# New products for machining technicians

NEW

## MaxiMill Slot-SX

→ Page 126–141

New side and face milling system with SX inserts from SX grooving system

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NEW

## MaxiMill 242

→ Page 90

Update to chamfer milling cutter

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NEW

## MaxiMill 490

→ Page 78+80

Update to adjustable single angle milling cutter

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NEW

## CTPX715

New multi-range grade

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NEW

## MaxiMill 273-08

→ Page 35+36

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NEW

## MaxiMill 252

→ Page 115+116

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## CERATIZIT \ Performance

Premium quality tools for high performance.

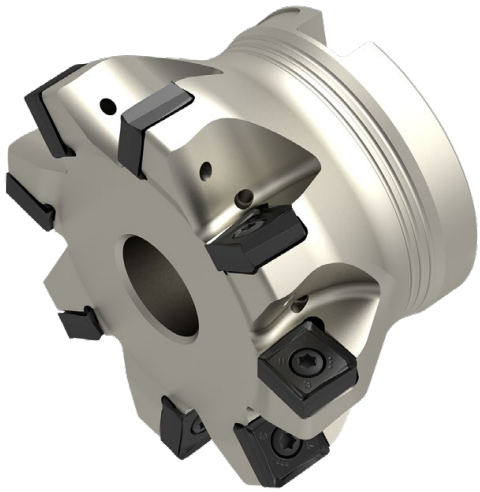
The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

# Symbol explanation


central internal coolant


lateral internal coolant

Cutting edge angle



ZNF = Number of flutes

● = **Main Application**

○ = Extended application

## Application symbols


Face milling


Angled ramping


Helical plunging


Axial ramping


plunge milling


Slot milling


Shoulder milling


Slot milling (45°)


Chamfer milling

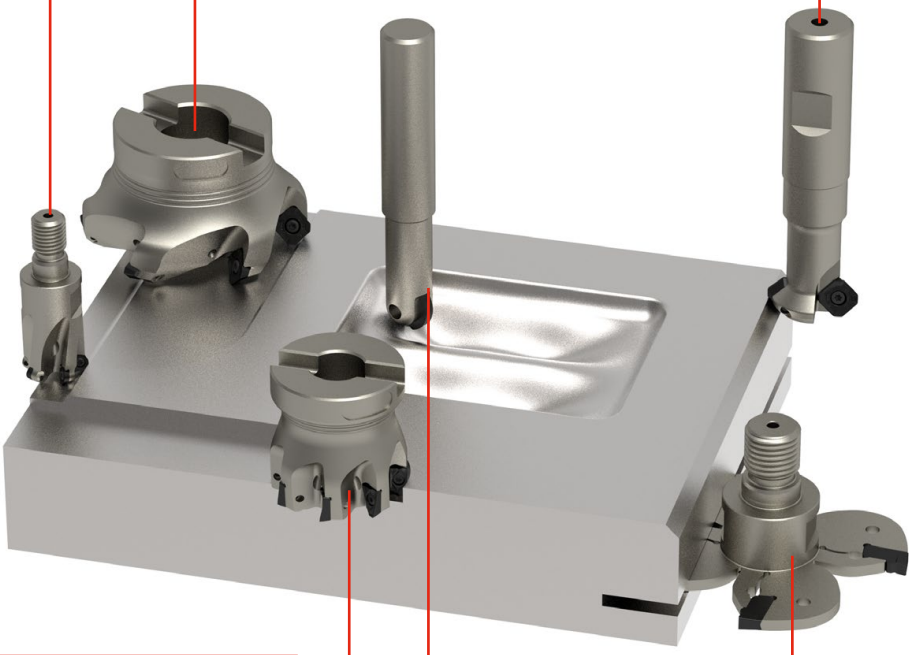

Free form milling

# Toolfinder – Application Selection Guide

Form milling
→ System Selection:
10+11

Face milling
→ System Selection:
6+7

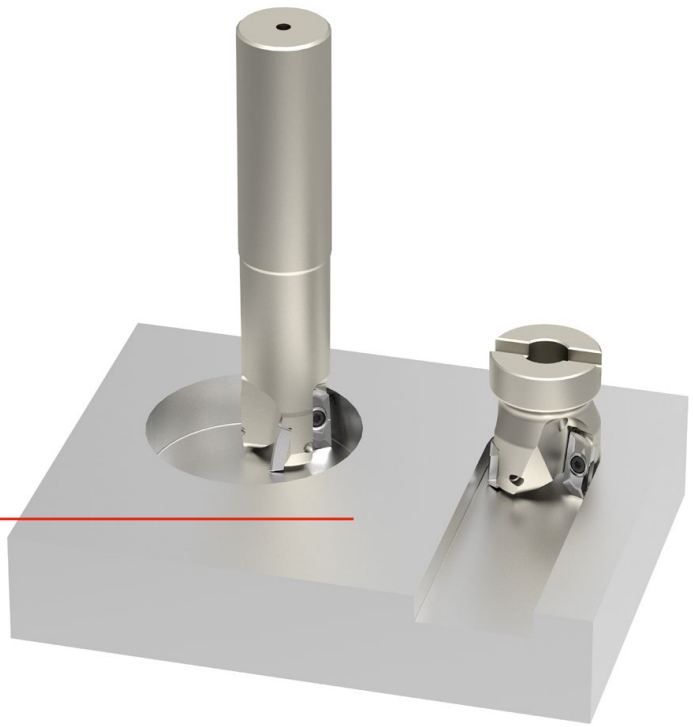
Chamfer/Angle milling cutters
→ System Selection:
12



Shoulder milling
→ System Selection:
8+9

Slot milling and saws
→ System Selection:
12

Form milling
→ System Selection:
10+11



HSC-/HPC-milling
→ System Selection:
8+9

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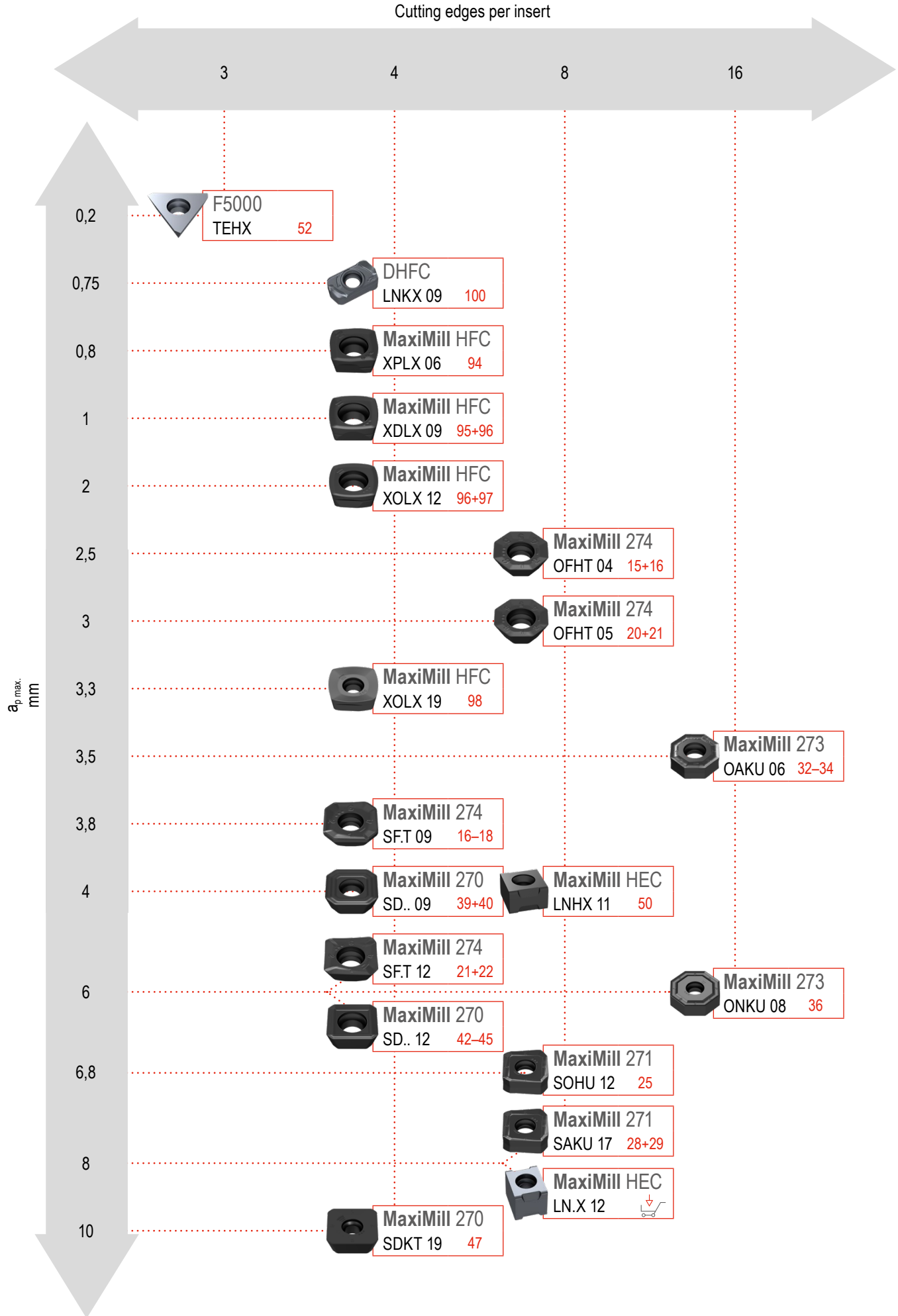
# Toolfinder – Face Milling Cutters



# Overview – Face Milling Cutters

| System | Inserts | Cutting edges per insert | $a_{p\,max.}$ mm | Ø-range mm | | | Steel | Stainless steel | Cast iron | Non-ferrous metals | Heat-resistant | Tempered steel | Non-metal materials | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MaxiMill** 274 | **OFH.** 04.. / 05.. \| **SF.T** 09.. / 12.. | 8 \| 4 | 2,5–6 | Ø 20–32 | Ø 20–32 | Ø 32–160 | ● | ● | ● | ● | ● | | ○ | 13–22 |
| **MaxiMill** 271 | **SOHU** 1204.. \| **SAKU** 1706.. | 8 | 6,8 \| 8,4 | | Ø 32–40 | Ø 40–250 | ● | ● | ● | | ● | | | 23–29 |
| **MaxiMill** 273 | **OAKU** 0605.. \| **ONKU** 0806.. | 16 | 3,5 \| 6 | | | Ø 40–250 | ● | ● | ● | | ● | | | 30–36 |
| **MaxiMill** 270 | **SD..** 0903.. / 1204.. / 19.. | 4 | 4–10 | | Ø 6–32 | Ø 32–315 | ● | ● | ● | ● | ● | | | 37–47 |
| **MaxiMill** HEC | **LNHX** 1106.. | 8 | 4–8 | | | Ø 50–160 | ● | | ● | | | | ○ | 48–50 |
| **MaxiMill** HEC | **LN.X** 1210.. | 8 | 4–8 | | | Ø 125–160 | | ● | | | | | | |
| F 5000 | **TEHX** 16T3.. | 3 | 0,2 | | | Ø 42–100 | ● | ● | ● | | | ● | | 51+52 |
| **MaxiMill** HFC | **X..X** 06.. / 09.. / 12.. / 19.. | 4 | 0,8–3,3 | Ø 16–42 | Ø 16–35 | Ø 32–160 | ● | ● | ● | | ● | | | 92–98 |
| DHFC | **LNKX** 09.. | 4 | 0,75 | Ø 16–42 | Ø 16–20 | | ● | ● | ● | | ○ | | | 99+100 |

Additional diameters are available upon request.

Indexable inserts for systems that are no longer listed here can be found in our online shop at cuttingtools.ceratizit.com

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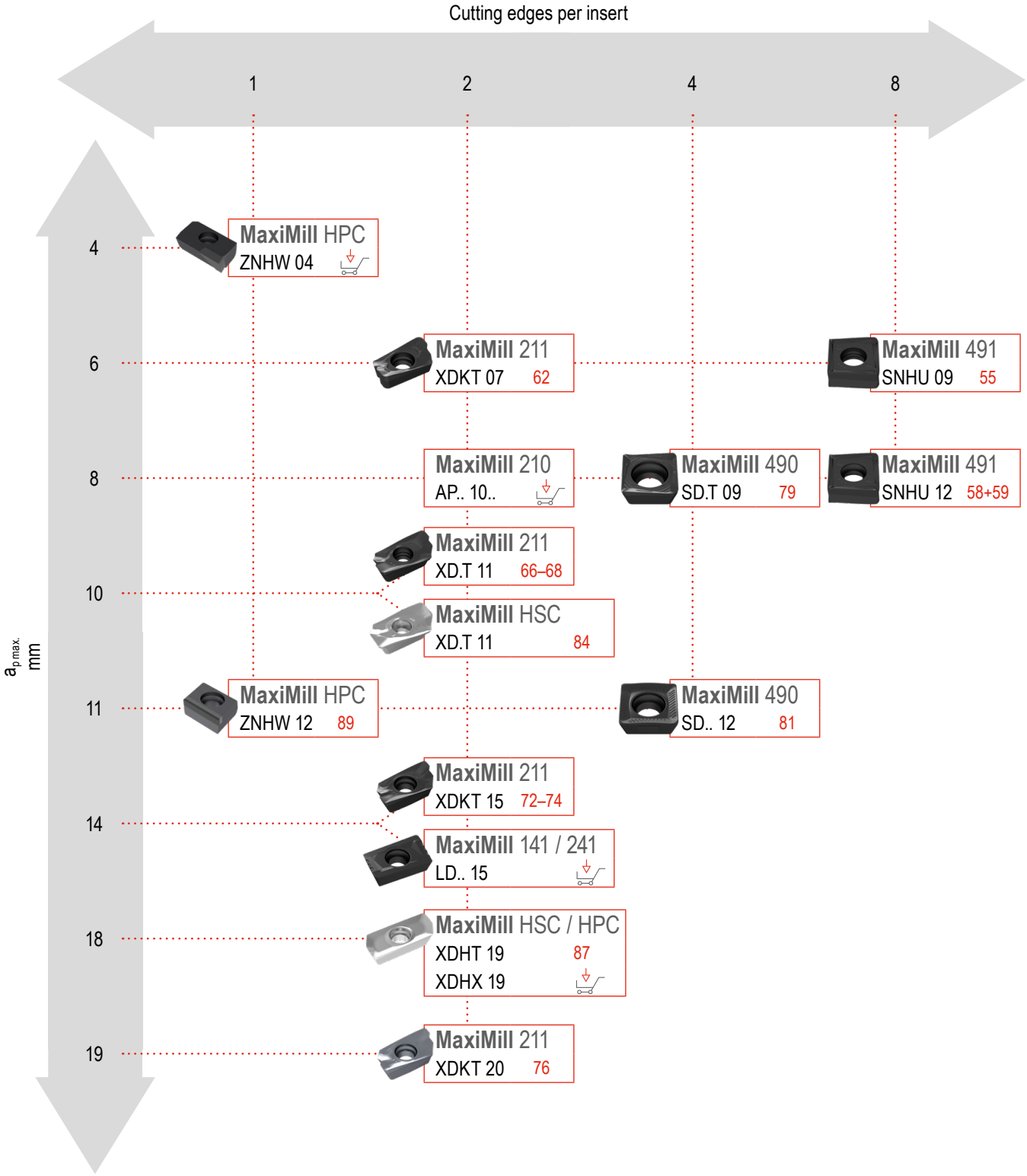
# Toolfinder – shoulder milling



# Overview – Shoulder Milling Cutters

| System | Inserts | Cutting edges per insert | $a_{p\,max.}$ mm | Ø-range mm | | | Steel | Stainless steel | Cast iron | Non-ferrous metals | Heat-resistant | Tempered steel | Non-metal materials | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MaxiMill** 491 | **SNHU** 09T3.. / 1204.. | 8 | 6–8 |  Ø 25–32 |  Ø 25–32 |  Ø 40–160 | ● | ● | ● | ● | ● | | ○ | 53–59 |
| **MaxiMill** 211 | **XD.T** 0703.. / 11T3.. / 1505.. / 2007.. | 2 | 6–19 |  Ø 16–40 |  Ø 10–40 |  Ø 32–160 | ● | ● | ● | ● | ● | ● | ○ | 60–76 |
| **MaxiMill** 211KN | **XD.T** 11T3.. / 1505.. / 2007.. | 2 | 27–75,5 | |  Ø 25–50 |  Ø 40–80 | ● | ● | ● | ● | ● | | ○ | 65+71 |
| **MaxiMill** 490 | **SD..** 09T3.. / 1205.. | 4 | 8–11 |  Ø 25–32 |  Ø 25–32 |  Ø 40–125 | ● | ● | ● | ● | ● | | ○ | 77 |
| **MaxiMill** 490K | **SD..** 09T3.. | 4 | 41 | | |  Ø 40–63 | ● | ● | ● | ● | ● | | ○ | 78 |
| **MaxiMill** HSC | **XD..** 11T3.. / 1904.. | 2 | 10–18 |  Ø 16–40 |  Ø 16–32 |  Ø 40–125 | | ○ | ● | | | | ○ | 82–87 |
| **MaxiMill** HPC | **XD..** 1904.. | 2 | 10–18 | |  Ø 22–32 |  Ø 40–63 |  Ø 25–50 | | ○ | ● | | | | ○ | |
| **MaxiMill** HPC | **ZNHW** 1205.. | 1 | 4–11 | | |  Ø 40–315 | | | ● | ● | | ○ | ○ | 88+89 |
| **MaxiMill** HPC | **ZNHW** 04T3.. | 1 | 4–11 |  Ø 20–40 |  Ø 20–40 | | | | ● | ● | | ○ | ○ | |
| **MaxiMill** 210 | **AP..** 1003.. | 2 | 8 | | |  Ø 40–80 | ● | ● | ● | ● | ● | ● | ○ | |

Additional diameters are available upon request.

Indexable inserts for systems that are no longer listed here can be found in our online shop at cuttingtools.ceratizit.com

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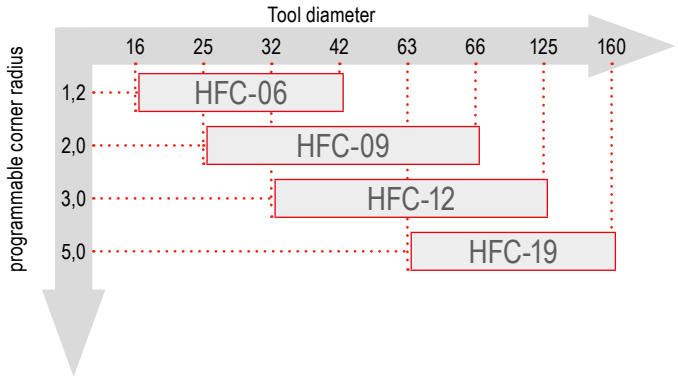
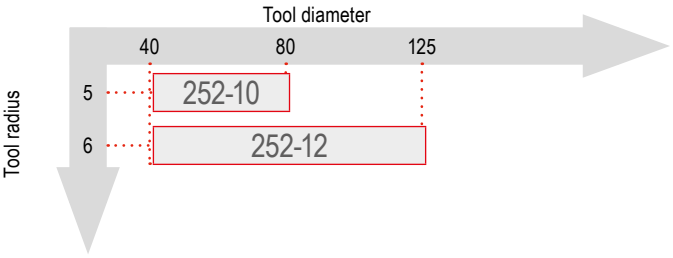
# Toolfinder – form milling

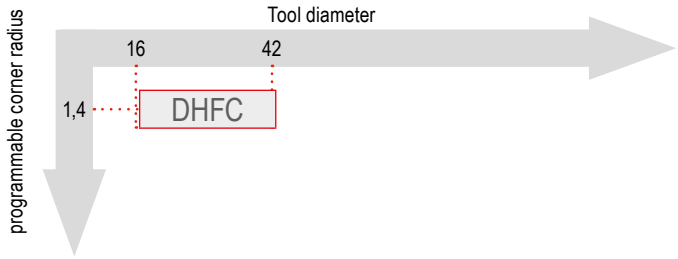
## **MaxiMill** HFC 92–98



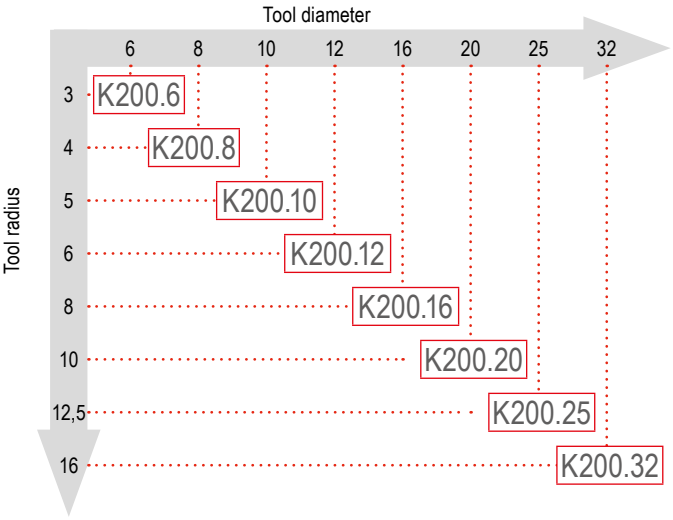

## MaxiMill 252 115+116



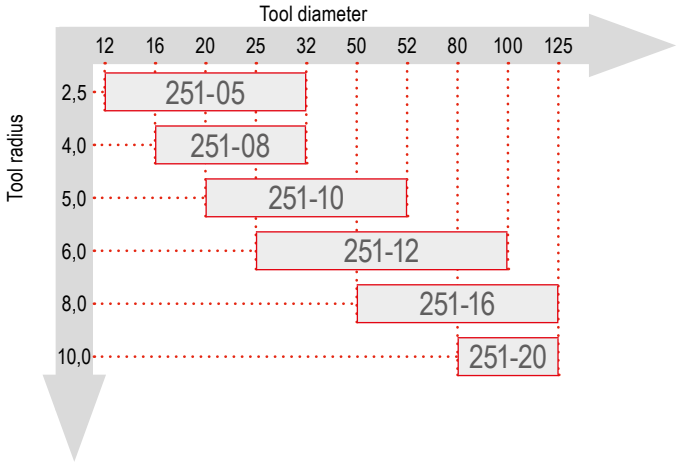

## DHFC 99+100



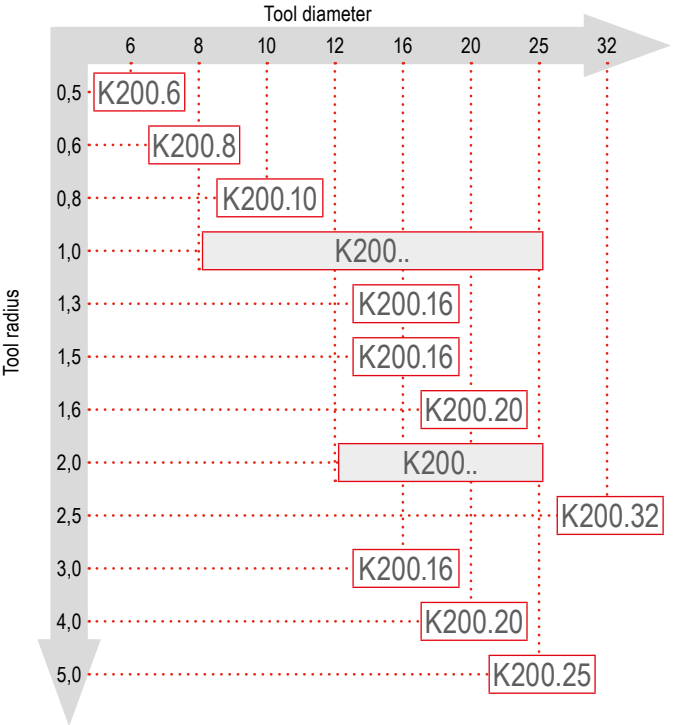

## K200. Ball Nosed 117–121



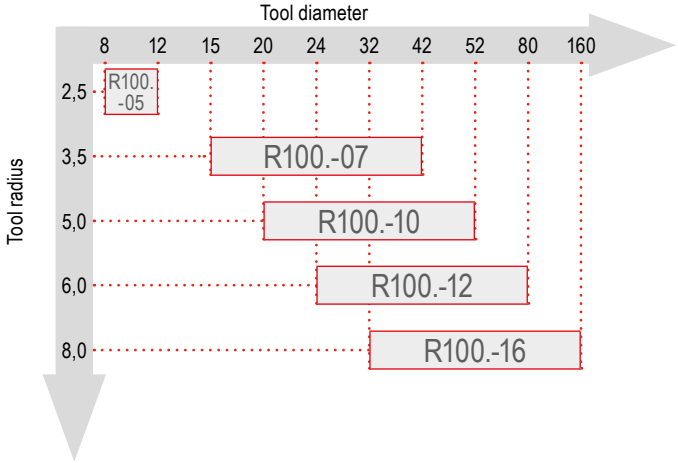

## **MaxiMill** 251 RS 101–109




## K200. Torus 122–125




## R100. 110–114




Application range

Tool diameter

# Overview – form milling

| System | Inserts | Cutting edges per insert | $a_{p\,max.}$ mm | Ø-range mm | | | Steel | Stainless steel | Cast iron | Non-ferrous metals | Heat-resistant | Tempered steel | Non-metal materials | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MaxiMill** HFC | **X.LX** 06.. / 09.. / 12.. / 19.. | 4 | 0,8–3,3 | Ø 16–42 | Ø 16–35 | Ø 32–160 | ● | ● | ● | | ● | | | 92–98 |
| DHFC | **LNKX** 09.. | 4 | 0,75 | Ø 16–42 | Ø 16–20 | | ● | ● | ● | | ○ | | | 99+100 |
| **MaxiMill** 251 RS | **R..X** 05.. / 08.. / 10.. / 12.. / 16.. / 20.. | 8 | 2,5–10 | Ø 10–42 | Ø 10–32 | Ø 40–125 | ● | ● | ● | ● | ● | | ● | 101–109 |
| R100. | **RD.X** 05.. / 07.. / 10.. / 12.. / 16.. / 20.. | 8 | 5 | Ø 12–42 | Ø 8–20 | Ø 42–160 | ● | ● | ● | ● | ● | ● | ○ | 110–114 |
| **MaxiMill** 252 | **RNHU** 10.. / 12.. | 8 | 3 | | | Ø 40–125 | ● | ● | ○ | | ● | | | 115+116 |
| K200. Ball Nosed | **RO.X** .... / **XOHX** .... | 1 | 0,4–8 | Ø 8–32 | Ø 6–32 | | ● | ● | ● | ● | ○ | ● | ● | 117–121 |
| K200. Torus | **XO.X** .... | 1 | 0,5–8 | Ø 8–32 | Ø 8–32 | | ● | ● | ● | ● | ○ | ○ | ● | 122–125 |

Additional diameters are available upon request.

Indexable inserts for systems that are no longer listed here can be found in our online shop at cuttingtools.ceratizit.com

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# Overview – Chamfer / Angle Milling Cutters

| System | Inserts | Cutting edges per insert | $a_{p\,max.}$ mm | Ø-range mm | | Steel | Stainless steel | Cast iron | Non-ferrous metals | Heat-resistant | Tempered steel | Non-metal materials | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MaxiMill** 272 | **SD..** 0903.. | 4 | 4 |  Ø 6–25 | | ● | ● | ○ | ● | ● | | | 38–40 |
| **MaxiMill** 242 | **LD..** 1504.. | 2 | | |  Ø 50–92 | ● | ● | ● | ● | ○ | | ○ | 90+91 |
| **MaxiMill** 490 | **SD..** 09T3.. / 1205.. | 4 | 6–11 |  Ø 20,1–31,5 | | ● | ● | ● | ● | ● | | ○ | 78–81 |

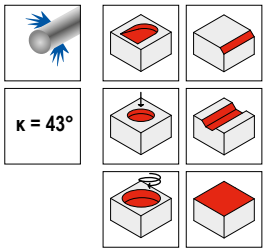
Additional diameters are available upon request.

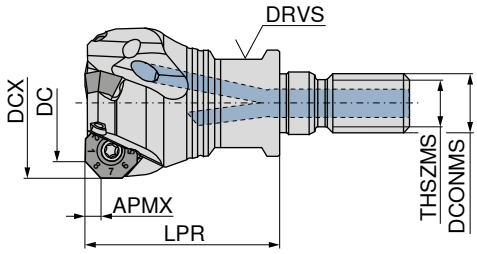
# Overview – Saw cutters

| System | Inserts | Cutting edges per insert | $a_{p\,max.}$ mm | Ø-range mm | | Steel | Stainless steel | Cast iron | Non-ferrous metals | Heat-resistant | Tempered steel | Non-metal materials | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MaxiMill** Slot-SX | **SX** E... | 1 | 115 |  Ø 63–100 |  Ø 80–315 |  | ● | ● | ● | ● | ● | | ○ | 126–141 |
| TX | **TX..** R/L | 3 | 64 | |  Ø 80–160 |  Ø 100–200 | ● | ● | ● | ● | ○ | | ○ | 142–144 |

Additional diameters are available upon request.

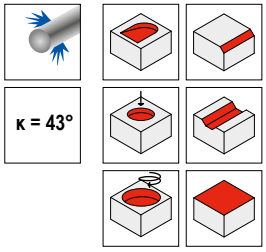
# **MaxiMill** – 274-04/-09 Screw in cutter

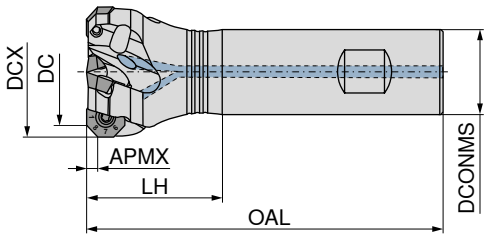



| Designation | DC mm | DCX mm | ZNF | APMX mm | LPR mm | THSZMS | DCONMS mm | DRVS mm | torque moment Nm | Insert | 50 742 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G274.20.R.03-09 | 20 | 25.8 | 3 | 3.8 | 35 | M12 | 12.5 | 17 | 1,2 | OF.. 0403 / SF.. 0903 | 309.52 | 020 |
| G274.25.R.04-09 | 25 | 30.8 | 4 | 3.8 | 35 | M12 | 12.5 | 17 | 1,2 | OF.. 0403 / SF.. 0903 | 352.45 | 025 |
| G274.32.R.05-09 | 32 | 37.9 | 5 | 3.8 | 35 | M16 | 17.0 | 24 | 1,2 | OF.. 0403 / SF.. 0903 | 395.63 | 032 |

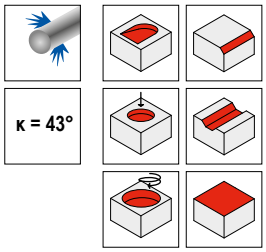
# **MaxiMill** – 274-04/-09 End milling cutter

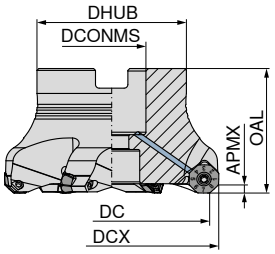


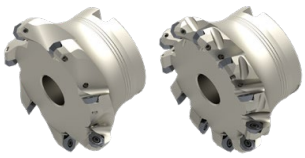




| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | torque moment Nm | Insert | 50 743 ... £ 2B/40 | | 50 743 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C274.20.R.03-09-A/B20-25 | 20 | 25.8 | 3 | 3.8 | 77 | 25 | 20 | 1,2 | OF.. 0403 / SF.. 0903 | 309.52 | 020 | 309.52 | 120 |
| C274.25.R.04-09-A/B20-32 | 25 | 30.8 | 4 | 3.8 | 84 | 32 | 20 | 1,2 | OF.. 0403 / SF.. 0903 | 352.45 | 025 | 352.45 | 125 |
| C274.32.R.05-09-A/B25-40 | 32 | 37.9 | 5 | 3.8 | 98 | 40 | 25 | 1,2 | OF.. 0403 / SF.. 0903 | 395.63 | 032 | 395.63 | 132 |

# **MaxiMill** – 274-04/-09 Shell mill



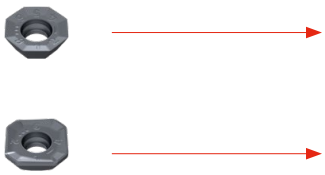



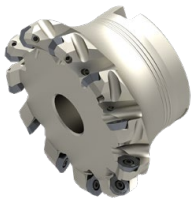



| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | torque moment Nm | Insert | 50 744 ... £ 2B/40 | | 50 744 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A274.32.R.05-09** | 32 | 37.9 | 5 | 3.8 | 40 | 38 | 16 | 1,6 | OF.. 0403 / SF.. 0903 | | | 395.63 | **032** |
| **A274.40.R.04-09** | 40 | 46.0 | 4 | 3.8 | 40 | 38 | 16 | 1,6 | OF.. 0403 / SF.. 0903 | 395.63 | **040** | | |
| **A274.40.R.06-09** | 40 | 46.0 | 6 | 3.8 | 40 | 38 | 16 | 1,6 | OF.. 0403 / SF.. 0903 | | | 438.56 | **140** |
| **A274.50.R.05-09** | 50 | 55.9 | 5 | 3.8 | 40 | 48 | 22 | 1,6 | OF.. 0403 / SF.. 0903 | 460.15 | **050** | | |
| **A274.50.R.07-09** | 50 | 55.9 | 7 | 3.8 | 40 | 48 | 22 | 1,6 | OF.. 0403 / SF.. 0903 | | | 481.85 | **150** |
| **A274.63.R.06-09** | 63 | 68.9 | 6 | 3.8 | 40 | 48 | 22 | 1,6 | OF.. 0403 / SF.. 0903 | 524.91 | **063** | | |
| **A274.63.R.09-09** | 63 | 68.9 | 9 | 3.8 | 40 | 48 | 22 | 1,6 | OF.. 0403 / SF.. 0903 | | | 589.55 | **163** |
| **A274.80.R.07-09** | 80 | 85.9 | 7 | 3.8 | 50 | 58 | 27 | 1,6 | OF.. 0403 / SF.. 0903 | 589.55 | **080** | | |
| **A274.80.R.11-09** | 80 | 85.9 | 11 | 3.8 | 50 | 58 | 27 | 1,6 | OF.. 0403 / SF.. 0903 | | | 675.67 | **180** |
| **A274.100.R.09-09** | 100 | 105.9 | 9 | 3.8 | 50 | 78 | 32 | 1,6 | OF.. 0403 / SF.. 0903 | 727.06 | **100** | | |
| **A274.100.R.13-09** | 100 | 105.9 | 13 | 3.8 | 50 | 78 | 32 | 1,6 | OF.. 0403 / SF.. 0903 | | | 813.28 | **200** |
| **A274.125.R.12-09** | 125 | 130.9 | 12 | 3.8 | 63 | 88 | 40 | 1,6 | OF.. 0403 / SF.. 0903 | 885.91 | **125** | | |

| | TORX® blade | | Clamping key – T | | Key D | | Power Screw | | Molykote | | Clamping screw | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **80 397 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 20 - 32 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **133** | 207.73 | **191** |
| 32 - 40 | 8.49 | **043** | 6.07 | **040** | 17.13 | **125** | 15.12 | **151** | 5.06 | **303** | 4.73 | **133** | 207.73 | **191** |
| 50 - 125 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **133** | 207.73 | **191** |

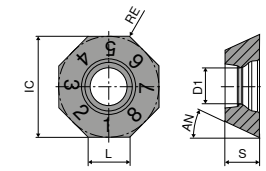
## Two insert types – ONE Cutter



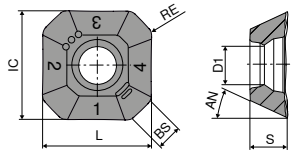


# OFHT / OFHW / SFHT / SFKT

| Designation | IC | D1 | L | BS | S | AN |
|---|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm | ° |
| **OFH. 0403..** | 9.52 | 3.35 | 3.94 | - | 3.18 | 25 |
| **SF.T 0903..** | 9.80 | 3.35 | 9.00 | 2.25 | 3.50 | 25 |

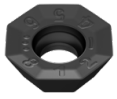
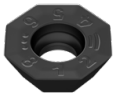
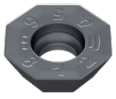



OF..

