľných doštičiek v mm |    | 6             | 8             | 10            | 12            | 16            | 20            | 25            | 32            |
|--------------------------------|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                |    | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ |
| ROHX-FM3                       | R  | 0,8           | 1,0           | 1,5           | 2,0           | 3,0           | 4,0           | 5,0           | 6,0           |
|                                | F  | 0,4           | 0,8           | 1,0           | 1,2           | 1,5           | 1,5           | 2,0           | 2,0           |
| ROHX-FM4                       | R  | 0,8           | 1,0           | 2,0           | 3,0           | 4,0           | 5,0           | 6,0           | 8,0           |
|                                | F  | 0,4           | 0,8           | 1,0           | 1,2           | 1,5           | 1,5           | 2,0           | 2,0           |
| ROHX-FM6                       | R  | 0,8           | 1,0           | 1,5           | 2,0           | 3,0           | 4,0           | 5,0           | 6,0           |
|                                | F  | 0,4           | 0,8           | 1,0           | 1,2           | 1,5           | 1,5           | 2,0           | 2,0           |
| ROGX-MR4                       | R* |               |               |               | 4,0           | 6,0           | 8,0           | 12,0          | 16,0          |
|                                | F  |               |               |               | 2,0           | 3,0           | 4,0           | 5,0           | 6,0           |
| ROHX-MR5                       | R  |               | 1,5           | 2,0           |               |               |               |               |               |
|                                | F  |               | 0,8           | 1,0           |               |               |               |               |               |

\* $a_p$  pri plnom záberu činí maximálne 25 % Ø DC!

## Torusové doštičky

| Ø Vymeniteľných doštičiek v mm |   | 6             | 8             | 10            | 12            | 16            | 20            | 25            | 32            |
|--------------------------------|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                |   | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ | $a_{p \max.}$ |
| XOHX-FM5                       | R |               | 2,0           | 3,0           | 3,0           | 4,0           | 5,0           | 6,0           | 8,0           |
|                                | F |               | 0,6           | 2,0           | 2,4           | 3,2           | 4,0           | 5,0           | 6,4           |
| XOHX-MR6                       | R |               | 2,0           | 3,0           | 3,0           | 4,0           | 5,0           | 6,0           | 8,0           |
|                                | F |               | 0,6           | 2,0           | 2,4           | 3,2           | 4,0           | 5,0           | 6,4           |
| XOHX-FM1                       | R |               |               | 1,5           | 2,0           | 3,0           | 4,0           |               |               |
|                                | F |               |               | 0,8           | 0,8           | 1,0           | 1,0           |               |               |
| XOHX-FM2                       | R |               | 1,0           | 1,5           | 2,0           | 3,0           | 4,0           | 5,0           |               |
|                                | F |               | 0,5           | 0,7           | 0,8           | 1,0           | 1,0           | 1,5           |               |
| XOHX-MR2                       | R | 0,8           | 1,0           | 1,5           | 2,0           | 3,0           | 4,0           | 5,0           |               |
|                                | F | 0,5           | 0,5           | 0,7           | 0,8           | 1,0           | 1,0           | 1,5           |               |
| XOGX-MF4                       | R |               |               | 1,5           | 2,0           | 3,0           | 4,0           |               |               |
|                                | F |               |               | 0,7           | 0,8           | 1,0           | 1,0           |               |               |
| XOHX-MR3                       | R |               |               | 0,5           | 0,6           | 0,8           | 1,0           |               |               |
|                                | F |               |               |               |               |               |               |               |               |

## Oblasti použitia pre jednotlivé geometrie

| Vymeniteľná doštička | F | M | R | Hlavné použitie                                              |
|----------------------|---|---|---|--------------------------------------------------------------|
| XOHX-FM1             | ● | ● |   | Oceľ, oceleliatina, žiaruvzdorná oceľ, kalená oceľ do 63 HRC |
| XOHX-FM2             | ● | ● |   | Oceľ, oceleliatina, žiaruvzdorná oceľ, kalená oceľ do 60 HRC |
| ROHX-FM3             | ● | ● |   | Oceľ, oceleliatina, žiaruvzdorná oceľ                        |
| ROHX-FM4             | ● | ● |   | Oceľ, oceleliatina, žiaruvzdorná oceľ, kalená oceľ do 60 HRC |
| XOHX-FM5             | ● | ● |   | Oceľ, oceleliatina, žiaruvzdorná oceľ, kalená oceľ do 60 HRC |
| ROHX-FM6             | ● | ● | ● | Neželezné kovy, plasty, grafit                               |
| XOHX-MR2             |   | ● | ● | Železné materiály s dlhou trieskou                           |
| XOHX-MR3             |   | ● | ● | Oceľ, oceleliatina, žiaruvzdorná oceľ                        |
| ROGX-MR4             |   | ● | ● | Oceľ, oceleliatina, žiaruvzdorná oceľ                        |
| XOGX-MF4             | ● | ● |   | Oceľ, oceleliatina, žiaruvzdorná oceľ                        |
| ROHX-MR5             |   | ● | ● | Železné materiály s dlhou trieskou                           |
| XOHX-MR6             |   | ● | ● | Železné materiály s dlhou trieskou                           |

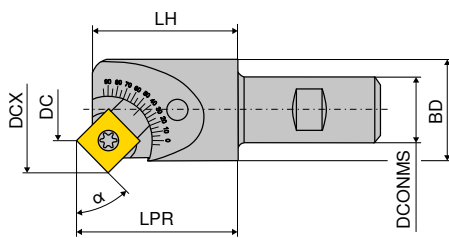
## Systém 4500-09

### Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky



| Materiál              | m/min   | $f_z$<br>mm |
|-----------------------|---------|-------------|
| Oceľ                  | 120-250 | 0,05-0,30   |
| Nehrdzavejúca oceľ    | 110-220 | 0,08-0,30   |
| Liatina               | 120-240 | 0,10-0,35   |
| Neželezné kovy        | 200-280 | 0,10-0,35   |
| Žiaruvzdorná zliatina |         |             |
| Kalená oceľ           |         |             |



#### Stratégia obrábania

| Nastavený uhol $\alpha$ | $D_{min.}$<br>mm | $D_{max.}$<br>mm |
|-------------------------|------------------|------------------|
| 0°                      | 3,0              | 20,30            |
| 5°                      | 3,8              | 20,90            |
| 10°                     | 4,9              | 21,60            |
| 15°                     | 5,8              | 22,10            |
| 20°                     | 6,8              | 22,60            |
| 25°                     | 7,9              | 23,00            |
| 30°                     | 8,9              | 23,50            |
| 35°                     | 10,0             | 23,60            |
| 40°                     | 11,0             | 23,85            |
| 45°                     | 12,3             | 23,90            |
| 50°                     | 13,3             | 23,85            |
| 55°                     | 14,3             | 23,80            |
| 60°                     | 15,5             | 23,60            |
| 65°                     | 16,4             | 23,40            |
| 70°                     | 17,4             | 23,10            |
| 75°                     | 18,4             | 22,60            |
| 80°                     | 19,3             | 22,20            |
| 85°                     | 20,0             | 21,50            |
| 90°                     | 20,8             | 20,80            |

Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Systém 4500-12

### Orientačné hodnoty rezných dát/technologické údaje

Pre štandardné britové doštičky



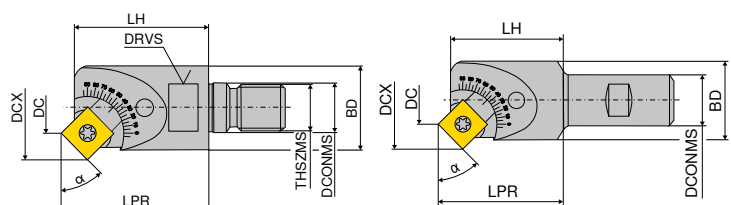
| Materiál              | m/min   | $f_z$<br>mm |
|-----------------------|---------|-------------|
| Oceľ                  | 120-250 | 0,05-0,25   |
| Nehrdzavejúca oceľ    | 110-220 | 0,08-0,20   |
| Liatina               | 120-240 | 0,10-0,25   |
| Neželezné kovy        | 200-280 | 0,10-0,25   |
| Žiaruvzdorná zliatina |         |             |
| Kalená oceľ           |         |             |

#### Stratégia obrábania

| Nastavený uhol $\alpha$ | $D_{min.}$<br>mm | $D_{max.}$<br>mm |
|-------------------------|------------------|------------------|
| 0°                      | 7,1              | 30,50            |
| 5°                      | 7,8              | 31,40            |
| 10°                     | 9,4              | 32,40            |
| 15°                     | 10,7             | 33,20            |
| 20°                     | 12,0             | 33,80            |
| 25°                     | 13,4             | 34,40            |
| 30°                     | 14,9             | 34,80            |
| 35°                     | 16,5             | 35,20            |
| 40°                     | 17,9             | 35,40            |
| 45°                     | 19,3             | 35,45            |
| 50°                     | 20,8             | 35,40            |
| 55°                     | 22,3             | 35,20            |
| 60°                     | 23,6             | 34,90            |
| 65°                     | 25,0             | 34,60            |
| 70°                     | 26,5             | 34,00            |
| 75°                     | 27,7             | 33,40            |
| 80°                     | 28,8             | 32,70            |
| 85°                     | 29,9             | 31,90            |
| 90°                     | 31,0             | 31,00            |

#### Stratégia obrábania

| Nastavený uhol $\alpha$ | $D_{min.}$<br>mm | $D_{max.}$<br>mm |
|-------------------------|------------------|------------------|
| 0°                      | 3,7              | 27,30            |
| 5°                      | 4,7              | 28,20            |
| 10°                     | 6,0              | 29,00            |
| 15°                     | 7,3              | 29,80            |
| 20°                     | 8,8              | 30,50            |
| 25°                     | 10,0             | 31,00            |
| 30°                     | 11,5             | 31,50            |
| 35°                     | 13,1             | 31,90            |
| 40°                     | 14,7             | 32,15            |
| 45°                     | 16,0             | 32,20            |
| 50°                     | 17,5             | 32,15            |
| 55°                     | 19,0             | 32,00            |
| 60°                     | 20,4             | 31,80            |
| 65°                     | 21,8             | 31,30            |
| 70°                     | 23,0             | 30,90            |
| 75°                     | 24,4             | 30,20            |
| 80°                     | 25,7             | 29,50            |
| 85°                     | 26,7             | 28,70            |
| 90°                     | 27,8             | 27,80            |



Detailný prehľad rezných rýchlostí pre jednotlivé materiály nájdete na → strane 138+139

## Doporučené rezné podmienky pre kotúčové deliace frézy FM

| Materiál                      | $v_c$<br>m/min |           | $f_z$<br>mm/z |           |
|-------------------------------|----------------|-----------|---------------|-----------|
|                               | CWN 35         | CWK 12    | FM-N          | FM-KXF    |
|                               | ISO (P35)      | ISO (K10) |               |           |
| St 37 / C 15                  | 90–180         |           | 0,05–0,08     | 0,07–0,2  |
| St 50 / C 50                  | 80–150         |           | 0,04–0,08     | 0,07–0,2  |
| St 60–70 / C 60               | 70–140         |           | 0,04–0,08     | 0,07–0,18 |
| 16 Mn Cr 5                    | 50–120         |           | 0,04–0,09     | 0,07–0,2  |
| 42 Cr Mo4 / 50 Cr V 4         | 40–120         |           | 0,04–0,09     | 0,08–0,25 |
| Nástrojové ocele a ocele HSS  | 40–90          |           | 0,04–0,08     | 0,07–0,18 |
| Nehrdzavejúce ocele X-CrNi    | 30–80          |           | 0,04–0,08     | 0,07–0,15 |
| Feritické, austenitické ocele | 10–40          |           | 0,03–0,09     | 0,07–0,15 |
| GG-10                         |                | 60–180    | 0,04–0,1      |           |
| GG-30                         |                | 60–150    | 0,04–0,1      |           |
| Temperovaná liatina GT        |                | 40–100    | 0,04–0,11     |           |
| Hliník                        |                | 200–250   | 0,04–0,12     |           |
| G Al Si                       |                | 200–250   | 0,06–0,1      |           |
| Mosadz                        |                | 50–250    | 0,05–0,08     |           |
| Meď Cu-E                      |                | 120–250   | 0,04–0,08     |           |
| Červený bronz                 |                | 120–250   | 0,05–0,09     |           |
| Bronz                         |                | 100–250   | 0,05–0,1      |           |
| Tvrdená guma                  |                | 200–250   | 0,03–0,15     |           |
| Novotex, Pertinax             |                | 50–250    | 0,03–0,1      |           |
| Bakelit                       |                | 50–250    | 0,03–0,1      |           |

## Odporúčané rezné podmienky pre kotúčové frézy FX

|          | Materiál                          |                                                                             | HB      | $v_c$<br>m/min | $h_m$<br>mm |
|----------|-----------------------------------|-----------------------------------------------------------------------------|---------|----------------|-------------|
| <b>P</b> | Nelegovaná oceľ                   | 1.0711 9 S 20<br>1.0037 ST 37<br>1.0050 ST 50                               | 125–300 | 160–240        | 0,1         |
|          | Nízkolegovaná oceľ                | 1.0070 ST 70<br>1.7131 16 MnCr 5<br>1.7218 25 CrMo 4                        | 180–350 | 70–150         | 0,08        |
|          | Vysoko legovaná oceľ              | 1.2842 90 MnCr V 8<br>1.7225 42 CrMo4 V<br>1.2344 X 40 CrMoV                | 200–350 | 50–70          | 0,05        |
|          | Nehrdzavejúca oceľ                | 1.4002 X 6 CrAl 13<br>1.4510 X 6 CrTi 17<br>1.4104 X 12 CrMoS 17            | 200–325 | 80–120         | 0,08        |
| <b>M</b> | Nehrdzavejúca oceľ                | 1.4057 20 CrNi 17 2<br>1.4301 X 5 CrNi 18 10<br>1.4571 X 6 CrNiMoTi 17 12 2 | 180–330 | 120–130        | 0,08        |
| <b>K</b> | Sivá liatina                      | 0.6020 GG 20<br>0.6040 GG 40                                                | 180–260 | 90–100         | 0,1         |
|          | Šedá liatina s guľčkovým grafitom | 0.7040 GGG 40<br>0.7070 GGG 70                                              | 160–250 | 60–100         | 0,08        |
| <b>N</b> | Hliník - tvárne zliatiny          | Nevytvrzovateľný<br>Al Mn<br>Al Mg<br>Al Mg Mn                              | 60      | 500–700        | 0,12        |
|          |                                   | Vytvrzovateľné<br>Al Mg Si<br>Al Cu Mg<br>Al Cu Si Mn                       | 100     | 200–500        | 0,12        |
|          | Hliník - zlievarenské zliatiny    | nekaliteľná > 12 % Si<br>kaliteľná < 12 % Si<br>nekaliteľná < 12 % Si       | 80–130  | 80–220         | 0,1         |
|          | Meď a zliatiny medi               | Nevytvrzovateľný<br>Cu Ag<br>Cu As                                          | 90–100  | 200–500        | 0,12        |
| <b>S</b> | Žiaruvzdorné zliatiny             | 1.4962 X 12 CrNiWTi 16 13<br>1.4923 X 22 CrMoV 12 1                         | 200–320 | 80–140         | 0,05        |
|          | Zliatiny titánu                   | 3.7024 Ti 99,5<br>3.7154 TiAl6Zr5                                           | 120–310 | 80–120         | 0,06        |