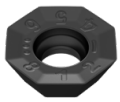



SF.T

# OFHT

| | | -F50 CTCP230 | -M50 CTCP230 | -F50 CTPP235 | -M50 CTPP235 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | OFHT | OFHT | OFHT | OFHT |
| | | **51 002 ...** | **51 003 ...** | **51 002 ...** | **51 003 ...** |
| **ISO** | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| **040305SN** | 0.5 | 18.19 **005** | 18.19 **005** | 18.19 **105** | 18.19 **105** |
| P | | ● | ● | ● | ● |
| M | | | | ○ | ○ |
| K | | ○ | ○ | ○ | ○ |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

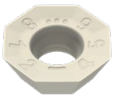
# OFHT / OFHW

| | | -F50 CTCM235 | -F50 CTPM240 | -M50 CTPM240 | -F50 CTPM245 | CTPM245 | -F50 CTCM245 | CTCM245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | OFHT | OFHT | OFHT | OFHT | OFHW | OFHT | OFHW |
| | | **51 002 ...** | **51 002 ...** | **51 003 ...** | **51 002 ...** | **51 105 ...** | **51 002 ...** | **51 105 ...** |
| **ISO** | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 | £ 1H/17 | £ 1H/17 |
| **040302EN** | 0.2 | | | | | 20.05 **452** | | 20.05 **90201** |
| **040305SN** | 0.5 | 18.19 **305** | 18.19 **405** | 18.19 **405** | 20.05 **455** | | 20.05 **90501** | |
| P | | ● | ○ | ○ | ● | ● | ● | ● |
| M | | ● | ● | ● | ● | ● | ● | ● |
| K | | | | | | | | |
| N | | | | | | | | |
| S | | | | | | | ○ | ○ |
| H | | | | | | | | |
| O | | | | | | | | |

15

# OFHT / OFHW

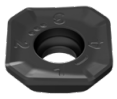
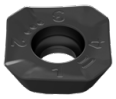
NEW

| | | -M50 CTCK215 DRAGONSKIN | -F10 CTPX715 DRAGONSKIN | -F10 CTWN215 | -F50 CTC5240 DRAGONSKIN | CTC5240 DRAGONSKIN | -F50 CTCS245 DRAGONSKIN |
|---|---|---|---|---|---|---|---|
| | |  |  |  |  |  |  |
| | | OFHT | OFHT | OFHT | OFHT | OFHW | OFHT |
| | | 51 003 ... | 51 122 ... | 50 459 ... | 51 002 ... | 50 457 ... | 51 002 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 | £ 1H/17 |
| 040302EN | 0.2 | | | | | 20.05 504 | |
| 040305FN | 0.5 | | 25.07 00502 | 19.29 505 | | | |
| 040305SN | 0.5 | 18.19 505 | | | 20.05 15500 | | 20.05 555 |
| P | | | ○ | | | | |
| M | | | ○ | | | | |
| K | | ● | ● | ○ | | | |
| N | | | ● | ● | | | |
| S | | | ○ | | ● | ● | ● |
| H | | | | | | | |
| O | | | ○ | ○ | | | |

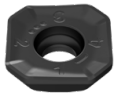
# SFHT / SFKT

| | | -F50 CTPP225 DRAGONSKIN | -M50 CTPP225 DRAGONSKIN |
|---|---|---|---|
| | |  |  |
| | | SFHT | SFKT |
| | | 51 012 ... | 51 013 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 |
| 0903AFSR | 1 | 18.19 070 | 13.40 070 |
| P | | ● | ● |
| M | | | |
| K | | | |
| N | | | |
| S | | | |
| H | | | |
| O | | | |

# SFHT / SFKT

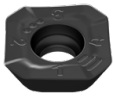
| | | -F50 CTCP230 DRAGONSKIN | | -M50 CTCP230 DRAGONSKIN | | -F50 CTPP235 DRAGONSKIN | | -M50 CTPP235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |
| | | SFHT | | SFKT | | SFHT | | SFKT | |
| | | 51 012 ... | | 51 013 ... | | 51 012 ... | | 51 013 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 0903AFSR | 1 | 18.19 | 020 | 13.40 | 020 | 18.19 | 120 | 13.40 | 120 |
| P | | ● | | ● | | ● | | ● | |
| M | | | | | | ○ | | ○ | |
| K | | ○ | | ○ | | ○ | | ○ | |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

# SFHT / SFKT

| | | -F50 CTCM235 DRAGONSKIN | | -F50 CTPM240 DRAGONSKIN | | -M50 CTPM240 DRAGONSKIN | | -F50 CTPM245 DRAGONSKIN | | -F50 CTCM245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |
| | | SFHT | | SFHT | | SFKT | | SFHT | | SFHT | |
| | | 51 012 ... | | 51 012 ... | | 51 013 ... | | 51 012 ... | | 51 012 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | |
| 0903AFSR | 1 | 18.19 | 320 | 18.19 | 420 | 13.40 | 42000 | 22.63 | 470 | 22.63 | 92001 |
| P | | ● | | ○ | | ○ | | ● | | ● | |
| M | | ● | | ● | | ● | | ● | | ● | |
| K | | | | | | | | | | | |
| N | | | | | | | | | | | |
| S | | | | | | | | | | ○ | |
| H | | | | | | | | | | | |
| O | | | | | | | | | | | |

15

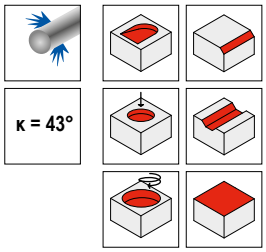
# SFKT / SFHT

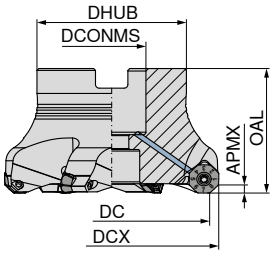
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NEW | | | | | | | | | |
| | | -R50 CTCK215 | | -R50 CTPK220 | | -F10 CTPX715 | | -F10 CTWN215 | | -F40 CTC5240 | | | | | |
| | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | | | DRAGONSKIN | | | | | |
| | |  | |  | |  | |  | |  | | | | | |
| | | SFKT | | SFKT | | SFHT | | SFHT | | SFHT | | | | | |
| | | 51 065 ... | | 51 065 ... | | 51 123 ... | | 50 514 ... | | 50 514 ... | | | | | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | | | | |
| 0903AFFR | 1 | | | | | 23.93 | 01502 | 21.82 | 505 | | | | | | |
| 0903AFSR | 1 | 13.40 | 520 | 13.40 | 620 | | | | | 22.63 | 504 | | | | |
| P | | | | | | ○ | | | | | | | | | |
| M | | | | | | ○ | | | | | | | | | |
| K | | ● | | ● | | ● | | ○ | | | | | | | |
| N | | | | | | ● | | ● | | | | | | | |
| S | | | | | | ○ | | | | ● | | | | | |
| H | | | | | | | | | | | | | | | |
| O | | | | | | ○ | | ○ | | | | | | | |

*Milling guide*

| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 149 |
| Starting Parameter | → 150 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# **MaxiMill** – 274-05/-12 Shell mill



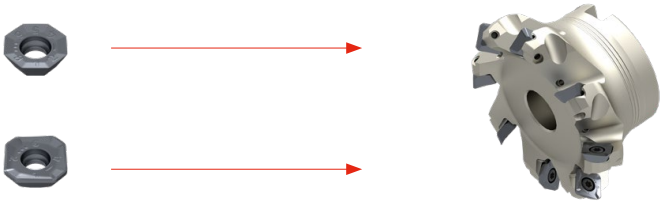




| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | torque moment Nm | Insert | 50 772 ... £ 2B/40 | | 50 772 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A274.40.R.03-12** | 40 | 48.0 | 3 | 6 | 40 | 38 | 16 | 3,2 | OFHT 0504 / SFKT 1204 | 297.84 | **24000** | | |
| **A274.40.R.04-12** | 40 | 48.0 | 4 | 6 | 40 | 38 | 16 | 3,2 | OFHT 0504 / SFKT 1204 | | | 390.78 | **04000** |
| **A274.50.R.05-12** | 50 | 58.0 | 5 | 6 | 40 | 43 | 22 | 3,2 | OFHT 0504 / SFKT 1204 | | | 496.29 | **050** |
| **A274.50.R.04-12** | 50 | 58.0 | 4 | 6 | 40 | 43 | 22 | 3,2 | OFHT 0504 / SFKT 1204 | 397.00 | **25000** | | |
| **A274.63.R.06-12** | 63 | 71.1 | 6 | 6 | 40 | 48 | 22 | 3,2 | OFHT 0504 / SFKT 1204 | | | 595.57 | **063** |
| **A274.63.R.05-12** | 63 | 71.1 | 5 | 6 | 40 | 48 | 22 | 3,2 | OFHT 0504 / SFKT 1204 | 508.41 | **26300** | | |
| **A274.80.R.06-12** | 80 | 88.0 | 6 | 6 | 50 | 58 | 27 | 3,2 | OFHT 0504 / SFKT 1204 | 620.26 | **28000** | | |
| **A274.80.R.08-12** | 80 | 88.0 | 8 | 6 | 50 | 58 | 27 | 3,2 | OFHT 0504 / SFKT 1204 | | | 794.12 | **080** |
| **A274.100.R.10-12** | 100 | 108.0 | 10 | 6 | 50 | 78 | 32 | 3,2 | OFHT 0504 / SFKT 1204 | | | 980.11 | **100** |
| **A274.100.R.08-12** | 100 | 108.0 | 8 | 6 | 50 | 78 | 32 | 3,2 | OFHT 0504 / SFKT 1204 | 818.95 | **30000** | | |
| **A274.125.R.12-12** | 125 | 133.0 | 12 | 6 | 63 | 88 | 40 | 3,2 | OFHT 0504 / SFKT 1204 | | | 1,197.14 | **125** |
| **A274.125.R.09-12** | 125 | 133.0 | 9 | 6 | 63 | 88 | 40 | 3,2 | OFHT 0504 / SFKT 1204 | 1,026.51 | **32500** | | |
| **A274.160.R.14-12** | 160 | 168.0 | 14 | 6 | 63 | 98 | 40 | 3,2 | OFHT 0504 / SFKT 1204 | | | 1,588.49 | **16000**[1)] |
| **A274.160.R.11-12** | 160 | 168.0 | 11 | 6 | 63 | 98 | 40 | 3,2 | OFHT 0504 / SFKT 1204 | 1,247.93 | **36000**[1)] | | |

**1)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

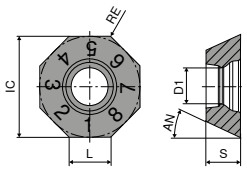
| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 - 160 | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 5.33 | **340** | 232.67 | **193** |

## Two insert types – ONE Cutter

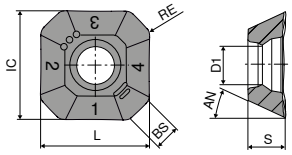


# OFHT / SFHT / SFKT

| Designation | 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 |



OF..



SF.T

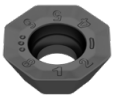
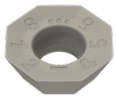
# OFHT

| | -F50 CTCP230 | -M50 CTCP230 | -F50 CTPP235 | -M50 CTPP235 |
|---|---|---|---|---|
| | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |
| | OFHT | OFHT | OFHT | OFHT |
| | 51 002 ... | 51 003 ... | 51 002 ... | 51 003 ... |
| ISO / RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 050410SN 1 | 20.01 **010** | 20.01 **01000** | 20.01 **110** | 20.01 **11000** |
| P | ● | ● | ● | ● |
| M | | | ○ | ○ |
| K | ○ | ○ | ○ | ○ |
| N | | | | |
| S | | | | |
| H | | | | |
| O | | | | |

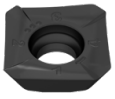
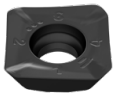
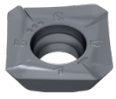
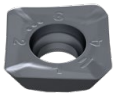
# OFHT

| | -F50 CTCM235 | -F50 CTPM240 | -M50 CTPM240 | -F50 CTPM245 |
|---|---|---|---|---|
| | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |
| | OFHT | OFHT | OFHT | OFHT |
| | 51 002 ... | 51 002 ... | 51 003 ... | 51 002 ... |
| ISO / RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 |
| 050410SN 1 | 20.01 **310** | 20.01 **410** | 20.01 **41000** | 22.05 **460** |
| P | ● | ○ | ○ | ● |
| M | ● | ● | ● | ● |
| K | | | | |
| N | | | | |
| S | | | | |
| H | | | | |
| O | | | | |

# OFHT

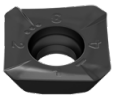
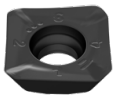
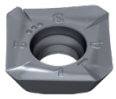
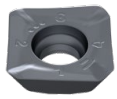
| | | | NEW | | |
|---|---|---|---|---|---|
| | | -F50 CTCM245 | -F10 CTPX715 | -F10 CTWN215 | -F50 CTC5240 |
| | | DRAGONSKIN | DRAGONSKIN | | DRAGONSKIN |
| | |  |  |  |  |
| | | OFHT | OFHT | OFHT | OFHT |
| | | 51 002 ... | 51 122 ... | 51 122 ... | 51 002 ... |
| ISO | RE mm | £ 1H/17 | £ 1B/61 | £ 1B/61 | £ 1H/17 |
| 050410FN | 1 | | 28.65 01002 | 24.00 36000 | |
| 050410SN | 1 | 22.05 91001 | | | 22.05 16000 |
| P | | ● | ○ | | |
| M | | ● | ○ | | |
| K | | | ● | ○ | |
| N | | | ● | ● | |
| S | | ○ | ○ | | ● |
| H | | | | | |
| O | | | ○ | ○ | |

# SFHT / SFKT

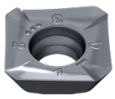
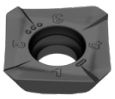
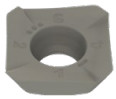
| | | -F50 CTCP230 | -M50 CTCP230 | -F50 CTPP235 | -M50 CTPP235 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | SFHT | SFKT | SFHT | SFKT |
| | | 51 012 ... | 51 013 ... | 51 012 ... | 51 013 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 1204AFSR | 1 | 20.01 02500 | 14.75 025 | 20.01 12500 | 14.75 125 |
| P | | ● | ● | ● | ● |
| M | | | | ○ | ○ |
| K | | ○ | ○ | ○ | ○ |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

15

# SFHT / SFKT

| | | -F50 CTCM235 DRAGONSKIN | | -M50 CTCM235 DRAGONSKIN | | -F50 CTPM240 DRAGONSKIN | | -M50 CTPM240 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |
| | | SFHT | | SFKT | | SFHT | | SFKT | |
| | | 51 012 ... | | 51 013 ... | | 51 012 ... | | 51 013 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 1204AFSR | 1 | 20.01 | 325 | 14.75 | 325 | 20.01 | 42500 | 14.75 | 425 |
| P | | ● | | ● | | ○ | | ○ | |
| M | | ● | | ● | | ● | | ● | |
| K | | | | | | | | | |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

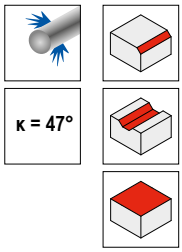
# SFHT

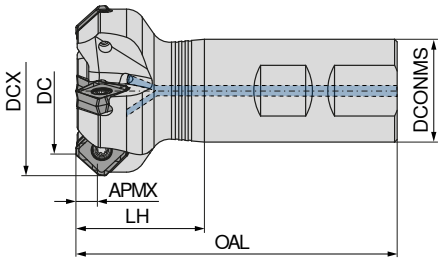
| | | | | NEW | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | -F50 CTPM245 DRAGONSKIN | | -F50 CTCM245 DRAGONSKIN | | -F10 CTPX715 DRAGONSKIN | | -F10 CTWN215 | | -F40 CTC5240 DRAGONSKIN | |
| | |  | |  | |  | |  | |  | |
| | | SFHT | | SFHT | | SFHT | | SFHT | | SFHT | |
| | | 51 012 ... | | 51 012 ... | | 51 123 ... | | 51 123 ... | | 50 514 ... | |
| ISO | RE mm | £ 1H/17 | | £ 1H/17 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | |
| 1204AFER | 1 | | | | | | | | | 24.91 | 50900 |
| 1204AFFR | 1 | | | | | 28.65 | 02502 | 24.00 | 37000 | | |
| 1204AFSR | 1 | 24.42 | 47500 | 24.42 | 92501 | | | | | | |
| P | | ● | | ● | | ○ | | | | | |
| M | | ● | | ● | | ○ | | | | | |
| K | | | | | | ● | | ○ | | | |
| N | | | | | | ● | | ● | | | |
| S | | | | ○ | | ○ | | | | ● | |
| H | | | | | | | | | | | |
| O | | | | | | ○ | | ○ | | | |

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 151 |
| Starting Parameter | → 152 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# **MaxiMill** – 271-12 End milling cutter




**50 786 ...**

| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C271.32.R.03-12-B-40** | 32 | 45 | 3 | 6.8 | 100 | 40 | 32 | 18400 | 3,2 | SOHU 1204.. / XOHU 1204.. | 376.44 | **03203** |
| **C271.40.R.04-12-B32-40** | 40 | 53 | 4 | 6.8 | 100 | 40 | 32 | 16800 | 3,2 | SOHU 1204.. / XOHU 1204.. | 470.55 | **04004** |


TORX® blade

**80 950 ...**


Key D

**80 950 ...**


Molykote

**70 950 ...**


Clamping screw

**70 950 ...**


Torque screw-driver

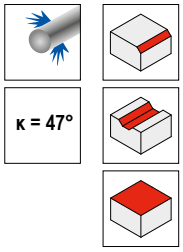
**80 950 ...**

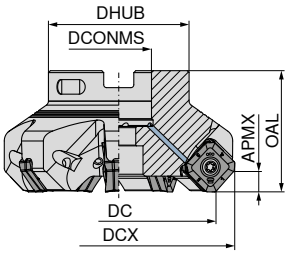
| Spare parts | £ | | £ | | £ | | £ | | £ | |
|---|---|---|---|---|---|---|---|---|---|---|
| **DC** | Y7 | | Y7 | | 2A/28 | | 2A/28 | | Y7 | |
| 32 - 40 | 8.49 | **054** | 15.30 | **120** | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |

15

# MaxiMill – 271-12 Face mill

▲ 8 cutting edges per insert

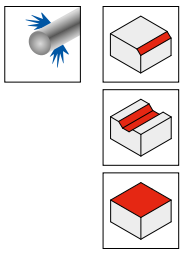


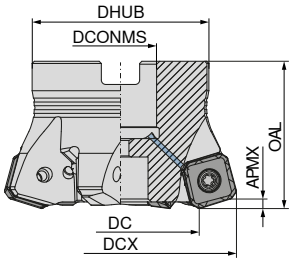



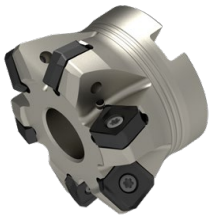

| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | 50 787 ... £ 2B/40 | | 50 787 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A271.40.R.04-12** | 40 | 53 | 4 | 6.8 | 40 | 38 | 16 | 17900 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 470.55 | **04004** |
| **A271.50.R.05-12** | 50 | 63 | 5 | 6.8 | 40 | 43 | 22 | 15200 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 482.32 | **05005** |
| **A271.63.R.07-12** | 63 | 76 | 7 | 6.8 | 40 | 48 | 22 | 13100 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 611.73 | **06307** |
| **A271.80.R.06-12** | 80 | 93 | 6 | 6.8 | 50 | 58 | 27 | 11300 | 3,2 | SOHU 1204.. / XOHU 1204.. | 611.73 | **08006** | | |
| **A271.80.R.08-12** | 80 | 93 | 8 | 6.8 | 50 | 58 | 27 | 11300 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 705.82 | **08008** |
| **A271.100.R.07-12** | 100 | 113 | 7 | 6.8 | 63 | 78 | 32 | 9900 | 3,2 | SOHU 1204.. / XOHU 1204.. | 776.35 | **10007** | | |
| **A271.100.R.10-12** | 100 | 113 | 10 | 6.8 | 63 | 78 | 32 | 9900 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 882.33 | **10010** |
| **A271.125.R.08-12** | 125 | 138 | 8 | 6.8 | 63 | 88 | 40 | 8700 | 3,2 | SOHU 1204.. / XOHU 1204.. | 941.08 | **12508** | | |
| **A271.125.R.12-12** | 125 | 138 | 12 | 6.8 | 63 | 88 | 40 | 8700 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 1,082.25 | **12512** |
| **A271.160.R.09-12** | 160 | 173 | 9 | 6.8 | 63 | 98 | 40 | 7600 | 3,2 | SOHU 1204.. / XOHU 1204.. | 1,094.05 | **16009**[1)] | | |
| **A271.160.R.14-12** | 160 | 173 | 14 | 6.8 | 63 | 98 | 40 | 7600 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 1,271.02 | **16014**[1)] |
| **A271.200.R.11-12** | 200 | 213 | 11 | 6.8 | 63 | 132 | 60 | 6700 | 3,2 | SOHU 1204.. / XOHU 1204.. | 1,371.45 | **20011**[1)] | | |
| **A271.200.R.17-12** | 200 | 213 | 17 | 6.8 | 63 | 132 | 60 | 6700 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 1,550.40 | **20017**[1)] |
| **A271.250.R.13-12** | 250 | 263 | 13 | 6.8 | 63 | 132 | 60 | 6000 | 3,2 | SOHU 1204.. / XOHU 1204.. | 1,650.82 | **25013**[1)] | | |
| **A271.250.R.21-12** | 250 | 263 | 21 | 6.8 | 63 | 132 | 60 | 6000 | 3,2 | SOHU 1204.. / XOHU 1204.. | | | 1,939.42 | **25021**[1)] |

1) Without Through Coolant

# MaxiMill – 271-12 HFC Face mill





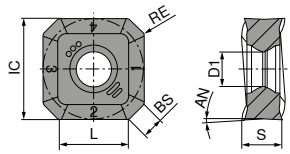



| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | 50 788 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A271.50.R.04-12-HFC** | 30 | 50 | 4 | 2.6 | 40 | 43 | 22 | 14600 | 3,2 | SOHU 1204.. | 482.32 | **05004** |
| **A271.63.R.06-12-HFC** | 43 | 63 | 6 | 2.6 | 40 | 48 | 22 | 12500 | 3,2 | SOHU 1204.. | 611.73 | **06306** |
| **A271.80.R.07-12-HFC** | 60 | 80 | 7 | 2.6 | 50 | 58 | 27 | 10800 | 3,2 | SOHU 1204.. | 705.82 | **08007** |

| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 (5078704004) | 8.49 | **054** | 6.07 | **040** | 15.30 | **120** | 15.12 | **151** | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |
| 50 - 250 | 8.49 | **054** | | | 15.30 | **120** | | | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |
| 50 (5078805004) | 8.49 | **054** | 7.73 | **050** | 15.30 | **120** | 19.79 | **154** | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |

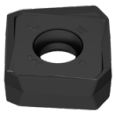
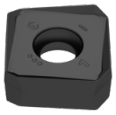
# SOHU

| Designation | IC | D1 | L | BS | S | AN |
|---|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm | ° |
| SOHU 1204.. | 13.36 | 4.4 | 8.8 | 1.7 | 5.00 | 7.4 |

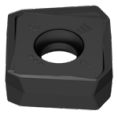
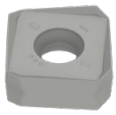


SOHU

# SOHU

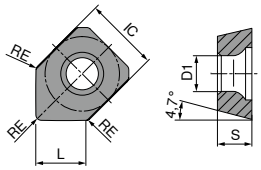
| | | -M50 CTCP230 | -M50 CTPP235 | -M50 CTCM235 | -M50 CTPM240 | -F50 CTPM245 | -F50 CTCM245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |
| | | SOHU | SOHU | SOHU | SOHU | SOHU | SOHU |
| | | 51 138 ... | 51 138 ... | 51 138 ... | 51 138 ... | 51 140 ... | 51 140 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 1204ABSR | 0.8 | 29.77 **02000** | 29.77 **12000** | 29.77 **32000** | 29.77 **42000** | 36.60 **47000** | 36.60 **92001** |
| P | | ● | ● | ● | ○ | ● | ● |
| M | | | ○ | ● | ● | ● | ● |
| K | | ○ | ○ | | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SOHU

| | | -R50 CTCK215 | -R50 CTPK220 | -F40 CTC5240 | -F50 CTC5240 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | SOHU | SOHU | SOHU | SOHU |
| | | 51 139 ... | 51 139 ... | 51 148 ... | 51 140 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 1204ABSR | 0.8 | 29.77 **52000** | 29.77 **62000** | 36.60 **12001** | 36.60 **17000** |
| P | | | | | |
| M | | | | | |
| K | | ● | ● | | |
| N | | | | | |
| S | | | | ● | ● |
| H | | | | | |
| O | | | | | |

# XOHU

| Designation | IC | D1 | L | BS | S |
|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm |
| **XOHU 1204..** | 13.36 | 4.4 | 8.8 | 1.83 | 5.00 |



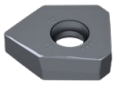
XOHU

# XOHU

▲ Masterfinish indexable insert (sweeper insert)

**-M50**
CTPP235

DRAGONSKIN


XOHU

**51 141 ...**

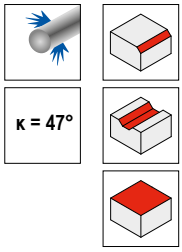
| ISO | RE | £ | |
|---|---|---|---|
| | mm | 1B/61 | |
| **1204ABSR** | 0.8 | 36.84 | **12000** |
| P | | | ● |
| M | | | ○ |
| K | | | ○ |
| N | | | |
| S | | | |
| H | | | |
| O | | | |

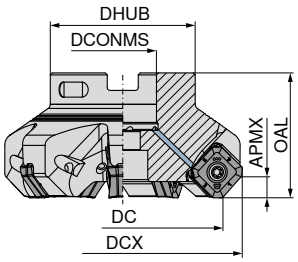
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 153 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# **MaxiMill** – 271-17 Face mill

▲ 8 cutting edges per insert



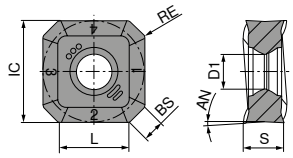

| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | 50 767 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A271.50.R.04-17** | 50 | 66.1 | 4 | 8.4 | 40 | 22 | 43 | 5 | SAKU 1706 | 459.12 | **050** |
| **A271.63.R.06-17** | 63 | 79.1 | 6 | 8.4 | 40 | 22 | 48 | 5 | SAKU 1706 | 645.20 | **063** |
| **A271.80.R.07-17** | 80 | 96.1 | 7 | 8.4 | 50 | 27 | 58 | 5 | SAKU 1706 | 738.25 | **080** |
| **A271.100.R.08-17** | 100 | 116.1 | 8 | 6.8 | 50 | 32 | 78 | 5 | SAKU 1706 | 849.99 | **100** |
| **A271.125.R.10-17** | 125 | 141.1 | 10 | 8.4 | 63 | 40 | 88 | 5 | SAKU 1706 | 980.11 | **125** |
| **A271.160.R.12-17** | 160 | 176.1 | 12 | 8.4 | 63 | 40 | 104 | 5 | SAKU 1706 | 1,153.97 | **16000**[1] |
| **A271.200.R.13-17** | 200 | 216.1 | 13 | 8.4 | 63 | 60 | 134 | 5 | SAKU 1706 | 1,426.86 | **20000**[2] |
| **A271.250.R.15-17** | 250 | 266.1 | 15 | 8.4 | 63 | 60 | 134 | 5 | SAKU 1706 | 1,724.69 | **25000**[2] |

1) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant
2) With threaded holes M16 on the front face, pitch circle diameter = 101.6 mm / Without Through Coolant

| |  TORX® blade |  Key D |  Molykote |  Clamping screw |  Torque screw-driver |
|---|---|---|---|---|---|
| | **80 950 ...** | **80 950 ...** | **70 950 ...** | **70 950 ...** | **80 950 ...** |
| **Spare parts** | £ | £ | £ | £ | £ |
| **DC** | Y7 | Y7 | 2A/28 | 2A/28 | Y7 |
| 50 - 250 | 8.49 **037** | 16.66 **114** | 5.06 **303** | 4.73 **302** | 232.67 **193** |

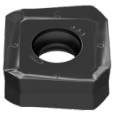
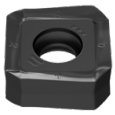
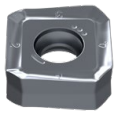
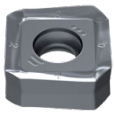
# SAKU

| Designation | IC | D1 | L | BS | S | AN |
|---|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm | ° |
| SAKU 1706.. | 17 | 5.8 | 11.85 | 3.7 | 6.35 | 3 |

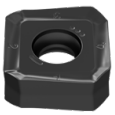
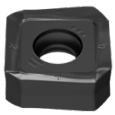
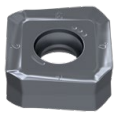
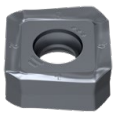


SAKU

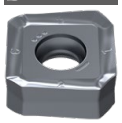
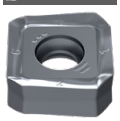
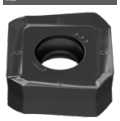
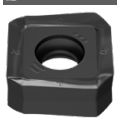
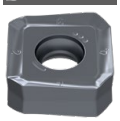
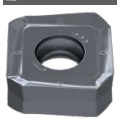
# SAKU

| | | -F50 CTCP220 | -M50 CTCP220 | -F50 CTPP225 | -M50 CTPP225 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | SAKU | SAKU | SAKU | SAKU |
| | | 51 004 ... | 51 005 ... | 51 004 ... | 51 005 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 1706ABSR | 0.8 | 33.62 270 | 33.62 270 | 33.62 070 | 33.62 070 |
| P | | ● | ● | ● | ● |
| M | | | | | |
| K | | | | | |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

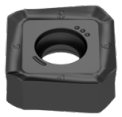
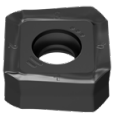
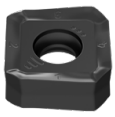
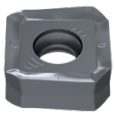
# SAKU

| | | -F50 CTCP230 | -M50 CTCP230 | -F50 CTPP235 | -M50 CTPP235 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | SAKU | SAKU | SAKU | SAKU |
| | | 51 004 ... | 51 005 ... | 51 004 ... | 51 005 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 1706ABSR | 0.8 | 33.62 020 | 33.62 020 | 33.62 120 | 33.62 120 |
| P | | ● | ● | ● | ● |
| M | | | | ○ | ○ |
| K | | ○ | ○ | ○ | ○ |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

# SAKU

| | | -F50 CTPM225 | -M50 CTPM225 | -F50 CTCM235 | -M50 CTCM235 | -F50 CTPM240 | -M50 CTPM240 | -F50 CTPM245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | SAKU | SAKU | SAKU | SAKU | SAKU | SAKU | SAKU |
| | | 51 004 ... | 51 005 ... | 51 004 ... | 51 005 ... | 51 004 ... | 51 005 ... | 51 004 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 |
| 1706ABSR | 0.8 | 33.62 220 | 33.62 220 | 33.62 320 | 33.62 320 | 33.62 420 | 33.62 420 | 41.37 470 |
| P | | ● | ● | ● | ● | ○ | ○ | ● |
| M | | ● | ● | ● | ● | ● | ● | ● |
| K | | | | | | | | |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |
| O | | | | | | | | |

# SAKU

| | | -F50 CTCM245 | -M50 CTCK215 | -R50 CTCK215 | -M50 CTPK220 | -R50 CTPK220 | -F50 CTC5240 | -F50 CTCS245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | SAKU | SAKU | SAKU | SAKU | SAKU | SAKU | SAKU |
| | | 51 004 ... | 51 005 ... | 51 058 ... | 51 005 ... | 51 058 ... | 50 306 ... | 51 004 ... |
| ISO | RE mm | £ 1H/17 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 1706ABSR | 0.8 | 41.37 92001 | 33.62 520 | 33.62 520 | 33.62 620 | 33.62 620 | 41.37 520 | 41.37 570 |
| P | | ● | | | | | | |
| M | | ● | | | | | | |
| K | | | ● | ● | ● | ● | | |
| N | | | | | | | | |
| S | | ○ | | | | | ● | ● |
| H | | | | | | | | |
| O | | | | | | | | |

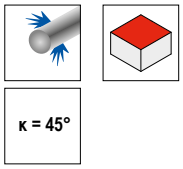
*Milling guide*

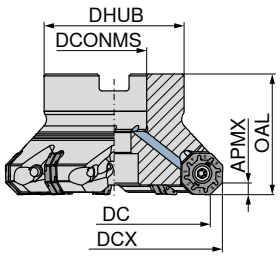

| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 153 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

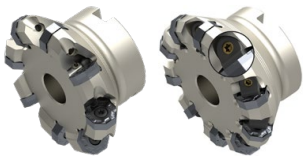

15

# MaxiMill – 273 Shell mill

▲ 16 cutting edges per insert



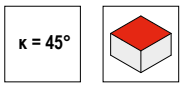
| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | 50 741 ... £ 2B/40 | | 50 741 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A273.40.R.03-06** | 40 | 50.2 | 3 | 3.5 | 40 | 16 | 38 | 5 | OAKU / XAHT 0605 | 440.30 | **040** | | |
| **A273.40.R.04-06** | 40 | 50.2 | 4 | 3.5 | 40 | 16 | 38 | 5 | OAKU / XAHT 0605 | 461.76 | **140** 5) | | |
| **A273.50.R.05-06** | 50 | 60.2 | 5 | 3.5 | 40 | 22 | 43 | 5 | OAKU / XAHT 0605 | 517.77 | **050** | | |
| **A273.63.R.07-06** | 63 | 73.2 | 7 | 3.5 | 40 | 22 | 48 | 5 | OAKU / XAHT 0605 | 621.53 | **063** | | |
| **A273.80.R.08-06** | 80 | 90.2 | 8 | 3.5 | 50 | 27 | 58 | 5 | OAKU / XAHT 0605 | 725.10 | **080** | | |
| **A273.80.R.10-06** | 80 | 90.2 | 10 | 3.5 | 50 | 27 | 58 | 4 | OAKU / XAHT 0605 | | | 1,104.88 | **180** 1) |
| **A273.100.R.10-06** | 100 | 110.2 | 10 | 3.5 | 50 | 32 | 78 | 5 | OAKU / XAHT 0605 | 854.62 | **100** | | |
| **A273.100.R.14-06** | 100 | 110.2 | 14 | 3.5 | 50 | 32 | 78 | 4 | OAKU / XAHT 0605 | | | 1,411.85 | **200** 1) |
| **A273.125.R.12-06** | 125 | 135.2 | 12 | 3.5 | 63 | 40 | 88 | 5 | OAKU / XAHT 0605 | 958.17 | **125** | | |
| **A273.125.R.17-06** | 125 | 135.2 | 17 | 3.5 | 63 | 40 | 88 | 4 | OAKU / XAHT 0605 | | | 1,638.13 | **225** 1) |
| **A273.160.R.14-06** | 160 | 170.2 | 14 | 3.5 | 63 | 40 | 104 | 5 | OAKU / XAHT 0605 | 1,135.83 | **160** 4) | | |
| **A273.160.R.20-06** | 160 | 170.2 | 20 | 3.5 | 63 | 40 | 104 | 4 | OAKU / XAHT 0605 | | | 1,938.27 | **260** 2) |
| **A273.200.R.25-06** | 200 | 210.2 | 25 | 3.5 | 63 | 60 | 153 | 4 | OAKU / XAHT 0605 | | | 2,423.12 | **300** 3) |
| **A273.250.R.31-06** | 250 | 260.2 | 31 | 3.5 | 63 | 60 | 153 | 4 | OAKU / XAHT 0605 | | | 2,963.40 | **25031** 3) |

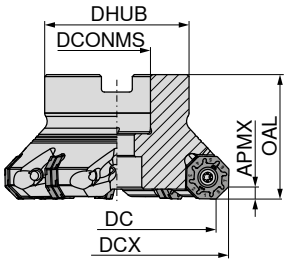
1) Version with Wedge, without internal coolant supply
2) Version with Wedge, without internal coolant supply / With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm
3) Version with Wedge, without internal coolant supply / With threaded holes M16 on the front face, pitch circle diameter = 101.6 mm
4) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant
5) Without Through Coolant

| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Clamping wedge screw 70 950 ... £ 2A/28 | | Clamping wedge Face mill 70 950 ... £ 2A/28 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 8.49 | **037** | 6.07 | **040** | | | | | 16.66 | **114** | 15.12 | **151** | 4.73 | **302** | 232.67 | **193** |
| 50 | 8.49 | **037** | 7.73 | **050** | | | | | 16.66 | **114** | 19.79 | **154** | 4.73 | **302** | 232.67 | **193** |
| 63 - 80 | 8.49 | **037** | | | | | | | 16.66 | **114** | | | 4.73 | **302** | 232.67 | **193** |
| 80 - 100 | 8.49 | **036** | | | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | | | | | 232.67 | **193** |
| 100 - 125 | 8.49 | **037** | | | | | | | 16.66 | **114** | | | 4.73 | **302** | 232.67 | **193** |
| 125 | 8.49 | **036** | | | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | | | | | 232.67 | **193** |
| 160 | 8.49 | **037** | | | | | | | 16.66 | **114** | | | 4.73 | **302** | 232.67 | **193** |
| 160 - 250 | 8.49 | **036** | | | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | | | | | 232.67 | **193** |

# **MaxiMill** – 273 Shell mill

▲ 16 cutting edges per indexable insert
▲ Axially adjustable




| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | 50 777 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A273.80.R.10A10-06** | 80 | 90.2 | 10 | 3.5 | 50 | 27 | 58 | 5 | OAKU / XAHT 0605 | 1,452.26 | **08010**[1)] |
| **A273.100.R.14A14-06** | 100 | 110.2 | 14 | 3.5 | 50 | 32 | 78 | 5 | OAKU / XAHT 0605 | 1,977.52 | **10014**[1)] |
| **A273.125.R.17A17-06** | 125 | 135.2 | 17 | 3.5 | 63 | 40 | 88 | 5 | OAKU / XAHT 0605 | 2,325.00 | **12517**[1)] |
| **A273.160.R.20A20-06** | 160 | 170.2 | 20 | 3.5 | 63 | 40 | 104 | 5 | OAKU / XAHT 0605 | 2,745.22 | **16020**[2)] |
| **A273.200.R.25A25-06** | 200 | 210.2 | 25 | 3.5 | 63 | 60 | 153 | 5 | OAKU / XAHT 0605 | 3,433.25 | **20025**[3)] |
| **A273.250.R.31A31-06** | 250 | 260.2 | 31 | 3.5 | 63 | 60 | 153 | 5 | OAKU / XAHT 0605 | 4,215.94 | **25031**[3)] |

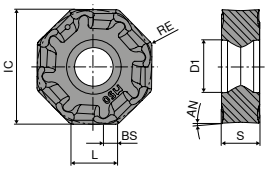
**1)** Version with Wedge
**2)** Version with Wedge / With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm
**3)** Version with Wedge / With threaded holes M16 on the front face, pitch circle diameter = 101.6 mm

| | TORX® blade | | Clamping wedge screw | | Clamping wedge Face mill | | Key D | | Molykote | | Wedge | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | 2A/28 | | 2A/28 | | Y7 | | 2A/28 | | 2A/28 | | Y7 | |
| 80 - 250 | 8.49 | **036** | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | 5.06 | **303** | 42.48 | **199** | 232.67 | **193** |

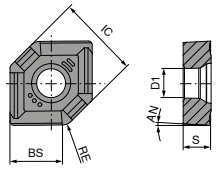
15

# OAKU / XAHT

| Designation | 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 |

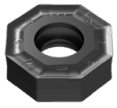
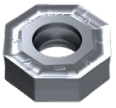


OAKU

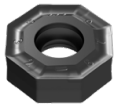
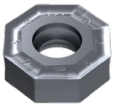


XAHT

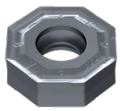
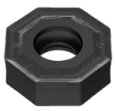
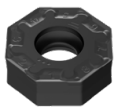
## OAKU

| | -F50 CTCP220 | -M50 CTCP220 | -F50 CTPP225 | -M50 CTPP225 |
|---|---|---|---|---|
| | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |
| | OAKU | OAKU | OAKU | OAKU |
| | 51 000 ... | 51 001 ... | 51 000 ... | 51 001 ... |
| | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| ISO RE mm | 28.36 | 28.36 | 28.36 | 28.36 |
| 060508SR 0.8 | 258 | 258 | 058 | 058 |
| P | ● | ● | ● | ● |
| M | | | | |
| K | | | | |
| N | | | | |
| S | | | | |
| H | | | | |
| O | | | | |