Stredná hrúbka triesky

 $h_m$  v mm

$$h_m = f_z \sqrt{\frac{a_e}{DC}}$$

Posuv na zub

 $f_z$  v mm

$$f_z = h_m \sqrt{\frac{DC}{a_e}}$$

Rýchlosť posuvu

 $v_f$  v mm/min

$$v_f = f_z \times z \times n$$

DC = Ø kotúčové frézy

ZNF = počet zubov frézy

# Systém FM

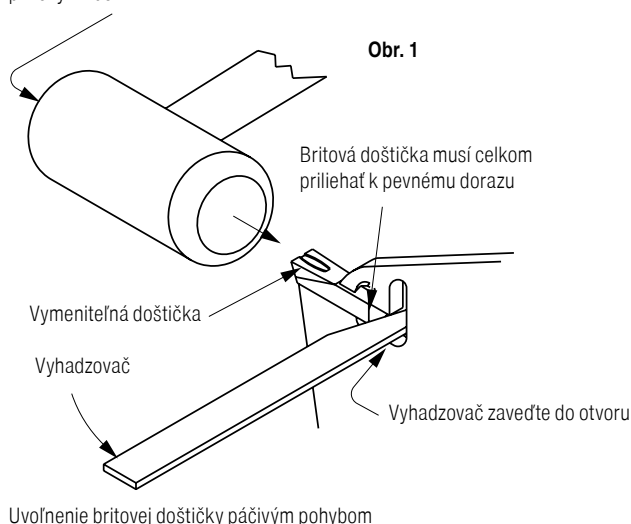
## Technologické údaje

### Stratégia obrábania

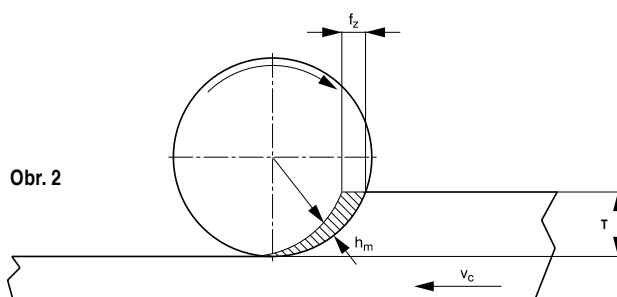
#### Prednosti:

- ▲ Samosvorný nástroj s dvojitém prízmatom a absolútnym pevným bodom.
- ▲ Upínací tlak sa pri zvyšujúcom reznom tlaku umocňuje (zákon páky).
- ▲ Nie sú nutné žiadne ďalšie upínacie prvky ako upínky, skrutky alebo upínacie klinky v telese frézy.
- ▲ Každá britová doštička odoberá materiál v celej šírke rezu, preto je možné, na rozdiel od krížového či striedavého presadenia zubov (predrezávací/dokončovací nástroj), zdvojnásobiť posuv na otáčku nástroja.
- ▲ Výmena britovej doštičky netrvá na brit ani 15 sekúnd a je možné ju vykonávať priamo v stroji, bez toho aby sa musela kotúčová fréza demontovať.
- ▲ Britová doštička sa z prízmatu uvoľní pomocou dodaného vyhadzovača (obr. 1).
- ▲ Kotúčové frézy – systém FM – je možné používať ako pre protibežné, tak aj pre súbežné frézovanie.

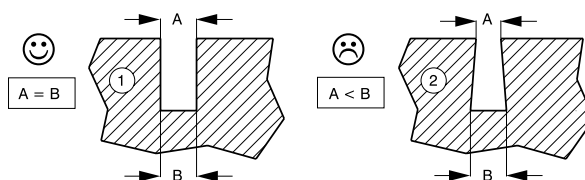
Britovú doštičku naklepnite pomocou plastovej paličky na doraz



Uvoľnenie britovej doštičky páčivým pohybom



Obr. 3



#### Pokyny pre použitie:

Pri záberu kotúčovej frézy do obrobku vzniká "čiarkovitá" trieska. Pri nastavovaní posuvu má rozhodujúci význam hodnota záberu do materiálu " $a_e$ ". Rozmerom pre efektívnu hrúbku triesky je stredná hrúbka triesky " $h_m$ ", ktorá je obzvlášť u drážkovacieho frézovania vždy menšia ako posuv / zub " $f_z$ " (viď obr. 2).

Musí sa dbať na to, aby nevznikala príliš tenká trieska, pretože tá by spôsobila predčasné opotrebenie britu.

Orientačné hodnoty pre nastavenie posuvu " $f_z$ ".

- 1) Hodnoty posuvu " $f_z$ " uvedené v tabuľke rezných hodnôt platí pre 50–100 % maximálnej šírky záberu " $a_e$ ".
- 2) V prípade " $a_e < 50\%$ " by sa mal posuv zvýšiť o cca 30–40 %.
- 3) V prípade " $a_e < 30\%$ " by sa mal posuv zvýšiť o cca 50 %.

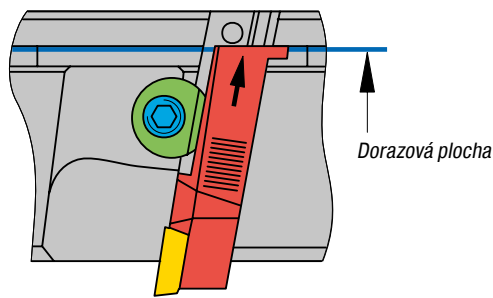
Kotúčové frézy sa musia prednostne používať pri súbežnom frézovaní (viď obr. 2). Pri súbežnom frézovaní vzniká prierez triesky od najväčšieho po najmenší, preto dochádza k menšiemu opotrebeniu oterom ako pri protibežnom frézovaní (brit kľže pred záberom do obrobku).

Ďalšou prednosťou súbežného frézovania je skutočnosť, že sa obrobok pritlačí na podložku – obrobok sa nemôže nadvíhať.

Obzvlášť pri dokončovacom frézovaní sa musí dbať na to, aby sa vyfrézovaná drážka v priebehu obrábania v žiadnom prípade nezovrela, pretože by inak prišlo k povytiahnutiu britových doštičiek z lôžka a potom by nasledovalo zničenie nástroja (viď obr. 3).

## Systém MaxiMill 260

### Nastavenie čelnej hádzavosti pre hrubovanie

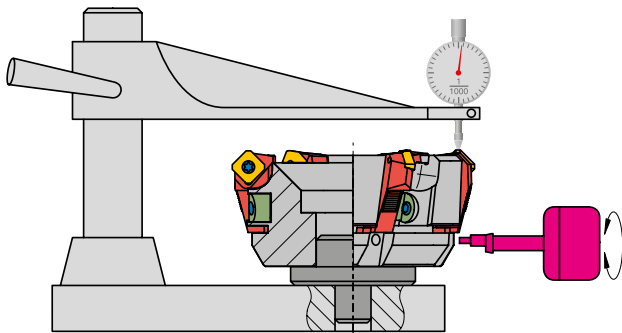


Pri montáži kazety natlačte na vybrúsenú dorazovú plochu radiálnej drážky. Čelná hádzavosť predstavuje 0,03 mm – merané na skúšobnej doske.

### Nastavenie čelnej hádzavosti pomocou excentrického kľúča a meracích hodínok popr. na optickom prístroji pre prednastavenie

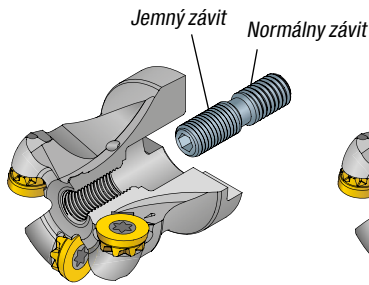
#### Presné nastavenie čelnej hádzavosti do 0,002 mm

- ▲ Očistite frézu.
- ▲ Upnite teleso frézy do vhodného nastavovacieho prípravku.
- ▲ Povoľte upínací klinok, dorazte kazetu na dorazovú plochu a zľahka dotiahnite upínací klinok.
- ▲ Excentrický kľúč zasunúť do otvoru a otočením kazety ho uložte do požadovanej polohy.
- ▲ Excentrický kľúč neustále udržiavajte v kontakte s kazetou, aby zostala v správnej polohe a dotiahnite upínací klinok (uťahovací moment 10 Nm).
- ▲ Nástroj je teraz pripravený pre použitie.

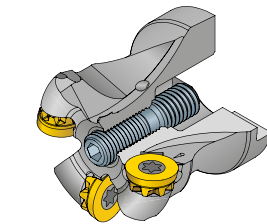




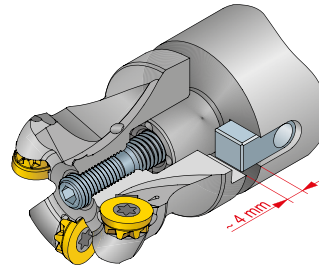
## Jednoduché a bezpečné upnutie – pomocou silovej skrutky CERATIZIT



Časť upínacej skrutky s jemným závitom sa zaskrutkuje do frézy.

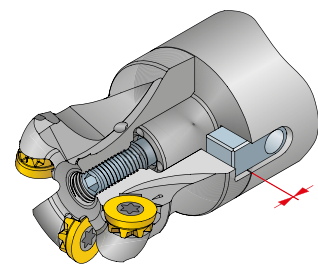


Upínacia skrutka sa dofahuje proti dorazu s citom (stav po dodaní nástroja).



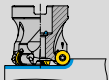
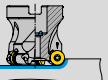
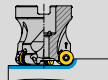
Aby sa zabezpečilo optimálne zaskrutkovanie, musí sa pred upnutím vytvoriť cca 4 mm medzera.

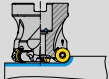
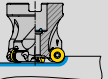
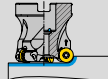
V kombinácii s normovaným štandardným upnutím je to zabezpečené automaticky. V prípade potreby je možné pomocou upínacej skrutky vykonať dodatočné nastavenie o 0,5 mm /otáčka.



Zaskrutkujte upínaciu skrutku a dotiahnite ju.

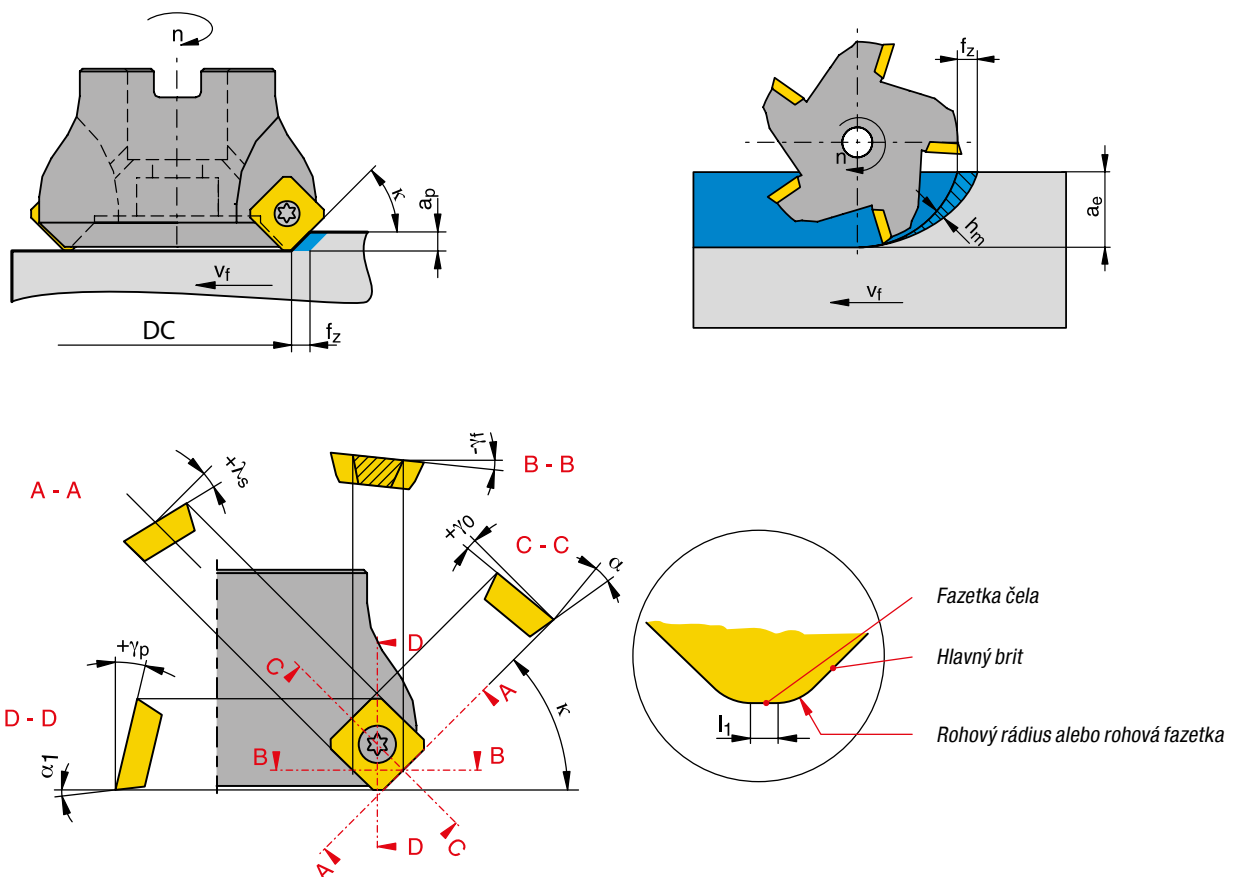
## Uťahovacie momenty upínacích skrutiek pre pripevnenie fréz na upínací trň

|                                                                                    |                        |                      |                                      |                                                                                    |                        |                      |                                      |                                                                                      |                        |                      |                                      |                      |
|------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------------------|------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------------------|--------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------------------|----------------------|
|  |                        |                      |                                      |  |                        |                      |                                      |  |                        |                      |                                      |                      |
| 10                                                                                 |                        |                      |                                      | 12                                                                                 |                        |                      |                                      | 16                                                                                   |                        |                      |                                      |                      |
| Ø frézy<br>mm                                                                      | Skrutka ISK<br>DIN 912 | M <sub>d</sub><br>Nm | Dofahovacia<br>skrutka<br>Artikel č. | M <sub>d</sub><br>Nm                                                               | Skrutka ISK<br>DIN 912 | M <sub>d</sub><br>Nm | Dofahovacia<br>skrutka<br>Artikel č. | M <sub>d</sub><br>Nm                                                                 | Skrutka ISK<br>DIN 912 | M <sub>d</sub><br>Nm | Dofahovacia<br>skrutka<br>Artikel č. | M <sub>d</sub><br>Nm |
| 40                                                                                 |                        |                      | 70 950 151                           | 10                                                                                 |                        |                      | 70 950 151                           | 10                                                                                   |                        |                      |                                      |                      |
| 42                                                                                 |                        |                      | 70 950 151                           | 10                                                                                 |                        |                      | 70 950 151                           | 10                                                                                   |                        |                      |                                      |                      |
| 50                                                                                 | M10x25                 | 80                   |                                      |                                                                                    | M10x25                 | 80                   |                                      |                                                                                      |                        |                      | 70 950 154                           | 15                   |
| 52                                                                                 |                        |                      |                                      |                                                                                    | M10x25                 | 80                   |                                      |                                                                                      |                        |                      | 70 950 154                           | 15                   |
| 63                                                                                 |                        |                      |                                      |                                                                                    | M10x25                 | 80                   |                                      |                                                                                      | M10x25                 | 80                   |                                      |                      |
| 66                                                                                 |                        |                      |                                      |                                                                                    | M10x25                 | 80                   |                                      |                                                                                      | M10x25                 | 80                   |                                      |                      |

|                                                                                     |                        |                      |                                      |                                                                                     |                        |                      |                                      |                                                                                       |                        |                      |                                      |                      |
|-------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------------------|-------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------------------|---------------------------------------------------------------------------------------|------------------------|----------------------|--------------------------------------|----------------------|
|  |                        |                      |                                      |  |                        |                      |                                      |  |                        |                      |                                      |                      |
| 12                                                                                  |                        |                      |                                      | 16                                                                                  |                        |                      |                                      | 20                                                                                    |                        |                      |                                      |                      |
| Ø frézy<br>mm                                                                       | Skrutka ISK<br>DIN 912 | M <sub>d</sub><br>Nm | Dofahovacia<br>skrutka<br>Artikel č. | M <sub>d</sub><br>Nm                                                                | Skrutka ISK<br>DIN 912 | M <sub>d</sub><br>Nm | Dofahovacia<br>skrutka<br>Artikel č. | M <sub>d</sub><br>Nm                                                                  | Skrutka ISK<br>DIN 912 | M <sub>d</sub><br>Nm | Dofahovacia<br>skrutka<br>Artikel č. | M <sub>d</sub><br>Nm |
| 80                                                                                  | M12x30                 | 140                  |                                      |                                                                                     | M12x30                 | 140                  |                                      |                                                                                       | M12x30                 | 140                  |                                      |                      |
| 100                                                                                 | M16x35                 | 180                  |                                      |                                                                                     | M16x35                 | 180                  |                                      |                                                                                       | M16x35                 | 180                  |                                      |                      |
| 125                                                                                 |                        |                      |                                      |                                                                                     | M16x35                 | 180                  |                                      |                                                                                       | M16x35                 | 180                  |                                      |                      |

|            |                                                        |                      |
|------------|--------------------------------------------------------|----------------------|
| $a_e$      | Šírka záberu                                           | mm                   |
| $a_p$      | Hĺbka rezu                                             | mm                   |
| DC         | Priemer frézy                                          | mm                   |
| $D_w$      | Priemer obrobnku                                       | mm                   |
| $f_z$      | Posuv na zub                                           | mm                   |
| $h_m$      | Stredná hrúbka triesky                                 | mm                   |
| ZNP        | Počet rad zubov                                        |                      |
| $k_c$      | Merná rezná sila                                       | N/mm <sup>2</sup>    |
| $k_{c1,1}$ | Merná rezná sila na 1 mm <sup>2</sup> priereze triesky | N/mm <sup>2</sup>    |
| BS         | Dĺžka fazetky čela                                     | mm                   |
| $m_c$      | Narastajúca hodnota mernej reznej sily                 |                      |
| n          | Otáčky vretena                                         | 1/min                |
| Q          | Objem odobraného materiálu                             | cm <sup>3</sup> /min |
| $v_c$      | Rezná rýchlosť                                         | m/min                |
| $v_f$      | Rýchlosť posuvu                                        | mm/min.              |
| ZNF        | Efektívny počet zubov                                  |                      |

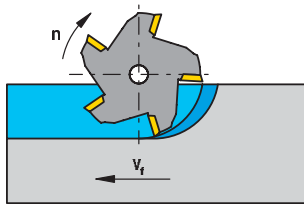
|             |                                       |        |
|-------------|---------------------------------------|--------|
| $V_0$       | Kolmý uhol čela (efektívny uhol čela) | stupeň |
| $V_f$       | Bočný uhol čela (radiálny uhol čela)  | stupeň |
| $V_p$       | Axiálny uhol čela                     | stupeň |
| $\kappa$    | Uhol nastavenia (uhol nábehu)         | stupeň |
| $\lambda_s$ | Uhol sklonu                           | stupeň |
| $\alpha$    | Uhol chrbta                           | stupeň |
| $\alpha_1$  | Uhol podbrúsenia fazetky čela         | stupeň |



## Príklady obrábania

## Výhodné

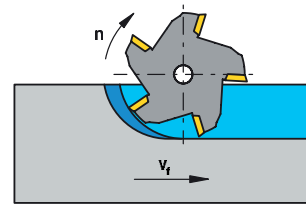
## Súbežné frézovanie



Smer posuvu obrobku je identický so smerom otáčania frézy v oblasti rezu. Hrúbka triesky je maximálna na začiatku rezu a ku koncu rezu sa znižuje až na nulu.

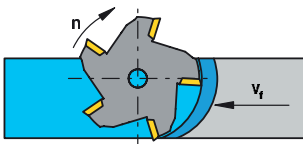
## Nevýhodné

## Protibežné frézovanie

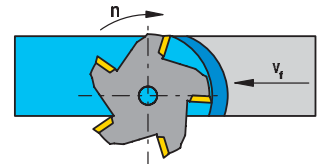


Smer posuvu obrobku je opačný oproti smeru otáčania frézy v oblasti rezu. Hrúbka triesky je na nule na začiatku rezu a zvyšuje sa až po maximálnu hodnotu na konci rezu.

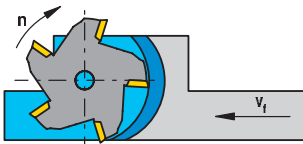
## Nastavenie frézy



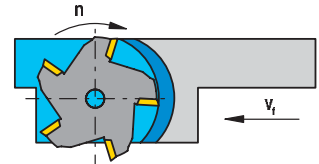
Fréza by mala, podľa možnosti, vystupovať z obrobku v tangenciálnom smere.



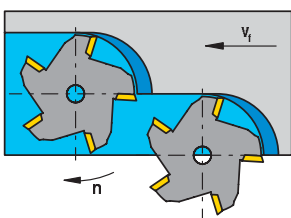
## Poloha obrobku



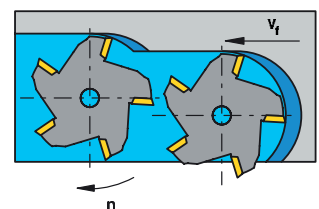
Podľa možnosti by sa mal obrobok upnúť tak, aby fréza mohla tangenciálne vychádzať po celej dĺžke obrábania.



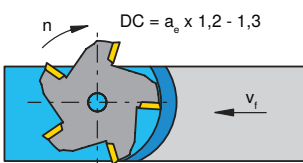
## Prekrývanie zubov



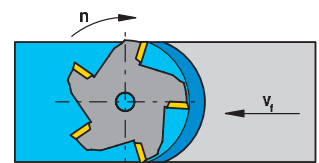
Buď zvolíte súbežné frézovanie alebo dbajte na vychádzanie frézy v tangenciálnom smere vid' príklad vľavo.



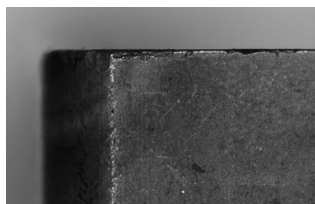
## Veľkosť frézy



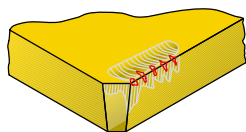
V prípade rovinného frézovania by mal byť priemer frézy o 20–30 % väčší ako obrábaná plocha.



## Poškodenie britu pri frézovaní



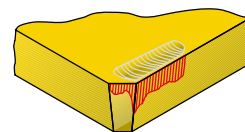
Vydrobovanie britu



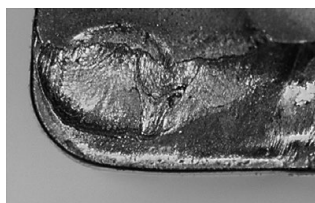
Rezná rýchlosť  
Posuv na zub  
Húževnatosť rezného materiálu  
Fazetka britu



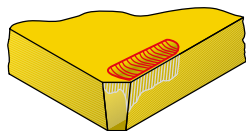
Opotrebovanie na chrbte



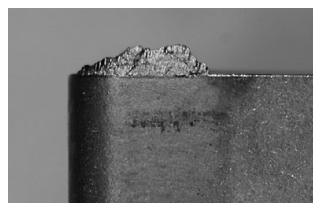
Rezná rýchlosť  
Posuv na zub  
Odolnosť rezného materiálu



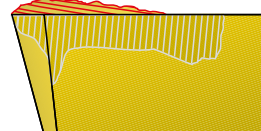
Vymieľanie



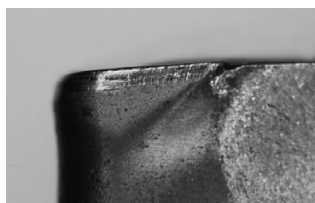
Rezná rýchlosť  
Posuv na zub  
Odolnosť rezného materiálu



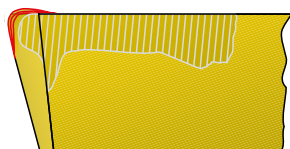
Tvorba nárastku



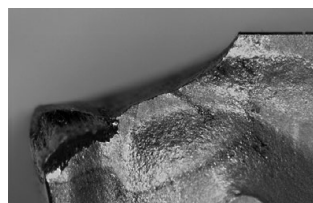
Rezná rýchlosť  
Posuv na zub  
Odolnosť rezného materiálu



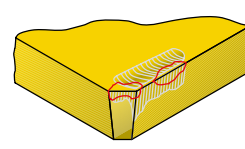
Deformácia britu



Rezná rýchlosť  
Posuv na zub  
Odolnosť rezného materiálu



Vylamovanie britu



Rezná rýchlosť  
Húževnatosť rezného materiálu



## Systém označovania vymeniteľných britových doštičiek na frézovanie podľa ISO

|   |   |   |   |    |    |    |   |   |   |     |    |   |    |
|---|---|---|---|----|----|----|---|---|---|-----|----|---|----|
| X | D | K | T | 11 | T3 | 08 | S | R | - | F50 |    |   |    |
| 1 | 2 | 3 | 4 | 5  | 6  | 7  | 8 | 9 |   | 10  |    |   |    |
| Z | N | H | W | 12 | 05 | PO | S | R | - | 15  | 06 | - | R  |
| 1 | 2 | 3 | 4 | 5  | 6  | 7  | 8 | 9 |   | 11  | 12 |   | 13 |

|   |               |
|---|---------------|
| 1 | Tvar doštičky |
| A | 85°           |
| B | 82°           |
| K | 55°           |
| H | 120°          |
| L | 90°           |
| O | 135°          |
| P | 108°          |
| C | 80°           |
| D | 55°           |
| E | 75°           |
| M | 86°           |
| V | 35°           |
| R |               |
| S | 90°           |
| T | 60°           |
| W | 80°           |
| X | Zvláštne      |
| Z | vyhotovenie   |

|   |             |
|---|-------------|
| 2 | Uhol chrpta |
|   | $\alpha$    |
| A | 3°          |
| B | 5°          |
| C | 7°          |
| D | 15°         |
| E | 20°         |
| F | 25°         |
| G | 30°         |
| N | 0°          |
| P | 11°         |
| O | Zvláštne    |
|   | vyhotovenie |

3

Tolerancie

|          | IC<br>±mm | BS<br>±mm | S<br>±mm | IC = 6,35 / 9,52 | IC = 12,7 | IC = 15,8 / 19,05 |
|----------|-----------|-----------|----------|------------------|-----------|-------------------|
| <b>A</b> | 0,025     | 0,005     | 0,025    | ●                | ●         | ●                 |
| <b>C</b> | 0,025     | 0,013     | 0,025    | ●                | ●         | ●                 |
| <b>E</b> | 0,025     | 0,025     | 0,025    | ●                | ●         | ●                 |
| <b>F</b> | 0,013     | 0,005     | 0,025    | ●                | ●         | ●                 |
| <b>G</b> | 0,025     | 0,025     | 0,13     | ●                | ●         | ●                 |
| <b>H</b> | 0,013     | 0,013     | 0,025    | ●                | ●         | ●                 |
| <b>J</b> | 0,05      | 0,005     | 0,025    | ●                |           |                   |
|          | 0,08      | 0,005     | 0,025    |                  | ●         |                   |
|          | 0,10      | 0,005     | 0,025    |                  |           | ●                 |
|          | 0,05      | 0,013     | 0,025    | ●                |           |                   |
| <b>K</b> | 0,08      | 0,013     | 0,02     |                  | ●         |                   |
|          | 0,10      | 0,013     | 0,02     |                  |           | ●                 |

|          | IC<br>±mm | BS<br>±mm | S<br>±mm | IC = 6,35 / 9,52 | IC = 12,7 | IC = 15,8 / 19,05 |
|----------|-----------|-----------|----------|------------------|-----------|-------------------|
| <b>M</b> | 0,05      | 0,08      | 0,13     | ●                |           |                   |
|          | 0,08      | 0,13      | 0,13     |                  | ●         |                   |
|          | 0,10      | 0,15      | 0,13     |                  |           | ●                 |
| <b>N</b> | 0,05      | 0,08      | 0,025    | ●                |           |                   |
|          | 0,08      | 0,13      | 0,025    |                  | ●         |                   |
|          | 0,10      | 0,15      | 0,025    |                  |           | ●                 |
| <b>U</b> | 0,08      | 0,13      | 0,13     | ●                |           |                   |
|          | 0,13      | 0,20      | 0,13     |                  | ●         |                   |
|          | 0,18      | 0,27      | 0,13     |                  |           | ●                 |