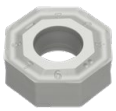
## OAKU

| | -F50 CTCP230 | -M50 CTCP230 | -F50 CTPP235 | -M50 CTPP235 |
|---|---|---|---|---|
| | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |
| | OAKU | OAKU | OAKU | OAKU |
| | 51 000 ... | 51 001 ... | 51 000 ... | 51 001 ... |
| | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| ISO RE mm | 28.36 | 28.36 | 28.36 | 28.36 |
| 060508SR 0.8 | 008 | 008 | 108 | 108 |
| P | ● | ● | ● | ● |
| M | | | ○ | ○ |
| K | ○ | ○ | ○ | ○ |
| N | | | | |
| S | | | | |
| H | | | | |
| O | | | | |

# OAKU

| | | -F50 CTPM225 | -M50 CTPM225 | -F50 CTCM235 | -M50 CTCM235 | -F50 CTPM240 | -M50 CTPM240 | -F40 CTPM245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | OAKU | OAKU | OAKU | OAKU | OAKU | OAKU | OAKU |
| | | 51 000 ... | 51 001 ... | 51 000 ... | 51 001 ... | 51 000 ... | 51 001 ... | 51 104 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 |
| 060508ER | 0.8 | | | | | | | 35.47 458 |
| 060508SR | 0.8 | 28.36 208 | 28.36 208 | 28.36 308 | 28.36 308 | 28.36 408 | 28.36 408 | |
| P | | ● | ● | ● | ● | ○ | ○ | ● |
| M | | ● | ● | ● | ● | ● | ● | ● |
| K | | | | | | | | |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |
| O | | | | | | | | |

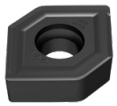
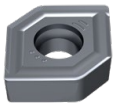
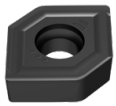
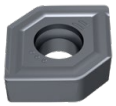
# OAKU

| | | -F40 CTCM245 | -M50 CTCK215 | -R50 CTCK215 | -M50 CTPK220 | -R50 CTPK220 | -F40 CTC5240 | -F40 CTCS245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | OAKU | OAKU | OAKU | OAKU | OAKU | OAKU | OAKU |
| | | 51 104 ... | 51 001 ... | 51 027 ... | 51 001 ... | 51 027 ... | 50 446 ... | 51 104 ... |
| ISO | RE mm | £ 1H/17 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 060508ER | 0.8 | 35.47 90801 | | | | | 35.47 550 | 35.47 50801 |
| 060508SR | 0.8 | | 28.36 508 | 28.36 508 | 28.36 608 | 28.36 608 | | |
| P | | ● | | | | | | |
| M | | ● | | | | | | |
| K | | | ● | ● | ● | ● | | |
| N | | | | | | | | |
| S | | ○ | | | | | ● | ● |
| H | | | | | | | | |
| O | | | | | | | | |

15

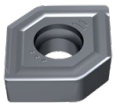
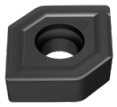
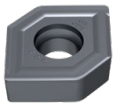
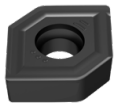
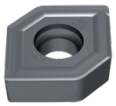
# XAHT

▲ Masterfinish indexable insert (sweeper insert)

| | | -M50 CTCP220 | -M50 CTPP225 | -M50 CTCP230 | -M50 CTPP235 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | XAHT | XAHT | XAHT | XAHT |
| | | 51 014 ... | 51 014 ... | 51 014 ... | 51 014 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 060525SR | 2.5 | 35.10 275 | 35.10 075 | 35.10 025 | 35.10 125 |
| P | | ● | ● | ● | ● |
| M | | | | | ○ |
| K | | | | ○ | ○ |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

# XAHT

▲ Masterfinish indexable insert (sweeper insert)

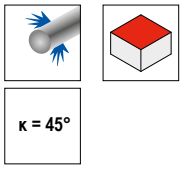
| | | -M50 CTPM225 | -M50 CTCM235 | -M50 CTPM240 | -M50 CTCK215 | -M50 CTPK220 |
|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |
| | | XAHT | XAHT | XAHT | XAHT | XAHT |
| | | 51 014 ... | 51 014 ... | 51 014 ... | 51 014 ... | 51 014 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 060525SR | 2.5 | 35.10 225 | 35.10 325 | 35.10 425 | 35.10 525 | 35.10 625 |
| P | | ● | ● | ○ | | |
| M | | ● | ● | ● | | |
| K | | | | | ● | ● |
| N | | | | | | |
| S | | | | | | |
| H | | | | | | |
| O | | | | | | |

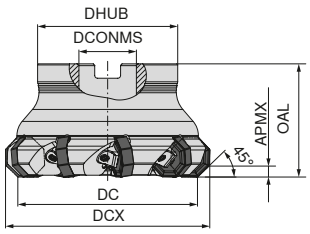
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 154 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# MaxiMill – 273-08 Shell mill

▲ 16 cutting edges per insert




NEW NEW

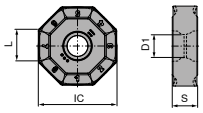
| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DCONMS H6 mm | DHUB mm | torque moment Nm | Insert | 50 779 ... £ 2B/40 | | 50 779 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A273.63.R.05-08** | 63 | 76.7 | 5 | 5 | 50 | 22 | 48 | 5 | ONKU 0806 | 559.58 | **06300** | | |
| **A273.63.R.06-08** | 63 | 76.7 | 6 | 5 | 50 | 22 | 48 | 5 | ONKU 0806 | | | 817.32 | **16300**[1] |
| **A273.80.R.06-08** | 80 | 93.7 | 6 | 5 | 50 | 27 | 58 | 5 | ONKU 0806 | 680.12 | **08000** | | |
| **A273.80.R.08-08** | 80 | 93.7 | 8 | 5 | 50 | 27 | 58 | 4 | ONKU 0806 | | | 1,032.92 | **18000**[1] |
| **A273.100.R.07-08** | 100 | 113.7 | 7 | 5 | 63 | 32 | 78 | 5 | ONKU 0806 | 707.56 | **10000** | | |
| **A273.100.R.09-08** | 100 | 113.7 | 9 | 5 | 63 | 32 | 78 | 4 | ONKU 0806 | | | 1,076.04 | **20000**[1] |
| **A273.125.R.08-08** | 125 | 138.7 | 8 | 5 | 63 | 40 | 88 | 5 | ONKU 0806 | 823.20 | **12500** | | |
| **A273.125.R.11-08** | 125 | 138.7 | 11 | 5 | 63 | 40 | 88 | 4 | ONKU 0806 | | | 1,337.70 | **22500**[1] |
| **A273.160.R.10-08** | 160 | 173.7 | 10 | 5 | 63 | 40 | 98 | 5 | ONKU 0806 | 1,274.00 | **16000**[3] | | |
| **A273.160.R.14-08** | 160 | 173.7 | 14 | 5 | 63 | 40 | 98 | 4 | ONKU 0806 | | | 1,626.80 | **26000**[2] |

**1)** Version with Wedge
**2)** Version with Wedge, without internal coolant supply / With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm
**3)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

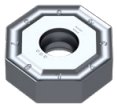
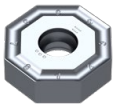
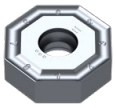
| Spare parts for Article no. | TORX® blade 80 950 ... £ Y7 | | Clamping wedge screw 70 950 ... £ 2A/28 | | Clamping wedge Face mill 70 950 ... £ 2A/28 | | Key D 80 950 ... £ Y7 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 779 06300 | 8.49 | **055** | | | | | 21.03 | **129** | 5.06 | **303** | 4.89 | **821** | 232.67 | **193** |
| 50 779 16300 | 8.49 | **036** | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | 5.06 | **303** | | | 232.67 | **193** |
| 50 779 08000 | 8.49 | **055** | | | | | 21.03 | **129** | 5.06 | **303** | 4.89 | **821** | 232.67 | **193** |
| 50 779 18000 | 8.49 | **036** | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | 5.06 | **303** | | | 232.67 | **193** |
| 50 779 10000 | 8.49 | **055** | | | | | 21.03 | **129** | 5.06 | **303** | 4.89 | **821** | 232.67 | **193** |
| 50 779 20000 | 8.49 | **036** | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | 5.06 | **303** | | | 232.67 | **193** |
| 50 779 12500 | 8.49 | **055** | | | | | 21.03 | **129** | 5.06 | **303** | 4.89 | **821** | 232.67 | **193** |
| 50 779 22500 | 8.49 | **036** | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | 5.06 | **303** | | | 232.67 | **193** |
| 50 779 16000 | 8.49 | **055** | | | | | 21.03 | **129** | 5.06 | **303** | 4.89 | **821** | 232.67 | **193** |
| 50 779 26000 | 8.49 | **036** | 6.81 | **844** | 27.19 | **845** | 15.56 | **113** | 5.06 | **303** | | | 232.67 | **193** |

# ONKU

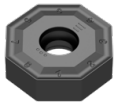
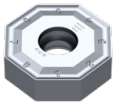
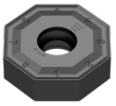
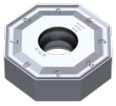
| Designation | IC mm | D1 mm | L mm | S mm |
|---|---|---|---|---|
| ONKU 0806.. | 22 | 5.8 | 8.45 | 6.45 |




# ONKU

| | | NEW | NEW | NEW | NEW | NEW |
|---|---|---|---|---|---|---|
| | | -M50 CTCP230 | -M50 CTPP235 | -M50 CTPM240 | -M50 CTCK215 | -M50 CTPK220 |
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |
| | | ONKU | ONKU | ONKU | ONKU | ONKU |
| | | 51 163 ... | 51 163 ... | 51 163 ... | 51 163 ... | 51 163 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 080608SN | 0.8 | 30.77 00800 | 30.77 10800 | 30.77 20800 | 30.77 50800 | 30.77 60800 |
| P | | ● | ● | ○ | | |
| M | | | ○ | ● | | |
| K | | ○ | ○ | | ● | ● |
| N | | | | | | |
| S | | | | | | |
| H | | | | | | |
| O | | | | | | |

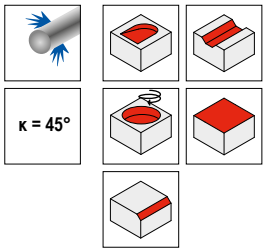
# ONKU

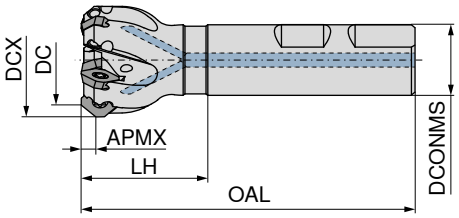
| | | NEW | NEW | NEW | NEW |
|---|---|---|---|---|---|
| | | -R50 CTCP230 | -R50 CTPP235 | -R50 CTCK215 | -R50 CTPK220 |
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | ONKU | ONKU | ONKU | ONKU |
| | | 51 164 ... | 51 164 ... | 51 164 ... | 51 164 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 080608SN | 0.8 | 30.77 00800 | 30.77 10800 | 30.77 50800 | 30.77 60800 |
| P | | ● | ● | | |
| M | | | ○ | | |
| K | | ○ | ○ | ● | ● |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 155 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

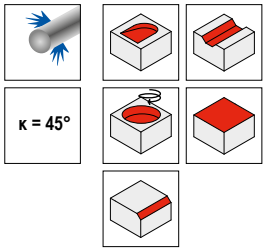
# **MaxiMill** – 270-09 End milling cutter

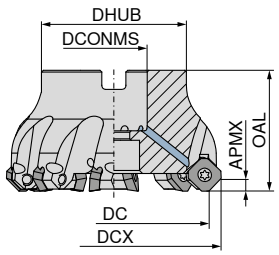



| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | torque moment Nm | Insert | 50 666 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C270.06.R.01-09 | 6 | 14.4 | 1 | 4 | 80 | 32 | 16 | 1,2 | SD.. 0903.. | 156.76 | 006 |
| C270.12.R.01-09 | 12 | 20.4 | 1 | 4 | 80 | 32 | 16 | 1,2 | SD.. 0903.. | 173.17 | 012 |
| C270.16.R.02-09 | 16 | 24.4 | 2 | 4 | 90 | 40 | 20 | 1,8 | SD.. 0903.. | 197.17 | 016 |
| C270.20.R.03-09 | 20 | 28.4 | 3 | 4 | 90 | 40 | 20 | 1,8 | SD.. 0903.. | 250.86 | 020 |
| C270.25.R.04-09 | 25 | 33.4 | 4 | 4 | 100 | 44 | 25 | 1,8 | SD.. 0903.. | 355.46 | 025 |
| C270.32.R.05-09 | 32 | 40.4 | 5 | 4 | 95 | 36 | 25 | 1,8 | SD.. 0903.. | 418.13 | 032 |

# **MaxiMill** – 270-09 Shell mill



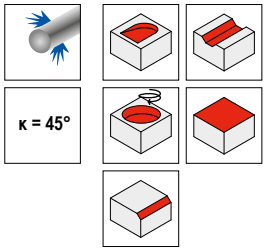

| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | torque moment Nm | Insert | 50 705 ... £ 2B/40 | | 50 706 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A270.32.R.05-09 | 32 | 40.4 | 5 | 4 | 40 | 34 | 16 | 1,8 | SD../XD.. 0903.. | | | 400.11 | 532 |
| A270.40.R.04-09 | 40 | 48.4 | 4 | 4 | 40 | 38 | 16 | 1,8 | SD../XD.. 0903.. | 410.63 | 540 | | |
| A270.40.R.06-09 | 40 | 48.4 | 6 | 4 | 40 | 38 | 16 | 1,8 | SD../XD.. 0903.. | | | 463.04 | 540 |
| A270.50.R.06-09 | 50 | 58.4 | 6 | 4 | 40 | 43 | 22 | 1,8 | SD../XD.. 0903.. | 476.43 | 550 | | |
| A270.50.R.08-09 | 50 | 58.4 | 8 | 4 | 40 | 43 | 22 | 1,8 | SD../XD.. 0903.. | | | 570.51 | 550 |
| A270.63.R.08-09 | 63 | 71.4 | 8 | 4 | 40 | 48 | 22 | 1,8 | SD../XD.. 0903.. | 577.89 | 563 | | |
| A270.63.R.10-09 | 63 | 71.4 | 10 | 4 | 40 | 48 | 22 | 1,8 | SD../XD.. 0903.. | | | 719.78 | 563 |
| A270.80.R.10-09 | 80 | 88.4 | 10 | 4 | 50 | 58 | 27 | 1,8 | SD../XD.. 0903.. | 730.17 | 580 | | |
| A270.80.R.12-09 | 80 | 88.4 | 12 | 4 | 50 | 58 | 27 | 1,8 | SD../XD.. 0903.. | | | 865.94 | 580 |
| A270.100.R.12-09 | 100 | 108.4 | 12 | 4 | 50 | 78 | 32 | 1,8 | SD../XD.. 0903.. | 881.06 | 600 | | |
| A270.100.R.14-09 | 100 | 108.4 | 14 | 4 | 50 | 78 | 32 | 1,8 | SD../XD.. 0903.. | | | 1,023.05 | 600 |
| A270.125.R.12-09 | 125 | 133.4 | 12 | 4 | 63 | 88 | 40 | 1,8 | SD../XD.. 0903.. | 1,030.43 | 625 | | |

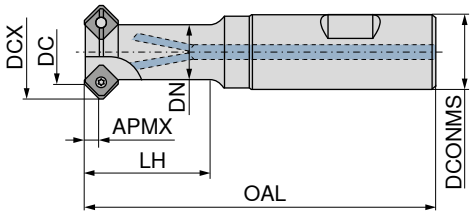
▲ 50 705 ... Normal pitch for a broad spectrum of use on aluminum alloys, non-ferrous metals, and soft steel materials
▲ 50 706 ... Fine pitch for highest feed rates, predominantly used on steel and cast materials

15

# **MaxiMill** – 272-09 Chamfer milling cutter

▲ Usable on front and rear cutting edges




**50 669 ...**

| Designation | DC mm | DCX mm | ZNF | APMX mm | DN mm | OAL mm | LH mm | DCONMS mm | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C272.06.R.01-09** | 6 | 14.4 | 1 | 4 | 10 | 91 | 24.0 | 16 | 1,2 | SD.. 0903.. | 186.44 | **10600** |
| **C272.08.R.01-09** | 8 | 16.4 | 1 | 4 | 10 | 91 | 25.5 | 16 | 1,2 | SD.. 0903.. | 207.80 | **008** |
| **C272.12.R.01-09** | 12 | 20.4 | 1 | 4 | 12 | 91 | 26.0 | 16 | 1,2 | SD.. 0903.. | 213.57 | **012** |
| **C272.16.R.02-09** | 16 | 24.4 | 2 | 4 | 15 | 97 | 30.0 | 20 | 1,8 | SD.. 0903.. | 262.86 | **016** |
| **C272.18.R.02-09** | 18 | 26.4 | 2 | 4 | 16 | 97 | 30.0 | 20 | 1,8 | SD.. 0903.. | 262.86 | **018** |
| **C272.25.R.03-09** | 25 | 33.4 | 3 | 4 | 21 | 109 | 35.0 | 25 | 1,8 | SD.. 0903.. | 307.53 | **025** |


TORX® blade


Key D


Molykote

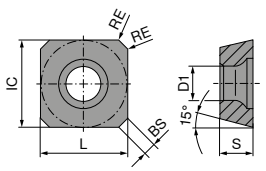

Clamping screw


Torque screw-driver

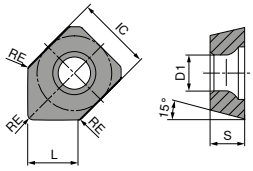
| | **80 950 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Spare parts** | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | 2A/28 | | 2A/28 | | Y7 | |
| 6 - 12 | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 3.61 | **365** | 207.73 | **191** |
| 16 - 25 | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 2.98 | **115** | 207.73 | **191** |

# SDHW / SDNT / SDHT / XDHW

| Designation | IC | D1 | L | BS | S |
|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm |
| XDHW 0903.. | 9.52 | 3.4 | 5.50 | 1.68 | 3.18 |
| SD.. 0903.. | 9.52 | 3.4 | 9.52 | 1.68 | 3.18 |

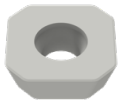
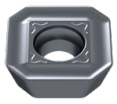
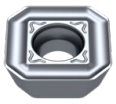
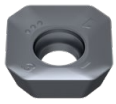


SD..

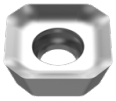
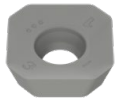


XDHW

# SDHW / SDNT / SDHT

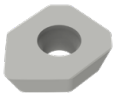
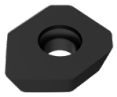
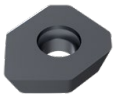
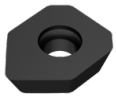
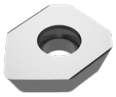
| | TCM10 | -29 CTCP230 | -29 CTPP235 | -33 CTPM240 | -33P CTPM240 | -F50 CTPM245 | -F50 CTCM245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |  |  |  |
| | CERMET | | | | | | |
| | SDHW | SDNT | SDNT | SDHT | SDHT | SDHT | SDHT |
| | 50 428 ... | 51 011 ... | 51 011 ... | 51 028 ... | 51 086 ... | 51 109 ... | 51 109 ... |
| ISO / RE mm | £ 1B/79 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 0903AESN / 1 | 18.44 **898** | 15.93 **020** | 15.93 **120** | 18.19 **420** | 19.14 **420** | 22.63 **470** | 22.63 **92001** |
| P | ● | ● | ● | ○ | ○ | ● | ● |
| M | | | ○ | ● | ● | ● | ● |
| K | ○ | ○ | ○ | | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SDNT / SDHT

| | | | NEW | | | |
|---|---|---|---|---|---|---|
| | -31 CTCK215 | -F10 CTPX715 | -27P H216T | -M31 CTC5240 | -F50 CTCS245 |
| | DRAGONSKIN | DRAGONSKIN | | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |  |
| | SDNT | SDHT | SDHT | SDHT | SDHT |
| | 51 029 ... | 51 160 ... | 50 426 ... | 50 421 ... | 51 109 ... |
| ISO / RE mm | £ 1B/61 | £ 1A/90 | £ 1A/90 | £ 1H/17 | £ 1H/17 |
| 0903AEFN / 1 | | 23.93 **02002** | 18.19 **548** | | |
| 0903AESN / 1 | 15.24 **520** | | | 22.63 **509** | 22.63 **57100** |
| P | | ○ | | | |
| M | | ○ | | | |
| K | ● | ● | ○ | | |
| N | | ● | ● | | |
| S | | ○ | | ● | ● |
| H | | | | | |
| O | | ○ | ○ | | |

# XDHW

▲ Masterfinish indexable insert (sweeper insert)

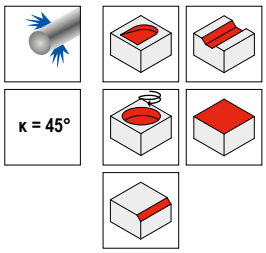
| | | TCM10 | CTCP230 | CTPP235 | CTCK215 | H216T |
|---|---|---|---|---|---|---|
| | | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | |
| | |  |  |  |  |  |
| | | CERMET | | | | |
| | | XDHW | XDHW | XDHW | XDHW | XDHW |
| | | 50 449 ... | 51 015 ... | 51 015 ... | 51 015 ... | 50 449 ... |
| ISO | RE mm | £ 1B/79 | £ 1B/61 | £ 1B/61 | £ 1B/18 | £ 1B/61 |
| 0903AEEN | 1 | | | | 21.65 520 | |
| 0903AEFN | 1 | | | | | 19.14 548 |
| 0903AESN | 1 | 19.99 898 | 22.39 020 | 22.39 120 | | |
| P | | ● | ● | ● | | |
| M | | | | ○ | | |
| K | | ○ | ○ | ○ | ● | ○ |
| N | | | | | | ● |
| S | | | | | | |
| H | | | | | | |
| O | | | | | | ○ |

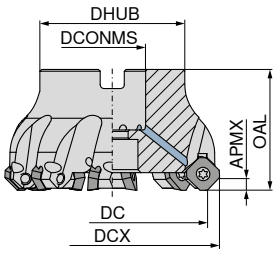
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 156 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# MaxiMill – 270-12 Shell mill

▲ 50 705 ... Normal pitch for a broad spectrum of use on aluminum alloys, non-ferrous metals, up to soft steel materials
▲ 50 706 ... Predominantly fine pitch for highest feed rates, use on steel and cast materials




| Designation | DC mm | DCX mm | ZNF | APMX mm | DCONMS mm | OAL mm | DHUB mm | torque moment Nm | Insert | 50 705 ... £ 2B/40 | | 50 706 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A270.40.R.03-12** | 40 | 54 | 3 | 6 | 16 | 40 | 38 | 5 | SD../XD.. 1204.. | 468.92 | **040** | | |
| **A270.40.R.04-12** | 40 | 54 | 4 | 6 | 16 | 40 | 38 | 5 | SD../XD.. 1204.. | | | 468.92 | **040** |
| **A270.50.R.04-12** | 50 | 64 | 4 | 6 | 22 | 40 | 43 | 5 | SD../XD.. 1204.. | 530.10 | **050** | | |
| **A270.50.R.05-12** | 50 | 64 | 5 | 6 | 22 | 40 | 43 | 5 | SD../XD.. 1204.. | | | 530.10 | **050** |
| **A270.63.R.04-12** | 63 | 77 | 4 | 6 | 22 | 40 | 48 | 5 | SD../XD.. 1204.. | 606.29 | **063** | | |
| **A270.63.R.06-12** | 63 | 77 | 6 | 6 | 22 | 40 | 48 | 5 | SD../XD.. 1204.. | | | 694.39 | **063** |
| **A270.80.R.05-12** | 80 | 94 | 5 | 6 | 27 | 50 | 58 | 5 | SD../XD.. 1204.. | 703.39 | **080** | | |
| **A270.80.R.08-12** | 80 | 94 | 8 | 6 | 27 | 50 | 58 | 5 | SD../XD.. 1204.. | | | 865.94 | **080** |
| **A270.100.R.06-12** | 100 | 114 | 6 | 6 | 32 | 50 | 78 | 5 | SD../XD.. 1204.. | 828.65 | **100** | | |
| **A270.100.R.10-12** | 100 | 114 | 10 | 6 | 32 | 50 | 78 | 5 | SD../XD.. 1204.. | | | 1,013.92 | **100** |
| **A270.125.R.07-12** | 125 | 139 | 7 | 6 | 40 | 63 | 88 | 5 | SD../XD.. 1204.. | 1,012.42 | **125** | | |
| **A270.125.R.12-12** | 125 | 139 | 12 | 6 | 40 | 63 | 88 | 5 | SD../XD.. 1204.. | | | 1,369.14 | **125** |
| **A270.160.R.08-12** | 160 | 174 | 8 | 6 | 40 | 63 | 94 | 5 | SD../XD.. 1204.. | 1,292.94 | **160** [1] | | |

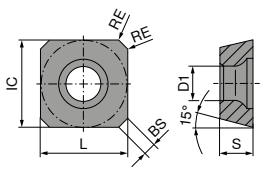
1) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

| Spare parts | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DC** | | | | | | | | | | | | | | |
| 40 | 8.49 | **037** | 6.07 | **040** | 16.66 | **114** | 15.12 | **151** | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |
| 50 - 160 | 8.49 | **037** | | | 16.66 | **114** | | | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |

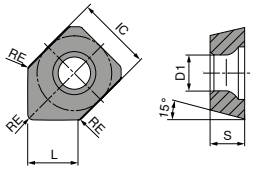
15

# SDHT / SDHW / SDMT / XDHW

| Designation | IC mm | D1 mm | L mm | BS mm | S mm |
|---|---|---|---|---|---|
| XDHW 1204.. | 12.7 | 5.5 | 7.5 | 1.74 | 4.76 |
| SD.. 1204.. | 12.7 | 5.5 | 12.7 | 1.74 | 4.76 |



SD..

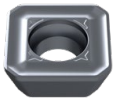


XDHW

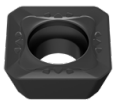
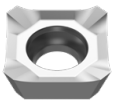
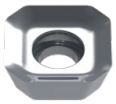
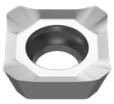
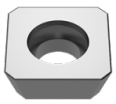
# SDHT / SDHW / SDMT

| ISO | RE mm | TCM10 | -R TCM10 | -29R CTCP230 DRAGONSKIN | -R CTCP230 DRAGONSKIN | CTCP230 DRAGONSKIN |
|---|---|---|---|---|---|---|
| | |  |  |  |  |  |
| | | CERMET SDHT | CERMET SDHW | SDMT | SDHT | SDHW |
| | | 50 426 ... | 50 428 ... | 51 010 ... | 51 006 ... | 51 008 ... |
| | | £ 1B/79 | £ 1B/79 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 1204AESN | 0.2 | 19.84 900 | | | | |
| 1204AESN | 1.0 | | 20.66 899 | 16.92 020 | 19.29 020 | 19.84 020 |
| P | | ● | ● | ● | ● | ● |
| M | | | | | | |
| K | | ○ | ○ | ○ | ○ | ○ |
| N | | | | | | |
| S | | | | | | |
| H | | | | | | |
| O | | | | | | |

# SDMT / SDHT / SDHW

| ISO | RE mm | -29R CTPP235 DRAGONSKIN | -R CTPP235 DRAGONSKIN | -R CTPP235 DRAGONSKIN | -33 CTPM240 DRAGONSKIN | -F50 CTPM245 DRAGONSKIN | -F50 CTCM245 DRAGONSKIN |
|---|---|---|---|---|---|---|---|
| | |  |  |  |  |  |  |
| | | SDMT | SDHT | SDHW | SDHT | SDHT | SDHT |
| | | 51 010 ... | 51 006 ... | 51 008 ... | 51 028 ... | 51 109 ... | 51 109 ... |
| | | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 1204AESN | 1 | 16.92 120 | 19.29 120 | 19.84 120 | 19.84 425 | 26.07 475 | 26.07 92501 |
| P | | ● | ● | ● | ○ | ● | ● |
| M | | ○ | ○ | ○ | ● | ● | ● |
| K | | ○ | ○ | ○ | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SDMT / SDHW / SDHT

| | | -31 CTCK215 | -R CTCK215 | -27 H216T | NEW -F10 CTPX715 | -27P H216T | H216T |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | | DRAGONSKIN | | |
| | |  |  |  |  |  |  |
| | | SDMT | SDHW | SDHT | SDHT | SDHT | SDHW |
| | | 51 059 ... | 51 008 ... | 50 426 ... | 51 160 ... | 50 426 ... | 50 428 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1A/90 | £ 1A/90 | £ 1A/90 | £ 1B/61 |
| 1204AEEN | 1.0 | 16.48 **520** | 19.84 **520** | | | | |
| 1204AEFN | 0.2 | | | 19.84 **504** | 26.12 **02502** | | |
| 1204AEFN | 1.0 | | | | | 19.84 **554** | |
| 1204AESN | 0.2 | | | | | | 16.48 **600** |
| P | | | | | ○ | | |
| M | | | | | ○ | | |
| K | | ● | ● | ○ | ● | ○ | ○ |
| N | | | | ● | ● | ● | ● |
| S | | | | | ○ | | |
| H | | | | | | | |
| O | | | | ○ | ○ | ○ | ○ |

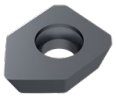
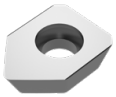
# SDHT

| | | -M31 CTC5240 | -F50 CTCS245 |
|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN |
| | |  |  |
| | | SDHT | SDHT |
| | | 50 421 ... | 51 109 ... |
| ISO | RE mm | £ 1H/17 | £ 1H/17 |
| 1204AESN | 1 | 26.07 **512** | 26.07 **57600** |
| P | | | |
| M | | | |
| K | | | |
| N | | | |
| S | | ● | ● |
| H | | | |
| O | | | |

15

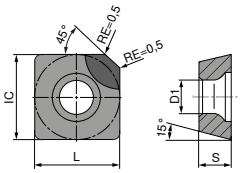
# XDHW

▲ Masterfinish indexable insert (sweeper insert)

| | | TCM10 | CTCP230 DRAGONSKIN | CTPP235 DRAGONSKIN | CTCK215 DRAGONSKIN | H216T |
|---|---|---|---|---|---|---|
| | |  |  |  |  |  |
| | | CERMET XDHW | XDHW | XDHW | XDHW | XDHW |
| | | 50 449 ... | 51 015 ... | 51 015 ... | 51 015 ... | 50 449 ... |
| ISO | RE mm | £ 1B/79 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 1204AEEN | 1 | | | | 26.13 525 | |
| 1204AEFN | 1 | | | | | 24.72 600 |
| 1204AESN | 1 | 26.13 900 | 27.41 025 | 27.41 125 | | |
| P | | ● | ● | ● | | |
| M | | | | ○ | | |
| K | | ○ | ○ | ○ | ● | ○ |
| N | | | | | | ● |
| S | | | | | | |
| H | | | | | | |
| O | | | | | | ○ |

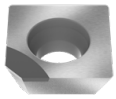
# SDHW

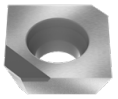
| Designation | IC | D1 | L | S |
|---|---|---|---|---|
| | mm | mm | mm | mm |
| SDHW 1204.. | 12.7 | 5.5 | 12.7 | 4.76 |



SDHW

# SDHW


CTDPS30


CTBS10U

**DIAMOND**
SDHW

**51 900 ...**

**CBN**
SDHW

**51 900 ...**

| ISO | £ V9 | | £ V9 | |
|---|---|---|---|---|
| 1204AEFN-2 | 129.33 | **100** [1] | | |
| 1204AEFN-3 | 127.60 | **102** [2] | | |
| 1204AETN-2 | | | 99.51 | **300** [1] |
| P | | | | |
| M | | | | |
| K | | | | ● |
| N | | ● | | |
| S | | | | |
| H | | | | ○ |
| O | | | | |

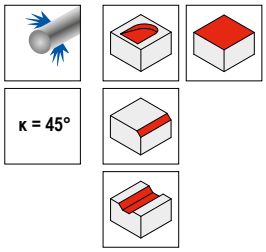
**1)** $a_{p\,max.}$ = 2.0 mm
**2)** $a_{p\,max.}$ = 3,5 mm

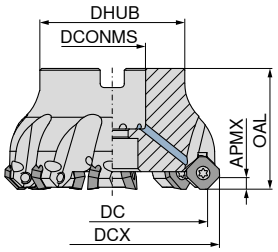
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 156 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |


15

# **MaxiMill** – 270-19 Shell mill



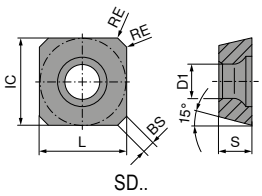

| | | | | | | | | | | Left-hand | | Right-hand | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | **50 698 ...** | | **50 698 ...** | |
| **Designation** | DC mm | DCX mm | ZNF | APMX mm | DCONMS mm | OAL mm | DHUB mm | torque moment Nm | Insert | £ 2B/40 | | £ 2B/40 | |
| **A270.125.R.07-19** | 125 | 146.4 | 7 | 10 | 40 | 63 | 88 | 5 | SD.. 1907.. | | | 907.96 | **12507** |
| **A270.160.R.09-19** | 160 | 181.4 | 9 | 10 | 40 | 63 | 104 | 5 | SD.. 1907.. | | | 1,150.05 | **16009**[1)] |
| **A270.200.R.11-19** | 200 | 221.1 | 11 | 10 | 60 | 63 | 134 | 5 | SD.. 1907.. | | | 1,392.23 | **20011**[2)] |
| **A270.250.L.14-19** | 250 | 271.4 | 14 | 10 | 60 | 63 | 134 | 5 | SD.. 1907.. | 2,602.06 | **75014**[2)] | | |
| **A270.250.R.14-19** | 250 | 271.4 | 14 | 10 | 60 | 63 | 134 | 5 | SD.. 1907.. | | | 2,602.06 | **25014**[2)] |
| **A270.315.L.17-19** | 315 | 336.4 | 17 | 10 | 60 | 63 | 226 | 5 | SD.. 1907.. | 3,082.29 | **81517**[4)] | | |
| **A270.315.R.17-19** | 315 | 336.4 | 17 | 10 | 60 | 63 | 226 | 5 | SD.. 1907.. | | | 3,082.29 | **31517**[3)] |

**1)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant
**2)** With threaded holes M16 on the front face, pitch circle diameter = 101.6 mm / Without Through Coolant
**3)** With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm and with 4 threaded holes M20 on the front face, pitch circle diameter = 177.8 mm / Without Through Coolant
**4)** With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm and with 4 threaded holes M20 on the front face, pitch circle diameter = 177.8 mm

| |  TORX® blade | |  Key D | |  Molykote | |  Clamping screw | |  Solid Carbide support S | |  Threaded sleeve | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 125 - 315 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 4.73 | **302** | 14.77 | **01500** | 16.70 | **01400** | 232.67 | **193** |

# SDKT

| Designation | IC | D1 | L | BS | S | AN |
|---|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm | ° |
| **SDKT 1907..** | 19.15 | 6 | 19.15 | 1.5 | 7.15 | 15 |



SD..