| 7            | Fazetka čela / Rohový rádius                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------|-----|-----|----|-----|----|-----|----|-----|----|-----|---|---------|---|-----|---|----|---|-----|---|---------|---|--|
|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
|              | <table border="1"> <thead> <tr> <th>Rádus</th><th>RE v mm</th></tr> </thead> <tbody> <tr> <td>M0*</td><td></td></tr> <tr> <td>02</td><td>0,2</td></tr> <tr> <td>04</td><td>0,4</td></tr> <tr> <td>08</td><td>0,8</td></tr> <tr> <td>12</td><td>1,2</td></tr> </tbody> </table>                                                                                                                                                                                                                       | Rádus        | RE v mm        | M0* |     | 02 | 0,2 | 04 | 0,4 | 08 | 0,8 | 12 | 1,2 |   |         |   |     |   |    |   |     |   |         |   |  |
| Rádus        | RE v mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| M0*          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| 02           | 0,2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| 04           | 0,4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| 08           | 0,8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| 12           | 1,2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
|              | <table border="1"> <thead> <tr> <th>1. označenie</th><th>K<sub>r</sub></th></tr> </thead> <tbody> <tr> <td>A</td><td>45°</td></tr> <tr> <td>D</td><td>60°</td></tr> <tr> <td>E</td><td>75°</td></tr> <tr> <td>F</td><td>85°</td></tr> <tr> <td>P</td><td>90°</td></tr> <tr> <td>Z</td><td>Ostatné</td></tr> </tbody> </table>                                                                                                                                                                        | 1. označenie | K <sub>r</sub> | A   | 45° | D  | 60° | E  | 75° | F  | 85° | P  | 90° | Z | Ostatné |   |     |   |    |   |     |   |         |   |  |
| 1. označenie | K <sub>r</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| A            | 45°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| D            | 60°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| E            | 75°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| F            | 85°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| P            | 90°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| Z            | Ostatné                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
|              | <table border="1"> <thead> <tr> <th>2. označenie</th><th><math>\alpha'_n</math></th></tr> </thead> <tbody> <tr> <td>A</td><td>3°</td></tr> <tr> <td>B</td><td>5°</td></tr> <tr> <td>C</td><td>7°</td></tr> <tr> <td>D</td><td>15°</td></tr> <tr> <td>E</td><td>20°</td></tr> <tr> <td>F</td><td>25°</td></tr> <tr> <td>G</td><td>30°</td></tr> <tr> <td>N</td><td>0°</td></tr> <tr> <td>P</td><td>11°</td></tr> <tr> <td>Z</td><td>Ostatné</td></tr> <tr> <td>O</td><td></td></tr> </tbody> </table> | 2. označenie | $\alpha'_n$    | A   | 3°  | B  | 5°  | C  | 7°  | D  | 15° | E  | 20° | F | 25°     | G | 30° | N | 0° | P | 11° | Z | Ostatné | O |  |
| 2. označenie | $\alpha'_n$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| A            | 3°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| B            | 5°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| C            | 7°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| D            | 15°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| E            | 20°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| F            | 25°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| G            | 30°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| N            | 0°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| P            | 11°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| Z            | Ostatné                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
| O            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |
|              | * Iba v prípade tvaru doštičky "R"                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                |     |     |    |     |    |     |    |     |    |     |   |         |   |     |   |    |   |     |   |         |   |  |

|   |                                                                                                                                                                                                                  |   |       |   |          |   |                       |   |            |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------|---|----------|---|-----------------------|---|------------|
| 8 | Hrana britu                                                                                                                                                                                                      |   |       |   |          |   |                       |   |            |
|   |                                                                                                                                                                                                                  |   |       |   |          |   |                       |   |            |
|   | <table border="1"> <tbody> <tr> <td>F</td><td>ostrá</td></tr> <tr> <td>E</td><td>zaoblené</td></tr> <tr> <td>S</td><td>fazetované a zaoblené</td></tr> <tr> <td>T</td><td>fazetované</td></tr> </tbody> </table> | F | ostrá | E | zaoblené | S | fazetované a zaoblené | T | fazetované |
| F | ostrá                                                                                                                                                                                                            |   |       |   |          |   |                       |   |            |
| E | zaoblené                                                                                                                                                                                                         |   |       |   |          |   |                       |   |            |
| S | fazetované a zaoblené                                                                                                                                                                                            |   |       |   |          |   |                       |   |            |
| T | fazetované                                                                                                                                                                                                       |   |       |   |          |   |                       |   |            |

|   |                                                                                                                                        |   |  |   |  |   |  |
|---|----------------------------------------------------------------------------------------------------------------------------------------|---|--|---|--|---|--|
| 9 | Smer rezania                                                                                                                           |   |  |   |  |   |  |
|   |                                                                                                                                        |   |  |   |  |   |  |
|   | <table border="1"> <tbody> <tr> <td>R</td><td></td></tr> <tr> <td>L</td><td></td></tr> <tr> <td>N</td><td></td></tr> </tbody> </table> | R |  | L |  | N |  |
| R |                                                                                                                                        |   |  |   |  |   |  |
| L |                                                                                                                                        |   |  |   |  |   |  |
| N |                                                                                                                                        |   |  |   |  |   |  |

**4**

**Charakteristické znaky**

|   |                      |
|---|----------------------|
| A |                      |
| F |                      |
| G |                      |
| M |                      |
| N |                      |
| Q |                      |
| R |                      |
| T |                      |
| U |                      |
| W |                      |
| X | Zvláštne vyhotovenie |

**5**

**Dĺžka reznej hrany**

| IC<br>mm | A  | T     | C/S | H  | L  | R  | V  | W  | O  | X  | Z  |
|----------|----|-------|-----|----|----|----|----|----|----|----|----|
| 4,90     |    |       |     |    |    |    |    |    |    | 07 |    |
| 5,00     |    |       |     |    |    | 05 |    |    |    |    |    |
| 5,56     |    |       | 05  |    | 08 |    |    | 03 |    |    |    |
| 6,00     |    |       |     |    |    |    |    |    |    |    |    |
| 6,35     |    | 11    | 06  |    | 10 |    |    | 04 |    | 06 |    |
| 6,65     | 10 |       |     |    |    |    |    |    |    |    |    |
| 6,80     |    |       |     |    |    |    |    |    |    | 11 |    |
| 7,00     |    |       |     |    |    |    |    |    |    |    | 04 |
| 7,94     |    |       | 07  |    |    |    |    |    |    |    |    |
| 8,00     |    |       |     |    |    | 08 |    |    |    |    |    |
| 9,00     |    |       |     |    | 12 |    |    |    |    |    |    |
| 9,30     |    |       |     |    |    |    |    |    |    | 15 |    |
| 9,52     | 16 | 16    | 09  |    | 15 |    |    | 06 | 04 |    |    |
| 9,57     | 15 |       |     |    |    |    |    |    |    |    |    |
| 9,60     |    |       |     |    |    |    |    |    |    | 09 |    |
| 10,00    |    |       | 10  |    | 11 | 10 |    |    |    |    | 12 |
| 12,00    |    |       |     |    |    | 12 |    |    |    |    |    |
| 12,50    |    |       |     |    |    |    |    |    |    | 20 |    |
| 12,70    |    | 12/22 | 12  |    | 20 |    | 22 | 08 |    | 12 |    |
| 15,81    |    |       | 15  |    | 22 |    |    | 10 |    |    |    |
| 16,00    |    |       |     |    |    | 16 |    |    |    |    |    |
| 16,20    |    |       |     | 09 |    |    |    |    |    |    |    |
| 16,74    |    |       | 16  |    |    |    |    |    |    |    |    |
| 17,00    |    |       | 17  |    |    |    |    |    |    |    |    |
| 17,18    |    |       |     |    |    |    |    |    | 06 |    |    |
| 18,18    |    |       |     |    |    |    |    |    | 07 |    |    |
| 19,05    |    |       | 19  |    |    |    |    | 13 |    |    |    |
| 20,00    |    |       |     |    |    | 20 |    |    |    |    |    |

**6**

**Hrúbka doštičky**

|    | S<br>mm |
|----|---------|
| 01 | 1,59    |
| T1 | 1,98    |
| 02 | 2,38    |
| 03 | 3,18    |
| T3 | 3,97    |
| 04 | 4,76    |
| 05 | 5,56    |
| 06 | 6,35    |
| 07 | 7,94    |
| 09 | 9,52    |

**10**

**Utvárač triesok**

**Označenie typu obrábania**  
F.. = jemné obrábanie  
M.. = stredne hrubé obrábanie  
R.. = hrubovanie

**dodatočná špecifikácia:**  
R = prechodový rádius – hlavný / vedľajší brit  
Q = masterfinish

**11**

**Údaj od výrobcu**

Dĺžka dokončovacieho britu

00 = 0,0 mm  
10 = 1,0 mm  
12 = 1,2 mm  
15 = 1,5 mm  
30 = 3,0 mm  
50 = 5,0 mm

**12**

**Údaj od výrobcu**

$a_{p\max}$

02 = 2,0 mm  
03 = 3,0 mm  
04 = 4,0 mm  
06 = 6,0 mm  
07 = 7,0 mm  
11 = 11,0 mm

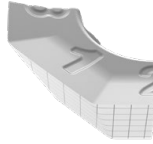
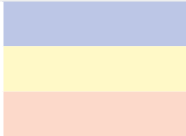
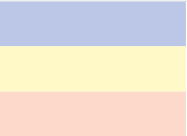
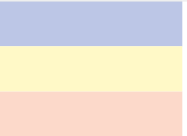
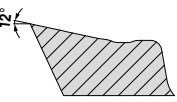
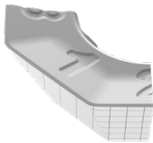
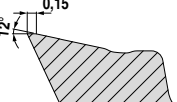
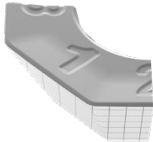
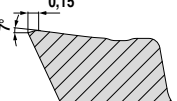
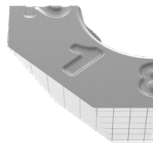
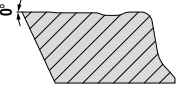
**13**

**Údaj od výrobcu**

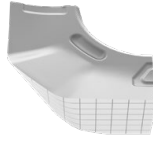
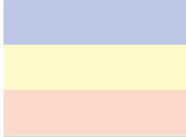
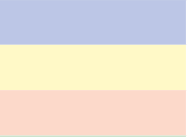
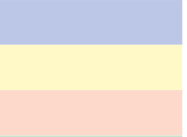
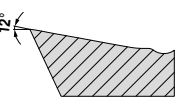
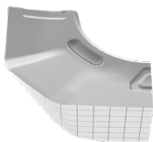
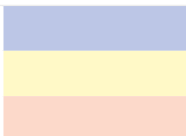
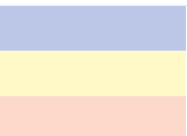
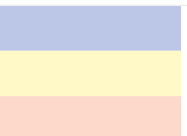
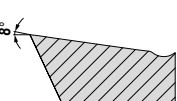
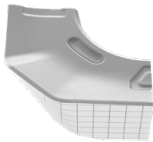
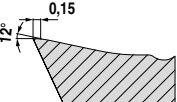
F = jemné obrábanie  
M = stredné obrábanie  
R = hrubé obrábanie

## Prehľad utváračov triesky

### MaxiMill 274 (OF..)

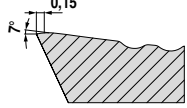
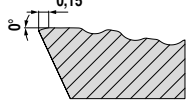
|                                                                                                                                       | Model                                                                               | Obrábanie                                                                                                     |                                                                                                                                |                                                                                                                | Rez                                                                                   | f <sub>z</sub> v mm |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                       |                                                                                     | jemná                                                                                                         | stredná                                                                                                                        | hrubá                                                                                                          |                                                                                       |                     |
| <b>-F10</b><br>▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Prvá voľba na neželezné kovy                                  |    | <br><b>CTWN215 (CWK4615)</b> | <br><b>CTWN215 (CWK4615)</b>                  | <br><b>CTWN215 (CWK4615)</b> |    | 0,05–0,40           |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele |    | <b>CTCP220/CTPP225 (DCX1220/DPX1225)</b><br><b>CTPM225/CTCM235 (DPX2225 /DCX2235)</b>                         | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b><br><b>CTPM225/CTCM235</b><br><b>CTPM240/CTPM245 (DPX2225/DCX2235 DPX2240/DPX2245)</b> | <b>CTPM240/CTPM245 (DPX2240/DPX2245)</b>                                                                       |    | 0,10–0,25           |
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                            |   |                                                                                                               | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b><br><b>CTPM240/CTPM225 (DPX2240/DPX2225)</b><br><b>CTCK215 (DCX3215)</b>               | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b><br><b>CTPM240 (DPX2240)</b><br><b>CTCK215 (DCX3215)</b>               |    | 0,10–0,30           |
| <b>EN</b><br>▲ Univerzálna geometria<br>▲ Malá rezná sila<br>▲ Prvá voľba pre dosiahnutie dobrej rovinnosti                           |  | <b>CTPM245 (DPX2245)</b>                                                                                      | <b>CTPM245 (DPX2245)</b>                                                                                                       |                                                                                                                |  | 0,10–0,25           |

### MaxiMill 274 (SF..)

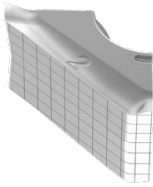
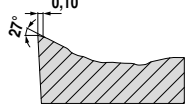
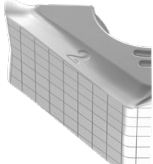
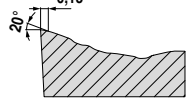
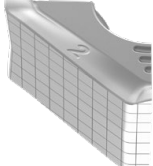
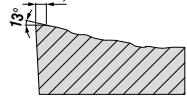
|                                                                                                                                                                |                                                                                     |                                                                                                                 |                                                                                                                                |                                                                                                                  |                                                                                       |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------|
| <b>-F10</b><br>▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Prvá voľba na neželezné kovy                                                           |  | <br><b>CTWN215 (CWK4615)</b> | <br><b>CTWN215 (CWK4615)</b>                | <br><b>CTWN215 (CWK4615)</b> |  | 0,05–0,40 |
| <b>-F40</b><br>▲ Pozitívna geometria<br>▲ Dokončovanie aj hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny |  | <br><b>CTC5240 (HCF5240)</b> | <br><b>CTC5240 (HCF5240)</b>                |                              |  | 0,10–0,25 |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele                          |  | <b>CTCP220/CTPP225 (DCX1220/DPX1225)</b><br><b>CTPM225/CTCM235 (DPX2225 /DCX2235)</b>                           | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b><br><b>CTPM225/CTCM235</b><br><b>CTPM240/CTPM245 (DPX2225/DCX2235 DPX2240/DPX2245)</b> | <b>CTPM240/CTPM245 (DPX2240/DPX2245)</b>                                                                         |  | 0,10–0,25 |