# SDKT

| | | -M50 CTCP220 | -R50 CTPP225 | -R50 CTCP230 | -M50 CTPP235 | -R50 CTPP235 | -R50 CTPM225 | -R50 CTCK215 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | SDKT | SDKT | SDKT | SDKT | SDKT | SDKT | SDKT |
| | | **51 131 ...** | **51 132 ...** | **51 132 ...** | **51 131 ...** | **51 132 ...** | **51 132 ...** | **51 132 ...** |
| **ISO** | RE | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| | mm | | | | | | | |
| **1907AESN** | 1.6 | 35.82 **22001** | 35.82 **07000** | 35.82 **02100** | 35.82 **12000** | 35.82 **12300** | 35.82 **22200** | 35.82 **52000** |
| P | | ● | ● | ● | ● | ● | ● | |
| M | | | | | ○ | ○ | ● | |
| K | | | | ○ | ○ | ○ | | ● |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |
| O | | | | | | | | |

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |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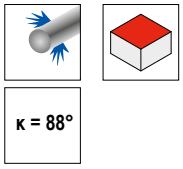
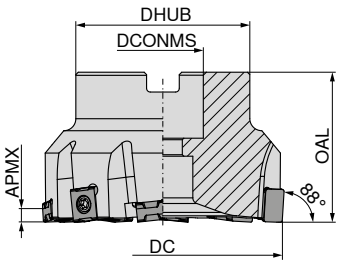
# **MaxiMill** – HEC 11 Shell mill

▲ not adjustable



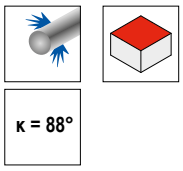

**50 725 ...**

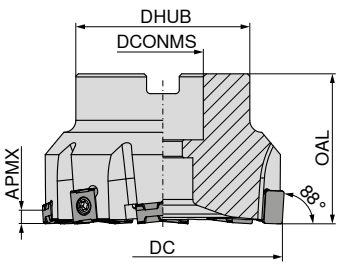
| Designation | DC mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHEC.50.R.06-11** | 50 | 6 | 6 | 40 | 48 | 22 | 12700 | 3,2 | LNHX 1106 | 626.62 | **050** |
| **AHEC.63.R.08-11** | 63 | 8 | 6 | 40 | 48 | 22 | 10100 | 3,2 | LNHX 1106 | 752.22 | **063** |
| **AHEC.80.R.10-11** | 80 | 10 | 6 | 50 | 58 | 27 | 8000 | 3,2 | LNHX 1106 | 919.61 | **080** |
| **AHEC.100.R.12-11** | 100 | 12 | 6 | 50 | 78 | 32 | 6400 | 3,2 | LNHX 1106 | 1,073.14 | **100** |
| **AHEC.125.R.12-11** | 125 | 12 | 6 | 63 | 88 | 40 | 5100 | 3,2 | LNHX 1106 | 1,225.99 | **125** |
| **AHEC.125.R.16-11** | 125 | 16 | 6 | 63 | 88 | 40 | 5100 | 3,2 | LNHX 1106 | 1,235.24 | **12516** |
| **AHEC.160.R.20-11** | 160 | 20 | 6 | 63 | 100 | 40 | 4000 | 3,2 | LNHX 1106 | 1,799.73 | **160** 1) |

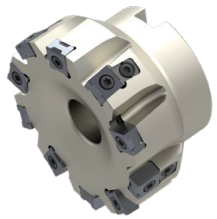
**1)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

# **MaxiMill** – HEC 11 Shell mill

▲ Axially adjustable with same tooth pitch



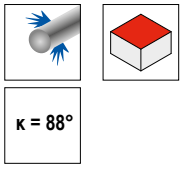
**50 733 ...**

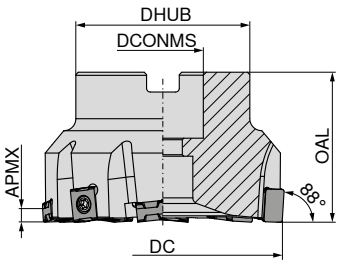
| Designation | DC mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHEC.50.R.06A03-11** | 50 | 6 | 6 | 40 | 48 | 22 | 12700 | 3,2 | LNHX 1106 | 949.52 | **050** |
| **AHEC.63.R.08A04-11** | 63 | 8 | 6 | 40 | 48 | 22 | 10100 | 3,2 | LNHX 1106 | 1,182.13 | **063** |
| **AHEC.80.R.10A05-11** | 80 | 10 | 6 | 50 | 58 | 27 | 8000 | 3,2 | LNHX 1106 | 1,458.03 | **080** |
| **AHEC.100.R.12A06-11** | 100 | 12 | 6 | 50 | 78 | 32 | 6400 | 3,2 | LNHX 1106 | 1,720.09 | **100** |
| **AHEC.125.R.16A08-11** | 125 | 16 | 6 | 63 | 88 | 40 | 5100 | 3,2 | LNHX 1106 | 2,327.32 | **125** |
| **AHEC.160.R.20A10-11** | 160 | 20 | 6 | 63 | 100 | 40 | 4000 | 3,2 | LNHX 1106 | 2,875.67 | **160** 1) |

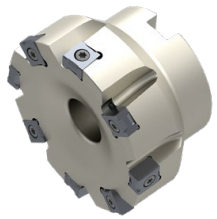
**1)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

# **MaxiMill** – HEC 11 Shell mill

▲ with irregular pitch, non adjustable



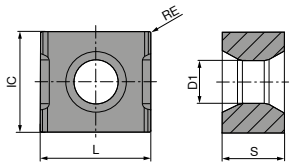
| Designation | DC | ZNF | APMX | OAL | DHUB | DCONMS | RPMX | torque moment | Insert | 50 733 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | 1/min. | Nm | | | |
| **AHEC.50.R.04B-11** | 50 | 4 | 6 | 40 | 48 | 22 | 12700 | 3,2 | LNHX 1106 | 488.79 | **550** |
| **AHEC.63.R.06B-11** | 63 | 6 | 6 | 40 | 48 | 22 | 10100 | 3,2 | LNHX 1106 | 607.45 | **563** |
| **AHEC.80.R.08B-11** | 80 | 8 | 6 | 50 | 58 | 27 | 8000 | 3,2 | LNHX 1106 | 778.54 | **580** |
| **AHEC.100.R.10B-11** | 100 | 10 | 6 | 50 | 78 | 32 | 6400 | 3,2 | LNHX 1106 | 1,000.65 | **600** |
| **AHEC.125.R.12B-11** | 125 | 12 | 6 | 63 | 88 | 40 | 5100 | 3,2 | LNHX 1106 | 1,223.69 | **625** |
| **AHEC.160.R.14B-11** | 160 | 14 | 6 | 63 | 100 | 40 | 4000 | 3,2 | LNHX 1106 | 1,519.21 | **660** [1] |

1) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

| Spare parts | TORX® blade | | Molykote | | Coolant Disc | | Clamping screw | | Wedge | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| **DC** | £ Y7 | | £ 2A/28 | | £ 2A/28 | | £ 2A/28 | | £ 2A/28 | | £ Y7 | |
| 50 - 63 | 8.49 | **036** | 5.06 | **303** | 29.06 | **852** | 3.61 | **113** | | | 232.67 | **193** |
| 80 | 8.49 | **036** | 5.06 | **303** | 29.70 | **853** | 3.61 | **113** | 42.48 | **199** | 232.67 | **193** |
| 100 | 8.49 | **036** | 5.06 | **303** | 32.70 | **854** | 3.61 | **113** | | | 232.67 | **193** |
| 125 | 8.49 | **036** | 5.06 | **303** | 43.10 | **855** | 3.61 | **113** | | | 232.67 | **193** |
| 160 | 8.49 | **036** | 5.06 | **303** | | | 3.61 | **113** | | | 232.67 | **193** |

# LNHX

| Designation | IC mm | D1 mm | L mm | S mm |
|---|---|---|---|---|
| LNHX 1106.. | 10 | 4.27 | 11 | 6.35 |



LNHX

# LNHX

| ISO | RE mm | CTEP210 DRAGONSKIN CERMET LNHX 51 046 ... £ 1B/79 | | CTCK215 DRAGONSKIN LNHX 51 046 ... £ 1B/61 | | -R50 CTCK215 DRAGONSKIN LNHX 51 024 ... £ 1B/61 | | -Q CTCK215 DRAGONSKIN LNHX 51 045 ... £ 1B/61 | |
|---|---|---|---|---|---|---|---|---|---|
| 1106PNER | 0.5 | | | 29.91 | 520 | 29.91 | 520 | | |
| 1106ZZER | 0.5 | | | | | | | 29.91 | 520 1) |
| 1106PNER | 0.8 | 34.69 | 820 | | | | | | |
| 110616EN | 1.6 | | | 29.91 | 51600 | | | | |
| P | | ● | | | | | | | |
| M | | | | | | | | | |
| K | | ● | | ● | | ● | | ● | |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

1) -Q = trailing edge insert

# LNHX

| ISO | RE mm | CTPK220 DRAGONSKIN LNHX 51 046 ... £ 1B/61 | | -R50 CTPK220 DRAGONSKIN LNHX 51 024 ... £ 1B/61 | | CTN3105 CERAMIC LNHX 50 500 ... £ 1G/55 | | CTL3215 CBN LNHX 51 046 ... £ 1G/21 | | -Q CTL3215 CBN LNHX 51 045 ... £ 1G/21 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 110608EN | 0.8 | | | 29.91 | 608 | | | | | | |
| 1106PNER | 0.5 | 29.91 | 620 | 29.91 | 620 | | | | | | |
| 1106PNSR | 0.5 | | | | | 28.20 | 904 | | | | |
| 1106PNSR | | | | | | | | 164.74 | 87200 | | |
| 1106ZZER | | | | | | | | | | 164.74 | 87000 1) |
| P | | | | | | | | | | | |
| M | | | | | | | | | | | |
| K | | ● | | ● | | ● | | ● | | ● | |
| N | | | | | | | | | | | |
| S | | | | | | | | | | | |
| H | | | | | | | | ○ | | ○ | |
| O | | | | | | | | | | | |

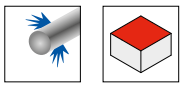
1) -Q = trailing edge insert

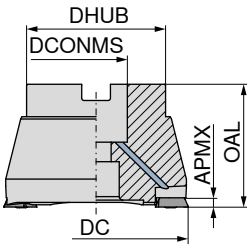
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Assembly instructions | → 157 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# Finishing cutter F 5000 A

▲ With µm-adjustable inserts
▲ Adjust with screw (56 950 017) and set with Torx 20 key (80 950 114)






| | | | | | | | | | 56 511 ... | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Designation** | DC mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | £ WA | |
| **F5000A.42.2.43.IK** | 42 | 2 | 0.2 | 43 | 16 | 35 | 3,2 | TEHX 16T3.. | 607.64 | **421** |
| **F5000A.52.2.43.IK** | 52 | 2 | 0.2 | 43 | 22 | 48 | 3,2 | TEHX 16T3.. | 731.74 | **521** |
| **F5000A.66.2.53.IK** | 66 | 2 | 0.2 | 53 | 27 | 60 | 3,2 | TEHX 16T3.. | 855.81 | **661** |
| **F5000A.80.2.53.IK** | 80 | 2 | 0.2 | 53 | 27 | 60 | 3,2 | TEHX 16T3.. | 979.73 | **801** |
| **F5000A.100.2.53** | 100 | 2 | 0.2 | 53 | 32 | 70 | 3,2 | TEHX 16T3.. | 1,103.76 | **910** 1) |

1) Without Through Coolant

| |  TORX® blade | |  Key-T | |  Key D | |  Power Screw | |  Axial runout adjustment screw | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **80 950 ...** | | **80 950 ...** | | **56 950 ...** | | **56 950 ...** | | **70 950 ...** | | **56 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | Y7 | | WA | | WA | | 2A/28 | | WA | | Y7 | |
| 42 | 8.49 | **036** | 8.88 | **088** | 16.66 | **114** | 54.81 | **121** | 7.04 | **017** | 5.06 | **303** | 7.33 | **028** | 232.67 | **193** |
| 52 | 8.49 | **036** | 8.88 | **088** | 15.56 | **113** | | | 7.04 | **017** | 5.06 | **303** | 7.33 | **028** | 232.67 | **193** |
| 66 | 8.49 | **036** | 8.88 | **088** | 15.56 | **113** | | | 7.04 | **017** | 5.06 | **303** | 7.33 | **028** | 232.67 | **193** |
| 80 | 8.49 | **036** | 8.88 | **088** | 15.56 | **113** | | | 7.04 | **017** | 5.06 | **303** | 7.33 | **028** | 232.67 | **193** |
| 100 | 8.49 | **036** | 8.88 | **088** | 15.56 | **113** | 54.81 | **121** | 7.04 | **017** | 5.06 | **303** | 7.33 | **028** | 232.67 | **193** |

## Description of article

▲ Tightening torque of the indexable insert clamping screw 56 950 028 is 3.2 Nm.
▲ This tool produces surfaces with excellent surface quality Rz ≤ 2.5 µm with high axial run-out precision.
▲ The two precision adjustment screws make adjustment to µm accuracy possible.
▲ Additional grinding is therefore avoided, so machining time and costs are reduced.
▲ The tool is also well-suited for unstable workpieces and low power machines.

The screws for the adjustment of the axial run-out are mounted on every milling cutter and have to be tightened to a preset value. Otherwise there is the danger that the screws loosen during the machining operation. This can result in damage of the workpiece or tool and also cause danger for the machine operator. Should the screws for fine adjustment not be needed we recommend to remove them from the tool.

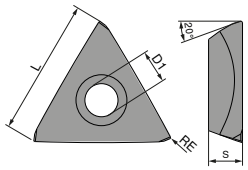
| Material | $v_c$ m/min | $f_z$ mm | $a_p$ mm |
|---|---|---|---|
| Steel | 150–250*) | 0,5–2 | 0,05–0,2 |
| Cast iron | 150–250*) | 0,5–2 | 0,05–0,2 |
| Hardened materials ≤ 56 HRC | 35–200*) | 0,2–1 | 0,05–0,1 |

*) Depending on the machining and structural state of the processed workpiece.

15

# TEHX

| Designation | L<br>mm | S<br>mm | D1<br>mm |
|---|---|---|---|
| **TEHX 16T3..** | 14.32 | 4.00 | 3.9 |




# TEHX

WTN1205

TEHX

**56 327 ...**

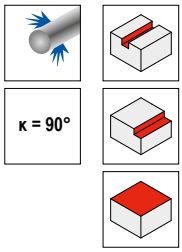
| ISO | RE<br>mm | £<br>WB | |
|---|---|---|---|
| **16T3ZF** | 0.2 | 36.54 | **151** |

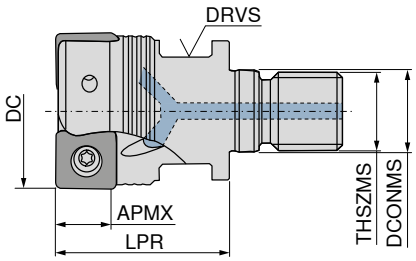
| | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | |
| S | |
| H | ● |
| O | |

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

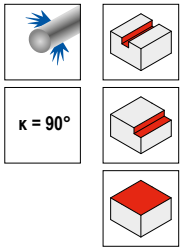
# MaxiMill – 491-09 Screw in cutter

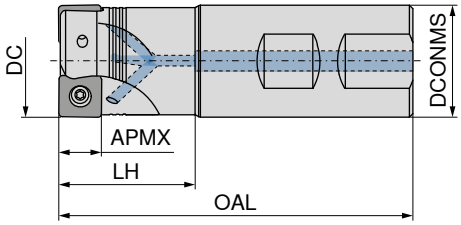



| Designation | DC mm | ZNF | APMX mm | LPR mm | THSZMS | DCONMS mm | DRVS mm | torque moment Nm | Insert | 50 773 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G491.25.R.03-09 | 25 | 3 | 6 | 35 | M12 | 12.5 | 17 | 2 | SNHU 09T3 | 405.55 | 125 |
| G491.32.R.03-09 | 32 | 3 | 6 | 35 | M16 | 17.0 | 24 | 2 | SNHU 09T3 | 411.66 | 132 |
| G491.32.R.04-09 | 32 | 4 | 6 | 35 | M16 | 17.0 | 24 | 2 | SNHU 09T3 | 459.92 | 232 |

# MaxiMill – 491-09 End milling cutter




| Designation | DC mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | 50 774 ... £ 2B/40 | | 50 774 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C491.25.R.03-09-B-32 | 25 | 3 | 6 | 89 | 32 | 25 | 23500 | 2 | SNHU 09T3 | | | 411.66 | 425 |
| C491.25.R.03-09-A-50-225 | 25 | 3 | 6 | 225 | 50 | 25 | 23500 | 2 | SNHU 09T3 | 411.66 | 325 | | |
| C491.32.R.03-09-B-40 | 32 | 3 | 6 | 101 | 40 | 32 | 19600 | 2 | SNHU 09T3 | | | 423.67 | 632 |
| C491.32.R.04-09-B-40 | 32 | 4 | 6 | 101 | 40 | 32 | 19600 | 2 | SNHU 09T3 | | | 459.92 | 432 |
| C491.32.R.03-09-A-63-250 | 32 | 3 | 6 | 250 | 63 | 32 | 19600 | 2 | SNHU 09T3 | 423.67 | 532 | | |
| C491.32.R.04-09-A-63-250 | 32 | 4 | 6 | 250 | 63 | 32 | 19600 | 2 | SNHU 09T3 | 459.92 | 332 | | |


TORX® blade


Key D


Molykote

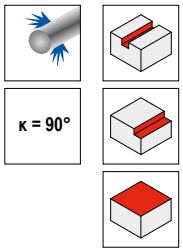

Clamping screw

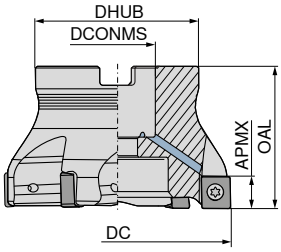

Torque screw-driver

| Spare parts DC | 80 950 ... £ Y7 | | 80 950 ... £ Y7 | | 70 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | | 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 - 32 | 8.49 | 053 | 14.90 | 119 | 5.06 | 303 | 3.57 | 710 | 232.67 | 193 |
| 32 | 8.49 | 054 | 20.03 | 128 | 5.06 | 303 | 3.61 | 859 | 232.67 | 193 |

15

# **MaxiMill** – 491-09 Shell mill



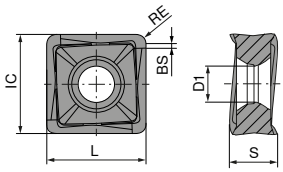




| | | | | | | | | | | 50 776 ... | | 50 775 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Designation** | DC<br>mm | ZNF | APMX<br>mm | OAL<br>mm | DHUB<br>mm | DCONMS<br>mm | RPMX<br>1/min. | torque moment<br>Nm | Insert | £<br>2B/40 | | £<br>2B/40 | |
| **A491.40.R.03-09** | 40 | 3 | 6 | 40 | 38 | 16 | 16800 | 2 | SNHU 09T3 | | | 447.80 | **240** |
| **A491.40.R.05-09** | 40 | 5 | 6 | 40 | 38 | 16 | 16800 | 2 | SNHU 09T3 | 520.53 | **240** | | |
| **A491.50.R.04-09** | 50 | 4 | 6 | 40 | 43 | 22 | 14600 | 2 | SNHU 09T3 | | | 496.29 | **250** |
| **A491.50.R.06-09** | 50 | 6 | 6 | 40 | 43 | 22 | 14600 | 2 | SNHU 09T3 | 568.90 | **250** | | |
| **A491.63.R.05-09** | 63 | 5 | 6 | 40 | 48 | 22 | 12700 | 2 | SNHU 09T3 | | | 593.13 | **263** |
| **A491.63.R.08-09** | 63 | 8 | 6 | 40 | 48 | 22 | 12700 | 2 | SNHU 09T3 | 702.00 | **263** | | |
| **A491.80.R.06-09** | 80 | 6 | 6 | 50 | 58 | 27 | 11100 | 2 | SNHU 09T3 | | | 629.52 | **280** |
| **A491.80.R.10-09** | 80 | 10 | 6 | 50 | 58 | 27 | 11100 | 2 | SNHU 09T3 | 774.73 | **280** | | |
| **A491.100.R.07-09** | 100 | 7 | 6 | 50 | 78 | 32 | 9800 | 2 | SNHU 09T3 | | | 798.85 | **300** |
| **A491.100.R.12-09** | 100 | 12 | 6 | 50 | 78 | 32 | 9800 | 2 | SNHU 09T3 | 980.44 | **300** | | |
| **A491.125.R.08-09** | 125 | 8 | 6 | 63 | 88 | 40 | 8700 | 2 | SNHU 09T3 | | | 968.33 | **325** |
| **A491.125.R.15-09** | 125 | 15 | 6 | 63 | 88 | 40 | 8700 | 2 | SNHU 09T3 | 1,186.75 | **325** | | |

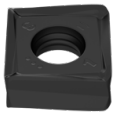
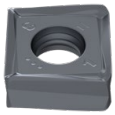
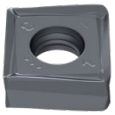
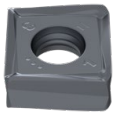
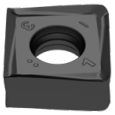
| | <br>TORX® blade | |  <br>Clamping key – T | |  <br>Key D | |  <br>Power Screw | |  <br>Molykote | |  <br>Clamping screw | |  <br>Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **80 397 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £<br>Y7 | | £<br>Y7 | | £<br>Y7 | | £<br>2A/28 | | £<br>2A/28 | | £<br>2A/28 | | £<br>Y7 | |
| **DC** | | | | | | | | | | | | | | |
| 40 | 8.49 | **053** | 6.07 | **040** | 14.90 | **119** | 15.12 | **151** | 5.06 | **303** | 3.57 | **710** | 232.67 | **193** |
| 50 - 125 | 8.49 | **053** | | | 14.90 | **119** | | | 5.06 | **303** | 3.57 | **710** | 232.67 | **193** |

# SNHU

| Designation | IC | L | S | D1 |
|---|---|---|---|---|
| | mm | mm | mm | mm |
| SNHU 09T3.. | 9.15 | 9.15 | 3.70 | 3.85 |

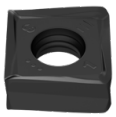



# SNHU

| | | -M50 CTCP230 | -M50 CTPP235 | -F50 CTPM240 | -M50 CTPM240 | -F40 CTPM245 | -F40 CTCM245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |
| | | SNHU | SNHU | SNHU | SNHU | SNHU | SNHU |
| | | 51 120 ... | 51 120 ... | 51 119 ... | 51 120 ... | 51 126 ... | 51 126 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 09T308ER | 0.8 | | | | | 31.70 45800 | 31.70 90801 |
| 09T308SR | 0.8 | 25.34 008 | 25.34 108 | 25.34 408 | 25.34 408 | | |
| 09T312SR | 1.2 | 25.34 01200 | 25.34 11200 | 25.34 41200 | 25.34 41200 | | |
| 09T316SR | 1.6 | 25.34 01600 | 25.34 11600 | 25.34 41600 | 25.34 41600 | | |
| P | | ● | ● | ○ | ○ | ● | ● |
| M | | | ○ | ● | ● | ● | ● |
| K | | ○ | ○ | | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SNHU

NEW

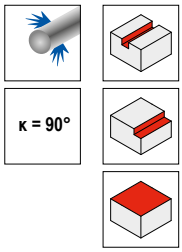
| | | -R50 CTCK215 | -R50 CTPK220 | -F10 CTPX715 | -F10 CTWN215 | -F40 CTC5240 | -F40 CTCS245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |
| | | SNHU | SNHU | SNHU | SNHU | SNHU | SNHU |
| | | 51 121 ... | 51 121 ... | 51 118 ... | 51 118 ... | 51 126 ... | 51 126 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 09T308ER | 0.8 | | | | | 31.70 15800 | 31.70 55800 |
| 09T308FR | 0.8 | | | 33.47 00802 | 25.34 358 | | |
| 09T308SR | 0.8 | 25.34 508 | 25.34 60800 | | | | |
| 09T312FR | 1.2 | | | | 25.34 36200 | | |
| 09T312SR | 1.2 | 25.34 51200 | | | | | |
| 09T316FR | 1.6 | | | | 25.34 36600 | | |
| 09T316SR | 1.6 | 25.34 51600 | | | | | |
| P | | | | ○ | | | |
| M | | | | ○ | | | |
| K | | ● | ● | ● | ○ | | |
| N | | | | ● | ● | | |
| S | | | | ○ | | ● | ● |
| H | | | | | | | |
| O | | | | ○ | ○ | | |

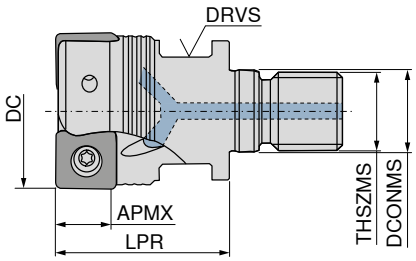
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 159 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |


15

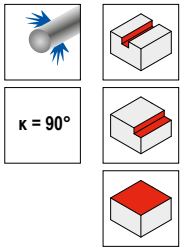
# **MaxiMill** – 491-12 Screw in cutter

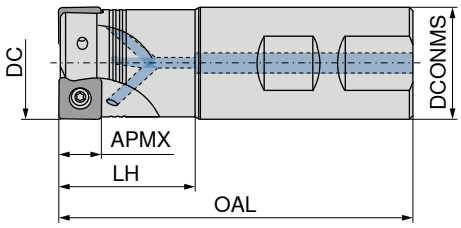



| Designation | DC mm | ZNF | APMX mm | LPR mm | THSZMS | DCONMS mm | DRVS mm | torque moment Nm | Insert | 50 773 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **G491.32.R.02-12** | 32 | 2 | 8 | 35 | M16 | 17 | 24 | 3,2 | SNHU 1204 | 387.42 | **032** |

# **MaxiMill** – 491-12 End milling cutter




| Designation | DC mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | 50 774 ... £ 2B/40 | | 50 774 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C491.32.R.02-12-B-40** | 32 | 2 | 8 | 102 | 40 | 32 | 13600 | 3,2 | SNHU 1204 | | | 387.42 | **032** |
| **C491.32.R.02-12-A-63-250** | 32 | 2 | 8 | 250 | 63 | 32 | 10200 | 3,2 | SNHU 1204 | 387.42 | **232** | | |

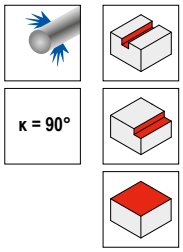


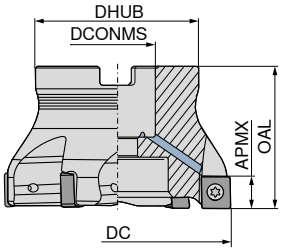





| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 - 32 | 8.49 | **053** | 14.90 | **119** | 5.06 | **303** | 3.57 | **710** | 232.67 | **193** |
| 32 | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |

# **MaxiMill** – 491-12 Shell mill



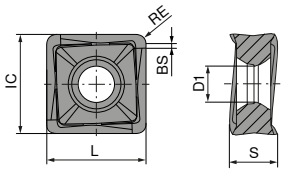

| | | | | | | | | | | 50 776 ... | | 50 775 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Designation** | DC | ZNF | APMX | OAL | DHUB | DCONMS | RPMX | torque moment | Insert | £ | | £ | |
| | mm | | mm | mm | mm | mm | 1/min. | Nm | | 2B/40 | | 2B/40 | |
| **A491.40.R.03-12** | 40 | 3 | 8 | 40 | 38 | 16 | 11500 | 3,2 | SNHU 1204 | | | 447.80 | **040** |
| **A491.40.R.04-12** | 40 | 4 | 8 | 40 | 38 | 16 | 11500 | 3,2 | SNHU 1204 | 484.16 | **040** | | |
| **A491.50.R.04-12** | 50 | 4 | 8 | 40 | 43 | 22 | 9800 | 3,2 | SNHU 1204 | | | 496.29 | **050** |
| **A491.50.R.05-12** | 50 | 5 | 8 | 40 | 43 | 22 | 9800 | 3,2 | SNHU 1204 | 532.64 | **050** | | |
| **A491.63.R.05-12** | 63 | 5 | 8 | 40 | 48 | 22 | 8500 | 3,2 | SNHU 1204 | | | 593.13 | **063** |
| **A491.63.R.06-12** | 63 | 6 | 8 | 40 | 48 | 22 | 8500 | 3,2 | SNHU 1204 | 629.52 | **063** | | |
| **A491.80.R.06-12** | 80 | 6 | 8 | 50 | 58 | 27 | 7400 | 3,2 | SNHU 1204 | | | 629.52 | **080** |
| **A491.80.R.08-12** | 80 | 8 | 8 | 50 | 58 | 27 | 7400 | 3,2 | SNHU 1204 | 726.26 | **080** | | |
| **A491.100.R.07-12** | 100 | 7 | 8 | 50 | 78 | 32 | 6500 | 3,2 | SNHU 1204 | | | 798.85 | **100** |
| **A491.100.R.10-12** | 100 | 10 | 8 | 50 | 78 | 32 | 6500 | 3,2 | SNHU 1204 | 907.96 | **100** | | |
| **A491.125.R.08-12** | 125 | 8 | 8 | 63 | 88 | 40 | 5700 | 3,2 | SNHU 1204 | | | 968.33 | **125** |
| **A491.125.R.12-12** | 125 | 12 | 8 | 63 | 88 | 40 | 5700 | 3,2 | SNHU 1204 | 1,113.67 | **125** | | |
| **A491.160.R.09-12** | 160 | 9 | 8 | 63 | 98 | 40 | 5000 | 3,2 | SNHU 1204 | | | 1,125.79 | **160** [1] |
| **A491.160.R.14-12** | 160 | 14 | 8 | 63 | 98 | 40 | 5000 | 3,2 | SNHU 1204 | 1,307.96 | **160** [1] | | |

**1)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

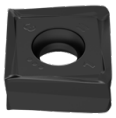
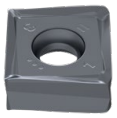
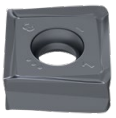
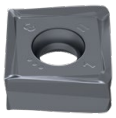
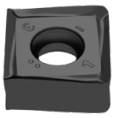
| |  TORX® blade | |  Clamping key – T | |  Key D | |  Power Screw | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **80 397 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 40 | 8.49 | **054** | 6.07 | **040** | 20.03 | **128** | 15.12 | **151** | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |
| 50 - 160 | 8.49 | **054** | | | 20.03 | **128** | | | 5.06 | **303** | 3.61 | **859** | 232.67 | **193** |

# SNHU

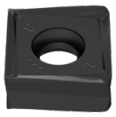
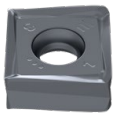
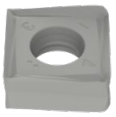
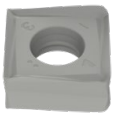
| Designation | IC | L | S | D1 |
|---|---|---|---|---|
| | mm | mm | mm | mm |
| SNHU 1204.. | 12.2 | 12.2 | 5.00 | 4.4 |




# SNHU

| | | -M50 CTCP230 | -M50 CTPP235 | -F50 CTPM240 | -M50 CTPM240 | -F40 CTPM245 | -F40 CTCM245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |
| | | SNHU | SNHU | SNHU | SNHU | SNHU | SNHU |
| | | 51 100 ... | 51 100 ... | 51 102 ... | 51 100 ... | 51 128 ... | 51 128 ... |
| ISO | RE | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| | mm | | | | | | |
| 120408ER | 0.8 | | | | | 38.06 **45800** | 38.06 **90801** |
| 120408SR | 0.8 | 30.95 **008** | 30.95 **108** | 30.95 **408** | 30.95 **408** | | |
| 120412SR | 1.2 | | 30.95 **112** | 30.95 **412** | | | |
| 120416SR | 1.6 | | 30.95 **116** | 30.95 **416** | | | |
| 120420SR | 2.0 | | 30.95 **120** | 30.95 **420** | | | |
| P | | ● | ● | ○ | ○ | ● | ● |
| M | | | ○ | ● | ● | ● | ● |
| K | | ○ | ○ | | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SNHU

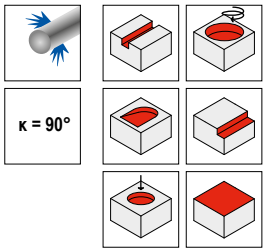
| ISO | RE mm | -R50 CTCK215 DRAGONSKIN | | -R50 CTPK220 DRAGONSKIN | | NEW -F10 CTPX715 DRAGONSKIN | | -F10 CTWN215 | | -F40 CTC5240 DRAGONSKIN | | -F40 CTCS245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  SNHU | |  SNHU | |  SNHU | |  SNHU | |  SNHU | |  SNHU | |
| | | 51 103 ... | | 51 103 ... | | 51 101 ... | | 51 101 ... | | 51 128 ... | | 51 128 ... | |
| | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | |
| 120408ER | 0.8 | | | | | | | | | 38.06 | 15800 | 38.06 | 55800 |
| 120408FR | 0.8 | | | | | 40.88 | 00802 | 30.95 | 358 | | | | |
| 120408SR | 0.8 | 30.95 | 508 | 30.95 | 608 | | | | | | | | |
| 120412FR | 1.2 | | | | | | | 30.95 | 362 | | | | |
| 120412SR | 1.2 | 30.95 | 512 | | | | | | | | | | |
| 120416FR | 1.6 | | | | | | | 30.95 | 366 | | | | |
| 120416SR | 1.6 | 30.95 | 516 | | | | | | | | | | |
| 120420FR | 2.0 | | | | | | | 30.95 | 370 | | | | |
| 120420SR | 2.0 | 30.95 | 520 | | | | | | | | | | |
| P | | | | | | ○ | | | | | | | |
| M | | | | | | ○ | | | | | | | |
| K | | ● | | ● | | ● | | ○ | | | | | |
| N | | | | | | ● | | ● | | | | | |
| S | | | | | | ○ | | | | ● | | ● | |
| H | | | | | | | | | | | | | |
| O | | | | | | ○ | | ○ | | | | | |

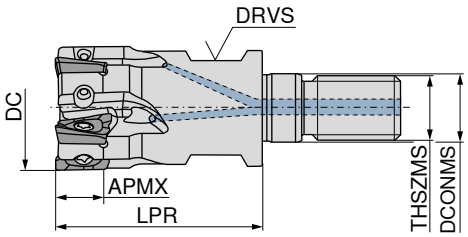
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 159 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |


15

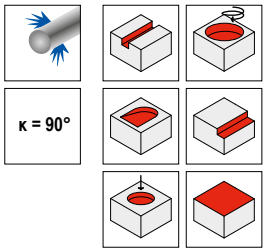
# **MaxiMill** – 211-07 Screw in cutter

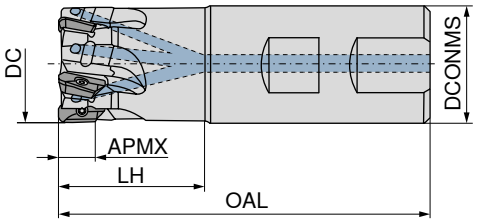



| Designation | DC mm | ZNF | APMX mm | LPR mm | DCONMS mm | THSZMS | DRVS mm | RPMX 1/min. | torque moment Nm | Insert | 50 751 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G211.16.R.04-07 | 16 | 4 | 6 | 27 | 8.5 | M8 | 10 | 50400 | 1 | XD.T 0703 | 309.38 | 016 |
| G211.20.R.05-07 | 20 | 5 | 6 | 33 | 10.5 | M10 | 15 | 44280 | 1 | XD.T 0703 | 345.17 | 020 |
| G211.25.R.06-07 | 25 | 6 | 6 | 35 | 12.5 | M12 | 17 | 39480 | 1 | XD.T 0703 | 402.66 | 025 |
| G211.32.R.08-07 | 32 | 8 | 6 | 35 | 17.0 | M16 | 24 | 36240 | 1 | XD.T 0703 | 438.44 | 032 |

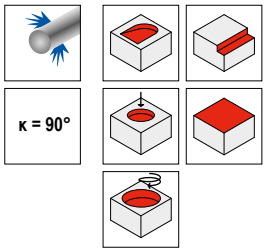
# **MaxiMill** – 211-07 End milling cutter

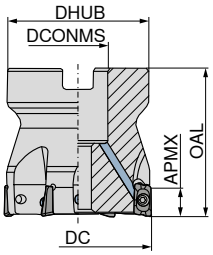


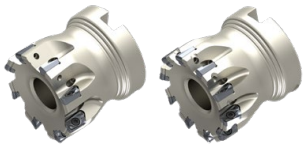




| Designation | DC mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | 50 752 ... £ 2B/40 | | 50 752 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C211.10.R.01-07-A-20 | 10 | 1 | 6 | 61.0 | 20 | 10 | 72000 | 1 | XD.T 0703 | 244.74 | 010 | | |
| C211.12.R.02-07-A-20 | 12 | 2 | 6 | 66.5 | 20 | 12 | 66600 | 1 | XD.T 0703 | 280.53 | 012 | | |
| C211.16.R.04-07-A/B-25 | 16 | 4 | 6 | 74.5 | 25 | 16 | 50400 | 1 | XD.T 0703 | 309.38 | 016 | 309.38 | 216 |
| C211.16.R.03-07-A-32-165 | 16 | 3 | 6 | 165.0 | 32 | 16 | 17760 | 1 | XD.T 0703 | 287.69 | 116 | | |
| C211.20.R.05-07-A/B-25 | 20 | 5 | 6 | 77.0 | 25 | 20 | 44280 | 1 | XD.T 0703 | 345.17 | 020 | 345.17 | 220 |
| C211.20.R.04-07-A-40-200 | 20 | 4 | 6 | 200.0 | 40 | 20 | 12600 | 1 | XD.T 0703 | 323.59 | 120 | | |
| C211.25.R.06-07-A/B20-32 | 25 | 6 | 6 | 84.0 | 32 | 20 | 39840 | 1 | XD.T 0703 | 402.66 | 025 | 402.66 | 225 |
| C211.25.R.05-07-A20-50-225 | 25 | 5 | 6 | 225.0 | 50 | 20 | 11280 | 1 | XD.T 0703 | 359.61 | 125 | | |
| C211.32.R.08-07-A/B25-40 | 32 | 8 | 6 | 98.0 | 40 | 25 | 36240 | 1 | XD.T 0703 | 438.44 | 032 | 438.44 | 232 |

# **MaxiMill** – 211-07 Shell mill



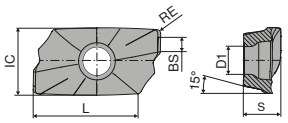



| Designation | DC mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | RPMX 1/min. | torque moment Nm | Insert | 50 753 ... £ 2B/40 | | 50 754 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A211.32.R.06-07** | 32 | 6 | 6 | 40 | 16 | 38 | 36240 | 1 | XD.T 0703 | 366.98 | **032** | | |
| **A211.32.R.08-07** | 32 | 8 | 6 | 40 | 16 | 38 | 36240 | 1 | XD.T 0703 | | | 409.94 | **032** |
| **A211.40.R.08-07** | 40 | 8 | 6 | 40 | 16 | 38 | 33240 | 1 | XD.T 0703 | 453.11 | **040** | | |
| **A211.40.R.10-07** | 40 | 10 | 6 | 40 | 16 | 38 | 33240 | 1 | XD.T 0703 | | | 496.29 | **040** |
| **A211.50.R.10-07** | 50 | 10 | 6 | 40 | 22 | 43 | 30480 | 1 | XD.T 0703 | 539.36 | **050** | | |
| **A211.50.R.12-07** | 50 | 12 | 6 | 40 | 22 | 43 | 30480 | 1 | XD.T 0703 | | | 582.41 | **050** |

| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 - 32 | 8.49 | **051** | | | 17.13 | **124** | | | 5.06 | **303** | 3.67 | **137** | 207.73 | **191** |
| 32 | 8.49 | **051** | 6.07 | **040** | 17.13 | **124** | 15.12 | **151** | 5.06 | **303** | 3.67 | **137** | 207.73 | **191** |
| 40 - 50 | 8.49 | **051** | | | 17.13 | **124** | | | 5.06 | **303** | 3.67 | **137** | 207.73 | **191** |

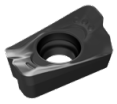
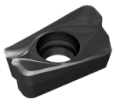
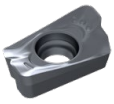
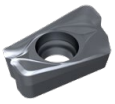
# XDKT

| Designation | IC | D1 | L | BS | S |
|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm |
| XDKT 0703.. | 4.9 | 2.5 | 7.8 | 1.2 | 3.18 |

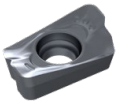
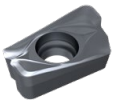
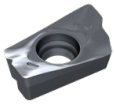
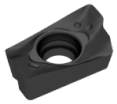


XDKT

# XDKT

| | | -F50 CTCP230 DRAGONSKIN | | -M50 CTCP230 DRAGONSKIN | | -F50 CTPP235 DRAGONSKIN | | -M50 CTPP235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|
| | |  XDKT | |  XDKT | |  XDKT | |  XDKT | |
| | | 51 033 ... | | 51 036 ... | | 51 033 ... | | 51 036 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 070304SR | 0.4 | 13.35 | 004 | 13.35 | 004 | 13.35 | 104 | 13.35 | 104 |
| 070308SR | 0.8 | 13.35 | 008 | 13.35 | 008 | 13.35 | 108 | 13.35 | 108 |
| P | | ● | | ● | | ● | | ● | |
| M | | | | | | ○ | | ○ | |
| K | | ○ | | ○ | | ○ | | ○ | |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