## Prehľad utváračov triesky

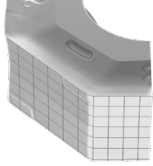
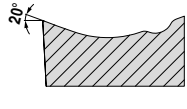
## MaxiMill 274 (SF..)

|                                                                                                          | Model                                                                             | Obrábanie                                          |                                                    |                                                    | Rez                                                                                 | f <sub>z</sub> v mm |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|
|                                                                                                          |                                                                                   | jemná                                              | stredná                                            | hrubá                                              |                                                                                     |                     |
| -M50<br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne      |  | <b>CTCP220/CTPP225</b><br><b>(DCX1220/DPX1225)</b> | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b> | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b> |  | 0,10–0,30           |
|                                                                                                          |                                                                                   | CTPM225<br>(DPX2225)                               | <b>CTPM225/CTPM240</b><br><b>(DPX2225/DPX2240)</b> | CTPM240<br>(DPX2240)                               |                                                                                     |                     |
|                                                                                                          |                                                                                   |                                                    |                                                    |                                                    |                                                                                     |                     |
|                                                                                                          |                                                                                   |                                                    |                                                    |                                                    |                                                                                     |                     |
| -R50<br>▲ Stabilná geometria<br>▲ Stredné hrubovanie<br>▲ Na prerušované rezy<br>▲ Prvá voľba na liatinu |  |                                                    |                                                    |                                                    |  | 0,10–0,35           |
|                                                                                                          |                                                                                   |                                                    | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b> | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b> |                                                                                     |                     |
|                                                                                                          |                                                                                   |                                                    |                                                    |                                                    |                                                                                     |                     |
|                                                                                                          |                                                                                   |                                                    |                                                    |                                                    |                                                                                     |                     |

## MaxiMill 271

|                                                                                                                                                    |                                                                                     |                                                    |                                                      |                                                    |                                                                                       |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------|-----------|
| -F50<br>▲ Pozitívna geometria<br>▲ Stredné hrubovanie<br>▲ V prípade nestabilného upnutia pri obrábaní ocele<br>▲ Prvá voľba na nehrdzavejúcu oceľ |   | <b>CTCP220/CTPP225</b><br><b>(DCX1220/DPX1225)</b> | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b>   | <b>CTPP235</b><br><b>(DPX1235)</b>                 |   | 0,20–0,30 |
|                                                                                                                                                    |                                                                                     | <b>CTCM235/CTPM225</b><br><b>(DCX2235/DPX2225)</b> | CTPM225/CTPM240/CTPM245<br>(DPX2225/DPX2240/DPX2245) | <b>CTPM245</b><br><b>(DPX2245)</b>                 |                                                                                       |           |
|                                                                                                                                                    |                                                                                     |                                                    |                                                      |                                                    |                                                                                       |           |
|                                                                                                                                                    |                                                                                     | <b>CTCS245/CTC5240</b><br><b>(HCF5240)</b>         | <b>CTCS245/CTC5240</b><br><b>(HCF5240)</b>           | <b>CTCS245/CTC5240</b><br><b>(HCF5240)</b>         |                                                                                       |           |
| -M50<br>▲ Univerzálna geometria<br>▲ Stredné až silné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                                |  | <b>CTCP220/CTPP225</b><br><b>(DCX1220/DPX1225)</b> | CTPP225/CTCP230/CTPP235<br>(DPX1225/DCX1230/DPX1235) | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b> |  | 0,20–0,50 |
|                                                                                                                                                    |                                                                                     |                                                    | CTPM225/CTCM235/CTPM240<br>(DPX2225/DCX2235/DPX2240) | <b>CTCM235/CTPM240</b><br><b>(DCX2235/DPX2240)</b> |                                                                                       |           |
|                                                                                                                                                    |                                                                                     |                                                    | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b>   | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b> |                                                                                       |           |
|                                                                                                                                                    |                                                                                     |                                                    |                                                      |                                                    |                                                                                       |           |
| -R50<br>▲ Stabilná geometria<br>▲ Silné hrubovanie<br>▲ Na značne prerušované rezy<br>▲ Prvá voľba na liatinu                                      |  |                                                    |                                                      |                                                    |  | 0,20–0,50 |
|                                                                                                                                                    |                                                                                     |                                                    | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b>   | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b> |                                                                                       |           |
|                                                                                                                                                    |                                                                                     |                                                    |                                                      |                                                    |                                                                                       |           |
|                                                                                                                                                    |                                                                                     |                                                    |                                                      |                                                    |                                                                                       |           |

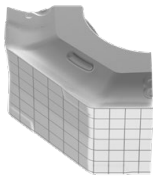
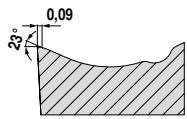
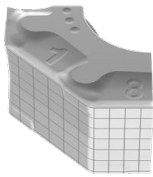
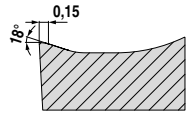
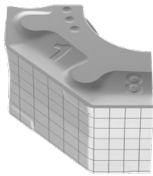
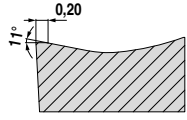
## MaxiMill 273

|                                                                                                                                                         |                                                                                     |                                    |                                    |                      |                                                                                       |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------|------------------------------------|----------------------|---------------------------------------------------------------------------------------|-----------|
| -F40<br>▲ Pozitívna geometria<br>▲ Dokončovanie aj hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny |  |                                    |                                    |                      |  | 0,20–0,25 |
|                                                                                                                                                         |                                                                                     | CTPM245<br>(DPX2245)               | CTPM245<br>(DPX2245)               |                      |                                                                                       |           |
|                                                                                                                                                         |                                                                                     |                                    |                                    |                      |                                                                                       |           |
|                                                                                                                                                         |                                                                                     | <b>CTC5240</b><br><b>(HCF5240)</b> | <b>CTC5240</b><br><b>(HCF5240)</b> | CTC5240<br>(HCF5240) |                                                                                       |           |

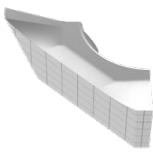
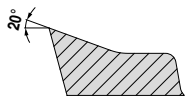
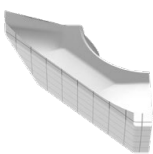
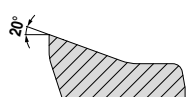
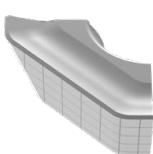
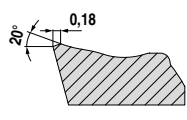


## Prehľad utváračov triesky

## MaxiMill 273

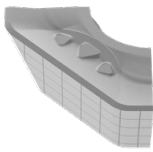
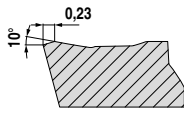
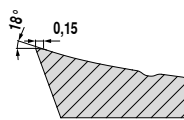
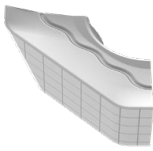
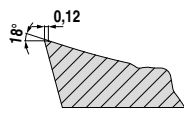
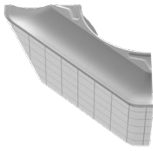
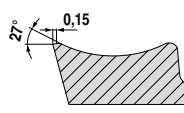
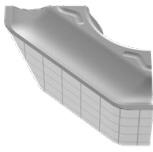
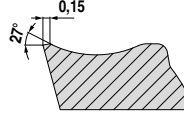
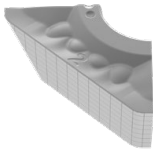
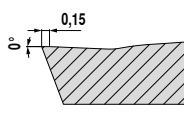
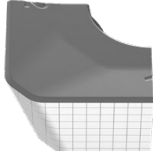
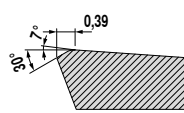
|                                                                                                                                       | Model                                                                              | Obrábanie                                          |                                                                        |                                                       | Rez                                                                                  | f <sub>z</sub> v mm |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                       |                                                                                    | jemná                                              | stredná                                                                | hrubá                                                 |                                                                                      |                     |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele |   | <b>CTCP220/CTPP225</b><br><b>(DCX1220/DPX1225)</b> | CTPP225/ <b>CTCP230</b> /CTPP235<br>(DPX1225/ <b>DCX1230</b> /DPX1235) |                                                       |   | 0,20–0,25           |
|                                                                                                                                       |                                                                                    | CTPM225/CTCM235<br>(DPX2225/DCX2235)               | CTPP225/ <b>CTPM240</b><br>(DPX1225/ <b>DPX2240</b> )                  | CTPM240<br>(DPX2240)                                  |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                            |   | <b>CTCP220/CTPP225</b><br><b>(DCX1220/DPX1225)</b> | CTPP225/ <b>CTCP230</b> /CTPP235<br>(DPX1225/ <b>DCX1230</b> /DPX1235) | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b>    |   | 0,20–0,50           |
|                                                                                                                                       |                                                                                    | CTPM225/CTCM235<br>(DPX2225/DCX2235)               | CTPP225/ <b>CTPM240</b><br>(DPX1225/ <b>DPX2240</b> )                  | CTCM235/ <b>CTPM240</b><br>(DCX2235/ <b>DPX2240</b> ) |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b>                     | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b>    |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
| <b>-R50</b><br>▲ Stabilná geometria<br>▲ Silné hrubovanie<br>▲ Na značne prerušované rezy<br>▲ Prvá voľba na liatinu                  |  |                                                    | CTCK215/CTPK220<br>(DCX3215/DPX3220)                                   | CTCK215/CTPK220<br>(DCX3215/DPX3220)                  |  | 0,20–0,50           |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b>                     | <b>CTCK215/CTPK220</b><br><b>(DCX3215/DPX3220)</b>    |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |
|                                                                                                                                       |                                                                                    |                                                    |                                                                        |                                                       |                                                                                      |                     |

## MaxiMill 270

|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------|-----------|
| <b>-27</b><br>▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Prvá voľba na neželezné kovy                                                    |  |                                                    |                                                       |                                                    |  | 0,05–0,40 |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     | <b>H216T</b><br><b>(CWK26)</b>                     | <b>H216T</b><br><b>(CWK26)</b>                        | <b>H216T</b><br><b>(CWK26)</b>                     |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
| <b>-27P</b><br>▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Nízka miera nalepovania materiálu na nástroj<br>▲ Prvá voľba na neželezné kovy |  |                                                    |                                                       |                                                    |  | 0,05–0,40 |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     | <b>H216T/AMZ</b><br><b>(CWK26/AMZ)</b>             | <b>H216T/AMZ</b><br><b>(CWK26/AMZ)</b>                | <b>H216T/AMZ</b><br><b>(CWK26/AMZ)</b>             |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
| <b>-29</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                              |  | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b> | CTCP230/ <b>CTPP235</b><br>(DCX1230/ <b>DPX1235</b> ) | <b>CTCP230/CTPP235</b><br><b>(DCX1230/DPX1235)</b> |  | 0,10–0,30 |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |
|                                                                                                                                                        |                                                                                     |                                                    |                                                       |                                                    |                                                                                       |           |

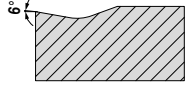
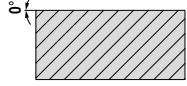
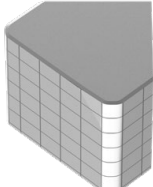
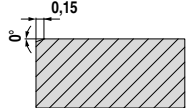
# 

### 

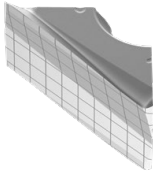
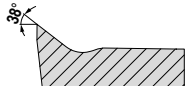
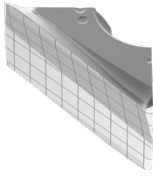
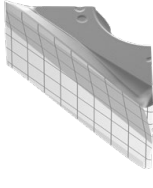
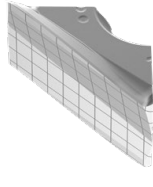
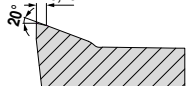
| Model                                                                                                                                                | Obrábanie                                                                           |                                      |                                      | Rez                                                                                   | f <sub>z</sub> v mm |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                                      | jemná                                                                               | stredná                              | hrubá                                |                                                                                       |                     |
| <b>-31</b><br>▲ Stabílňá geometria<br>▲ Silné hrubovanie<br>▲ Na značne prerušované rezy<br>▲ Prvá voľba na liatinu                                  |    |                                      |                                      |    | 0,10–0,35           |
|                                                                                                                                                      |                                                                                     | CTCK215<br>(DCX3215)                 | CTCK215<br>(DCX3215)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabílneho upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele                |    |                                      |                                      |    | 0,10–0,20           |
|                                                                                                                                                      |                                                                                     | CTPM245<br>(DPX2245)                 | CTPM245<br>(DPX2245)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      | CTPM245<br>(DPX2245)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     | CTCS245                              | CTCS245                              |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
| <b>-M31</b><br>▲ Pozitívna geometria<br>▲ Veľmi tichý chod<br>▲ Možnosť univerzálneho použitia<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny |   |                                      |                                      |   | 0,10–0,25           |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     | CTC5240<br>(HCF5240)                 | CTC5240<br>(HCF5240)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
| <b>-33</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ Prvá voľba pre nehrdzavejúcu oceľ                                                     |  |                                      |                                      |  | 0,10–0,25           |
|                                                                                                                                                      |                                                                                     | CTPM240<br>(DPX2240)                 | CTPM240<br>(DPX2240)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      | CTPM240<br>(DPX2240)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
| <b>-33P</b><br>▲ Pozitívna geometria<br>▲ Nízka miera nalepovania materiálu na nástroj<br>▲ Prvá voľba pre nehrdzavejúcu oceľ                        |  |                                      |                                      |  | 0,10–0,25           |
|                                                                                                                                                      |                                                                                     |                                      | CTPM240<br>(DPX2240)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      | CTPM240<br>(DPX2240)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                           |  |                                      |                                      |  | 0,20–0,60           |
|                                                                                                                                                      |                                                                                     | CTPP235<br>(DPX1235)                 | CTPP235<br>(DPX1235)                 |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
| <b>-R50</b><br>▲ Stabílňá geometria<br>▲ Stredné hrubovanie<br>▲ Na prerušované rezy<br>▲ Prvá voľba na liatinu                                      |  |                                      |                                      |  | 0,30–0,80           |
|                                                                                                                                                      |                                                                                     | CTCP230/CTPP235<br>(DCX1230/DPX1235) | CTCP230/CTPP235<br>(DCX1230/DPX1235) |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     | CTPM225                              | CTPM225                              |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     | CTCK215                              | CTCK215                              |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |
|                                                                                                                                                      |                                                                                     |                                      |                                      |                                                                                       |                     |

## Prehľad utváračov triesky

### MaxiMill HEC

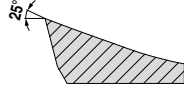
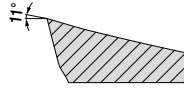
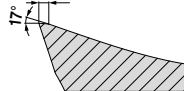
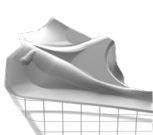
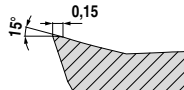
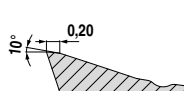
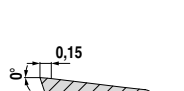
|      | Model                                                                             | Obrábanie                                                                      |                             |       | Rez                                                                                 | f <sub>z</sub> v mm |
|------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------------|-------|-------------------------------------------------------------------------------------|---------------------|
|      |                                                                                   | jemná                                                                          | stredná                     | hrubá |                                                                                     |                     |
| -R50 |  | <b>CTCK215</b><br>(DCX3215)                                                    | <b>CTPK220</b><br>(DPX3220) |       |  | 0,08–0,25           |
| -ER  |  | <b>CTEP210</b><br>(DCC1210)<br><br><b>CTCK215/CTEP210</b><br>(DCX3215/DCC1210) | <b>CTPK220</b><br>(DPX3220) |       |  | 0,08–0,30           |
| -SR  |  | <b>CTN3105/CTL3215</b><br>(CTS3105)                                            |                             |       |  | 0,10–0,25           |

### MaxiMill 491

|      |                                                                                     |                                                            |                                                                            |                                                                            |                                                                                       |           |
|------|-------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------|
| -F10 |  | <b>CTWN215</b><br>(CWK4615)<br><b>CTWN215</b><br>(CWK4615) | <b>CTWN215</b><br>(CWK4615)                                                | <b>CTWN215</b><br>(CWK4615)                                                |  | 0,05–0,25 |
| -F50 |  | <b>CTPM240</b><br>(DPX2240)                                | <b>CTPM240</b><br>(DPX2240)                                                |                                                                            |  | 0,10–0,20 |
| -M50 |  |                                                            | <b>CTCP230/CTPP235</b><br>(DCX1230/DPX1235)<br><b>CTPM240</b><br>(DPX2240) | <b>CTPP235/CTCP230</b><br>(DPX1235/DCX1230)<br><b>CTPM240</b><br>(DPX2240) |  | 0,10–0,25 |
| -R50 |  |                                                            | <b>CTCK215/CTPK220</b><br>(DCX3215/DPX3220)                                | <b>CTPK220/CTCK215</b><br>(DPX3220/DCX3215)                                |  | 0,10–0,30 |

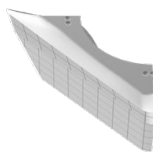
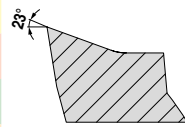
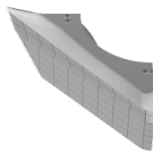
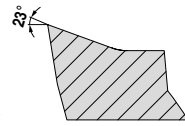
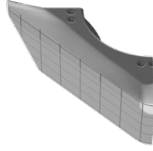
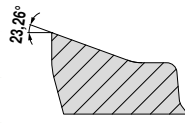
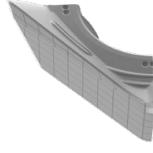
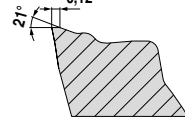
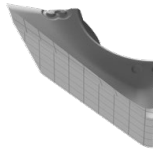
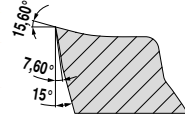
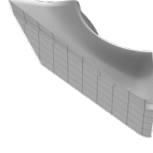
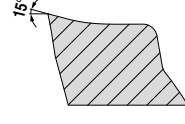
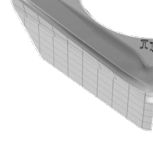
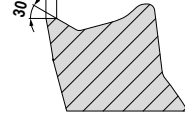
# 

### 

| Model                                                                                                                                                          | Obrábanie                                                                           |                                          |                                          | Rez                                      | f <sub>z</sub> v mm                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                                                                                                                                                | jemná                                                                               | stredná                                  | hrubá                                    |                                          |                                                                                                    |
| <b>-F20</b><br>▲ Vysoko pozitívna geometria<br>▲ Prvá voľba na neželezné kovy                                                                                  |    | <b>CTWN215 (CWK4615)</b>                 | <b>CTWN215 (CWK4615)</b>                 | <b>CTWN215 (CWK4615)</b>                 | <br>0,10–0,20   |
| <b>-F40</b><br>▲ Pozitívna geometria<br>▲ Dokončovanie aj hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny |    | <b>CTPM245</b>                           | <b>CTPM245</b>                           | <b>CTPM245</b>                           | <br>0,05–0,15   |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele                          |   | <b>CTCP220/CTPP225 (DCX1220/DPX1225)</b> | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b> | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b> | <br>0,10–0,20  |
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                                     |  | <b>CTCM235/CTPM225 (DCX2235/DPX2225)</b> | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b> | <b>CTCP230/CTPP235 (DCX1230/DPX1235)</b> | <br>0,10–0,25 |
| <b>-R50</b><br>▲ Stabilná geometria<br>▲ Silné hrubovanie<br>▲ Na značne prerušované rezy<br>▲ Prvá voľba na liatinu                                           |  | <b>CTCK215 (DCX3215)</b>                 | <b>CTCK215 (DCX3215)</b>                 | <b>CTCK215 (DCX3215)</b>                 | <br>0,10–0,30 |
| <b>-R60</b><br>▲ Vysoko stabilná geometria<br>▲ V prípade stabilného upnutia<br>▲ Prvá voľba pre obrábanie tvrdých materiálov                                  |  | <b>CTP6215 (CCN6215)</b>                 | <b>CTP6215 (CCN6215)</b>                 | <b>CTP6215 (CCN6215)</b>                 | <br>0,05–0,20 |

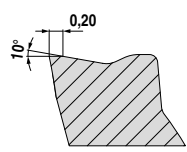
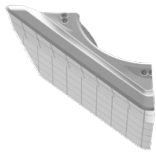
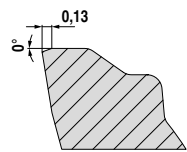
## Prehľad utváračov triesky

## MaxiMill 490

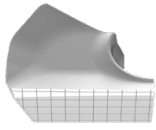
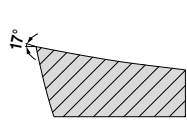
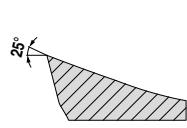
| MaxiMill 490                                                                                                                            | Model                                                                               | Obrábanie                |                                      |                                      | Rez                                                                                   | f <sub>z</sub> v mm |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|--------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                         |                                                                                     | jemná                    | stredná                              | hrubá                                |                                                                                       |                     |
| -27                                                                                                                                     |    |                          |                                      |                                      |    | 0,10–0,20           |
| ▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Na dokončovacie obrábanie zliatin titanu                                       |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     | CTC5240<br>(HCF5240)     | CTC5240<br>(HCF5240)                 |                                      |                                                                                       |                     |
| -27P                                                                                                                                    |    |                          |                                      |                                      |    | 0,08–0,35           |
| ▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Nízka miera nalepovania materiálu na nástroj<br>▲ Prvá voľba na neželezné kovy |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     | AMZ/H216T<br>(AMZ/CWK26) |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     | AMZ/H216T<br>(AMZ/CWK26) | AMZ/H216T<br>(AMZ/CWK26)             | AMZ/H216T<br>(AMZ/CWK26)             |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
| -F10                                                                                                                                    |   |                          |                                      |                                      |   | 0,05–0,20           |
| ▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Na žiaruvzdorné materiály                          |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     | CTCS245                  | CTCS245                              |                                      |                                                                                       |                     |
| -29                                                                                                                                     |  |                          | CTCP230/CTPP235<br>(DCX1230/DPX1235) | CTCP230/CTPP235<br>(DCX1230/DPX1235) |  | 0,10–0,25           |
| ▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                             |                                                                                     |                          | CTPM240<br>(DPX2240)                 |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
| -F50                                                                                                                                    |  | CTPM245<br>(DPX2245)     | CTPM245<br>(DPX2245)                 |                                      |  | 0,10–0,20           |
| ▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele                  |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     | CTCS245                  | CTCS245                              |                                      |                                                                                       |                     |
| -M31                                                                                                                                    |  |                          |                                      |                                      |  | 0,10–0,20           |
| ▲ Pozitívna geometria<br>▲ Možnosť univerzálneho použitia<br>▲ Veľmi tichý chod<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny   |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     | CTC5240<br>(HCF5240)     | CTC5240<br>(HCF5240)                 |                                      |                                                                                       |                     |
| -33                                                                                                                                     |  |                          | CTPM240<br>(DPX2240)                 | CTPM240<br>(DPX2240)                 |  | 0,10–0,20           |
| ▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ Prvá voľba pre nehrdzavejúcu oceľ                                                      |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |
|                                                                                                                                         |                                                                                     |                          |                                      |                                      |                                                                                       |                     |

## Prehľad utváračov triesky

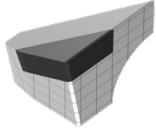
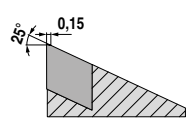
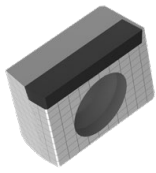
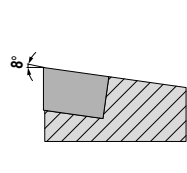
## MaxiMill 490

|                                                    | Model                                                                             | Obrábanie                |                                          |                              | Rez                                                                                 | f <sub>z</sub> v mm |
|----------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|---------------------|
|                                                    |                                                                                   | jemná                    | stredná                                  | hrubá                        |                                                                                     |                     |
| -31                                                |  |                          |                                          |                              |  | 0,10–0,30           |
| ▲ Stabílňá geometria                               |                                                                                   |                          |                                          |                              |                                                                                     |                     |
| ▲ Silné hrubovanie                                 |                                                                                   |                          |                                          |                              |                                                                                     |                     |
| ▲ Na značne prerušované rezy                       |                                                                                   |                          | <b>CTCK215<br/>(DCX3215)</b>             | <b>CTCK215<br/>(DCX3215)</b> |                                                                                     |                     |
| ▲ Prvá voľba na liatinu                            |                                                                                   |                          |                                          |                              |                                                                                     |                     |
| -SR                                                |  | <b>TCM10<br/>(CWC10)</b> | <b>TCM10/CTPP235<br/>(CWC10/DPX1235)</b> | <b>CTPP235<br/>(DPX1235)</b> |  | 0,05–0,25           |
| ▲ Stabílňá geometria                               |                                                                                   | TCM10<br>(CWC10)         |                                          |                              |                                                                                     |                     |
| ▲ Ľahké až stredné dokončovanie                    |                                                                                   | TCM10<br>(CWC10)         |                                          |                              |                                                                                     |                     |
| ▲ Vykonané vyladenie pre Cermet ako rezný materiál |                                                                                   |                          |                                          |                              |                                                                                     |                     |
| ▲ Na oceľ                                          |                                                                                   |                          |                                          |                              |                                                                                     |                     |

## MaxiMill HSC/HPC

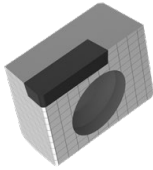
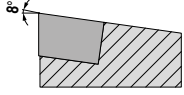
|                                                |                                                                                     |                              |                              |                              |                                                                                       |           |
|------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|---------------------------------------------------------------------------------------|-----------|
| -27P                                           |  |                              |                              |                              |  | 0,05–0,35 |
| ▲ Vysoko pozitívna geometria                   |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Ostrá rezná hrana                            |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Nízka miera nalepovania materiálu na nástroj |                                                                                     | <b>H216T<br/>(CWK26)</b>     |                              |                              |                                                                                       |           |
| ▲ Prvá voľba na neželezné kovy                 |                                                                                     | <b>H216T<br/>(CWK26)</b>     | <b>H216T<br/>(CWK26)</b>     | <b>H216T<br/>(CWK26)</b>     |                                                                                       |           |
| -F20                                           |  |                              |                              |                              |  | 0,10–0,20 |
| ▲ Vysoko pozitívna geometria                   |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Prvá voľba na neželezné kovy                 |                                                                                     |                              |                              |                              |                                                                                       |           |
|                                                |                                                                                     | <b>CTWN215<br/>(CWK4615)</b> | <b>CTWN215<br/>(CWK4615)</b> | <b>CTWN215<br/>(CWK4615)</b> |                                                                                       |           |
|                                                |                                                                                     |                              |                              |                              |                                                                                       |           |

## MaxiMill HPC

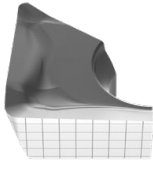
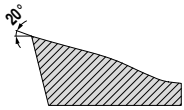
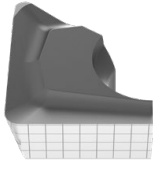
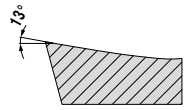
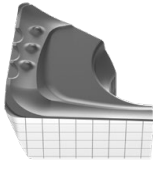
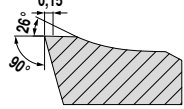
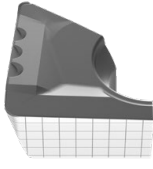
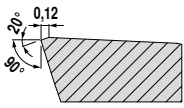
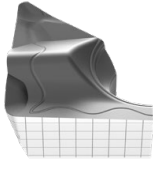
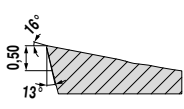
|                                                  |                                                                                     |                              |                              |                              |                                                                                       |           |
|--------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|---------------------------------------------------------------------------------------|-----------|
| -SR                                              |  |                              |                              |                              |  | 0,10–0,30 |
| ▲ Vysoko pozitívna geometria                     |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Možnosť univerzálneho použitia                 |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Nízke rezné sily                               |                                                                                     | <b>CTD4205<br/>(CWD4205)</b> | <b>CTD4205<br/>(CWD4205)</b> | <b>CTD4205<br/>(CWD4205)</b> |                                                                                       |           |
| ▲ Minimálne vytváranie ostrapov                  |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Vysoká kvalita povrchu                         |                                                                                     |                              |                              |                              |                                                                                       |           |
| -ER                                              |  |                              |                              |                              |  | 0,10–0,35 |
| ▲ Pozitívna geometria                            |                                                                                     |                              |                              |                              |                                                                                       |           |
| ▲ Stredné až silné hrubovanie                    |                                                                                     | <b>CTL3215<br/>(CWB3215)</b> | <b>CTL3215<br/>(CWB3215)</b> |                              |                                                                                       |           |
| ▲ Menšia tvorba ostrapov                         |                                                                                     | <b>CTD4205<br/>(CWD4205)</b> | <b>CTD4205<br/>(CWD4205)</b> | <b>CTD4205<br/>(CWD4205)</b> |                                                                                       |           |
| ▲ Dokončovacie obrábanie liatiny a kalenej ocele |                                                                                     |                              |                              |                              |                                                                                       |           |
|                                                  |                                                                                     | <b>CTL3215<br/>(CWB3215)</b> |                              |                              |                                                                                       |           |