# XDKT

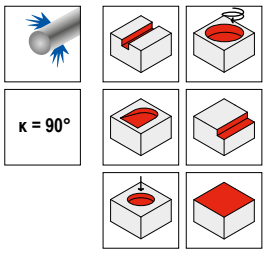
| | | -F50 CTPM240 DRAGONSKIN | | -M50 CTPM240 DRAGONSKIN | | -F40 CTPM245 DRAGONSKIN | | -F40 CTCM245 DRAGONSKIN | | -F20 CTWN215 | | -F40 CTC5240 DRAGONSKIN | | -F40 CTCS245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  XDKT | |  XDKT | |  XDKT | |  XDKT | |  XDKT | |  XDKT | |  XDKT | |
| | | 51 033 ... | | 51 036 ... | | 51 112 ... | | 51 112 ... | | 50 507 ... | | 50 498 ... | | 51 112 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | | £ 1A/90 | | £ 1H/17 | | £ 1H/17 | |
| 070304ER | 0.4 | | | | | 15.94 | 454 | 15.94 | 90401 | | | 15.94 | 544 | | |
| 070304FR | 0.4 | | | | | | | | | 15.37 | 504 | | | | |
| 070304SR | 0.4 | 13.35 | 404 | 13.35 | 404 | | | | | | | | | | |
| 070308ER | 0.8 | | | | | 15.94 | 458 | 15.94 | 90801 | | | 15.94 | 548 | 15.94 | 558 |
| 070308FR | 0.8 | | | | | | | | | 15.37 | 508 | | | | |
| 070308SR | 0.8 | 13.35 | 408 | 13.35 | 408 | | | | | | | | | | |
| P | | ○ | | ○ | | ● | | ● | | | | | | | |
| M | | ● | | ● | | ● | | ● | | | | | | | |
| K | | | | | | | | | | ○ | | | | | |
| N | | | | | | | | | | ● | | | | | |
| S | | | | | | | | ○ | | | | ● | | ● | |
| H | | | | | | | | | | | | | | | |
| O | | | | | | | | | | ○ | | | | | |

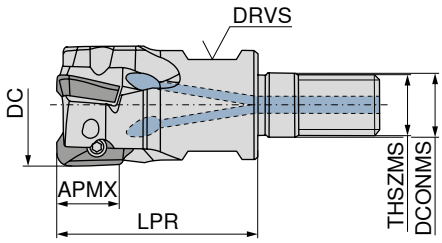
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 160 |
| Starting Parameter | → 160 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# MaxiMill – 211-11 Screw in cutter

▲ Insert radius >1,6 mm: Modify cutter body

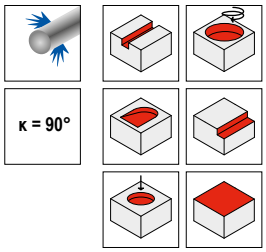


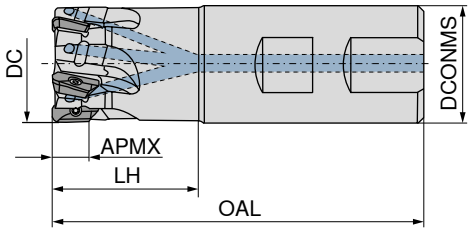




| Designation | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX | torque moment | Insert | 50 736 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | | mm | 1/min. | Nm | | | |
| G211.16.R.02-11 | 16 | 2 | 10 | 27 | 8.5 | M8 | 10 | 42000 | 1,6 | XD.T 11T3 | 266.10 | 016 |
| G211.20.R.03-11 | 20 | 3 | 10 | 33 | 10.5 | M10 | 15 | 36900 | 1,6 | XD.T 11T3 | 302.11 | 020 |
| G211.25.R.03-11 | 25 | 3 | 10 | 35 | 12.5 | M12 | 17 | 33200 | 1,6 | XD.T 11T3 | 316.42 | 12500 |
| G211.25.R.04-11 | 25 | 4 | 10 | 35 | 12.5 | M12 | 17 | 33200 | 1,6 | XD.T 11T3 | 338.12 | 025 |
| G211.32.R.04-11 | 32 | 4 | 10 | 35 | 17.0 | M16 | 24 | 30200 | 1,6 | XD.T 11T3 | 352.45 | 13200 |
| G211.32.R.05-11 | 32 | 5 | 10 | 35 | 17.0 | M16 | 24 | 30200 | 1,6 | XD.T 11T3 | 374.15 | 032 |
| G211.40.R.06-11 | 40 | 6 | 10 | 35 | 17.0 | M16 | 27 | 27700 | 1,6 | XD.T 11T3 | 409.94 | 040 |

# MaxiMill – 211-11 End milling cutter

▲ Insert radius >1,6 mm: Modify cutter body

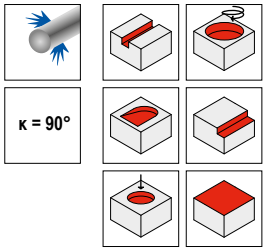


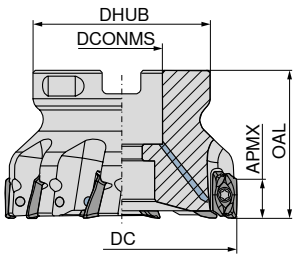



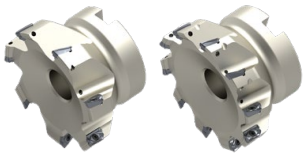

| Designation | DC | ZNF | APMX | OAL | LH | DCONMS | RPMX | torque moment | Insert | 50 737 ... £ 2B/40 | | 50 737 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | 1/min. | Nm | | | | | |
| C211.12.R.01-11-B-20 | 12 | 1 | 10 | 75 | 20 | 16 | 55000 | 1,6 | XD.T 11T3 | | | 237.35 | 012 |
| C211.16.R.02-11-A/B-25 | 16 | 2 | 10 | 75 | 25 | 16 | 42000 | 1,6 | XD.T 11T3 | 266.10 | 116 | 266.10 | 016 |
| C211.16.R.02-11-A15-32-165 | 16 | 2 | 10 | 165 | 32 | 15 | 14800 | 1,6 | XD.T 11T3 | 266.10 | 316 | | |
| C211.16.R.02-11-A-32-165 | 16 | 2 | 10 | 165 | 32 | 16 | 14800 | 1,6 | XD.T 11T3 | 266.10 | 216 | | |
| C211.20.R.03-11-A-25 | 20 | 3 | 10 | 77 | 25 | 20 | 36900 | 1,6 | XD.T 11T3 | 302.11 | 120 | | |
| C211.20.R.03-11-B-25 | 20 | 3 | 10 | 77 | 25 | 20 | 36900 | 1,6 | XD.T 11T3 | | | 302.11 | 020 |
| C211.20.R.02-11-B-25 | 20 | 2 | 10 | 77 | 25 | 20 | 36900 | 1,6 | XD.T 11T3 | | | 280.53 | 02002 |
| C211.20.R.02-11-A-25 | 20 | 2 | 10 | 77 | 25 | 20 | 36900 | 1,6 | XD.T 11T3 | 280.53 | 12002 | | |
| C211.20.R.03-11-A-32-165 | 20 | 3 | 10 | 165 | 32 | 20 | 15800 | 1,6 | XD.T 11T3 | 302.11 | 320 | | |
| C211.20.R.02-11-A-40-200 | 20 | 2 | 10 | 200 | 40 | 20 | 10500 | 1,6 | XD.T 11T3 | 280.53 | 420 | | |
| C211.20.R.02-11-A19-40-200 | 20 | 2 | 10 | 200 | 40 | 19 | 10500 | 1,6 | XD.T 11T3 | 280.53 | 620 | | |
| C211.25.R.03-11-A/B-32 | 25 | 3 | 10 | 90 | 32 | 25 | 33200 | 1,6 | XD.T 11T3 | 316.54 | 625 | 316.54 | 725 |
| C211.25.R.04-11-A/B-32 | 25 | 4 | 10 | 90 | 32 | 25 | 33200 | 1,6 | XD.T 11T3 | 338.12 | 125 | 338.12 | 025 |
| C211.25.R.04-11-A-40-165 | 25 | 4 | 10 | 165 | 40 | 25 | 19900 | 1,6 | XD.T 11T3 | 338.12 | 325 | | |
| C211.25.R.03-11-A-50-225 | 25 | 3 | 10 | 225 | 50 | 25 | 9400 | 1,6 | XD.T 11T3 | 316.54 | 425 | | |
| C211.25.R.03-11-A24-50-225 | 25 | 3 | 10 | 225 | 50 | 24 | 9400 | 1,6 | XD.T 11T3 | 316.54 | 825 | | |
| C211.25.R.02-11-A-50-225 | 25 | 2 | 10 | 225 | 50 | 25 | 9400 | 1,6 | XD.T 11T3 | 295.07 | 02502 | | |
| C211.32.R.04-11-A-40 | 32 | 4 | 10 | 102 | 40 | 32 | 30200 | 1,6 | XD.T 11T3 | 352.45 | 13204 | | |
| C211.32.R.05-11-A/B-40 | 32 | 5 | 10 | 102 | 40 | 32 | 30200 | 1,6 | XD.T 11T3 | 374.15 | 132 | 374.15 | 032 |
| C211.32.R.04-11-B-25 | 32 | 4 | 10 | 102 | 40 | 32 | 30200 | 1,6 | XD.T 11T3 | | | 352.45 | 83200 |
| C211.32.R.05-11-B25-40 | 32 | 5 | 10 | 102 | 40 | 25 | 30200 | 1,6 | XD.T 11T3 | | | 374.15 | 73200 |
| C211.32.R.04-11-A25-40 | 32 | 4 | 10 | 102 | 40 | 25 | 30200 | 1,6 | XD.T 11T3 | 352.45 | 53204 | | |
| C211.32.R.05-11-A-50-165 | 32 | 5 | 10 | 165 | 50 | 32 | 20900 | 1,6 | XD.T 11T3 | 374.15 | 332 | | |
| C211.32.R.04-11-A-64-250 | 32 | 4 | 10 | 250 | 64 | 32 | 8500 | 1,6 | XD.T 11T3 | 352.45 | 432 | | |
| C211.40.R.06-11-B32-50 | 40 | 6 | 10 | 110 | 50 | 32 | 27700 | 1,6 | XD.T 11T3 | | | 409.94 | 04000 |
| C211.40.R.06-11-B-50 | 40 | 6 | 10 | 122 | 50 | 40 | 27700 | 1,6 | XD.T 11T3 | | | 409.94 | 14000 |

# **MaxiMill** – 211-11 Shell mill

▲ Insert radius >1,6 mm: Modify cutter body



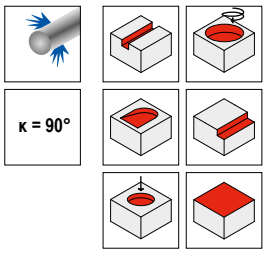



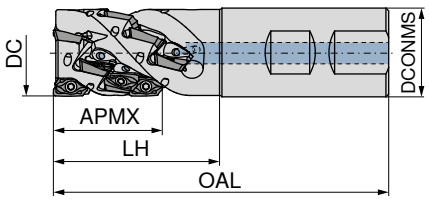
| Designation | DC mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | RPMX 1/min. | torque moment Nm | Insert | 50 738 ... £ 2B/40 | | 50 739 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A211.40.R.04-11** | 40 | 4 | 10 | 40 | 16 | 38 | 27700 | 1,6 | XD.T 11T3 | 366.98 | **040** | | |
| **A211.40.R.06-11** | 40 | 6 | 10 | 40 | 16 | 38 | 27700 | 1,6 | XD.T 11T3 | | | 409.94 | **040** |
| **A211.50.R.05-11** | 50 | 5 | 10 | 40 | 22 | 43 | 25400 | 1,6 | XD.T 11T3 | 431.52 | **050** | | |
| **A211.50.R.08-11** | 50 | 8 | 10 | 40 | 22 | 43 | 25400 | 1,6 | XD.T 11T3 | | | 496.41 | **050** |
| **A211.63.R.06-11** | 63 | 6 | 10 | 40 | 22 | 48 | 23300 | 1,6 | XD.T 11T3 | 496.41 | **063** | | |
| **A211.63.R.10-11** | 63 | 10 | 10 | 40 | 22 | 48 | 23300 | 1,6 | XD.T 11T3 | | | 582.64 | **063** |
| **A211.80.R.07-11** | 80 | 7 | 10 | 50 | 27 | 58 | 21300 | 1,6 | XD.T 11T3 | 561.17 | **080** | | |
| **A211.80.R.10-11** | 80 | 10 | 10 | 50 | 27 | 58 | 21300 | 1,6 | XD.T 11T3 | | | 625.81 | **180** |
| **A211.80.R.12-11** | 80 | 12 | 10 | 50 | 27 | 58 | 21300 | 1,6 | XD.T 11T3 | | | 668.99 | **08012** |
| **A211.100.R.08-11** | 100 | 8 | 10 | 50 | 32 | 78 | 19600 | 1,6 | XD.T 11T3 | 625.81 | **10000** | | |
| **A211.100.R.14-11** | 100 | 14 | 10 | 50 | 32 | 78 | 19600 | 1,6 | XD.T 11T3 | | | 755.34 | **10014** |
| **A211.125.R.10-11** | 125 | 10 | 10 | 63 | 40 | 88 | 17900 | 1,6 | XD.T 11T3 | 683.30 | **12500** | | |

| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.77 | **92000** | 207.73 | **191** |
| 16 - 32 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **128** | 207.73 | **191** |
| 40 | 8.49 | **043** | 6.07 | **040** | 17.13 | **125** | 15.12 | **151** | 5.06 | **303** | 4.73 | **131** | 207.73 | **191** |
| 50 | 8.49 | **043** | 7.73 | **050** | 17.13 | **125** | 19.79 | **154** | 5.06 | **303** | 4.73 | **131** | 207.73 | **191** |
| 63 - 125 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **131** | 207.73 | **191** |

# MaxiMill – 211-11KN shell end mill shank

▲ ZEFP = Number of inserts
▲ ZNP = Number of teeth

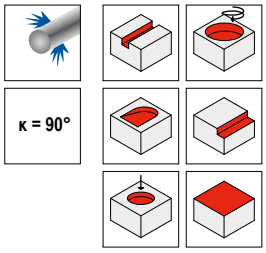


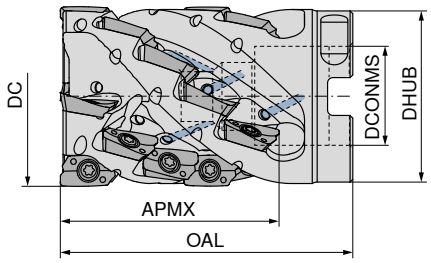



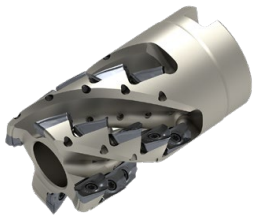

| Designation | DC | ZNF | APMX | OAL | LH | DCONMS | ZEFP | ZNP | torque moment | Insert | 50 784 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | | | Nm | | | |
| **C211.25** | 25 | 2 | 28 | 97 | 40 | 25 | 6 | 3 | 1,6 | XD.T 11T3 | 733.41 | **02523** |
| **C211.25** | 25 | 2 | 37 | 107 | 50 | 25 | 8 | 4 | 1,6 | XD.T 11T3 | 776.45 | **02524** |
| **C211.25** | 25 | 2 | 46 | 117 | 60 | 25 | 10 | 5 | 1,6 | XD.T 11T3 | 828.18 | **02525** |
| **C211.32** | 32 | 2 | 37 | 111 | 50 | 32 | 8 | 4 | 1,6 | XD.T 11T3 | 804.39 | **03224** |
| **C211.32** | 32 | 3 | 46 | 121 | 60 | 32 | 15 | 5 | 1,6 | XD.T 11T3 | 970.51 | **03235** |
| **C211.40** | 40 | 3 | 37 | 111 | 50 | 32 | 12 | 4 | 1,6 | XD.T 11T3 | 923.08 | **04034** |
| **C211.40** | 40 | 4 | 46 | 121 | 60 | 32 | 20 | 5 | 1,6 | XD.T 11T3 | 1,112.86 | **04045** |

# MaxiMill – 211-11KN shell end face mill

▲ ZEFP = Number of inserts
▲ ZNP = Number of teeth



| Designation | DC | ZNF | APMX | ZEFP | ZNP | OAL | DCONMS | DHUB | torque moment | Insert | 50 794 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | | | mm | mm | mm | Nm | | | |
| **A211.40. KN4** | 40 | 3 | 37 | 12 | 4 | 65 | 22 | 38 | 1,6 | XD.T 11T3 | 923.08 | **04034** |
| **A211.40. KN4** | 40 | 4 | 37 | 16 | 4 | 65 | 22 | 38 | 1,6 | XD.T 11T3 | 1,009.19 | **04044** |
| **A211.40. KN5** | 40 | 4 | 46 | 20 | 5 | 74 | 22 | 38 | 1,6 | XD.T 11T3 | 1,112.86 | **04045** |
| **A211.50. KN5** | 50 | 4 | 46 | 20 | 5 | 75 | 27 | 48 | 1,6 | XD.T 11T3 | 1,216.75 | **05045** |
| **A211.50. KN5** | 50 | 5 | 46 | 25 | 5 | 75 | 27 | 48 | 1,6 | XD.T 11T3 | 1,325.28 | **05055** |
| **A211.50. KN6** | 50 | 5 | 55 | 30 | 6 | 85 | 27 | 48 | 1,6 | XD.T 11T3 | 1,452.26 | **05056** |


Cylindrical screw


TORX® blade


Key D


Molykote


Clamping screw

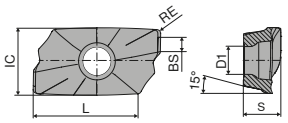

Socket head screw


Torque screw-driver

| Spare parts Designation | Cylindrical screw 70 950 ... £ 2A/28 | | TORX® blade 80 950 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Socket head screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A211.40. KN4 | | | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20400 | 13.26 | 20900 | 207.73 | 191 |
| A211.40. KN5 | | | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20400 | 13.26 | 21000 | 207.73 | 191 |
| A211.50. KN5 | 13.26 | 002 | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20400 | 9.74 | 181 | 207.73 | 191 |
| A211.50. KN6 | 13.26 | 002 | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20400 | 9.74 | 181 | 207.73 | 191 |
| C211.25 | | | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20700 | | | 207.73 | 191 |
| C211.32 | | | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20700 | | | 207.73 | 191 |
| C211.40 | | | 8.49 | 043 | 17.13 | 125 | 5.06 | 303 | 8.19 | 20400 | | | 207.73 | 191 |

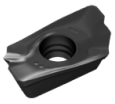
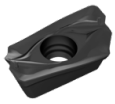
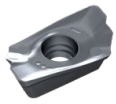
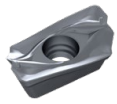
# XDKT / XDHT

| Designation | IC | D1 | L | BS | S |
|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm |
| XD.T 11T302.. | 6.8 | 2.8 | 10.6 | 2 | 3.80 |
| XD.T 11T304.. | 6.8 | 2.8 | 10.6 | 1.8 | 3.80 |
| XD.T 11T308.. | 6.8 | 2.8 | 10.6 | 1.4 | 3.80 |
| XD.T 11T312.. | 6.8 | 2.8 | 10.6 | 1.4 | 3.80 |
| XD.T 11T316.. | 6.8 | 2.8 | 10.6 | 1.4 | 3.80 |
| XD.T 11T320.. | 6.8 | 2.8 | 10.6 | 1.4 | 3.80 |
| XD.T 11T325.. | 6.8 | 2.8 | 10.6 | 1.4 | 3.80 |
| XD.T 11T332.. | 6.8 | 2.8 | 10.6 | 0.8 | 3.80 |
| XD.T 11T340.. | 6.8 | 2.8 | 10.6 | - | 3.80 |
| XDHT 11T350.. | 6.8 | 2.8 | 10.6 | - | 3.80 |
| XDKT 11T332.. | 6.8 | 2.8 | 10.6 | 1.4 | 3.80 |

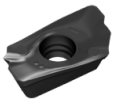
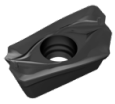
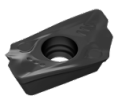
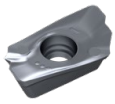
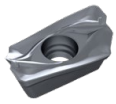
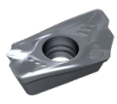


XDKT

# XDKT

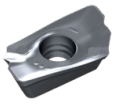
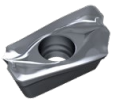
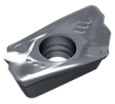
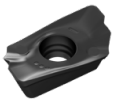
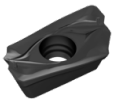
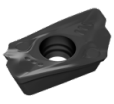
| | | -F50 CTCP220 | -M50 CTCP220 | -F50 CTPP225 | -M50 CTPP225 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | XDKT | XDKT | XDKT | XDKT |
| | | 51 034 ... | 51 037 ... | 51 034 ... | 51 037 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 11T308SR | 0.8 | 16.23 258 | 16.23 258 | 16.23 058 | 16.23 058 |
| P | | ● | ● | ● | ● |
| M | | | | | |
| K | | | | | |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

# XDKT

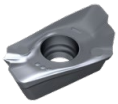
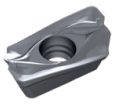
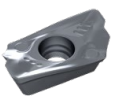
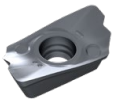
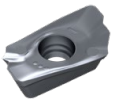
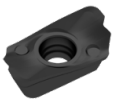
| | | -F50 CTCP230 | -M50 CTCP230 | -R50 CTCP230 | -F50 CTPP235 | -M50 CTPP235 | -R50 CTPP235 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |
| | | XDKT | XDKT | XDKT | XDKT | XDKT | XDKT |
| | | 51 034 ... | 51 037 ... | 51 039 ... | 51 034 ... | 51 037 ... | 51 039 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 11T304SR | 0.4 | 16.23 004 | 16.23 004 | 16.23 004 | 16.23 104 | 16.23 104 | 16.23 104 |
| 11T308SR | 0.8 | 16.23 008 | 16.23 008 | 16.23 008 | 16.23 108 | 16.23 108 | 16.23 108 |
| 11T312SR | 1.2 | | 16.23 012 | | | 16.23 112 | |
| 11T320SR | 2.0 | 16.23 020 1) | 16.23 020 1) | 16.23 020 1) | 16.23 120 1) | 16.23 120 1) | 16.23 120 1) |
| 11T325SR | 2.5 | 16.23 025 1) | 16.23 025 1) | 16.23 025 1) | 16.23 125 1) | 16.23 125 1) | 16.23 125 1) |
| P | | ● | ● | ● | ● | ● | ● |
| M | | | | | ○ | ○ | ○ |
| K | | ○ | ○ | ○ | ○ | ○ | ○ |
| N | | | | | | | |
| S | | | | | | | |
| H | | | | | | | |
| O | | | | | | | |

1) Insert radius >1.6 mm: Modify cutter body

# XDKT

| | | -F50 CTPM225 DRAGONSKIN | | -M50 CTPM225 DRAGONSKIN | | -R50 CTPM225 DRAGONSKIN | | -F50 CTCM235 DRAGONSKIN | | -M50 CTCM235 DRAGONSKIN | | -R50 CTCM235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 034 ... | | 51 037 ... | | 51 039 ... | | 51 034 ... | | 51 037 ... | | 51 039 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 11T308SR | 0.8 | 16.23 | 208 | 16.23 | 208 | 16.23 | 208 | 16.23 | 308 | 16.23 | 308 | 16.23 | 308 |
| P | | | ● | | ● | | ● | | ● | | ● | | ● |
| M | | | ● | | ● | | ● | | ● | | ● | | ● |
| K | | | | | | | | | | | | | |
| N | | | | | | | | | | | | | |
| S | | | | | | | | | | | | | |
| H | | | | | | | | | | | | | |
| O | | | | | | | | | | | | | |

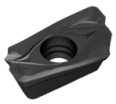
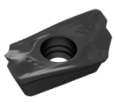
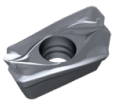
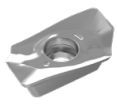
# XDKT

| | | -F50 CTPM240 DRAGONSKIN | | -M50 CTPM240 DRAGONSKIN | | -R50 CTPM240 DRAGONSKIN | | -F40 CTPM245 DRAGONSKIN | | -F50 CTPM245 DRAGONSKIN | | -F40 CTCM245 DRAGONSKIN | | -F50 CTCM245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 034 ... | | 51 037 ... | | 51 039 ... | | 51 113 ... | | 51 034 ... | | 51 113 ... | | 51 034 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | |
| 11T304ER | 0.4 | | | | | | | 20.88 | 454 | | | 20.88 | 90401 | | |
| 11T304SR | 0.4 | | | 16.23 | 404 | | | | | | | | | | |
| 11T308ER | 0.8 | | | | | | | 20.88 | 458 | | | 20.88 | 90801 | | |
| 11T308SR | 0.8 | 16.23 | 408 | 16.23 | 408 | 16.23 | 408 | | | 20.88 | 458 | | | 20.88 | 90801 |
| 11T312ER | 1.2 | | | | | | | 20.88 | 462 | | | 20.88 | 91201 | | |
| 11T312SR | 1.2 | 16.23 | 412 | 16.23 | 412 | 16.23 | 412 | | | | | | | | |
| 11T316ER | 1.6 | | | | | | | 20.88 | 466 | | | 20.88 | 91601 | | |
| 11T320ER | 2.0 | | | | | | | 20.88 | 470 1) | | | 20.88 | 92001 1) | | |
| 11T320SR | 2.0 | 16.23 | 420 1) | 16.23 | 420 1) | 16.23 | 420 1) | | | | | | | | |
| 11T325ER | 2.5 | | | | | | | 20.88 | 475 1) | | | 20.88 | 92501 1) | | |
| 11T332ER | 3.2 | | | | | | | 20.88 | 482 1) | | | 20.88 | 93201 1) | | |
| 11T332SR | 3.2 | 16.23 | 432 1) | 16.23 | 432 1) | 16.23 | 432 1) | | | | | | | | |
| 11T340ER | 4.0 | | | | | | | 20.88 | 490 1) | | | 20.88 | 94001 1) | | |
| P | | | ○ | | ○ | | ○ | | ● | | ● | | ● | | ● |
| M | | | ● | | ● | | ● | | ● | | ● | | ● | | ● |
| K | | | | | | | | | | | | | | | |
| N | | | | | | | | | | | | | | | |
| S | | | | | | | | | | | | | ○ | | ○ |
| H | | | | | | | | | | | | | | | |
| O | | | | | | | | | | | | | | | |

1) Insert radius >1.6 mm: Modify cutter body

15

# XDKT / XDHT

| | | -M50 CTCK215 | -R50 CTCK215 | -M50 CTPK220 | -F20 CTWN215 | NEW -F10 CTPX715 | -27P H216T |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | | DRAGONSKIN | |
| | |  |  |  |  |  |  |
| | | XDKT | XDKT | XDKT | XDKT | XDHT | XDHT |
| | | 51 037 ... | 51 039 ... | 51 037 ... | 50 478 ... | 51 155 ... | 50 477 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1A/90 | £ 1A/90 | £ 1A/90 |
| 11T302FR | 0.2 | | | | 20.39 502 | 25.55 00202 | 30.74 502 |
| 11T304FR | 0.4 | | | | 20.39 504 | 25.55 00402 | 30.74 504 |
| 11T304SR | 0.4 | 16.23 504 | | | | | |
| 11T308FR | 0.8 | | | | 20.39 508 | 25.55 00802 | 30.74 508 |
| 11T308SR | 0.8 | 16.23 508 | 16.23 508 | 16.23 608 | | | |
| 11T312FR | 1.2 | | | | | 25.55 01202 | 30.74 512 |
| 11T316FR | 1.6 | | | | | 25.55 01602 | 30.74 516 |
| 11T320FR | 2.0 | | | | 20.39 520 1) | 25.55 02002 1) | 30.74 520 1) |
| 11T325FR | 2.5 | | | | 20.39 525 1) | 25.55 02502 1) | 30.74 525 1) |
| 11T332FR | 3.2 | | | | | 25.55 03202 1) | 30.74 532 1) |
| 11T340FR | 4.0 | | | | | 25.55 04002 1) | 30.74 540 1) |
| 11T350FR | 5.0 | | | | | 25.55 05002 1) | 30.74 550 1) |
| P | | | | | | ○ | |
| M | | | | | | ○ | |
| K | | ● | ● | ● | ○ | ● | ○ |
| N | | | | | ● | ● | ● |
| S | | | | | | ○ | |
| H | | | | | | | |
| O | | | | | ○ | ○ | ○ |

1) Insert radius >1.6 mm: Modify cutter body

# XDKT

| | | -F40 CTC5240 | -F40 CTCS245 | -R60 CTP6215 |
|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | |
| | |  |  |  |
| | | XDKT | XDKT | XDKT |
| | | 50 463 ... | 51 113 ... | 50 464 ... |
| ISO | RE mm | £ 1H/17 | £ 1H/17 | £ 1B/61 |
| 11T304ER | 0.4 | 20.88 504 | | |
| 11T308ER | 0.8 | 20.88 500 | 20.88 558 | |
| 11T308SR | 0.8 | | | 20.98 300 |
| 11T312ER | 1.2 | 20.88 512 | 20.88 562 | |
| 11T316ER | 1.6 | 20.88 516 | 20.88 566 | |
| 11T320ER | 2.0 | 20.88 520 1) | 20.88 570 | |
| 11T325ER | 2.5 | 20.88 525 1) | 20.88 57500 1) | |
| 11T332ER | 3.2 | 20.88 532 1) | 20.88 582 | |
| 11T340ER | 4.0 | 20.88 540 1) | 20.88 59000 1) | |
| P | | | | |
| M | | | | |
| K | | | | ● |
| N | | | | |
| S | | ● | ● | |
| H | | | | ● |
| O | | | | |

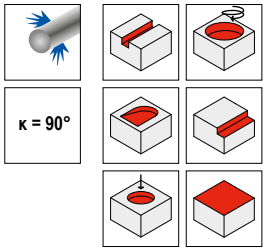
1) Insert radius >1.6 mm: Modify cutter body

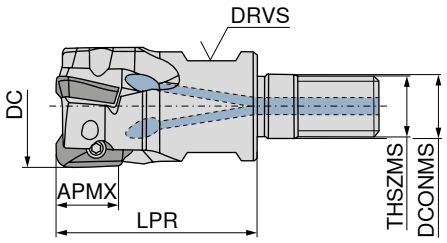
*Milling guide*

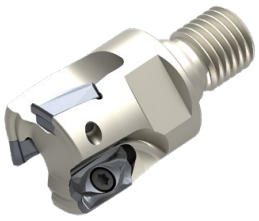

| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 161 |
| Starting Parameter | → 161 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# **MaxiMill** – 211-15 Screw in cutter

▲ Insert radius >2,5 mm: Modify cutter body



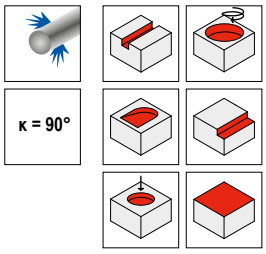



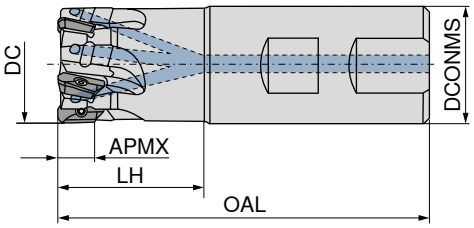



| Designation | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX | torque moment | Insert | 50 746 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | | mm | 1/min. | Nm | | | |
| **G211.25.R.02-15** | 25 | 2 | 14 | 35 | 12.5 | M12 | 17 | 26560 | 3,2 | XD.T 1505 | 305.57 | **025** |
| **G211.32.R.03-15** | 32 | 3 | 14 | 35 | 17.0 | M16 | 24 | 30200 | 3,2 | XD.T 1505 | 340.22 | **032** |
| **G211.40.R.04-15** | 40 | 4 | 14 | 40 | 17.0 | M16 | 27 | 27700 | 3,2 | XD.T 1505 | 375.18 | **040** |

# **MaxiMill** – 211-15 End milling cutter

▲ Insert radius >2,5 mm: Modify cutter body

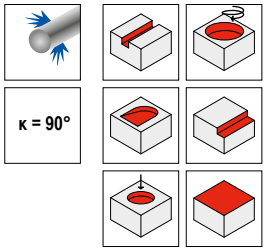


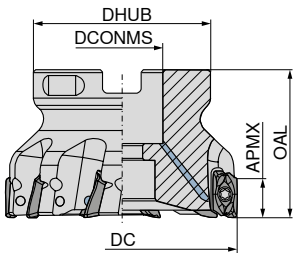



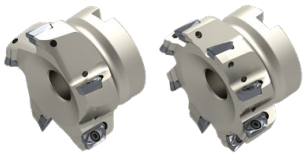

| Designation | DC | ZNF | APMX | OAL | LH | DCONMS | RPMX | torque moment | Insert | 50 747 ... £ 2B/40 | | 50 747 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | 1/min. | Nm | | | | | |
| **C211.25.R.02-15-B20-32** | 25 | 2 | 14 | 83 | 32 | 20 | 26560 | 3,2 | XD.T 1505 | | | 305.57 | **125** |
| **C211.25.R.02-15-B/A-32** | 25 | 2 | 14 | 90 | 32 | 25 | 26560 | 3,2 | XD.T 1505 | 305.57 | **225** | 305.57 | **025** |
| **C211.25.R.02-15-A-50-225** | 25 | 2 | 14 | 225 | 50 | 25 | 7520 | 3,2 | XD.T 1505 | 284.79 | **325** | | |
| | | | | | | | | | | | | | |
| **C211.32.R.03-15-B25-40** | 32 | 3 | 14 | 96 | 40 | 25 | 22160 | 3,2 | XD.T 1505 | | | 340.22 | **132** |
| **C211.32.R.03-15-A-40** | 32 | 3 | 14 | 103 | 40 | 32 | 24160 | 3,2 | XD.T 1505 | 340.22 | **232** | | |
| **C211.32.R.03-15-B-40** | 32 | 3 | 14 | 103 | 40 | 32 | 24160 | 3,2 | XD.T 1505 | | | 340.22 | **032** |
| **C211.32.R.03-15-A-63-250** | 32 | 3 | 14 | 250 | 63 | 32 | 6800 | 3,2 | XD.T 1505 | 319.54 | **332** | | |
| | | | | | | | | | | | | | |
| **C211.40.R.04-15-A-50** | 40 | 4 | 14 | 110 | 50 | 32 | 22160 | 3,2 | XD.T 1505 | 375.18 | **240** | | |
| **C211.40.R.04-15-B32-50** | 40 | 4 | 14 | 110 | 50 | 32 | 22160 | 3,2 | XD.T 1505 | | | 375.18 | **040** |
| **C211.40.R.03-15-A-50-275** | 40 | 3 | 14 | 275 | 50 | 32 | 6120 | 3,2 | XD.T 1505 | 354.06 | **340** | | |

# **MaxiMill** – 211-15 Shell mill

▲ Insert radius >2,5 mm: Modify cutter body



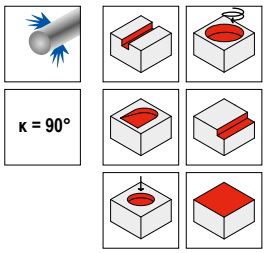
| Designation | DC | ZNF | APMX | OAL | DCONMS | DHUB | RPMX | torque moment | Insert | 50 748 ... £ 2B/40 | | 50 749 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | 1/min. | Nm | | | | | |
| **A211.40.R.03-15** | 40 | 3 | 14 | 40 | 16 | 38 | 22160 | 3,2 | XD.T 1505 | 333.40 | **040** | | |
| **A211.40.R.04-15** | 40 | 4 | 14 | 40 | 16 | 38 | 22160 | 3,2 | XD.T 1505 | | | 375.18 | **040** |
| **A211.50.R.03-15** | 50 | 3 | 14 | 40 | 22 | 43 | 20320 | 3,2 | XD.T 1505 | 395.86 | **050** | | |
| **A211.50.R.05-15** | 50 | 5 | 14 | 40 | 22 | 43 | 20320 | 3,2 | XD.T 1505 | | | 437.53 | **050** |
| **A211.63.R.04-15** | 63 | 4 | 14 | 45 | 22 | 48 | 18640 | 3,2 | XD.T 1505 | 479.08 | **063** | | |
| **A211.63.R.06-15** | 63 | 6 | 14 | 45 | 22 | 48 | 18640 | 3,2 | XD.T 1505 | | | 521.21 | **063** |
| **A211.80.R.05-15** | 80 | 5 | 14 | 50 | 27 | 58 | 17040 | 3,2 | XD.T 1505 | 541.65 | **080** | | |
| **A211.80.R.08-15** | 80 | 8 | 14 | 50 | 27 | 58 | 17040 | 3,2 | XD.T 1505 | | | 583.20 | **080** |
| **A211.100.R.06-15** | 100 | 6 | 14 | 50 | 32 | 78 | 15680 | 3,2 | XD.T 1505 | 604.35 | **100** | | |
| **A211.100.R.10-15** | 100 | 10 | 14 | 50 | 32 | 78 | 15680 | 3,2 | XD.T 1505 | | | 645.90 | **100** |
| **A211.125.R.07-15** | 125 | 7 | 14 | 63 | 40 | 88 | 14320 | 3,2 | XD.T 1505 | 638.85 | **125** | | |
| **A211.125.R.11-15** | 125 | 11 | 14 | 63 | 40 | 88 | 14320 | 3,2 | XD.T 1505 | | | 680.54 | **125** |
| **A211.160.R.08-15** | 160 | 8 | 14 | 63 | 40 | 93 | 13200 | 3,2 | XD.T 1505 | 895.02 | **160** 1) | | |
| **A211.160.R.12-15** | 160 | 12 | 14 | 63 | 40 | 93 | 13200 | 3,2 | XD.T 1505 | | | 936.70 | **160** 1) |

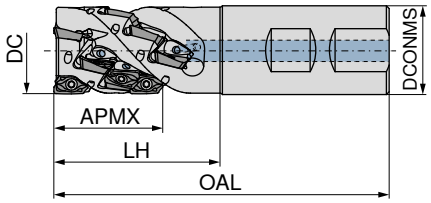
1) Without Through Coolant

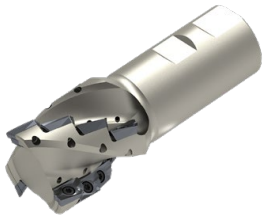
| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 - 32 | 8.49 | **054** | | | 20.03 | **128** | | | 5.06 | **303** | 3.67 | **839** | 232.67 | **193** |
| 40 | 8.49 | **054** | 6.07 | **040** | 20.03 | **128** | 15.12 | **151** | 5.06 | **303** | 3.67 | **839** | 232.67 | **193** |
| 50 | 8.49 | **054** | 7.73 | **050** | 20.03 | **128** | 19.79 | **154** | 5.06 | **303** | 3.67 | **839** | 232.67 | **193** |
| 63 - 160 | 8.49 | **054** | | | 20.03 | **128** | | | 5.06 | **303** | 3.67 | **839** | 232.67 | **193** |