## Prehľad utváračov triesky

## MaxiMill HPC

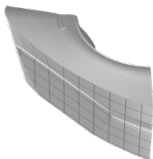
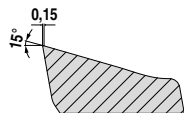
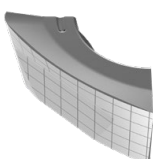
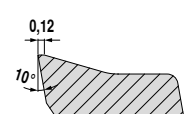
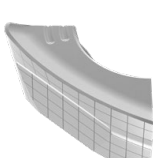
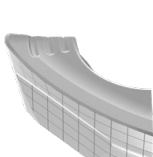
|                               | Model                                                                             | Obrábanie                   |                             |                             | Rez                                                                                 | f <sub>z</sub> v mm |
|-------------------------------|-----------------------------------------------------------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------------------------------------------------------------|---------------------|
|                               |                                                                                   | jemná                       | stredná                     | hrubá                       |                                                                                     |                     |
| -FR                           |  |                             |                             |                             |  | 0,10–0,35           |
| ▲ Pozitívna geometria         |                                                                                   |                             |                             |                             |                                                                                     |                     |
| ▲ Stredné až silné hrubovanie |                                                                                   |                             |                             |                             |                                                                                     |                     |
| ▲ Menšia tvorba ostrapov      |                                                                                   |                             |                             |                             |                                                                                     |                     |
|                               |                                                                                   | <b>CTD4205</b><br>(CWD4205) | <b>CTD4205</b><br>(CWD4205) | <b>CTD4205</b><br>(CWD4205) |                                                                                     |                     |

## MaxiMill 141/241/242

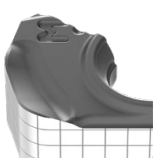
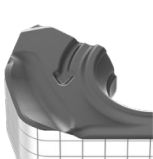
|                                                    |                                                                                     |                             |                                             |                                             |                                                                                       |           |
|----------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------|-----------|
| -27P                                               |    |                             |                                             |                                             |    | 0,05–0,25 |
| ▲ Vysoko pozitívna geometria                       |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Ostrá rezná hrana                                |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Nízka miera nalepovania materiálu na nástroj     |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Prvá voľba na neželezné kovy                     |                                                                                     | <b>H216T</b><br>(CWK26)     | <b>H216T</b><br>(CWK26)                     | <b>H216T</b><br>(CWK26)                     |                                                                                       |           |
| -29                                                |   |                             | <b>CTCP230/CTPP235</b><br>(DCX1230/DPX1235) | <b>CTCP230/CTPP235</b><br>(DCX1230/DPX1235) |  | 0,10–0,30 |
| ▲ Univerzálna geometria                            |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Ľahké až stredné hrubovanie                      |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Prvá voľba pre oceľ všeobecne                    |                                                                                     |                             |                                             |                                             |                                                                                       |           |
|                                                    |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| -33                                                |  |                             | <b>CTPM240</b><br>(DPX2240)                 | <b>CTPM240</b><br>(DPX2240)                 |  | 0,10–0,30 |
| ▲ Pozitívna geometria                              |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Ľahké hrubovanie                                 |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Prvá voľba pre nehrdzavejúcu oceľ                |                                                                                     |                             |                                             |                                             |                                                                                       |           |
|                                                    |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| -SR                                                |  |                             | <b>CTCP230</b><br>(DCX1230)                 | <b>CTCP230</b><br>(DCX1230)                 |  | 0,15–0,35 |
| ▲ Stabilná geometria                               |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Ľahké až stredné dokončovanie                    |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Vykonané vyladenie pre Cermet ako rezný materiál |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Na oceľ                                          |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| -ER                                                |  |                             |                                             |                                             |  | 0,10–0,25 |
| ▲ Pozitívna geometria                              |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Dokončovanie aj hrubovanie                       |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ V prípade nestabilného upnutia                   |                                                                                     |                             |                                             |                                             |                                                                                       |           |
| ▲ Na žiaruvzdorné materiály, titán a superzliatiny |                                                                                     | <b>CTC5240</b><br>(HCF5240) | <b>CTC5240</b><br>(HCF5240)                 | <b>CTC5240</b><br>(HCF5240)                 |                                                                                       |           |

## Prehľad utváračov triesky

### MaxiMill HFC

| Model                                                                                                                                                          | Obrábanie                                                                           |                                                      |                                                      | Rez                                                                                 | f <sub>z</sub> v mm |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                                                | jemná                                                                               | stredná                                              | hrubá                                                |                                                                                     |                     |
| <b>-F40</b><br>▲ Pozitívna geometria<br>▲ Dokončovanie aj hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny |    |                                                      |                                                      |  | 0,20–1,25           |
|                                                                                                                                                                |                                                                                     | CTPM245<br>(DPX2245)                                 | CTPM245<br>(DPX2245)                                 |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                | CTC5240/CTCS245<br>(HCF5240)                                                        | CTC5240/CTCS245<br>(HCF5240)                         | CTC5240/CTCS245<br>(HCF5240)                         |                                                                                     |                     |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Na žiaruvzdorné materiály                                  |    |                                                      |                                                      |  | 0,20–1,50           |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                | CTC5240/CTCS245<br>(HCF5240)                                                        | CTC5240/CTCS245<br>(HCF5240)                         | CTC5240/CTCS245<br>(HCF5240)                         |                                                                                     |                     |
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                                     |   | CTCP220/CTPP225/CTCP230<br>(DCX1220/DPX1225/DCX1230) | CTPP225/CTCP230/CTPP235<br>(DPX1225/DCX1230/DPX1235) | CTCP230/CTPP235<br>(DCX1230/DPX1235)                                                | 0,50–3,00           |
|                                                                                                                                                                |                                                                                     | CTPM225<br>(DPX2225)                                 | CTCM235/CTPM240/CTPM245<br>(DCX2235/DPX2240/DPX2245) | CTPM240/CTPM245<br>(DPX2240/DPX2245)                                                |                     |
|                                                                                                                                                                |                                                                                     |                                                      | CTCK215<br>(DCX3215)                                 | CTCK215<br>(DCX3215)                                                                |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
| <b>-R50</b><br>▲ Stabilná geometria<br>▲ V prípade stabilných podmienok pre obrábanie<br>▲ Prvá voľba na značne prerušované rezy<br>▲ Na oceľ všeobecne        |  |                                                      | CTPP235<br>(DPX1235)                                 | CTPP235<br>(DPX1235)                                                                | 0,50–3,00           |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |
|                                                                                                                                                                |                                                                                     |                                                      |                                                      |                                                                                     |                     |

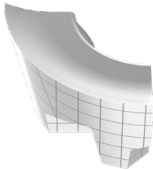
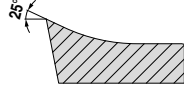
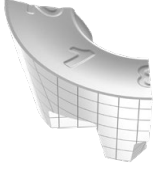
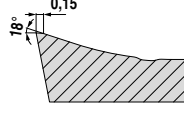
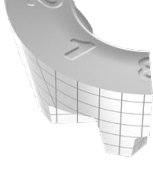
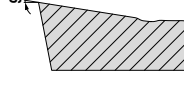
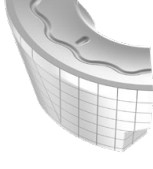
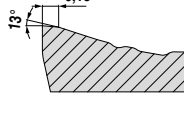
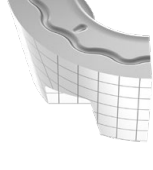
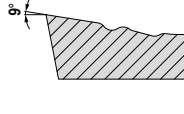
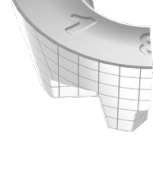
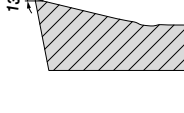
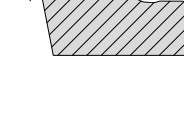
### DHFC

|                                                                                                                                                         |                                                                                     |         |                 |                 |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|-----------------|-----------------|-----------|
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                              |  | CTPP236 | CTPP236         | CTPP236         | 0,25–1,20 |
|                                                                                                                                                         |                                                                                     | CTPM241 | CTPM241         | CTPM241         |           |
|                                                                                                                                                         |                                                                                     |         |                 |                 |           |
|                                                                                                                                                         |                                                                                     |         |                 |                 |           |
|                                                                                                                                                         |                                                                                     |         |                 |                 |           |
| <b>-R50</b><br>▲ Stabilná geometria<br>▲ V prípade stabilných podmienok pre obrábanie<br>▲ Prvá voľba na značne prerušované rezy<br>▲ Na oceľ všeobecne |  |         | CTPP231/CTPP236 | CTPP231/CTPP236 | 0,30–1,20 |
|                                                                                                                                                         |                                                                                     |         |                 |                 |           |
|                                                                                                                                                         |                                                                                     |         | CTPK221         | CTPK221         |           |
|                                                                                                                                                         |                                                                                     |         |                 |                 |           |
|                                                                                                                                                         |                                                                                     |         |                 |                 |           |



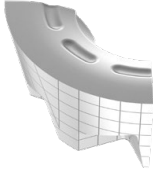
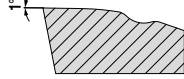
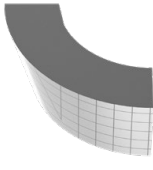
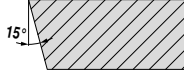
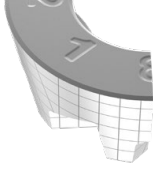
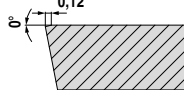
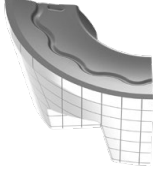
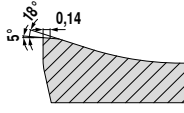
## Prehľad utváračov triesky

## MaxiMill 251

|                                                                                                                                                 | Model                                                                               | Obrábanie                                            |                                                      |                                                      | Rez                                                                                   | f <sub>z</sub> v mm |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                                 |                                                                                     | jemná                                                | stredná                                              | hrubá                                                |                                                                                       |                     |
| -27P<br>▲ Vysoko pozitívna geometria<br>▲ Ostrá rezná hrana<br>▲ Nízka miera nalepovania materiálu na nástroj<br>▲ Prvá voľba na neželezné kovy |    |                                                      |                                                      |                                                      |    | 0,05–0,40           |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     | H216T<br>(CWK26)                                     |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     | H216T<br>(CWK26)                                     | H216T<br>(CWK26)                                     | H216T<br>(CWK26)                                     |                                                                                       |                     |
| -F50<br>▲ Pozitívna geometria<br>▲ Nízke rezné sily<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na austenitické nehrdzavejúce ocele     |    | CTCP230/CTPP235<br>(DCX1230/DPX1235)                 | CTCP230/CTPP235<br>(DCX1230/DPX1235)                 |                                                      |    | 0,08–0,35           |
|                                                                                                                                                 |                                                                                     | CTPP225/CTCM235/CTPM240<br>(DPX1225/DCX2235/DPX2240) | CTPP225/CTCM235/CTPM240<br>(DPX1225/DCX2235/DPX2240) | CTCM235/CTPM240<br>(DCX2235/DPX2240)                 |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     | CTCS245                                              | CTCS245                                              | CTCS245                                              |                                                                                       |                     |
| -M30<br>▲ Stredné hrubovanie<br>▲ Spojenie nízkej reznej sily a stability<br>▲ Prvá voľba na martenzitické nehrdzavejúce ocele                  |   |                                                      | CTPP235<br>(DPX1235)                                 | CTPP235<br>(DPX1235)                                 |   | 0,08–0,35           |
|                                                                                                                                                 |                                                                                     | CTPP225/CTCM235/CTPM240<br>(DPX1225/DCX2235/DPX2240) | CTPP225/CTCM235/CTPM240<br>(DPX1225/DCX2235/DPX2240) | CTPP225/CTCM235/CTPM240<br>(DPX1225/DCX2235/DPX2240) |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
| -M31<br>▲ Pozitívna geometria<br>▲ Možnosť univerzálneho použitia<br>▲ Veľmi tichý chod<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny   |  |                                                      |                                                      |                                                      |  | 0,08–0,35           |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     | CTC5240<br>(HCF5240)                                 | CTC5240<br>(HCF5240)                                 | CTC5240<br>(HCF5240)                                 |                                                                                       |                     |
| -M32<br>▲ Stredné hrubovanie<br>▲ Nízka rezná sila a dobrá stabilita<br>▲ Prvá voľba na martenzitické nehrdzavejúce ocele                       |  |                                                      |                                                      |                                                      |  | 0,08–0,35           |
|                                                                                                                                                 |                                                                                     | CTPM245<br>(DPX2245)                                 | CTPM245<br>(DPX2245)                                 | CTPM245<br>(DPX2245)                                 |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
| -M50<br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                             |  | CTCP230/CTPP235<br>(DCX1230/DPX1235)                 | CTCP230/CTPP235<br>(DCX1230/DPX1235)                 | CTCP230/CTPP235<br>(DCX1230/DPX1235)                 |  | 0,10–0,40           |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
| -R30<br>▲ Stabilná geometria<br>▲ Silné hrubovanie<br>▲ Značne prerušované rezy<br>▲ Prvá voľba na liatinu                                      |  |                                                      |                                                      |                                                      |  | 0,10–0,40           |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      | CTCK215<br>(DCX3215)                                 | CTCK215<br>(DCX3215)                                 |                                                                                       |                     |
|                                                                                                                                                 |                                                                                     |                                                      |                                                      |                                                      |                                                                                       |                     |