# MaxiMill – 211-15KN shell end mill shank

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows



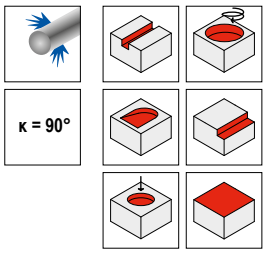



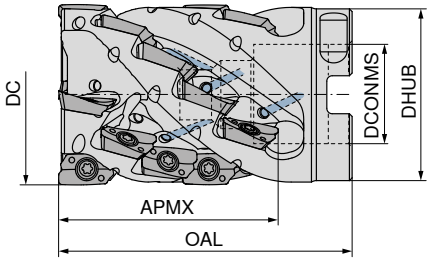
**50 783 ...**

| Designation | DC mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | ZEFP | ZNP | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C211.40** | 40 | 3 | 39.6 | 121 | 60 | 32 | 9 | 3 | 3,2 | XD.T 1505 | 858.43 | **04033** |
| **C211.50** | 50 | 3 | 52.6 | 138 | 67 | 40 | 12 | 4 | 3,2 | XD.T 1505 | 1,044.06 | **05034** |

# MaxiMill – 211-15KN shell end face mill

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows




**50 781 ...**

| Designation | DC mm | ZNF | APMX mm | ZEFP | ZNP | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A211.50** | 50 | 3 | 52.6 | 12 | 4 | 87 | 27 | 48 | 3,2 | XD.T 1505 | 1,044.06 | **05034** |
| **A211.50** | 50 | 3 | 65.8 | 15 | 5 | 100 | 27 | 48 | 3,2 | XD.T 1505 | 1,108.71 | **05035** |
| **A211.50** | 50 | 4 | 65.8 | 20 | 5 | 100 | 27 | 48 | 3,2 | XD.T 1505 | 1,235.24 | **05045** |
| **A211.63** | 63 | 3 | 52.6 | 12 | 4 | 76 | 27 | 58 | 3,2 | XD.T 1505 | 1,138.25 | **06334** |
| **A211.63** | 63 | 3 | 65.8 | 15 | 5 | 90 | 27 | 58 | 3,2 | XD.T 1505 | 1,202.89 | **06335** |
| **A211.63** | 63 | 4 | 78.5 | 24 | 6 | 102 | 27 | 58 | 3,2 | XD.T 1505 | 1,396.84 | **06346** |
| **A211.63** | 63 | 5 | 65.8 | 25 | 5 | 90 | 27 | 58 | 3,2 | XD.T 1505 | 1,445.33 | **06355** |
| **A211.80** | 80 | 4 | 65.8 | 20 | 5 | 90 | 32 | 78 | 3,2 | XD.T 1505 | 1,403.77 | **08045** |
| **A211.80** | 80 | 5 | 78.5 | 30 | 6 | 102 | 32 | 78 | 3,2 | XD.T 1505 | 1,620.80 | **08056** |


Cylindrical screw


TORX® blade


Key D


Molykote


Clamping screw


Socket head screw


Torque screw-driver

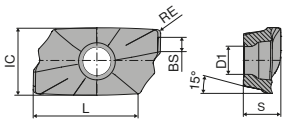
**70 950 ...** | **80 950 ...** | **80 950 ...** | **70 950 ...** | **70 950 ...** | **70 950 ...** | **80 950 ...**

| Spare parts Designation | £ 2A/28 | | £ Y7 | | £ Y7 | | £ 2A/28 | | £ 2A/28 | | £ 2A/28 | | £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A211.50 | 13.26 | **002** | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 10.35 | **20800** | 9.74 | **181** | 232.67 | **193** |
| A211.63 | 13.26 | **002** | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 10.35 | **20500** | 9.74 | **181** | 232.67 | **193** |
| A211.80 | 29.70 | **004** | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 10.35 | **20500** | 13.26 | **234** | 232.67 | **193** |
| C211.40 | | | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 10.35 | **20800** | | | 232.67 | **193** |
| C211.50 | | | 8.49 | **054** | 20.03 | **128** | 5.06 | **303** | 10.35 | **20800** | | | 232.67 | **193** |

15

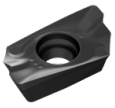
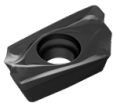
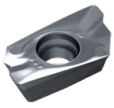
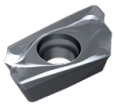
# XDKT

| Designation | 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 150525.. | 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 150560.. | 9.3 | 4.4 | 14.8 | - | 5.56 |

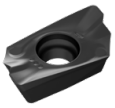
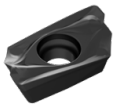
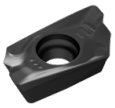
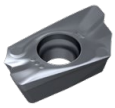
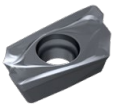
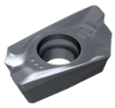


XDKT

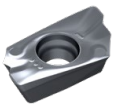
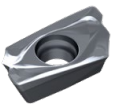
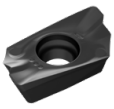
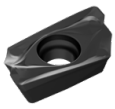
# XDKT

| | | -F50 CTCP220 | | -M50 CTCP220 | | -F50 CTPP225 | | -M50 CTPP225 | |
|---|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | |
| | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 035 ... | | 51 038 ... | | 51 035 ... | | 51 038 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 150508SR | 0.8 | 21.65 | 258 | 21.65 | 258 | 21.65 | 058 | 21.65 | 058 |
| P | | | ● | | ● | | ● | | ● |
| M | | | | | | | | | |
| K | | | | | | | | | |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

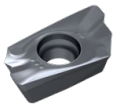
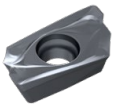
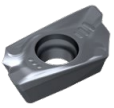
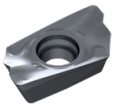
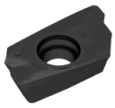
# XDKT

| | | -F50 CTCP230 | | -M50 CTCP230 | | -R50 CTCP230 | | -F50 CTPP235 | | -M50 CTPP235 | | -R50 CTPP235 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | |
| | |  | |  | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 035 ... | | 51 038 ... | | 51 040 ... | | 51 035 ... | | 51 038 ... | | 51 040 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 150508SR | 0.8 | 21.65 | 008 | 21.65 | 008 | 21.65 | 008 | 21.65 | 108 | 21.65 | 108 | 21.65 | 108 |
| 150512SR | 1.2 | | | 21.65 | 012 | | | | | 21.65 | 112 | | |
| 150516SR | 1.6 | | | 21.65 | 016 | | | | | 21.65 | 116 | | |
| 150520SR | 2.0 | | | | | 21.65 | 020 | | | 21.65 | 120 | 21.65 | 120 |
| 150530SR | 3.0 | | | 21.65 | 030 | | | | | 21.65 | 130 | | |
| 150540SR | 4.0 | | | 21.65 | 040 | | | | | 21.65 | 140 | | |
| P | | | ● | | ● | | ● | | ● | | ● | | ● |
| M | | | | | | | | | ○ | | ○ | | ○ |
| K | | | ○ | | ○ | | ○ | | ○ | | ○ | | ○ |
| N | | | | | | | | | | | | | |
| S | | | | | | | | | | | | | |
| H | | | | | | | | | | | | | |
| O | | | | | | | | | | | | | |

# XDKT

| | | -F50 CTPM225 DRAGONSKIN | | -M50 CTPM225 DRAGONSKIN | | -F50 CTCM235 DRAGONSKIN | | -M50 CTCM235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 035 ... | | 51 038 ... | | 51 035 ... | | 51 038 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 150508SR | 0.8 | 21.65 | 208 | 21.65 | 208 | 21.65 | 308 | 21.65 | 308 |
| P | | | ● | | ● | | ● | | ● |
| M | | | ● | | ● | | ● | | ● |
| K | | | | | | | | | |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

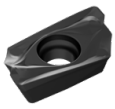
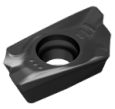
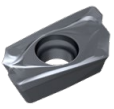
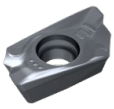
# XDKT

| | | -F50 CTPM240 DRAGONSKIN | | -M50 CTPM240 DRAGONSKIN | | -R50 CTPM240 DRAGONSKIN | | -F40 CTPM245 DRAGONSKIN | | -F40 CTCM245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 035 ... | | 51 038 ... | | 51 040 ... | | 51 114 ... | | 51 114 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | |
| 150508ER | 0.8 | | | | | | | 26.07 | 458 | 26.07 | 90801 |
| 150508SR | 0.8 | 21.65 | 408 | 21.65 | 408 | 21.65 | 408 | | | | |
| 150512ER | 1.2 | | | | | | | | | 26.07 | 91201 |
| 150512SR | 1.2 | | | 21.65 | 412 | | | | | | |
| 150516ER | 1.6 | | | | | | | | | 26.07 | 91601 |
| 150516SR | 1.6 | | | 21.65 | 416 | | | | | | |
| 150520ER | 2.0 | | | | | | | | | 26.07 | 92001 1) |
| 150525ER | 2.5 | | | | | | | | | 26.07 | 92501 1) |
| 150530SR | 3.0 | | | 21.65 | 430 | | | | | | |
| 150532ER | 3.2 | | | | | | | 26.07 | 482 2) | 26.07 | 93201 2) |
| 150540ER | 4.0 | | | | | | | 26.07 | 490 2) | 26.07 | 94001 2) |
| 150540SR | 4.0 | | | 21.65 | 440 | | | | | | |
| 150560ER | 6.0 | | | | | | | | | 26.07 | 96001 2) |
| P | | | ○ | | ○ | | ○ | | ● | | ● |
| M | | | ● | | ● | | ● | | ● | | ● |
| K | | | | | | | | | | | |
| N | | | | | | | | | | | |
| S | | | | | | | | | | | ○ |
| H | | | | | | | | | | | |
| O | | | | | | | | | | | |

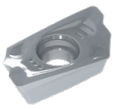
1) Insert radius >2.5 mm: Modify cutter body
2) Insert radius >1.6 mm: Modify cutter body

15

# XDKT

| | | -M50 CTCK215 DRAGONSKIN | | -R50 CTCK215 DRAGONSKIN | | -M50 CTPK220 DRAGONSKIN | | -R50 CTPK220 DRAGONSKIN | | -F20 CTWN215 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | | XDKT | | XDKT | |
| | | 51 038 ... | | 51 040 ... | | 51 038 ... | | 51 040 ... | | 50 479 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1A/90 | |
| 150508FR | 0.8 | | | | | | | | | 25.59 | 508 |
| 150508SR | 0.8 | 21.65 | 508 | 21.65 | 508 | 21.65 | 608 | 21.65 | 608 | | |
| P | | | | | | | | | | | |
| M | | | | | | | | | | | |
| K | | ● | | ● | | ● | | ● | | ○ | |
| N | | | | | | | | | | ● | |
| S | | | | | | | | | | | |
| H | | | | | | | | | | | |
| O | | | | | | | | | | ○ | |

# XDKT

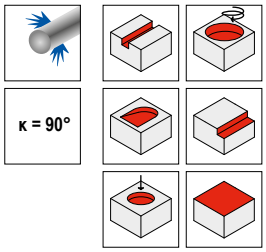
| | | -F40 CTC5240 DRAGONSKIN | | -F40 CTCS245 DRAGONSKIN | | -R60 CTP6215 | |
|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |
| | | XDKT | | XDKT | | XDKT | |
| | | 50 473 ... | | 51 114 ... | | 50 469 ... | |
| ISO | RE mm | £ 1H/17 | | £ 1H/17 | | £ 1B/61 | |
| 150508ER | 0.8 | 26.07 | 508 | 26.07 | 558 | | |
| 150508SR | 0.8 | | | | | 21.65 | 300 |
| 150532ER | 3.2 | 26.07 | 532 [1)] | 26.84 | 58201 [1)] | | |
| 150540ER | 4.0 | 26.07 | 540 [1)] | 26.07 | 59000 [1)] | | |
| P | | | | | | | |
| M | | | | | | | |
| K | | | | | | ● | |
| N | | | | | | | |
| S | | ● | | ● | | | |
| H | | | | | | ● | |
| O | | | | | | | |

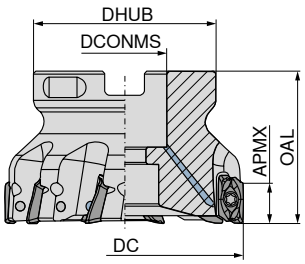
1) Insert radius >2.5 mm: Modify cutter body

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 162 |
| Starting Parameter | → 162 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# **MaxiMill** – 211-20 Shell mill

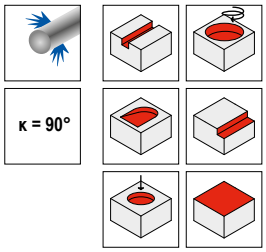


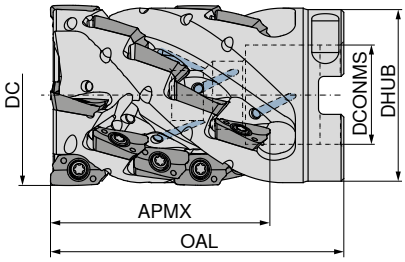




| Designation | DC | ZNF | APMX | OAL | DCONMS | DHUB | RPMX | torque moment | Insert | 50 778 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | 1/min. | Nm | | | |
| **A211.63.R.05-20** | 63 | 5 | 19 | 45 | 22 | 48 | 14400 | 5 | XD.. 2007.. | 501.14 | **06305** |
| **A211.80.R.06-20** | 80 | 6 | 19 | 50 | 27 | 58 | 12400 | 5 | XD.. 2007.. | 535.99 | **08006** |
| **A211.100.R.07-20** | 100 | 7 | 19 | 50 | 32 | 78 | 10900 | 5 | XD.. 2007.. | 575.14 | **10007** |

# **MaxiMill** – 211-20K shell end face mill

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows



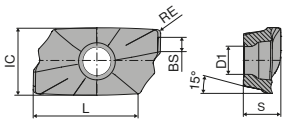




| Designation | DC | ZNF | APMX | ZEFP | ZNP | OAL | DCONMS | DHUB | torque moment | Insert | 50 780 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | | | mm | mm | mm | Nm | | | |
| **A211.63.R.04K4-20** | 63 | 4 | 68 | 16 | 4 | 92 | 27 | 58 | 5 | XD.. 2007.. | 1,109.87 | **06304** |
| **A211.80.R.05K4-20** | 80 | 5 | 68 | 20 | 4 | 92 | 32 | 76 | 5 | XD.. 2007.. | 1,244.46 | **08005** |

| | | | Cylindrical screw | | TORX® blade | | Key D | | Molykote | | Clamping screw | | Socket head screw | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 70 950 ... | | 80 950 ... | | 80 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| **Spare parts** | | | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | | | 2A/28 | | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 63 | | | | | 8.49 | **037** | 12.20 | **106** | 5.06 | **303** | 2.90 | **01200** | 6.29 | **180** | 232.67 | **193** |
| 80 | | | | | 8.49 | **037** | 12.20 | **106** | 5.06 | **303** | 2.90 | **01200** | 9.74 | **181** | 232.67 | **193** |
| 63 | | | 18.41 | **003** | 8.49 | **037** | 12.20 | **106** | 5.06 | **303** | 2.90 | **01200** | 9.74 | **181** | 232.67 | **193** |
| 80 | | | 29.70 | **004** | 8.49 | **037** | 12.20 | **106** | 5.06 | **303** | 2.90 | **01200** | 13.26 | **234** | 232.67 | **193** |
| 100 | | | | | 8.49 | **037** | 12.20 | **106** | 5.06 | **303** | 2.90 | **01200** | | | 232.67 | **193** |

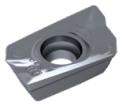
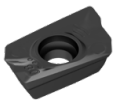
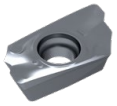
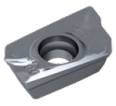
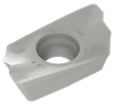
# XDKT

| Designation | IC | D1 | L | S |
|---|---|---|---|---|
| | mm | mm | mm | mm |
| XDKT 200708.. | 12.5 | 5.5 | 18.8 | 6.93 |
| XDKT 200716.. | 12.5 | 5.5 | 18.8 | 6.89 |
| XDKT 200732.. | 12.5 | 5.5 | 18.8 | 6.82 |
| XDKT 200740.. | 12.5 | 5.5 | 18.8 | 6.80 |
| XDKT 200760.. | 12.5 | 5.5 | 18.8 | 6.80 |



XDKT

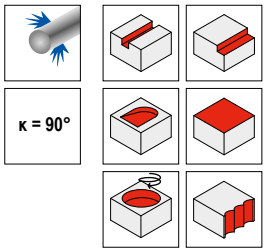
# XDKT

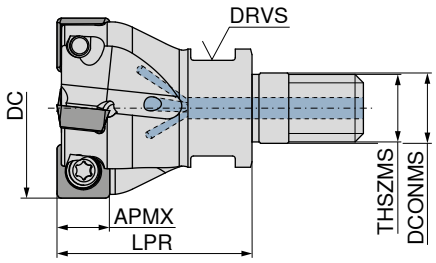
| | | -M50 CTPP235 | -M50 CTCP230 | -F40 CTPM245 | -F40 CTCM245 | -M50 CTPK220 | -F40 CTC5240 | -F40 CTCS245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | XDKT | XDKT | XDKT | XDKT | XDKT | XDKT | XDKT |
| | | 51 145 ... | 51 145 ... | 51 127 ... | 51 127 ... | 51 145 ... | 51 127 ... | 51 127 ... |
| ISO | RE | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| | mm | | | | | | | |
| 200708ER | 0.8 | 24.85 **10800** | 24.85 **00800** | 30.80 **45800** | 30.80 **90801** | 24.85 **60800** | 30.80 **15800** | 30.80 **55800** |
| 200716ER | 1.6 | 24.85 **11600** | 24.85 **01600** | 30.80 **46600** | 30.80 **91601** | 24.85 **61600** | 30.80 **16600** | 30.80 **56600** |
| 200732ER | 3.2 | | | 30.80 **48200** | 30.80 **93201** | | 30.80 **18200** | 30.80 **58200** |
| 200740ER | 4.0 | | | | 30.80 **94001** | | 30.80 **19000** | |
| 200760ER | 6.0 | | | | 30.80 **96001** | | 30.80 **19200** | |
| P | | ● | ● | ● | ● | | | |
| M | | ○ | | ● | ● | | | |
| K | | ○ | ○ | | | ● | | |
| N | | | | | | | | |
| S | | | | | ○ | | ● | ● |
| H | | | | | | | | |
| O | | | | | | | | |

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 163 |
| Starting Parameter | → 163 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

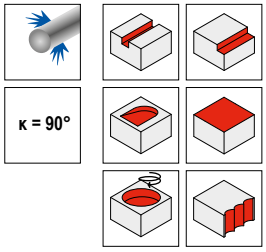
# **MaxiMill** – 490-09 Screw in cutter

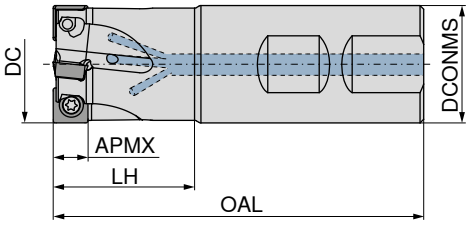



| Designation | DC mm | ZNF | APMX mm | LPR mm | THSZMS | DCONMS mm | DRVS mm | torque moment Nm | Insert | 50 726 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G490.25.R.03-09 | 25 | 3 | 8 | 35 | M12 | 12.5 | 17 | 3,2 | SD.. 09T3.. | 351.18 | 025 |
| G490.32.R.04-09 | 32 | 4 | 8 | 35 | M16 | 17.0 | 24 | 3,2 | SD.. 09T3.. | 380.85 | 032 |

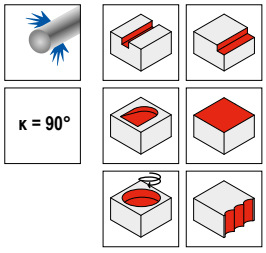
# **MaxiMill** – 490-09 End milling cutter

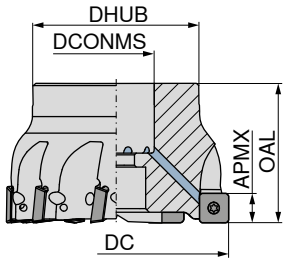


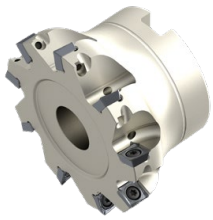




| Designation | DC mm | ZNF | APMX mm | DCONMS mm | OAL mm | LH mm | torque moment Nm | Insert | 50 727 ... £ 2B/40 | | 50 727 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C490.25.R.03-09-B-32 | 25 | 3 | 8 | 25 | 88 | 32 | 3,2 | SD.. 09T3.. | | | 351.18 | 025 |
| C490.25.R.02-09-A-20 | 25 | 2 | 8 | 20 | 165 | 40 | 3,2 | SD.. 09T3.. | 323.82 | 225 | | |
| C490.25.R.02-09-A-40-165 | 25 | 2 | 8 | 25 | 165 | 40 | 3,2 | SD.. 09T3.. | 335.94 | 125 | | |
| C490.32.R.04-09-B-25 | 32 | 4 | 8 | 25 | 100 | 40 | 3,2 | SD.. 09T3.. | | | 366.98 | 132 |
| C490.32.R.04-09-B-40 | 32 | 4 | 8 | 32 | 100 | 40 | 3,2 | SD.. 09T3.. | | | 380.85 | 032 |

# **MaxiMill** – 490-09 Shell mill



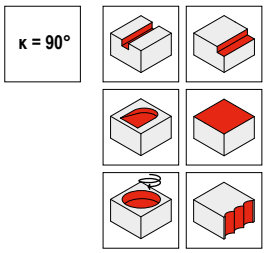



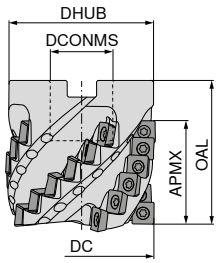



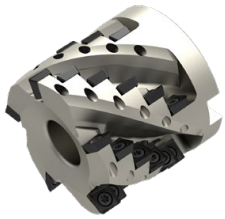
| Designation | DC mm | ZNF | APMX mm | DHUB mm | DCONMS mm | OAL mm | torque moment Nm | Insert | 50 728 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| A490.40.R.05-09 | 40 | 5 | 8 | 38 | 16 | 40 | 3,2 | SD.. 09T3.. | 425.74 | 040 |
| A490.42.R.06-09 | 42 | 6 | 8 | 38 | 16 | 40 | 3,2 | SD.. 09T3.. | 455.42 | 042 |
| A490.50.R.06-09 | 50 | 6 | 8 | 43 | 22 | 40 | 3,2 | SD.. 09T3.. | 470.42 | 050 |
| A490.52.R.07-09 | 52 | 7 | 8 | 43 | 22 | 40 | 3,2 | SD.. 09T3.. | 500.22 | 052 |
| A490.63.R.07-09 | 63 | 7 | 8 | 48 | 22 | 40 | 3,2 | SD.. 09T3.. | 515.23 | 063 |
| A490.66.R.08-09 | 66 | 8 | 8 | 48 | 22 | 40 | 3,2 | SD.. 09T3.. | 545.00 | 066 |
| A490.80.R.09-09 | 80 | 9 | 8 | 58 | 27 | 50 | 3,2 | SD.. 09T3.. | 724.27 | 080 |
| A490.100.R.10-09 | 100 | 10 | 8 | 78 | 32 | 50 | 3,2 | SD.. 09T3.. | 791.46 | 100 |

# MaxiMill – 490-09K shell end face mill

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows



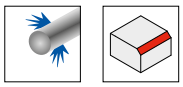



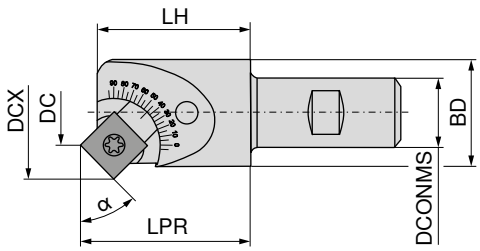



| Designation | DC mm | ZNF | APMX mm | ZEFP | ZNP | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | 50 761 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A490.40.R.03K6-09** | 40 | 3 | 41 | 18 | 6 | 55 | 16 | 38 | 3,2 | SD.. 09T3.. | 1,179.81 | **040** |
| **A490.50.R.04K6-09** | 50 | 4 | 41 | 24 | 6 | 55 | 22 | 48 | 3,2 | SD.. 09T3.. | 1,428.03 | **050** |
| **A490.63.R.05K6-09** | 63 | 5 | 41 | 30 | 6 | 60 | 27 | 61 | 3,2 | SD.. 09T3.. | 1,613.88 | **063** |

| Spare parts DC | TORX® blade 80 950 ... £ Y7 | | Clamping key – T 80 397 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Power Screw 70 950 ... £ 2A/28 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 - 32 | 8.49 | **036** | | | 15.56 | **113** | | | 5.06 | **303** | 3.61 | **110** | 195.92 | **192** |
| 40 - 42 | 8.49 | **036** | 6.07 | **040** | 15.56 | **113** | 15.12 | **151** | 5.06 | **303** | 3.61 | **110** | 195.92 | **192** |
| 50 - 100 | 8.49 | **036** | | | 15.56 | **113** | | | 5.06 | **303** | 3.61 | **110** | 195.92 | **192** |

# MaxiMill – 490-09 Adjustable single angle milling cutter






NEW

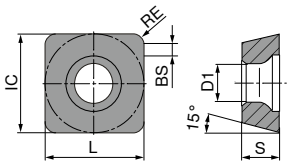
| Designation | DC mm | DCX mm | LH mm | BD mm | LPR mm | ZNF | DCONMS mm | torque moment Nm | Insert | 50 690 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **C490.20.R.01** | 1,6 - 11,1 | 20,1 - 23,6 | 32 | 18.65 | 32,9 - 34,6 | 1 | 16 | 3,2 | SD.. 09T3.. | 173.48 | **01600** |

| Spare parts for Article no. | Cylindrical screw 70 950 ... £ 2A/28 | | Adjustment wedge 70 950 ... £ 2B/40 | | TORX® blade 80 950 ... £ Y7 | | Key D 80 950 ... £ Y7 | | Molykote 70 950 ... £ 2A/28 | | Clamping screw 70 950 ... £ 2A/28 | | Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 690 01600 | 4.93 | **87500** | 20.74 | **87200** | 8.49 | **036** | 15.56 | **113** | 5.06 | **303** | 3.61 | **110** | 195.92 | **192** |

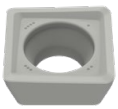
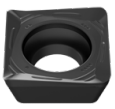
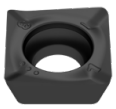
Angle-dependent dimensions can be found on → **Page 164**

# SDHT / SDNT

| Designation | IC | D1 | L | BS | S |
|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm |
| SD.T 09T3.. | 9.52 | 4.4 | 9.52 | 2.5 | 3.97 |

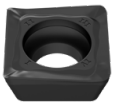
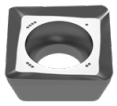



# SDHT / SDNT

| | TCM10 | -29 CTCP230 | CTPP235 | -29 CTPP235 | -33 CTPM240 | -F50 CTPM245 | -F50 CTCM245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |  |  |  |
| | CERMET | | | | | | |
| | SDHT | SDNT | SDNT | SDNT | SDNT | SDNT | SDNT |
| | 50 424 ... | 51 011 ... | 51 082 ... | 51 011 ... | 51 030 ... | 51 111 ... | 51 111 ... |
| ISO / RE mm | £ 1B/79 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 09T308ER 0.8 | | | 13.40 108 | | | 15.01 458 | 15.01 90801 |
| 09T308SR 0.8 | 18.19 900 | 13.40 008 | | 13.40 108 | 13.40 408 | | |
| P | ● | ● | ● | ● | ○ | ● | ● |
| M | | | ○ | ○ | ● | ● | ● |
| K | ○ | ○ | ○ | ○ | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SDNT / SDHT

NEW

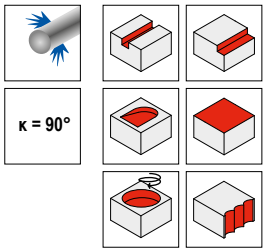
| | -31 CTCK215 | -F10 CTPX715 | -27P H216T | -27 CTC5240 | -M31 CTC5240 | -F10 CTCS245 |
|---|---|---|---|---|---|---|
| | DRAGONSKIN | DRAGONSKIN | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |  |  |
| | SDNT | SDHT | SDHT | SDHT | SDNT | SDHT |
| | 51 029 ... | 51 125 ... | 50 424 ... | 50 496 ... | 50 425 ... | 51 125 ... |
| ISO / RE mm | £ 1B/61 | £ 1A/90 | £ 1A/90 | £ 1H/17 | £ 1H/17 | £ 1H/17 |
| 09T308ER 0.8 | | | | 25.09 508 | 15.01 508 | 25.09 55800 |
| 09T308FR 0.8 | | 23.93 00802 | 18.19 550 | | | |
| 09T308SR 0.8 | 13.40 508 | | | | | |
| P | | ○ | | | | |
| M | | ○ | | | | |
| K | ● | ● | ○ | | | |
| N | | ● | ● | | | |
| S | | ○ | | ● | ● | ● |
| H | | | | | | |
| O | | ○ | ○ | | | |

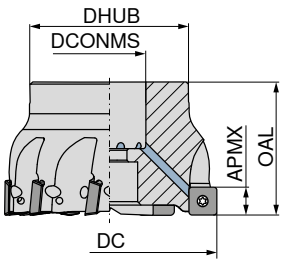
*Milling guide*

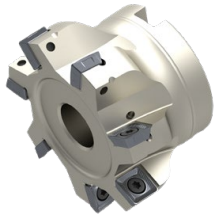

| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Starting Parameter | → 164 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |


15

# MaxiMill – 490-12 Shell mill



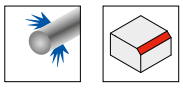



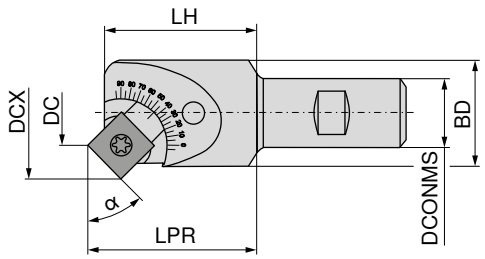



| Designation | DC | ZNF | APMX | DHUB | DCONMS | OAL | torque moment | Insert | 50 703 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | mm | Nm | | | |
| **A490.40.R.04-12** | 40 | 4 | 11 | 38 | 16 | 40 | 5 | SD.. 1205.. | 405.32 | **54000** |
| **A490.50.R.05-12** | 50 | 5 | 11 | 43 | 22 | 40 | 5 | SD.. 1205.. | 450.10 | **550** |
| **A490.63.R.06-12** | 63 | 6 | 11 | 48 | 22 | 40 | 5 | SD.. 1205.. | 495.13 | **563** |
| **A490.80.R.07-12** | 80 | 7 | 11 | 58 | 27 | 50 | 5 | SD.. 1205.. | 683.76 | **580** |
| **A490.100.R.08-12** | 100 | 8 | 11 | 75 | 32 | 50 | 5 | SD.. 1205.. | 751.05 | **600** |
| **A490.125.R.10-12** | 125 | 10 | 11 | 88 | 40 | 63 | 5 | SD.. 1205.. | 804.99 | **625** |

| Spare parts |  TORX® blade | |  Clamping key – T | |  Key D | |  Power Screw | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 80 397 ... | | 80 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| **DC** | £ Y7 | | £ Y7 | | £ Y7 | | £ 2A/28 | | £ 2A/28 | | £ 2A/28 | | £ Y7 | |
| 40 | 8.49 | **037** | 6.07 | **040** | 16.66 | **114** | 15.12 | **151** | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |
| 50 | 8.49 | **037** | 6.07 | **040** | 16.66 | **114** | 19.79 | **154** | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |
| 63 - 125 | 8.49 | **037** | 6.07 | **040** | 16.66 | **114** | | | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |

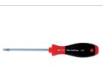
# MaxiMill – 490-12 Adjustable single angle milling cutter






NEW

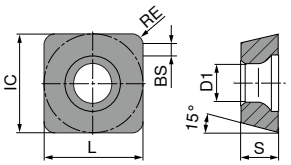
| Designation | DC | DCX | LH | BD | LPR | ZNF | DCONMS | torque moment | Insert | 50 690 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm | | mm | Nm | | | |
| **C490.26.R.01** | 1,1 - 14,1 | 26,6 - 31,5 | 37 | 25 | 38,2 - 40,6 | 1 | 20 | 5 | SD.. 1205.. | 203.59 | **02000** |

| Spare parts for Article no. |  Cylindrical screw | |  Adjustment wedge | |  TORX® blade | |  Key D | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 70 950 ... | | 70 950 ... | | 80 950 ... | | 80 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| | £ 2A/28 | | £ 2B/40 | | £ Y7 | | £ Y7 | | £ 2A/28 | | £ 2A/28 | | £ Y7 | |
| 50 690 02000 | 3.89 | **87400** | 20.74 | **87300** | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |

Angle-dependent dimensions can be found on → **Page 165**

# SDHW / SDMT / SDHT

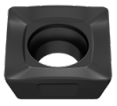
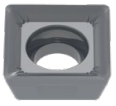
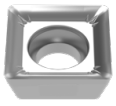
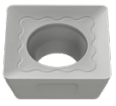
| Designation | IC | D1 | L | BS | S |
|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm |
| SDH. 120508.. | 12.7 | 5.5 | 12.7 | 2.2 | 5.00 |
| SDHT 120512.. | 12.7 | 5.5 | 12.7 | 1.8 | 5.00 |
| SDHT 120520.. | 12.7 | 5.5 | 12.7 | 1.0 | 5.00 |
| SDHT 120525.. | 12.7 | 5.5 | 12.7 | 1.5 | 5.00 |
| SDMT 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 CTCP230 | -29 CTPP235 | -29 CTPM240 | -33 CTPM240 | -F50 CTPM245 | -F50 CTCM245 |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |  |  |  |
| | CERMET | | | | | | |
| | SDHW | SDMT | SDMT | SDMT | SDHT | SDMT | SDMT |
| | 50 428 ... | 51 081 ... | 51 081 ... | 51 081 ... | 51 028 ... | 51 110 ... | 51 110 ... |
| ISO / RE mm | £ 1B/79 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 120508ER 0.8 | | | | | | 21.28 458 | 21.28 90801 |
| 120508SR 0.8 | 21.65 901 | | | | | | |
| 120512SR 1.2 | | | | | 21.09 412 | | |
| 120520SR 2.0 | | | | | 21.09 421 | | |
| 1205ZZSN 0.8 | | 18.19 020 | 18.19 120 | 17.61 420 | | | |
| P | ● | ● | ● | ○ | ○ | ● | ● |
| M | | | ○ | ● | ● | ● | ● |
| K | ○ | ○ | ○ | | | | |
| N | | | | | | | |
| S | | | | | | | ○ |
| H | | | | | | | |
| O | | | | | | | |

# SDMT / SDHT

| | | | NEW | | | |
|---|---|---|---|---|---|---|
| | -31 CTCK215 | -F10 CTPX715 | -27P H216T | -M31 CTC5240 | -F50 CTCS245 |
| | DRAGONSKIN | DRAGONSKIN | | DRAGONSKIN | DRAGONSKIN |
| |  |  |  |  |  |
| | SDMT | SDHT | SDHT | SDMT | SDMT |
| | 51 059 ... | 51 161 ... | 50 426 ... | 50 580 ... | 51 110 ... |
| ISO / RE mm | £ 1B/61 | £ 1A/90 | £ 1A/90 | £ 1H/17 | £ 1H/17 |
| 120508ER 0.8 | | | | 21.28 508 | 21.28 55800 |
| 120508FR 0.8 | | 28.65 00802 | 21.09 555 | | |
| 120525FR 2.5 | | | 21.09 559 | | |
| 1205ZZSN 0.8 | 17.61 521 | | | | |
| P | | ○ | | | |
| M | | ○ | | | |
| K | ● | ● | ○ | | |
| N | | ● | ● | | |
| S | | ○ | | ● | ● |
| H | | | | | |
| O | | ○ | ○ | | |

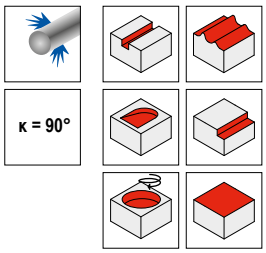
*Milling guide*

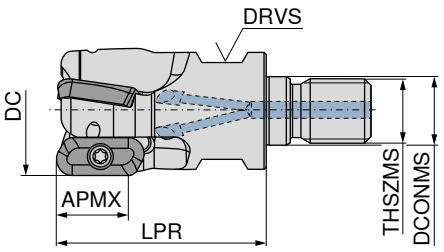


15

# **MaxiMill** – HSC-11 Screw in cutter

▲ Insert radius >3.2 mm: Modify cutter body

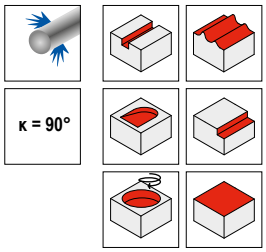


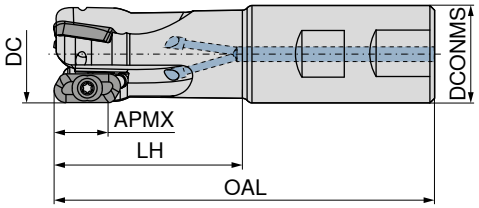




| Designation | DC mm | ZNF | APMX mm | DCONMS mm | LPR mm | THSZMS | RPMX 1/min. | DRVS mm | torque moment Nm | Insert | 55 107 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GHSC.16.R.02-11** | 16 | 2 | 10 | 8.5 | 27 | M8 | 56000 | 10 | 1,8 | XDHT 11T3.. | 309.28 | **016** |
| **GHSC.20.R.02-11** | 20 | 2 | 10 | 10.5 | 33 | M10 | 50100 | 15 | 1,8 | XDHT 11T3.. | 332.92 | **020** |
| **GHSC.25.R.03-11** | 25 | 3 | 10 | 12.5 | 35 | M12 | 45000 | 17 | 1,8 | XDHT 11T3.. | 375.08 | **025** |
| **GHSC.32.R.03-11** | 32 | 3 | 10 | 17.0 | 35 | M16 | 39800 | 24 | 1,8 | XDHT 11T3.. | 389.86 | **032** |
| **GHSC.40.R.03-11** | 40 | 3 | 10 | 17.0 | 35 | M16 | 35500 | 24 | 1,8 | XDHT 11T3.. | 409.24 | **040** |

# **MaxiMill** – HSC-11 End milling cutter

▲ Insert radius >3.2 mm: Modify cutter body

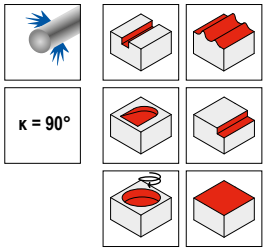


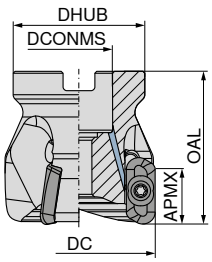




| Designation | DC mm | ZNF | APMX mm | DCONMS mm | OAL mm | LH mm | RPMX 1/min. | torque moment Nm | Insert | 50 675 ... £ 2B/40 | | 50 675 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CHSC.16.R.02-11-B/A-25** | 16 | 2 | 10 | 16 | 75 | 25 | 56200 | 1,8 | XDHT 11T3.. | 309.28 | **016** | 309.28 | **416** |
| **CHSC.16.R.02-11-A-32** | 16 | 2 | 10 | 16 | 165 | 32 | 18800 | 1,8 | XDHT 11T3.. | 309.28 | **116** | | |
| **CHSC.20.R.02-11-A-32** | 20 | 2 | 10 | 20 | 84 | 32 | 50100 | 1,8 | XDHT 11T3.. | 332.92 | **020** | | |
| **CHSC.20.R.03-11-B-32** | 20 | 3 | 10 | 20 | 84 | 32 | 50100 | 1,8 | XDHT 11T3.. | | | 377.72 | **420** |
| **CHSC.20.R.02-11-A-40** | 20 | 2 | 10 | 20 | 165 | 40 | 26700 | 1,8 | XDHT 11T3.. | 332.92 | **120** | | |
| **CHSC.25.R.03-11-A-40** | 25 | 3 | 10 | 25 | 98 | 40 | 45000 | 1,8 | XDHT 11T3.. | 375.08 | **225** | | |
| **CHSC.25.R.04-11-B-40** | 25 | 4 | 10 | 25 | 98 | 40 | 45000 | 1,8 | XDHT 11T3.. | | | 412.24 | **425** |
| **CHSC.25.R.02-11-A-50** | 25 | 2 | 10 | 25 | 165 | 50 | 31700 | 1,8 | XDHT 11T3.. | 358.32 | **125** | | |
| **CHSC.25.R.03-11-A-50** | 25 | 3 | 10 | 25 | 165 | 50 | 31700 | 1,8 | XDHT 11T3.. | 375.08 | **325** | | |

# **MaxiMill** – HSC-11 Shell mill

▲ Insert radius >3.2 mm: Modify cutter body



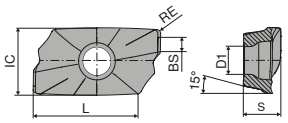




| Designation | DC mm | ZNF | APMX mm | DCONMS mm | DHUB mm | OAL mm | RPMX 1/min. | torque moment Nm | Insert | £ 2B/40 | 50 718 ... |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHSC.40.R.04-11** | 40 | 4 | 10 | 16 | 38 | 50 | 35500 | 1,8 | XDHT 11T3.. | 521.10 | **040** |
| **AHSC.50.R.04-11** | 50 | 4 | 10 | 22 | 43 | 50 | 31800 | 1,8 | XDHT 11T3.. | 630.31 | **050** |
| **AHSC.63.R.05-11** | 63 | 5 | 10 | 22 | 43 | 50 | 28300 | 1,8 | XDHT 11T3.. | 701.90 | **063** |
| **AHSC.80.R.05-11** | 80 | 5 | 10 | 27 | 58 | 50 | 25100 | 1,8 | XDHT 11T3.. | 730.17 | **080** |
| **AHSC.100.R.05-11** | 100 | 5 | 10 | 32 | 78 | 50 | 22400 | 1,8 | XDHT 11T3.. | 782.57 | **100** |

| |  TORX® blade | |  Clamping key – T | |  Key D | |  Power Screw | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 80 397 ... | | 80 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 16 - 25 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **128** | 195.92 | **192** |
| 32 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **131** | 195.92 | **192** |
| 40 | 8.49 | **043** | 6.07 | **040** | 17.13 | **125** | 15.12 | **151** | 5.06 | **303** | 4.73 | **131** | 195.92 | **192** |
| 50 - 63 | 8.49 | **043** | 7.73 | **050** | 17.13 | **125** | 19.79 | **154** | 5.06 | **303** | 4.73 | **131** | 195.92 | **192** |
| 80 - 100 | 8.49 | **043** | | | 17.13 | **125** | | | 5.06 | **303** | 4.73 | **131** | 195.92 | **192** |

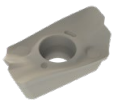
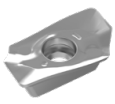
# XDKT / XDHT

| Designation | 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

# XDKT / XDHT

| | -F20 CTWN215 | | -27P H216T | |
|---|---|---|---|---|
| |  XDKT | |  XDHT | |
| | 50 478 ... | | 50 477 ... | |
| ISO / RE mm | £ 1A/90 | | £ 1A/90 | |
| 11T302FR 0.2 | 20.39 | 502 | 30.74 | 502 |
| 11T304FR 0.4 | 20.39 | 504 | 30.74 | 504 |
| 11T308FR 0.8 | 20.39 | 508 | 30.74 | 508 |
| 11T312FR 1.2 | | | 30.74 | 512 |
| 11T316FR 1.6 | | | 30.74 | 516 |
| 11T320FR 2.0 | 20.39 | 520 1) | 30.74 | 520 1) |
| 11T325FR 2.5 | 20.39 | 525 1) | 30.74 | 525 1) |
| 11T332FR 3.2 | | | 30.74 | 532 1) |
| 11T340FR 4.0 | | | 30.74 | 540 1) |
| 11T350FR 5.0 | | | 30.74 | 550 1) |
| P | | | | |
| M | | | | |
| K | | ○ | | ○ |
| N | | ● | | ● |
| S | | | | |
| H | | | | |
| O | | ○ | | ○ |

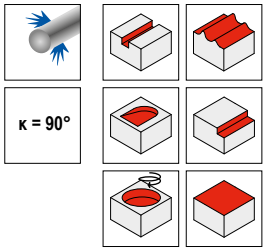
**1)** Insert radius >1.6 mm: Modify cutter body

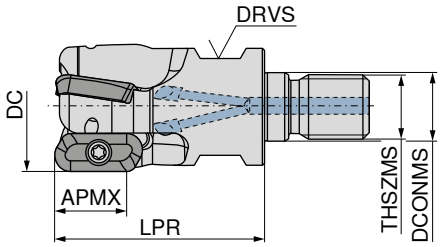
*Milling guide*


| | | | |
|---|---|---|---|
| Safety advice | → 166 | Cutting data standard values | → 167 |
| Machining strategy | → 168+169 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# **MaxiMill** – HSC-19 Screw-in cutter

▲ Insert radius >4.0 mm: Modify cutter body

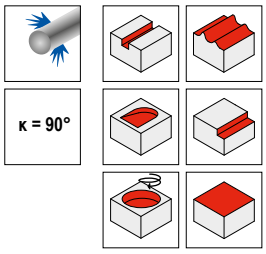


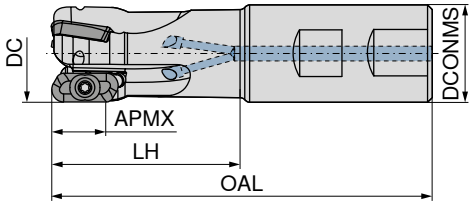




| Designation | DC mm | ZNF | APMX mm | DCONMS mm | LPR mm | THSZMS | DRVS mm | RPMX 1/min. | torque moment Nm | Insert | 55 108 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GHSC.25.R.02-19** | 25 | 2 | 18 | 12.5 | 45 | M12 | 17 | 34400 | 5 | XDHT 1904.. | 364.34 | **025** |
| **GHSC.32.R.03-19** | 32 | 3 | 18 | 17.0 | 52 | M16 | 24 | 29100 | 5 | XDHT 1904.. | 471.93 | **032** |
| **GHSC.40.R.03-19** | 40 | 3 | 18 | 17.0 | 52 | M16 | 24 | 24900 | 5 | XDHT 1904.. | 501.83 | **040** |

# **MaxiMill** – HSC-19 End milling cutter

▲ Insert radius >4.0 mm: Modify cutter body

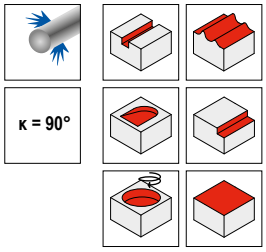


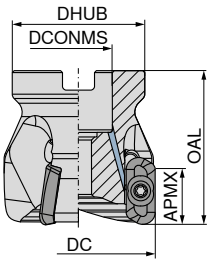



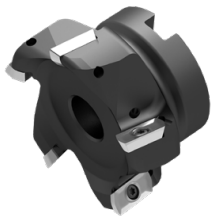

| Designation | DC mm | ZNF | APMX mm | DCONMS mm | OAL mm | LH mm | RPMX 1/min. | torque moment Nm | Insert | 50 679 ... £ 2B/40 | | 50 679 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CHSC.25.R.02-19-A-50** | 25 | 2 | 18 | 25 | 121 | 50 | 32400 | 5 | XDHT 1904.. | 364.34 | **225** | | |
| **CHSC.25.R.02-19** | 25 | 2 | 18 | 25 | 121 | 65 | 32400 | 5 | XDHT 1904.. | | | 375.08 | **025** |
| **CHSC.25.R.02-19-A-63** | 25 | 2 | 18 | 25 | 165 | 63 | 24700 | 5 | XDHT 1904.. | 364.34 | **325** | | |
| | | | | | | | | | | | | | |
| **CHSC.32.R.02-19-A-63** | 32 | 2 | 18 | 32 | 125 | 63 | 28900 | 5 | XDHT 1904.. | 382.35 | **232** | | |
| **CHSC.32.R.03-19-A-63** | 32 | 3 | 18 | 32 | 125 | 63 | 28900 | 5 | XDHT 1904.. | 471.93 | **432** | | |
| **CHSC.32.R.03-19** | 32 | 3 | 18 | 32 | 125 | 65 | 28900 | 5 | XDHT 1904.. | | | 480.83 | **033** |
| **CHSC.32.R.02-19** | 32 | 2 | 18 | 32 | 125 | 65 | 28900 | 5 | XDHT 1904.. | | | 391.22 | **032** |
| **CHSC.32.R.02-19-A-80** | 32 | 2 | 18 | 32 | 165 | 80 | 24400 | 5 | XDHT 1904.. | 382.35 | **332** | | |
| **CHSC.32.R.03-19-A-80** | 32 | 3 | 18 | 32 | 165 | 80 | 24400 | 5 | XDHT 1904.. | 471.93 | **532** | | |

# **MaxiMill** – HSC-19 Shell mill

▲ Insert radius >4.0 mm: Modify cutter body



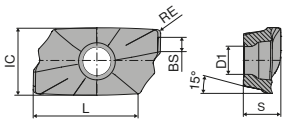



| Designation | DC mm | ZNF | APMX mm | DCONMS mm | DHUB mm | OAL mm | RPMX 1/min. | torque moment Nm | Insert | 50 716 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHSC.40.R.03-19** | 40 | 3 | 18 | 16 | 38 | 50 | 24900 | 5 | XDHT 1904.. | 488.32 | **040** |
| **AHSC.50.R.04-19** | 50 | 4 | 18 | 22 | 43 | 50 | 21600 | 5 | XDHT 1904.. | 613.68 | **050** |
| **AHSC.63.R.04-19** | 63 | 4 | 18 | 22 | 48 | 50 | 18800 | 5 | XDHT 1904.. | 687.00 | **163** |
| **AHSC.63.R.05-19** | 63 | 5 | 18 | 22 | 48 | 50 | 18800 | 5 | XDHT 1904.. | 701.90 | **063** |
| **AHSC.80.R.04-19** | 80 | 4 | 18 | 27 | 58 | 50 | 16400 | 5 | XDHT 1904.. | 713.78 | **180** |
| **AHSC.80.R.05-19** | 80 | 5 | 18 | 27 | 58 | 50 | 16400 | 5 | XDHT 1904.. | 730.17 | **080** |
| **AHSC.100.R.04-19** | 100 | 4 | 18 | 32 | 78 | 50 | 14500 | 5 | XDHT 1904.. | 766.20 | **200** |
| **AHSC.100.R.05-19** | 100 | 5 | 18 | 32 | 78 | 50 | 14500 | 5 | XDHT 1904.. | 782.57 | **100** |
| **AHSC.125.R.05-19** | 125 | 5 | 18 | 40 | 88 | 63 | 12800 | 5 | XDHT 1904.. | 904.84 | **125** |
| **AHSC.125.R.06-19** | 125 | 6 | 18 | 40 | 88 | 63 | 12800 | 5 | XDHT 1904.. | 919.84 | **225** |

| | TORX® blade | | Clamping key – T | | Key D | | Power Screw | | Molykote | | Clamping screw | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 80 397 ... | | 80 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 25 | 8.49 | **036** | | | 15.56 | **113** | | | 5.06 | **303** | 3.30 | **172** | 232.67 | **193** |
| 32 | 8.49 | **036** | | | 15.56 | **113** | | | 5.06 | **303** | 3.92 | **173** | 232.67 | **193** |
| 40 | 8.49 | **036** | 6.07 | **040** | 15.56 | **113** | 15.12 | **151** | 5.06 | **303** | 3.92 | **173** | 232.67 | **193** |
| 50 - 63 | 8.49 | **036** | 7.73 | **050** | 15.56 | **113** | 19.79 | **154** | 5.06 | **303** | 3.92 | **174** | 232.67 | **193** |
| 80 - 125 | 8.49 | **036** | | | 15.56 | **113** | | | 5.06 | **303** | 3.92 | **174** | 232.67 | **193** |

# XDHT

| Designation | 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 |

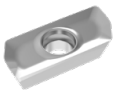


XDKT

# XDHT

NEW

| -F10 | -27P |
|---|---|
| CTPX715 | H216T |
| DRAGONSKIN | |

XDHT XDHT

| ISO | RE | 51 159 ... | | 50 487 ... | |
|---|---|---|---|---|---|
| | mm | £ 1A/90 | | £ 1A/90 | |
| 190402FR | 0.2 | 39.84 | 00202 | 31.58 | 552 |
| 190404FR | 0.4 | 39.84 | 00402 | 31.58 | 554 |
| 190408FR | 0.8 | 39.84 | 00802 | 31.58 | 556 |
| 190412FR | 1.2 | 39.84 | 01202 | 31.58 | 557 |
| 190416FR | 1.6 | 39.84 | 01602 | 31.58 | 558 |
| 190420FR | 2.0 | 39.84 | 02002 | 31.58 | 560 |
| 190425FR | 2.5 | 39.84 | 02502 | 31.58 | 562 |
| 190432FR | 3.2 | 39.84 | 03202 | 31.58 | 564 |
| 190440FR | 4.0 | 39.84 | 04002 | 31.58 | 566 |
| 190450FR | 5.0 | 39.84 | 05002[1)] | 31.58 | 568 [1)] |
| P | | ○ | | | |
| M | | ○ | | | |
| K | | ● | | ○ | |
| N | | ● | | ● | |
| S | | ○ | | | |
| H | | | | | |
| O | | ○ | | ○ | |

1) Insert radius > 4.0 mm: Modify cutter body

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Safety advice | → 166 |
| Machining strategy | → 170–172 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

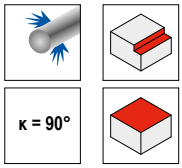

15

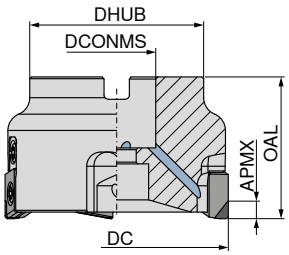
# **MaxiMill** – HPC 12 Shell mill

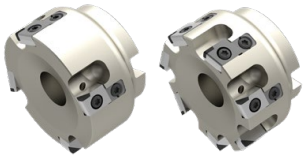
▲ 50 723 ... normal pitch
▲ 50 724 ... fine pitch

**Scope of supply:**

Tool, adjustment wedges and setting key; incl. wooden box



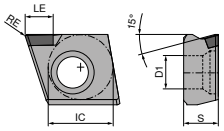
| | | | | | | | | | | 50 723 ... | | 50 724 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Designation** | DC<br>mm | ZNF | APMX<br>mm | OAL<br>mm | DHUB<br>mm | DCONMS<br>mm | RPMX<br>1/min. | torque moment<br>Nm | Insert | £<br>2B/40 | | £<br>2B/40 | |
| **AHPC.40.R.04-12** | 40 | 4 | 11 | 40 | 34 | 16 | 32000 | 5 | ZNHW 1205.. | 753.73 | **040** | | |
| **AHPC.50.R.04-12** | 50 | 4 | 11 | 40 | 49 | 22 | 32000 | 5 | ZNHW 1205.. | 771.04 | **050** | | |
| **AHPC.50.R.05-12** | 50 | 5 | 11 | 40 | 49 | 22 | 32000 | 5 | ZNHW 1205.. | | | 863.40 | **050** |
| **AHPC.63.R.04-12** | 63 | 4 | 11 | 40 | 49 | 22 | 29000 | 5 | ZNHW 1205.. | 794.24 | **063** | | |
| **AHPC.63.R.07-12** | 63 | 7 | 11 | 40 | 49 | 22 | 29000 | 5 | ZNHW 1205.. | | | 1,070.39 | **063** |
| **AHPC.80.R.05-12** | 80 | 5 | 11 | 50 | 60 | 27 | 26000 | 5 | ZNHW 1205.. | 1,122.33 | **080** | | |
| **AHPC.80.R.09-12** | 80 | 9 | 11 | 50 | 60 | 27 | 26000 | 5 | ZNHW 1205.. | | | 1,489.21 | **080** |
| **AHPC.100.R.06-12** | 100 | 6 | 11 | 50 | 70 | 32 | 24000 | 5 | ZNHW 1205.. | 1,266.40 | **100** | | |
| **AHPC.100.R.12-12** | 100 | 12 | 11 | 50 | 70 | 32 | 24000 | 5 | ZNHW 1205.. | | | 1,817.06 | **100** |
| **AHPC.125.R.08-12** | 125 | 8 | 11 | 63 | 72 | 40 | 22000 | 5 | ZNHW 1205.. | 1,501.90 | **125** | | |
| **AHPC.125.R.14-12** | 125 | 14 | 11 | 63 | 72 | 40 | 22000 | 5 | ZNHW 1205.. | | | 2,053.71 | **12514** |
| **AHPC.160.R.10-12** | 160 | 10 | 11 | 63 | 118 | 40 | 18000 | 5 | ZNHW 1205.. | 1,870.17 | **16010**[1)] | | |
| **AHPC.160.R.16-12** | 160 | 16 | 11 | 63 | 118 | 40 | 18000 | 5 | ZNHW 1205.. | | | 5,385.37 | **16016**[1)] |
| **AHPC.200.R.12-12** | 200 | 12 | 11 | 63 | 153 | 60 | 16000 | 5 | ZNHW 1205.. | 5,578.17 | **20000**[1)] | | |
| **AHPC.250.R.14-12** | 250 | 14 | 11 | 63 | 200 | 60 | 14000 | 5 | ZNHW 1205.. | 6,299.68 | **25014**[1)] | | |
| **AHPC.315.R.18-12** | 315 | 18 | 11 | 80 | 265 | 60 | 12000 | 5 | ZNHW 1205.. | 7,935.48 | **31518**[1)] | | |

**1)** Without Through Coolant

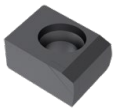
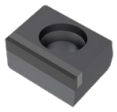
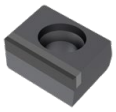
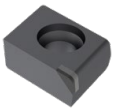
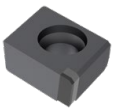
| | TORX® blade | | Molykote | | Clamping screw | | Wedge | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | |
| **DC** | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| 40 - 315 | 8.49 | **036** | 5.06 | **303** | 3.92 | **174** | 42.48 | **199** | 232.67 | **193** |

# ZNHW

| Designation | LE | D1 | IC | S |
|---|---|---|---|---|
| | mm | mm | mm | mm |
| ZNHW 120504ER-1503 | 3 | 4.85 | 10 | 5.40 |
| ZNHW 120504FR-0007 | 7 | 4.85 | 10 | 5.40 |
| ZNHW 120508ER-1503 | 3 | 4.85 | 10 | 5.40 |
| ZNHW 120508SR-0003 | 3 | 4.85 | 10 | 5.40 |
| ZNHW 1205EOER-1002 | 2 | 4.85 | 10 | 5.40 |
| ZNHW 1205POER-1511 | 11 | 4.85 | 10 | 5.40 |
| ZNHW 1205POFR-1003 | 3 | 4.85 | 10 | 5.40 |
| ZNHW 1205POSR-1503 | 3 | 4.85 | 10 | 5.40 |
| ZNHW 1205POSR-1506 | 6 | 4.85 | 10 | 5.40 |
| ZNHW 1205POSR-3003 | 3 | 4.85 | 10 | 5.40 |
| ZNHW 1205ZZSR-5003 | 3 | 4.85 | 10 | 5.40 |




# ZNHW

| | CTL3215 | CTD4205 | -R CTD4205 | CTD4205 | -Q CTD4205 |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| | **CBN** ZNHW | **DIAMOND** ZNHW | **DIAMOND** ZNHW | **DIAMOND** ZNHW | **DIAMOND** ZNHW |
| | **50 515 ...** | **50 467 ...** | **50 517 ...** | **50 468 ...** | **50 466 ...** |
| **ISO** | £ 1G/21 | £ 1G/22 | £ 1G/22 | £ 1G/22 | £ 1G/22 |
| RE mm | | | | | |
| **120504ER-1503** 0.4 | | | | 134.03 **906** | |
| **120504FR-0007** 0.4 | | | | 163.24 **904** | |
| **120508ER-1503** 0.8 | | | | 134.03 **910** | |
| **120508SR-0003** 0.8 | | | | 133.33 **908** | |
| **1205EOER-1002** | 154.59 **952** | | | | |
| **1205POER-1511** | | 193.13 **902** | | | |
| **1205POFR-1003** | | 134.03 **90600** | | | |
| **1205POSR-1503** | | 121.21 **900** | | | |
| **1205POSR-1506** | | 157.23 **90800** | 157.23 **90800** | | |
| **1205POSR-3003** | | 133.33 **904** | | | |
| **1205ZZSR-5003** | | | | | 170.62 **900** [1] |
| P | | | | | |
| M | | | | | |
| K | ● | | | | |
| N | | ● | ● | ● | ● |
| S | | | | | |
| H | ○ | | | | |
| O | | ○ | ○ | ○ | ○ |

**1)** -Q = trailing edge insert

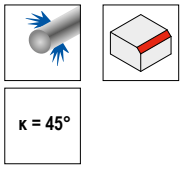
*Milling guide*

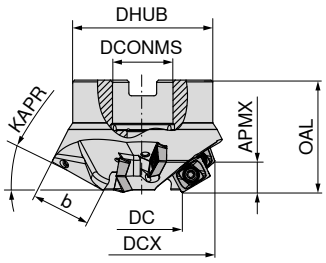

| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 173 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

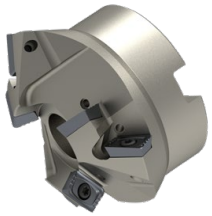

15

# MaxiMill – 242 Chamfer Cutter

▲ Caution: Use only inserts with a corner radius of less than 1.6 mm
▲ ZEFP = number of inserts
▲ ZNP = tooth rows



NEW

**50 768 ...**

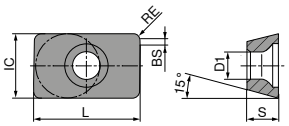
| KAPR | DC mm | DCX mm | ZNF | APMX mm | ZEFP | b ±0,3 mm | OAL mm | DCONMS mm | DHUB mm | ZNP | torque moment Nm | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15°** | 35 | 89.60 | 3 | 7.0 | 6 | 27.6 | 50 | 27 | 62.5 | 2 | 3,2 | LD.. 15... | 434.52 | **11503** |
| **30°** | 35 | 83.60 | 3 | 13.6 | 6 | 27.6 | 50 | 27 | 62.5 | 2 | 3,2 | LD.. 15... | 434.52 | **13003** |
| **45°** | 35 | 74.60 | 3 | 19.3 | 6 | 27.6 | 50 | 27 | 62.5 | 2 | 3,2 | LD.. 15... | 434.52 | **14503** |
| **60°** | 35 | 62.70 | 3 | 23.6 | 6 | 27.6 | 50 | 22 | 49.0 | 2 | 3,2 | LD.. 15... | 434.52 | **16003** |
| **75°** | 35 | 49.48 | 3 | 26.7 | 6 | 27.6 | 60 | 22 | 49.0 | 2 | 3,2 | LD.. 15... | 434.52 | **17503**[1)] |

**1)** Version with Powerscrew

| |  TORX® blade |  Clamping key – T |  Key D |  Power Screw |  Molykote |  Clamping screw |  Torque screw-driver |  clamping screw |
|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | **80 397 ...** | **80 950 ...** | **70 950 ...** | **70 950 ...** | **70 950 ...** | **80 950 ...** | **83 950 ...** |
| **Spare parts** | £ | £ | £ | £ | £ | £ | £ | £ |
| **KAPR** | Y7 | Y7 | Y7 | 2A/28 | 2A/28 | 2A/28 | Y7 | Y8/3B |
| 15 - 60 | 8.49 **036** | | 15.56 **113** | | 5.06 **303** | 3.61 **304** | 195.92 **192** | 8.95 **125** |
| 75 | 8.49 **036** | 7.73 **050** | 15.56 **113** | 19.79 **154** | 5.06 **303** | 3.61 **304** | 195.92 **192** | |

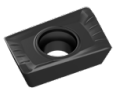
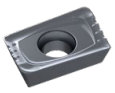
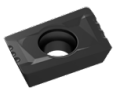
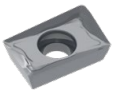
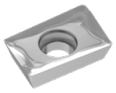
# LDFT / LDFW / LDMT

| Designation | 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 |



L...

# LDMT / LDFT / LDFW

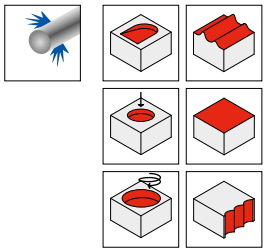
| | | -29 CTCP230 DRAGONSKIN | | -29 CTPP235 DRAGONSKIN | | -33 CTPM240 DRAGONSKIN | | CTCK215 DRAGONSKIN | | NEW -F10 CTPX715 DRAGONSKIN | | -27P H216T | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |  | |
| | | LDMT | | LDMT | | LDFT | | LDFW | | LDFT | | LDFT | |
| | | 51 080 ... | | 51 080 ... | | 51 042 ... | | 51 043 ... | | 51 157 ... | | 50 409 ... | |
| ISO | RE | £ | | £ | | £ | | £ | | £ | | £ | |
| | mm | 1B/61 | | 1B/61 | | 1B/61 | | 1B/61 | | 1A/90 | | 1A/90 | |
| 150408FR | 0.8 | | | | | | | | | 28.36 | 00802 | 22.93 | 550 |
| 1504PDSR | 0.8 | 11.28 | 020 | 11.28 | 120 | | | 18.44 | 520 | | | | |
| 1504PDSR | 1.2 | | | | | 21.09 | 420 | | | | | | |
| P | | ● | | ● | | ○ | | | | ○ | | | |
| M | | | | ○ | | ● | | | | ○ | | | |
| K | | ○ | | ○ | | | | ● | | ● | | ○ | |
| N | | | | | | | | | | ● | | ● | |
| S | | | | | | | | | | ○ | | | |
| H | | | | | | | | | | | | | |
| O | | | | | | | | | | ○ | | ○ | |

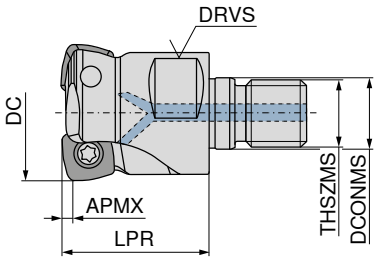
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |


15

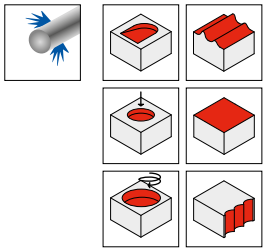
# **MaxiMill** – HFC high-feed screw-in cutter

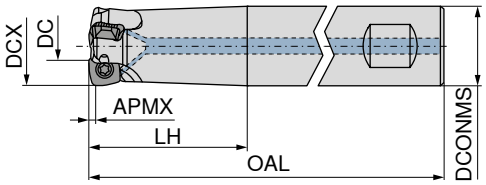





| Designation | DC | ZNF | APMX | LPR | DCONMS | THSZMS | DRVS | RPMX | torque moment | Insert | 50 682 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | | mm | 1/min. | Nm | | | |
| **GHFC.16.R.02-06** | 16 | 2 | 0.8 | 27 | 8.5 | M8 | 10 | 20800 | 1,2 | XPLX 0603.. | 266.10 | **616** |
| **GHFC.20.R.03-06** | 20 | 3 | 0.8 | 33 | 10.5 | M10 | 15 | 19800 | 1,2 | XPLX 0603.. | 302.11 | **620** |
| **GHFC.25.R.04-06** | 25 | 4 | 0.8 | 35 | 12.5 | M12 | 17 | 18700 | 1,2 | XPLX 0603.. | 338.12 | **625** |
| **GHFC.32.R.05-06** | 32 | 5 | 0.8 | 35 | 17.0 | M16 | 24 | 22000 | 1,2 | XPLX 0603.. | 374.15 | **632** |
| **GHFC.42.R.07-06** | 42 | 7 | 0.8 | 35 | 17.0 | M16 | 24 | 15000 | 1,2 | XPLX 0603.. | 411.66 | **04207** |
| **GHFC.25.R.02-09** | 25 | 2 | 1.0 | 35 | 12.5 | M12 | 17 | 30000 | 3,2 | XDLX 09T3.. | 318.62 | **025** |
| **GHFC.25.R.03-09** | 25 | 3 | 1.0 | 35 | 12.5 | M12 | 17 | 30000 | 3,2 | XDLX 09T3.. | 342.05 | **125** |
| **GHFC.32.R.03-09** | 32 | 3 | 1.0 | 35 | 17.0 | M16 | 24 | 27000 | 3,2 | XDLX 09T3.. | 357.29 | **032** |
| **GHFC.42.R.05-09** | 42 | 5 | 1.0 | 35 | 17.0 | M16 | 24 | 26100 | 3,2 | XDLX 09T3.. | 400.24 | **04205** |
| **GHFC.32.R.02-12** | 32 | 2 | 2.0 | 35 | 17.0 | M16 | 24 | 21600 | 5 | XOLX 1204.. | 334.21 | **132** |
| **GHFC.35.R.03-12** | 35 | 3 | 2.0 | 35 | 17.0 | M16 | 24 | 21360 | 5 | XOLX 1204.. | 357.29 | **035** |
| **GHFC.42.R.04-12** | 42 | 4 | 2.0 | 35 | 17.0 | M16 | 24 | 20800 | 5 | XOLX 1204.. | 385.94 | **04204** |

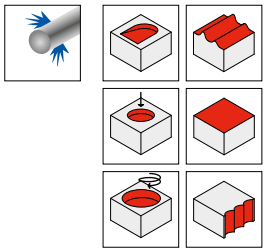
# **MaxiMill** – HFC high-feed end mill

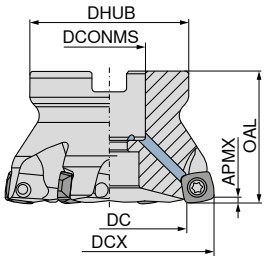


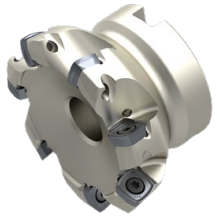



| Designation | DC | DCX | ZNF | APMX | OAL | LH | DCONMS | RPMX | torque moment | Insert | 50 681 ... £ 2B/40 | | 50 681 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | mm | | mm | mm | mm | mm | 1/min. | Nm | | | | | |
| **CHFC.16.R.02-06-B-40** | 7.0 | 16 | 2 | 0.8 | 89 | 40 | 16 | 17300 | 1,2 | XPLX 0603.. | | | 266.10 | **616** |
| **CHFC.16.R.02-06-A-40-200** | 7.0 | 16 | 2 | 0.8 | 200 | 40 | 16 | 4600 | 1,2 | XPLX 0603.. | 266.10 | **716** | | |
| **CHFC.20.R.03-06-B-50** | 11.0 | 20 | 3 | 0.8 | 101 | 50 | 20 | 14500 | 1,2 | XPLX 0603.. | | | 302.11 | **620** |
| **CHFC.20.R.03-06-A-50-225** | 11.0 | 20 | 3 | 0.8 | 225 | 50 | 20 | 4200 | 1,2 | XPLX 0603.. | 302.11 | **720** | | |
| **CHFC.25.R.04-06-B-50** | 16.0 | 25 | 4 | 0.8 | 107 | 50 | 25 | 15600 | 1,2 | XPLX 0603.. | | | 338.12 | **625** |
| **CHFC.25.R.04-06-A-50-225** | 16.0 | 25 | 4 | 0.8 | 225 | 50 | 25 | 4600 | 1,2 | XPLX 0603.. | 338.12 | **725** | | |
| **CHFC.32.R.05-06-B-25-60** | 23.0 | 32 | 5 | 0.8 | 117 | 60 | 25 | 11000 | 1,2 | XPLX 0603.. | | | 374.15 | **632** |
| **CHFC.32.R.05-06-A-25-60-225** | 23.0 | 32 | 5 | 0.8 | 225 | 60 | 25 | 3900 | 1,2 | XPLX 0603.. | 374.15 | **732** | | |
| **CHFC.25.R.02-09-A-50-225** | 12.3 | 25 | 2 | 1.0 | 225 | 50 | 25 | 9000 | 3,2 | XDLX 09T3.. | 318.62 | **025** | | |
| **CHFC.25.R.03-09-A-50-225** | 12.3 | 25 | 3 | 1.0 | 225 | 50 | 25 | 9000 | 3,2 | XDLX 09T3.. | 342.05 | **125** | | |
| **CHFC.32.R.03-09-A-63-250** | 19.3 | 32 | 3 | 1.0 | 250 | 63 | 32 | 8100 | 3,2 | XDLX 09T3.. | 357.29 | **032** | | |
| **CHFC.32.R.02-12-A-63-250** | 14.8 | 32 | 2 | 2.0 | 250 | 63 | 32 | 6480 | 5 | XOLX 1204.. | 334.21 | **132** | | |
| **CHFC.35.R.03-12-A-63-250** | 17.8 | 35 | 3 | 2.0 | 250 | 63 | 32 | 6480 | 5 | XOLX 1204.. | 357.29 | **035** | | |

# **MaxiMill** – HFC high-feed face mill





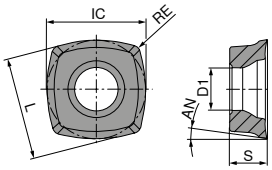
| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | RPMX 1/min. | torque moment Nm | Insert | **50 683 ...** £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHFC.32.R.03-09** | 19.3 | 32 | 3 | 1.0 | 40 | 16 | 38 | 27700 | 3,2 | XDLX 09T3.. | 357.29 | **032** |
| **AHFC.35.R.04-09** | 19.3 | 35 | 4 | 1.0 | 40 | 16 | 38 | 26700 | 3,2 | XDLX 09T3.. | 380.62 | **035** |
| **AHFC.40.R.04-09** | 27.3 | 40 | 4 | 1.0 | 40 | 16 | 38 | 26400 | 3,2 | XDLX 09T3.. | 396.20 | **140** |
| **AHFC.42.R.05-09** | 29.3 | 42 | 5 | 1.0 | 40 | 16 | 38 | 26100 | 3,2 | XDLX 09T3.. | 419.39 | **142** |
| **AHFC.50.R.05-09** | 37.3 | 50 | 5 | 1.0 | 40 | 22 | 43 | 23500 | 3,2 | XDLX 09T3.. | 466.14 | **150** |
| **AHFC.52.R.06-09** | 39.3 | 52 | 6 | 1.0 | 40 | 22 | 43 | 23000 | 3,2 | XDLX 09T3.. | 489.47 | **152** |
| **AHFC.63.R.06-09** | 50.3 | 63 | 6 | 1.0 | 40 | 22 | 48 | 20500 | 3,2 | XDLX 09T3.. | 535.99 | **163** |
| **AHFC.66.R.07-09** | 53.3 | 66 | 7 | 1.0 | 40 | 22 | 48 | 20000 | 3,2 | XDLX 09T3.. | 559.30 | **16600** |
| | | | | | | | | | | | | |
| **AHFC.40.R.03-12** | 22.8 | 40 | 3 | 2.0 | 40 | 16 | 38 | 21120 | 5 | XOLX 1204.. | 373.00 | **040** |
| **AHFC.42.R.04-12** | 24.8 | 42 | 4 | 2.0 | 40 | 16 | 38 | 20880 | 5 | XOLX 1204.. | 396.20 | **042** |
| **AHFC.50.R.04-12** | 32.8 | 50 | 4 | 2.0 | 40 | 22 | 43 | 18800 | 5 | XOLX 1204.. | 442.71 | **050** |
| **AHFC.52.R.05-12** | 34.8 | 52 | 5 | 2.0 | 40 | 22 | 43 | 18400 | 5 | XOLX 1204.. | 466.14 | **052** |
| **AHFC.63.R.05-12** | 45.8 | 63 | 5 | 2.0 | 40 | 22 | 48 | 16400 | 5 | XOLX 1204.. | 512.57 | **063** |
| **AHFC.66.R.06-12** | 48.8 | 66 | 6 | 2.0 | 40 | 22 | 48 | 16000 | 5 | XOLX 1204.. | 535.99 | **066** |
| **AHFC.80.R.07-12** | 62.8 | 80 | 7 | 2.0 | 50 | 27 | 58 | 14000 | 5 | XOLX 1204.. | 605.95 | **080** |
| **AHFC.100.R.08-12** | 82.8 | 100 | 8 | 2.0 | 50 | 32 | 78 | 12000 | 5 | XOLX 1204.. | 676.03 | **100** |
| | | | | | | | | | | | | |
| **AHFC.63.R.05-19** | 36.7 | 63 | 5 | 3.3 | 40 | 22 | 48 | 5500 | 5 | XOLX 1906.. | 536.69 | **263** |
| **AHFC.80.R.06-19** | 53.7 | 80 | 6 | 3.3 | 50 | 27 | 58 | 4700 | 5 | XOLX 1906.. | 652.14 | **280** |
| **AHFC.100.R.08-19** | 73.7 | 100 | 8 | 3.3 | 52 | 32 | 78 | 4100 | 5 | XOLX 1906.. | 776.22 | **300** |
| **AHFC.125.R.10-19** | 98.7 | 125 | 10 | 3.3 | 63 | 40 | 88 | 3600 | 5 | XOLX 1906.. | 975.02 | **325** |
| **AHFC.160.R.11-19** | 133.7 | 160 | 11 | 3.3 | 63 | 40 | 98 | 3100 | 5 | XOLX 1906.. | 1,178.66 | **360** [1] |