# 

### MaxiMill 251

|                                                                                                                                                         | Model                                                                               | Obrábanie                                                                                                       |                                                                                                                |                                                                                                    | Rez                                                                                   | f <sub>z</sub> v mm |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                                         |                                                                                     | jemná                                                                                                           | stredná                                                                                                        | hrubá                                                                                              |                                                                                       |                     |
| <b>-R60</b><br>▲ Vysoko stabilná geometria<br>▲ V prípade stabilného upnutia<br>▲ Prvá voľba pre obrábanie tvrdých materiálov                           |    |                                                                                                                 |                                                                                                                |                                                                                                    |    | 0,05–0,35           |
|                                                                                                                                                         |                                                                                     | <b>CTP6215</b><br>(CCN6215)                                                                                     | <b>CTP6215</b><br>(CCN6215)                                                                                    | <b>CTP6215</b><br>(CCN6215)                                                                        |                                                                                       |                     |
| <b>-FN</b><br>▲ Vysoko pozitívna geometria<br>▲ Prvá voľba na neželezné kovy                                                                            |    |                                                                                                                 |                                                                                                                |                                                                                                    |    | 0,10–0,40           |
|                                                                                                                                                         |                                                                                     | <b>H216T</b><br>(CWK26)                                                                                         | <b>H216T</b><br>(CWK26)                                                                                        | <b>H216T</b><br>(CWK26)                                                                            |                                                                                       |                     |
| <b>-SN</b><br>▲ Robustná vymeniteľná britová doštička<br>▲ V prípade nestabilných podmienok pre obrábanie<br>▲ Prvá voľba pre obrábanie liatiny a ocele |   | <b>TCM10/CTCP230</b><br>(CWC10/DCX1230)<br>TCM10/CTPM225<br>(CWC10/DPX2225)<br>TCM10/CTCK215<br>(CWC10/DCX3215) | TCM10/CTCP230/CTPP235<br>(CWC10/DCX1230/DPX1235)<br><b>CTPM225</b><br>(DPX2225)<br><b>CTCK215</b><br>(DCX3215) | <b>CTCP230/CTPP235</b><br>(DCX1230/DPX1235)<br>CTPM225<br>(DPX2225)<br><b>CTCK215</b><br>(DCX3215) |   | 0,10–0,40           |
| <b>-EN</b><br>▲ Univerzálna geometria<br>▲ Malá rezná sila<br>▲ Prvá voľba pre dosiahnutie dobrej rovinnosti                                            |  | <b>CTCK215</b><br>(DCX3215)                                                                                     | <b>CTCK215</b><br>(DCX3215)                                                                                    | <b>CTCK215</b><br>(DCX3215)                                                                        |  | 0,15–0,50           |

# 

### MaxiMill 252

|                                                                                                                                                      | Model | Obrábanie         |                          |                          | Rez | f <sub>z</sub> v mm |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------|--------------------------|--------------------------|-----|---------------------|
|                                                                                                                                                      |       | jemná             | stredná                  | hrubá                    |     |                     |
| <b>-F50</b><br>▲ Pozitívna geometria<br>▲ Ľahké hrubovanie<br>▲ V prípade nestabilného upnutia<br>▲ Prvá voľba na nehrdzavejúce ocele                |       |                   | <b>CTPM240 (DPX2240)</b> | CTPM240 (DPX2240)        |     | 0,08-0,35           |
| <b>-M31</b><br>▲ Pozitívna geometria<br>▲ Možnosť univerzálneho použitia<br>▲ Veľmi tichý chod<br>▲ Na žiaruvzdorné materiály, titán a superzliatiny |       | CTPM245 (DPX2245) | <b>CTPM245 (DPX2245)</b> | <b>CTPM245 (DPX2245)</b> |     | 0,08-0,35           |
| <b>-M32</b><br>▲ Stredné hrubovanie<br>▲ Nízka rezná sila a dobrá stabilita<br>▲ Prvá voľba na martenzitické nehrdzavejúce ocele                     |       | CTPM245 (DPX2245) | <b>CTPM245 (DPX2245)</b> | <b>CTPM245 (DPX2245)</b> |     | 0,05-0,35           |
| <b>-M50</b><br>▲ Univerzálna geometria<br>▲ Ľahké až stredné hrubovanie<br>▲ Prvá voľba pre oceľ všeobecne                                           |       | CTPP235 (DPX1235) | <b>CTPP235 (DPX1235)</b> | <b>CTPP235 (DPX1235)</b> |     | 0,10-0,40           |

## Popis sort

|         |                                                                                                                                                                                                                                                                           |         |                                                                                                                                                                                                                                                                                            |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CTCP220 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiCN-Al<sub>2</sub>O<sub>3</sub></li> <li>▲ ISO   <b>P20</b></li> <li>▲ oteruodolná sorta pre obrábanie ocelí za sucha</li> </ul>                                                                               | CTEP210 | <ul style="list-style-type: none"> <li>▲ cermet, povlak TiCN-Al<sub>2</sub>O<sub>3</sub></li> <li>▲ ISO   <b>P10</b>   <b>K05</b></li> <li>▲ cermetová sorta s povlakom s nadštandardnou húževnatosťou pre dokončovacie obrábanie pri vysokých rezných rýchlostiach</li> </ul>             |
| DCX1220 |                                                                                                                                                                                                                                                                           | DCC1210 |                                                                                                                                                                                                                                                                                            |
| CTCP225 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlTaN</li> <li>▲ ISO   <b>P25</b>   <b>K25</b></li> <li>▲ oteruodolná sorta pre obrábanie ocelí za mokra</li> </ul>                                                                                           | CTWN215 | <ul style="list-style-type: none"> <li>▲ tvrdokov, bez povlaku</li> <li>▲ ISO   <b>K15</b>   <b>N15</b></li> <li>▲ TK sorta bez povlaku pre obrábanie neželezných kovov</li> </ul>                                                                                                         |
| DPX1225 |                                                                                                                                                                                                                                                                           | CWK4615 |                                                                                                                                                                                                                                                                                            |
| CTCP230 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiCN-Al<sub>2</sub>O<sub>3</sub></li> <li>▲ ISO   <b>P30</b>   <b>K25</b>   <b>M25</b></li> <li>▲ prvá voľba pre obrábanie ocelí pre vysoké rezné rýchlosti za sucha</li> </ul>                                 | AMZ     | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlN</li> <li>▲ ISO   <b>P10</b>   <b>K10</b>   <b>N10</b>   <b>S10</b></li> <li>▲ TK sorta s povlakom pre obrábanie hliníka</li> </ul>                                                                                         |
| DCX1230 |                                                                                                                                                                                                                                                                           |         |                                                                                                                                                                                                                                                                                            |
| CTPP235 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlTaN</li> <li>▲ ISO   <b>P25</b>   <b>K25</b></li> <li>▲ oteruodolná sorta pre obrábanie ocele za mokra</li> </ul>                                                                                           | CTC5240 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiN-TiB<sub>2</sub></li> <li>▲ ISO   <b>S40</b></li> <li>▲ špeciálna sorta na obrábanie titánu a zliatin titánu</li> </ul>                                                                                                       |
| DPX1235 |                                                                                                                                                                                                                                                                           | HCF5240 |                                                                                                                                                                                                                                                                                            |
| CTPM225 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlTaN</li> <li>▲ ISO   <b>P25</b>   <b>M25</b></li> <li>▲ oteruodolná voľba pre obrábanie austenitických ocelí</li> </ul>                                                                                     | CTD4205 | <ul style="list-style-type: none"> <li>▲ tvrdokov, bez povlaku</li> <li>▲ ISO   <b>N05</b></li> <li>▲ polokryštalická diamantová sorta pre obrábanie neželezných kovov a neželezných materiálov</li> </ul>                                                                                 |
| DPX2225 |                                                                                                                                                                                                                                                                           | CWD4205 |                                                                                                                                                                                                                                                                                            |
| CTCM235 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiCN-Al<sub>2</sub>O<sub>3</sub></li> <li>▲ ISO   <b>P40</b>   <b>M35</b></li> <li>▲ húževnatá alternatíva pre obrábanie ocele všeobecne</li> <li>▲ veľmi vhodná pre obrábanie martenzitických ocelí</li> </ul> | H216T   | <ul style="list-style-type: none"> <li>▲ tvrdokov, bez povlaku</li> <li>▲ ISO   <b>K15</b>   <b>N15</b></li> <li>▲ TK sorta bez povlaku pre obrábanie hliníka a iných neželezných kovov</li> <li>▲ veľmi vhodné riešenie i pre obrábanie HSC</li> </ul>                                    |
| DCX2235 |                                                                                                                                                                                                                                                                           | CWK26   |                                                                                                                                                                                                                                                                                            |
| CTPM240 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlTaN</li> <li>▲ ISO   <b>P40</b>   <b>M40</b></li> <li>▲ prvá voľba pre obrábanie austenitických ocelí</li> </ul>                                                                                            | TCM10   | <ul style="list-style-type: none"> <li>▲ cermet, bez povlaku</li> <li>▲ ISO   <b>P15</b>   <b>M10</b>   <b>K10</b></li> <li>▲ cermetová sorta bez povlaku pre dokončovacie obrábanie nehrdzavejúcej a kalenej ocele</li> <li>▲ vysoko oteruodolná vďaka vysokej žiaruvzdornosti</li> </ul> |
| DPX2240 |                                                                                                                                                                                                                                                                           | CWC10   |                                                                                                                                                                                                                                                                                            |
| CTCK215 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiCN-Al<sub>2</sub>O<sub>3</sub></li> <li>▲ ISO   <b>K15</b></li> <li>▲ prvá voľba pre obrábanie liatiny pri vysokých rezných rýchlostiach</li> </ul>                                                           | CTP6215 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlN</li> <li>▲ ISO   <b>K15</b>   <b>H15</b></li> <li>▲ TK sorta s povlakom pre obrábanie tvrdých materiálov</li> </ul>                                                                                                        |
| DCX3215 |                                                                                                                                                                                                                                                                           | CCN6215 |                                                                                                                                                                                                                                                                                            |
| CTPK220 | <ul style="list-style-type: none"> <li>▲ tvrdokov, povlak TiAlTaN</li> <li>▲ ISO   <b>K20</b></li> <li>▲ optimálna voľba pre obrábanie vysoko pevnej liatiny v oblasti náročnejšej na húževnatosť</li> </ul>                                                              |         |                                                                                                                                                                                                                                                                                            |
| DPX3220 |                                                                                                                                                                                                                                                                           |         |                                                                                                                                                                                                                                                                                            |

## Popis sort

## WAN1240

- ▲ tvrdokov, s povlakom
- ▲ ISO | **P40** | M40 | K40
- ▲ húževnatá špeciálna sorta s povlakom pre obrábanie ocele so strednou až vysokou reznou rýchlosťou
- ▲ v prípade vedľajšieho použitia je vhodná aj pre obrábanie ocelevej liatiny

## WAX1240

- ▲ tvrdokov, s povlakom
- ▲ ISO | **P40** | K40
- ▲ vysoko húževnatá špeciálna sorta pre stredne hrubé obrábanie a hrubovanie ocele so strednou reznou rýchlosťou a extrémne vysokým posuvom na zub

## WAN2225

- ▲ tvrdokov, s povlakom
- ▲ ISO | **M25** | S25
- ▲ jemnozrná sorta s vysokou húževnatosťou a tepelnou odolnosťou
- ▲ pre hrubovanie a dokončovacie obrábanie nehrdzavejúcich a kyselinovzdorných ocelí za mokra i za sucha

## WUN4210

- ▲ tvrdokov, s povlakom
- ▲ ISO | **N10**
- ▲ štandardná sorta bez povlaku určená pre stredne hrubé obrábanie neželezných kovov a grafitu

## WTN1205

- ▲ tvrdokov, s povlakom
- ▲ ISO | **P05** | **K05** | N05 | S05 | **H05**
- ▲ špeciálna sorta s povlakom pre obrábanie ocele, kalenej ocele, liatiny, grafitu aj plastov

## CTPK211

- ▲ tvrdokov, povlak TiAlN
- ▲ ISO | M15 | **K10** | **N10** | S10 | H10
- ▲ štandardná sorta s povlakom pre dokončovacie obrábanie liatiny a neželezných kovov so strednou reznou rýchlosťou

## CTPP236

- ▲ tvrdokov, povlak TiAlN-TiN
- ▲ ISO | **P35** | M35 | **K30**
- ▲ húževnatá TK sorta pre stredne hrubé obrábanie a hrubovanie ocele s vysokou reznou rýchlosťou
- ▲ táto sorta sa používa aj pri obrábaní liatiny a nehrdzavejúcej ocele

## CTPP231

- ▲ tvrdokov, s povlakom
- ▲ ISO | **P30** | K25
- ▲ veľmi húževnatá špeciálna sorta pre stredne hrubé obrábanie a hrubovanie ocele so stredne vysokou reznou rýchlosťou a extrémne vysokým posuvom na zub

## CTPM241

- ▲ tvrdokov, povlak AlTiN
- ▲ ISO | P40 | **M40** | **S40**
- ▲ húževnatá TK sorta pre obrábanie nehrdzavejúcich a žiaruvzdorných ocelí

## CTPP216

- ▲ tvrdokov, povlak TiAlN
- ▲ ISO | **P10** | M10 | **K10** | H10
- ▲ vysoko oteruodolná TK sorta s vysokou stabilitou reznej hrany pre dokončovacie obrábanie vysokopevnostných materiálov, nelegovaných nástrojových ocelí, liatiny a kalenej ocele s tvrdosťou do 54 HRC

## CTPP211

- ▲ tvrdokov, s povlakom
- ▲ ISO | **P10** | **M10** | K10
- ▲ oteruodolná TK sorta pre stredne hrubé obrábanie a hrubovanie ocele a nehrdzavejúcich materiálov
- ▲ veľmi vhodná pre obrábanie za sucha

## CTPK231

- ▲ tvrdokov, s povlakom
- ▲ ISO | **P30** | **K30**
- ▲ húževnatá TK sorta pre stredne hrubé obrábanie a hrubovanie ocele a liatiny
- ▲ veľmi vhodná pre obrábanie za sucha

## CTPK226

- ▲ tvrdokov, s povlakom
- ▲ ISO | P30 | **K30** | **H30**
- ▲ vysoko oteruodolná, ultra jemnozrná TK sorta pre obrábanie liatiny a kalených ocelí s tvrdosťou do 62 HRC

## CTCN211

- ▲ tvrdokov, s povlakom
- ▲ ISO | **N10**
- ▲ TK sorta s diamantovým povlakom koncipovaná špeciálne pre obrábanie grafitu a neželezných kovov

## Popis sort

|          |          |          |          |          |          |          |           |
|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>C</b> | <b>T</b> | <b>C</b> | <b>P</b> | <b>2</b> | <b>2</b> | <b>0</b> | (Príklad) |
| D        | C        | X        | 1        | 2        | 2        | 0        |           |

## Hlavné použitie – materiál

- 1|P Oceľ
- 2|M Nehrdzavejúca oceľ
- 3|K Liatina
- 4|N Ľahké a farebné kovy/neželezné kovy
- 5|S Superzliatina/titán
- 6|H Tvrdé materiály
- 7|X Univerzálne použitie

## Druh obrábania

- 1 Sústruženie
- 2 Frézovanie
- 3 Zapichovanie, upichovanie
- 4 Vrtanie
- 5 Sústruženie závitov
- 6 Ostatné
- 7 Viacej operácií

## Stupnica tvrdosti

- |     |        |
|-----|--------|
| 05  | ISO 05 |
| 10  | ISO 10 |
| 15  | ISO 15 |
| ... |        |