**1)** With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

| |  TORX® blade | |  Clamping key – T | |  Key D | |  Power Screw | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **80 950 ...** | | **80 397 ...** | | **80 950 ...** | | **70 950 ...** | | **70 950 ...** | | **70 950 ...** | | **80 950 ...** | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **Insert** | Y7 | | Y7 | | Y7 | | 2A/28 | | 2A/28 | | 2A/28 | | Y7 | |
| XDLX 09T3.. | 8.49 | **036** | | | 15.56 | **113** | | | 5.06 | **303** | 3.61 | **110** | 195.92 | **192** |
| XDLX 09T3.. (Ø32 – Ø42) | 8.49 | **036** | 6.07 | **040** | 15.56 | **113** | 15.12 | **151** | 5.06 | **303** | 3.61 | **110** | 195.92 | **192** |
| XOLX 1204.. | 8.49 | **037** | | | 16.66 | **114** | | | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |
| XOLX 1204.. (Ø40 – Ø42) | 8.49 | **037** | 6.07 | **040** | 16.66 | **114** | 15.12 | **151** | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |
| XOLX 1906.. | 8.49 | **037** | | | 16.66 | **114** | | | 5.06 | **303** | 4.73 | **302** | 232.67 | **193** |
| XPLX 0603.. | 8.49 | **033** | | | 13.09 | **110** | | | 5.06 | **303** | 2.98 | **116** | 195.92 | **192** |

# XPLX / XDLX / XOLX / XOHX

| Designation | 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 |
| XO.X 1204.. | 12.70 | 5.5 | 12 | 1.3 | 4.76 | 10 |
| XOLX 1906.. | 19.14 | 6.0 | 19 | - | 6.35 | 10 |




# XPLX

| | | -M50 CTCP220 | -M50 CTPP225 | -M50 CTPP235 | -M50 CTPM225 | -M50 CTPM240 | -F40 CTPM245 | -F40 CTCM245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | XPLX | XPLX | XPLX | XPLX | XPLX | XPLX | XPLX |
| | | 51 019 ... | 51 019 ... | 51 019 ... | 51 019 ... | 51 019 ... | 51 116 ... | 51 116 ... |
| ISO | RE | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| | mm | | | | | | | |
| 060305ER | 0.5 | | | | | | 17.38 455 | 17.38 90501 |
| 060305SR | 0.5 | 14.25 255 | 14.25 055 | 14.25 105 | 14.25 205 | 14.25 405 | | |
| P | | ● | ● | ● | ● | ○ | ● | ● |
| M | | | | ○ | ● | ● | ● | ● |
| K | | | | ○ | | | | |
| N | | | | | | | | |
| S | | | | | | | | ○ |
| H | | | | | | | | |
| O | | | | | | | | |

# XPLX

| | | -M50 CTCK215 | -F40 CTC5240 | -F40 CTCS245 |
|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |
| | | XPLX | XPLX | XPLX |
| | | 51 019 ... | 50 518 ... | 51 116 ... |
| ISO | RE | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| | mm | | | |
| 060305ER | 0.5 | | 17.38 558 | 17.38 55500 |
| 060305SR | 0.5 | 14.25 505 | | |
| P | | | | |
| M | | | | |
| K | | ● | | |
| N | | | | |
| S | | | ● | ● |
| H | | | | |
| O | | | | |

# XDLX

| | | -M50 CTCP220 DRAGONSKIN | | -M50 CTPP225 DRAGONSKIN | | -M50 CTCP230 DRAGONSKIN | | -M50 CTPP235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |
| | | XDLX | | XDLX | | XDLX | | XDLX | |
| | | 51 016 ... | | 51 016 ... | | 51 016 ... | | 51 016 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 09T308SR | 0.8 | 14.68 | 258 | 14.68 | 058 | 14.68 | 008 | 14.68 | 108 |
| P | | | ● | | ● | | ● | | ● |
| M | | | | | | | | | ○ |
| K | | | | | | | ○ | | ○ |
| N | | | | | | | | | |
| S | | | | | | | | | |
| H | | | | | | | | | |
| O | | | | | | | | | |

# XDLX

| | | -M50 CTPM225 DRAGONSKIN | | -M50 CTCM235 DRAGONSKIN | | -M50 CTPM240 DRAGONSKIN | | -F40 CTPM245 DRAGONSKIN | | -M50 CTPM245 DRAGONSKIN | | -M50 CTCM245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  | |  | |
| | | XDLX | | XDLX | | XDLX | | XDLX | | XDLX | | XDLX | |
| | | 51 016 ... | | 51 016 ... | | 51 016 ... | | 51 115 ... | | 51 016 ... | | 51 016 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | |
| 09T308ER | 0.8 | | | | | | | 17.72 | 458 | | | | |
| 09T308SR | 0.8 | 14.68 | 208 | 14.68 | 308 | 14.68 | 408 | | | 17.72 | 458 | 17.72 | 90801 |
| P | | ● | | ● | | ○ | | ● | | ● | | ● | |
| M | | ● | | ● | | ● | | ● | | ● | | ● | |
| K | | | | | | | | | | | | | |
| N | | | | | | | | | | | | | |
| S | | | | | | | | | | | | | ○ |
| H | | | | | | | | | | | | | |
| O | | | | | | | | | | | | | |

15

# XDLX

| | | -M50 CTCK215 | | -F40 CTC5240 | | -F40 CTCS245 | |
|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | |
| | |  | |  | |  | |
| | | XDLX | | XDLX | | XDLX | |
| | | 51 016 ... | | 50 503 ... | | 51 115 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1H/17 | | £ 1H/17 | |
| 09T308ER | 0.8 | | | 17.72 | 558 | 17.72 | 558 |
| 09T308SR | 0.8 | 14.68 | 508 | | | | |
| P | | | | | | | |
| M | | | | | | | |
| K | | ● | | | | | |
| N | | | | | | | |
| S | | | | ● | | ● | |
| H | | | | | | | |
| O | | | | | | | |

# XOLX

| | | -M50 CTCP220 | | -M50 CTPP225 | | -M50 CTCP230 | | -M50 CTPP235 | | -R50 CTPP235 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | | DRAGONSKIN | |
| | |  | |  | |  | |  | |  | |
| | | XOLX | | XOLX | | XOLX | | XOLX | | XOLX | |
| | | 51 017 ... | | 51 017 ... | | 51 017 ... | | 51 017 ... | | 51 018 ... | |
| ISO | RE mm | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 120410SR | 1.0 | 17.61 | 260 | 17.61 | 060 | 17.61 | 010 | 17.61 | 110 | 17.61 | 110 |
| P | | ● | | ● | | ● | | ● | | ● | |
| M | | | | | | | | ○ | | ○ | |
| K | | | | | | ○ | | ○ | | ○ | |
| N | | | | | | | | | | | |
| S | | | | | | | | | | | |
| H | | | | | | | | | | | |
| O | | | | | | | | | | | |

# XOLX

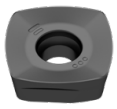
| | | -M50 CTPM225 | -M50 CTCM235 | -M50 CTPM240 | -F40 CTPM245 | -M50 CTPM245 | -F40 CTCM245 | -M50 CTCM245 |
|---|---|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |  |  |
| | | XOLX | XOLX | XOLX | XOLX | XOLX | XOLX | XOLX |
| | | 51 017 ... | 51 017 ... | 51 017 ... | 51 022 ... | 51 017 ... | 51 022 ... | 51 017 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 | £ 1H/17 | £ 1H/17 |
| 120410ER | 1.0 | | | | 20.74 460 | | 20.74 91001 | |
| 120410SR | 1.0 | 17.61 210 | 17.61 310 | 17.61 410 | | 20.74 460 | | 20.74 91001 |
| P | | ● | ● | ○ | ● | ● | ● | ● |
| M | | ● | ● | ● | ● | ● | ● | ● |
| K | | | | | | | | |
| N | | | | | | | | |
| S | | | | | | | ○ | ○ |
| H | | | | | | | | |
| O | | | | | | | | |

# XOLX / XOHX

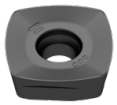
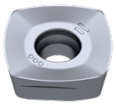
| | | -M50 CTCK215 | -F40 CTC5240 | -F50 CTC5240 | -F40 CTCS245 | -F50 CTCS245 |
|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |
| | | XOLX | XOLX | XOHX | XOLX | XOHX |
| | | 51 017 ... | 50 504 ... | 51 124 ... | 51 022 ... | 51 124 ... |
| ISO | RE mm | £ 1B/61 | £ 1H/17 | £ 1H/17 | £ 1H/17 | £ 1H/17 |
| 120410ER | 1.0 | | 20.74 558 | | 20.74 560 | |
| 120410SR | 1.0 | 17.61 510 | | 26.96 16000 | | 26.96 56000 |
| P | | | | | | |
| M | | | | | | |
| K | | ● | | | | |
| N | | | | | | |
| S | | | ● | ● | ● | ● |
| H | | | | | | |
| O | | | | | | |

15

# XOLX

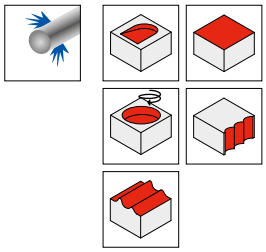
| | | -M50 CTCP230 | -M50 CTPP235 | -M50 CTPM240 | -F40 CTPM245 |
|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |
| | | XOLX | XOLX | XOLX | XOLX |
| | | 51 017 ... | 51 017 ... | 51 017 ... | 51 022 ... |
| ISO | RE mm | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 |
| 190615ER | 1.5 | | | | 31.47 465 |
| 190615SR | 1.5 | 25.59 015 | 25.59 115 | 25.59 415 | |
| P | | ● | ● | ○ | ● |
| M | | | ○ | ● | ● |
| K | | ○ | ○ | | |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

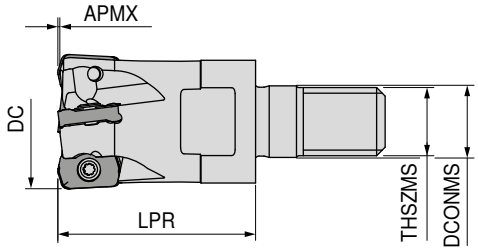
# XOLX

| | | -F40 CTCM245 | -M50 CTCK215 | -M50 CTPK220 | -F40 CTC5240 | -F40 CTCS245 |
|---|---|---|---|---|---|---|
| | | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN | DRAGONSKIN |
| | |  |  |  |  |  |
| | | XOLX | XOLX | XOLX | XOLX | XOLX |
| | | 51 022 ... | 51 017 ... | 51 017 ... | 50 504 ... | 51 022 ... |
| ISO | RE mm | £ 1H/17 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 190615ER | 1.5 | 31.47 91501 | | | 31.47 515 | 31.47 56500 |
| 190615SR | 1.5 | | 25.59 515 | 25.59 61500 | | |
| P | | ● | | | | |
| M | | ● | | | | |
| K | | | ● | ● | | |
| N | | | | | | |
| S | | ○ | | | ● | ● |
| H | | | | | | |
| O | | | | | | |

*Milling guide*

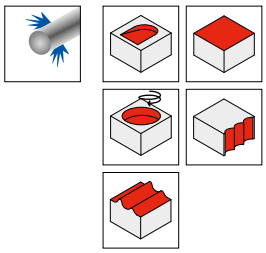
# **MaxiMill** – DHFC high-feed screw-in cutter

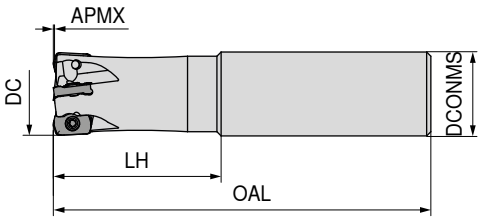





| Designation | DC mm | ZNF | APMX mm | LPR mm | DCONMS mm | THSZMS | torque moment Nm | Insert | 56 411 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **GDHFC.16.R.02-09** | 16 | 2 | 0.75 | 29 | 8.5 | M8 | 0,65 | LNKX 0925.. | 256.81 | **01602** |
| **GDHFC.16.R.03-09** | 16 | 3 | 0.75 | 29 | 8.5 | M8 | 0,65 | LNKX 0925.. | 280.01 | **01603** |
| **GDHFC.20.R.04-09** | 20 | 4 | 0.75 | 29 | 10.5 | M10 | 0,65 | LNKX 0925.. | 321.31 | **02004** |
| **GDHFC.25.R.05-09** | 25 | 5 | 0.75 | 33 | 12.5 | M12 | 0,65 | LNKX 0925.. | 372.91 | **02505** |
| **GDHFC.32.R.05-09** | 32 | 5 | 0.75 | 42 | 17.0 | M16 | 0,65 | LNKX 0925.. | 398.74 | **03205** |
| **GDHFC.35.R.06-09** | 35 | 6 | 0.75 | 42 | 17.0 | M16 | 0,65 | LNKX 0925.. | 421.92 | **03506** |
| **GDHFC.42.R.06-09** | 42 | 6 | 0.75 | 42 | 17.0 | M16 | 0,65 | LNKX 0925.. | 440.03 | **04206** |

# **MaxiMill** – DHFC high-feed end mill



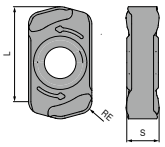



| Designation | DC mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | torque moment Nm | Insert | 56 417 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **CDHFC.16.R.05-09-A-32** | 16 | 3 | 0.75 | 80 | 32 | 16 | 0,65 | LNKX 0925.. | 280.01 | **01603** |
| **CDHFC.20.R.04-09-A-40** | 20 | 4 | 0.75 | 90 | 40 | 20 | 0,65 | LNKX 0925.. | 321.31 | **02004** |

| |  TORX® blade |  Key D |  Molykote |  Clamping screw |  Torque screw-driver |
|---|---|---|---|---|---|
| | **80 950 ...** | **80 950 ...** | **70 950 ...** | **56 950 ...** | **80 950 ...** |
| **Spare parts** | £ Y7 | £ Y7 | £ 2A/28 | £ WA | £ Y7 |
| **DC** | | | | | |
| 16 - 42 | 8.49 **051** | 13.30 **117** | 5.06 **303** | 4.01 **15000** | 207.73 **191** |

# LNKX

| Designation | L mm | S mm |
|---|---|---|
| LNKX 0925.. | 9 | 2.50 |



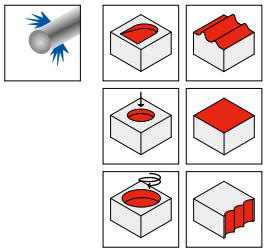

# LNKX

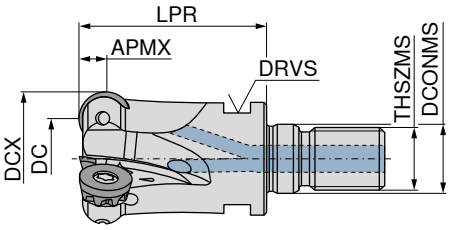
| | | -R50 CTPP231 | -M50 CTPP236 | -R50 CTPP236 | -M50 CTPM241 | -R50 CTPK221 |
|---|---|---|---|---|---|---|
| | |  |  |  |  |  |
| | | LNKX | LNKX | LNKX | LNKX | LNKX |
| | | 56 353 ... | 56 355 ... | 56 353 ... | 56 355 ... | 56 353 ... |
| ISO | RE mm | £ WB | £ WB | £ WB | £ WB | £ WB |
| 0925ZSR | 1 | 21.09 12000 | 21.09 02500 | 21.09 02000 | 21.09 42500 | 21.09 27000 |
| P | | ● | ● | ● | ○ | ○ |
| M | | ○ | ○ | ○ | ● | |
| K | | ○ | ○ | ○ | | ● |
| N | | | | | | |
| S | | | | | ○ | |
| H | | | | | | |
| O | | | | | | |

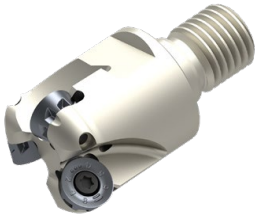
*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 180 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# MaxiMill – 251 RS Screw in cutter





| Designation | DC mm | DCX mm | ZNF | APMX mm | DCONMS mm | LPR mm | THSZMS | DRVS mm | RPMX 1/min. | torque moment Nm | Insert | 50 684 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **G251.20.R.05-05-RS** | 15 | 20 | 5 | 2.5 | 10.5 | 33 | M10 | 15 | 31800 | 0,7 | RDHX 0501.. | 321.85 | **220** |
| **G251.25.R.06-05-RS** | 20 | 25 | 6 | 2.5 | 12.5 | 35 | M12 | 17 | 24450 | 0,7 | RDHX 0501.. | 370.56 | **225** |
| **G251.32.R.07-05-RS** | 27 | 32 | 7 | 2.5 | 17.0 | 35 | M16 | 24 | 19850 | 0,7 | RDHX 0501.. | 444.56 | **232** |
| **G251.20.R.03-08-RS** | 12 | 20 | 3 | 4.0 | 10.5 | 33 | M10 | 15 | 25000 | 1,2 | RDHX 0802.. | 302.11 | **120** |
| **G251.25.R.04-08-RS** | 17 | 25 | 4 | 4.0 | 12.5 | 35 | M12 | 17 | 19000 | 1,2 | RDHX 0802.. | 338.12 | **125** |
| **G251.32.R.05-08-35-RS** | 24 | 32 | 5 | 4.0 | 17.0 | 35 | M16 | 24 | 19000 | 1,2 | RDHX 0802.. | 411.10 | **132** |
| **G251.20.R.02-10-RS** | 10 | 20 | 2 | 5.0 | 10.5 | 33 | M10 | 15 | 30000 | 2 | RP.X 10T3.. | 244.38 | **020** |
| **G251.25.R.03-10-RS** | 15 | 25 | 3 | 5.0 | 12.5 | 35 | M12 | 17 | 30000 | 2 | RP.X 10T3.. | 328.55 | **025** |
| **G251.32.R.04-10-RS** | 22 | 32 | 4 | 5.0 | 17.0 | 35 | M16 | 24 | 25000 | 2 | RP.X 10T3.. | 382.35 | **032** |
| **G251.25.R.02-12-35-RS** | 13 | 25 | 2 | 6.0 | 12.5 | 35 | M12 | 17 | 25000 | 3,2 | RP.X 1204.. | 237.00 | **525** |
| **G251.32.R.03-12-35-RS** | 20 | 32 | 3 | 6.0 | 17.0 | 35 | M16 | 24 | 19850 | 3,2 | RP.X 1204.. | 289.19 | **532** |
| **G251.35.R.03-12-35-RS** | 23 | 35 | 3 | 6.0 | 17.0 | 35 | M16 | 24 | 15900 | 3,2 | RP.X 1204.. | 289.19 | **535** |
| **G251.42.R.04-12-42-RS** | 30 | 42 | 4 | 6.0 | 17.0 | 42 | M16 | 24 | 15000 | 3,2 | RP.X 1204.. | 343.67 | **542** |


TORX® blade


Key D


Molykote

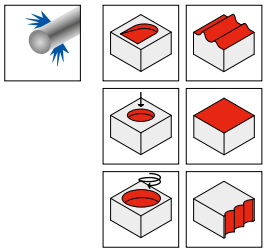

Clamping screw

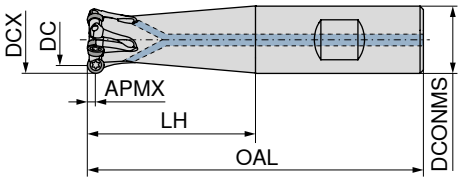

Torque screw-driver

| Spare parts<br>Insert | 80 950 ... £ Y7 | | 80 950 ... £ Y7 | | 70 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | | 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| RDHX 0501.. | 8.49 | **031** | 14.16 | **108** | 5.06 | **303** | 2.98 | **149** | 207.73 | **191** |
| RDHX 0802.. | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 2.98 | **116** | 207.73 | **191** |
| RP.X 10T3.. | 8.49 | **035** | 15.30 | **112** | 5.06 | **303** | 2.98 | **840** | 195.92 | **192** |
| RP.X 1204.. | 8.49 | **036** | 15.56 | **113** | 5.06 | **303** | 3.61 | **304** | 195.92 | **192** |

15

# **MaxiMill** – 251 RS End milling cutter

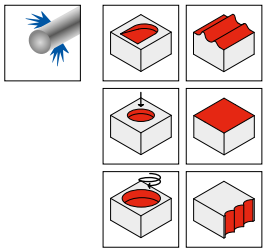


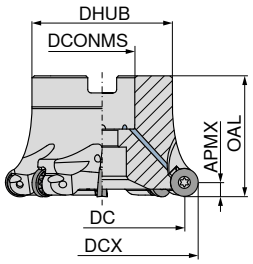


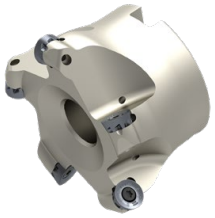

| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | LH mm | DCONMS mm | RPMX 1/min. | Insert | 50 685 ... £ 2B/40 | | 50 685 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C251.12.R-03-05-B-16-25-RS** | 7 | 12 | 3 | 2.5 | 75 | 25 | 16 | 40000 | RDHX 0501.. | | | 280.75 | **012** |
| **C251.12.R-03-05-A-32-165-RS** | 7 | 12 | 3 | 2.5 | 165 | 32 | 12 | 16000 | RDHX 0501.. | 270.37 | **112** | | |
| **C251.16.R-04-05-B-32-RS** | 11 | 16 | 4 | 2.5 | 81 | 32 | 16 | 40000 | RDHX 0501.. | | | 328.55 | **316** |
| **C251.16.R-04-05-A-40-165-RS** | 11 | 16 | 4 | 2.5 | 165 | 40 | 16 | 18000 | RDHX 0501.. | 321.04 | **016** | | |
| **C251.20.R-05-05-B-40-RS** | 15 | 20 | 5 | 2.5 | 91 | 40 | 20 | 31800 | RDHX 0501.. | | | 382.35 | **620** |
| **C251.20.R-05-05-A-50-165-RS** | 15 | 20 | 5 | 2.5 | 165 | 50 | 20 | 18000 | RDHX 0501.. | 375.08 | **120** | | |
| | | | | | | | | | | | | | |
| **C251.16.R-02-08-B-32-RS** | 8 | 16 | 2 | 4.0 | 81 | 32 | 16 | 40000 | RDHX 0802.. | | | 231.57 | **116** |
| **C251.16.R-02-08-A-40-165-RS** | 8 | 16 | 2 | 4.0 | 165 | 40 | 16 | 18000 | RDHX 0802.. | 222.56 | **216** | | |
| **C251.20.R-03-08-B-40-RS** | 12 | 20 | 3 | 4.0 | 91 | 40 | 20 | 31800 | RDHX 0802.. | | | 294.27 | **220** |
| **C251.20.R-03-08-A-60-RS** | 12 | 20 | 3 | 4.0 | 110 | 50 | 20 | 30000 | RDHX 0802.. | 302.11 | **020** | | |
| **C251.20.R-03-08-A-50-200-RS** | 12 | 20 | 3 | 4.0 | 200 | 50 | 20 | 25000 | RDHX 0802.. | 285.26 | **320** | | |
| **C251.25.R-04-08-B-50-RS** | 17 | 25 | 4 | 4.0 | 107 | 50 | 25 | 25500 | RDHX 0802.. | | | 347.95 | **625** |
| **C251.25.R-04-08-A-60-RS** | 17 | 25 | 4 | 4.0 | 116 | 60 | 25 | 19000 | RDHX 0802.. | 338.12 | **125** | | |
| **C251.25.R-04-08-A-60-225-RS** | 17 | 25 | 4 | 4.0 | 225 | 60 | 25 | 18000 | RDHX 0802.. | 338.94 | **225** | | |
| | | | | | | | | | | | | | |
| **C251.20.R-02-10-A-50-RS** | 10 | 20 | 2 | 5.0 | 102 | 50 | 20 | 25000 | RP.X 10T3.. | 246.47 | **420** | | |
| **C251.20.R-02-10-A-50-200-RS** | 10 | 20 | 2 | 5.0 | 200 | 50 | 20 | 25000 | RP.X 10T3.. | 246.47 | **520** | | |
| **C251.25.R.03-10-A-60-RS** | 15 | 25 | 3 | 5.0 | 116 | 60 | 25 | 25000 | RP.X 10T3.. | 333.05 | **025** | | |
| **C251.25.R-03-10-B-60-RS** | 15 | 25 | 3 | 5.0 | 116 | 60 | 25 | 20000 | RP.X 10T3.. | | | 333.05 | **325** |
| **C251.25.R-03-10-A-60-225-RS** | 15 | 25 | 3 | 5.0 | 225 | 60 | 25 | 18000 | RP.X 10T3.. | 333.05 | **425** | | |
| **C251.32.R.04-10-A-70-RS** | 22 | 32 | 4 | 5.0 | 130 | 70 | 32 | 25000 | RP.X 10T3.. | 375.08 | **032** | | |
| | | | | | | | | | | | | | |
| **C251.25.R-02-12-B-30-RS** | 13 | 25 | 2 | 6.0 | 86 | 30 | 25 | 25000 | RP.X 1204.. | | | 303.73 | **525** |
| **C251.32.R-03-12-A-RS** | 20 | 32 | 3 | 6.0 | 100 | 40 | 32 | 19000 | RP.X 1204.. | 351.28 | **232** | | |
| **C251.32.R-03-12-B-40-RS** | 20 | 32 | 3 | 6.0 | 100 | 40 | 32 | 19000 | RP.X 1204.. | | | 351.28 | **132** |

| **Spare parts** |  TORX® blade 80 950 ... £ Y7 | |  Key D 80 950 ... £ Y7 | |  Molykote 70 950 ... £ 2A/28 | |  Clamping screw 70 950 ... £ 2A/28 | |  Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Insert** | | | | | | | | | | |
| RDHX 0501.. | 8.49 | **031** | 14.16 | **108** | 5.06 | **303** | 2.98 | **149** | 207.73 | **191** |
| RDHX 0802.. | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 2.98 | **116** | 207.73 | **191** |
| RP.X 10T3.. | 8.49 | **035** | 15.30 | **112** | 5.06 | **303** | 2.98 | **840** | 195.92 | **192** |
| RP.X 10T3.. | | | 15.30 | **112** | 5.06 | **303** | 2.98 | **840** | | |
| RP.X 1204.. | 8.49 | **036** | 15.56 | **113** | 5.06 | **303** | 3.61 | **304** | 195.92 | **192** |

# **MaxiMill** – 251 RS Shell mill





| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DHUB mm | DCONMS mm | RPMX 1/min. | torque moment Nm | Insert | 50 686 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A251.40.R.03-10-RS** | 30 | 40 | 3 | 5 | 40 | 38 | 16 | 15900 | 2 | RP.X 10T3.. | 364.34 | **240** |
| **A251.40.R.05-10-RS** | 30 | 40 | 5 | 5 | 40 | 38 | 16 | 16000 | 2 | RP.X 10T3.. | 410.63 | **140** |
| **A251.42.R.06-10-RS** | 32 | 42 | 6 | 5 | 40 | 38 | 16 | 16000 | 2 | RP.X 10T3.. | 471.93 | **142** |
| **A251.50.R.04-10-RS** | 40 | 50 | 4 | 5 | 40 | 43 | 22 | 12700 | 2 | RP.X 10T3.. | 400.11 | **350** |
| **A251.50.R.06-10-RS** | 40 | 50 | 6 | 5 | 40 | 43 | 22 | 12500 | 2 | RP.X 10T3.. | 488.32 | **150** |
| **A251.52.R.06-10-RS** | 42 | 52 | 6 | 5 | 40 | 43 | 22 | 12500 | 2 | RP.X 10T3.. | 488.32 | **152** |
| **A251.40.R.04-12-RS** | 28 | 40 | 4 | 6 | 40 | 38 | 16 | 15900 | 3,2 | RP.X 1204.. | 377.72 | **340** |
| **A251.50.R.04-12-RS** | 38 | 50 | 4 | 6 | 40 | 43 | 22 | 12700 | 3,2 | RP.X 1204.. | 389.86 | **250** |
| **A251.50.R.05-12-RS** | 38 | 50 | 5 | 6 | 40 | 43 | 22 | 12500 | 3,2 | RP.X 1204.. | 458.42 | **050** |
| **A251.52.R.05-12-RS** | 40 | 52 | 5 | 6 | 40 | 43 | 22 | 12500 | 3,2 | RP.X 1204.. | 480.83 | **052** |
| **A251.63.R.06-12-RS** | 51 | 63 | 6 | 6 | 40 | 48 | 22 | 10000 | 3,2 | RP.X 1204.. | 566.02 | **063** |
| **A251.66.R.07-12-RS** | 54 | 66 | 7 | 6 | 40 | 48 | 22 | 9000 | 3,2 | RP.X 1204.. | 596.73 | **166** |
| **A251.80.R.05-12-RS** | 68 | 80 | 5 | 6 | 50 | 58 | 27 | 7950 | 3,2 | RP.X 1204.. | 516.61 | **180** |
| **A251.80.R.07-12-RS** | 68 | 80 | 7 | 6 | 50 | 58 | 27 | 8000 | 3,2 | RP.X 1204.. | 638.51 | **080** |
| **A251.100.R.06-12-RS** | 88 | 100 | 6 | 6 | 50 | 78 | 32 | 6350 | 3,2 | RP.X 1204.. | 576.53 | **100** |
| **A251.100.R.10-12-RS** | 88 | 100 | 10 | 6 | 50 | 78 | 32 | 6350 | 3,2 | RP.X 1204.. | 842.25 | **200** |
| **A251.50.R.04-16-RS** | 34 | 50 | 4 | 8 | 40 | 48 | 22 | 12700 | 5 | RP.X 1605.. | 458.42 | **450** |
| **A251.52.R.04-16-RS** | 36 | 52 | 4 | 8 | 40 | 48 | 22 | 10100 | 5 | RP.X 1605.. | 458.42 | **452** |
| **A251.63.R.05-16-RS** | 47 | 63 | 5 | 8 | 40 | 48 | 22 | 10100 | 5 | RP.X 1605.. | 577.89 | **163** |
| **A251.66.R.05-16-RS** | 50 | 66 | 5 | 8 | 40 | 48 | 22 | 7950 | 5 | RP.X 1605.. | 582.17 | **466** |
| **A251.80.R.06-16-RS** | 64 | 80 | 6 | 8 | 50 | 58 | 27 | 7950 | 5 | RP.X 1605.. | 701.90 | **280** |
| **A251.100.R.07-16-RS** | 84 | 100 | 7 | 8 | 50 | 78 | 32 | 6350 | 5 | RP.X 1605.. | 819.99 | **300** |
| **A251.125.R.08-16-RS** | 109 | 125 | 8 | 8 | 63 | 88 | 40 | 5050 | 5 | RP.X 1605.. | 867.88 | **225** |
| **A251.80.R.05-20-RS** | 60 | 80 | 5 | 10 | 50 | 58 | 27 | 7950 | 5 | RP.X 2006.. | 594.29 | **380** |
| **A251.100.R.06-20-RS** | 80 | 100 | 6 | 10 | 50 | 78 | 32 | 6350 | 5 | RP.X 2006.. | 710.89 | **400** |
| **A251.125.R.06-20-RS** | 105 | 125 | 6 | 10 | 63 | 88 | 40 | 5050 | 5 | RP.X 2006.. | 719.78 | **125** |


TORX® blade


Clamping key – T


Key D


Power Screw


Molykote


Clamping screw

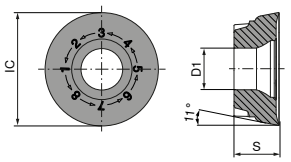

Torque screw-driver

| Spare parts Insert | 80 950 ... £ Y7 | | 80 397 ... £ Y7 | | 80 950 ... £ Y7 | | 70 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | | 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RP.X 10T3.. | 8.49 | **035** | 6.07 | **040** | 15.30 | **112** | 15.12 | **151** | 5.06 | **303** | 2.98 | **840** | 195.92 | **192** |
| RP.X 1204.. | 8.49 | **036** | 6.07 | **040** | 15.56 | **113** | 15.12 | **151** | 5.06 | **303** | 3.61 | **304** | 195.92 | **192** |
| RP.X 1605.. | 8.49 | **037** | 7.73 | **050** | 16.66 | **114** | 19.79 | **154** | 5.06 | **303** | 2.90 | **01200** | 232.67 | **193** |
| RP.X 2006.. | 8.49 | **037** | | | 16.66 | **114** | | | 5.06 | **303** | 4.73 | **302** | 232.67 | **193** |

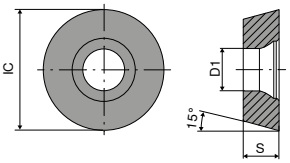
**15**

# RDHX / RPHX / RPNX

| Designation | IC mm | D1 mm | S 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..

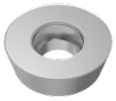


RDHX 0501.. / RDHX0802..

# RDHX

| | -SN CTCP230 DRAGONSKIN | -SN CTPP235 DRAGONSKIN | -F50 CTPM240 DRAGONSKIN | -F50 CTPM245 DRAGONSKIN | -F50 CTCM245 DRAGONSKIN |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| | RDHX | RDHX | RDHX | RDHX | RDHX |
| | 51 048 ... | 51 048 ... | 51 083 ... | 51 083 ... | 51 083 ... |
| ISO | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 0501M0SN | 13.98 020 | 13.98 120 | | 12.85 465 | |
| | | | | | |
| 0802M0SN | 14.27 025 | 14.27 125 | 14.27 420 | 16.91 470 | 16.91 92001 |
| 0802M4SN | | | | 16.91 471 | 16.91 92101 |
| P | ● | ● | ○ | ● | ● |
| M | | ○ | ● | ● | ● |
| K | ○ | ○ | | | |
| N | | | | | |
| S | | | | | ○ |
| H | | | | | |
| O | | | | | |

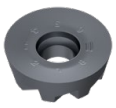
# RDHX

| | -FN H216T | -M31 CTC5240 DRAGONSKIN | -F50 CTCS245 DRAGONSKIN |
|---|---|---|---|
| |  |  |  |
| | RDHX | RDHX | RDHX |
| | 50 481 ... | 50 481 ... | 51 083 ... |
| ISO | £ 1B/61 | £ 1H/17 | £ 1H/17 |
| 0501M0FN | 11.10 600 | | |
| | | | |
| 0802M0EN | | 16.91 500 | |
| 0802M0FN | 11.44 602 | | |
| 0802M0SN | | | 16.91 570 |
| 0802M4EN | | 16.91 50100 | |
| P | | | |
| M | | | |
| K | ○ | | |
| N | ● | | |
| S | | ● | ● |
| H | | | |
| O | ○ | | |

# RPHX / RPNX

| | -SN TCM10 | -F50 CTCP230 DRAGONSKIN | -M50 CTCP230 DRAGONSKIN | -SN CTCP230 DRAGONSKIN | -SN CTCP230 DRAGONSKIN |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| | CERMET RPHX | RPNX | RPNX | RPHX | RPNX |
| | 50 483 ... | 51 055 ... | 51 054 ... | 51 052 ... | 51 057 ... |
| ISO | £ 1B/79 | £ 1B/18 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 10T3M0SN | 14.80 900 | | | | |
| 10T3M8SN | | 14.80 020 | 11.28 020 | 14.80 020 | |
| 1204M0SN | 16.23 902 | | | | |
| 1204M8SN | | 12.96 025 | 12.96 025 | 16.23 025 | 12.96 025 |
| 1605M8SN | | | 17.61 030 | 22.08 030 | 17.61 030 |
| 2006M8SN | | | | | 22.93 035 |
| P | ● | ● | ● | ● | ● |
| M | | | | | |
| K | ○ | ○ | ○ | ○ | ○ |
| N | | | | | |
| S | | | | | |
| H | | | | | |
| O | | | | | |

# RPHX / RPNX

| | -F50 CTPP235 DRAGONSKIN | -F50 CTPP235 DRAGONSKIN | -M30 CTPP235 DRAGONSKIN | -M30 CTPP235 DRAGONSKIN |
|---|---|---|---|---|
| |  |  |  |  |
| | RPHX | RPNX | RPHX | RPNX |
| | 51 051 ... | 51 055 ... | 51 049 ... | 51 053 ... |
| ISO | £ 1B/61 | £ 1B/61 | £ 1B/61 | £ 1B/61 |
| 10T3M8EN | | | 14.80 120 | |
| 10T3M8SN | 14.80 12000 | 11.28 120 | | |
| 1204M8SN | 16.23 125 | 12.96 125 | | |
| 1605M0SN | | 17.61 130 | | |
| 2006M8EN | | | | 22.93 120 |
| P | ● | ● | ● | ● |
| M | ○ | ○ | ○ | ○ |
| K | ○ | ○ | ○ | ○ |
| N | | | | |
| S | | | | |
| H | | | | |
| O | | | | |

15

# RPNX / RPHX

| | -M50 CTPP235 DRAGONSKIN | | -M50 CTPP235 DRAGONSKIN | | -SN CTPP235 DRAGONSKIN | | -SN CTPP235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|
| |  | |  | |  | |  | |
| | RPNX | | RPHX | | RPHX | | RPNX | |
| | 51 054 ... | | 51 050 ... | | 51 052 ... | | 51 057 ... | |
| ISO | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/18 | |
| 10T3M8SN | 11.28 | 12000 | 14.80 | 12000 | 14.80 | 120 | | |
| 1204M8SN | 12.96 | 125 | | | 16.23 | 125 | 12.96 | 125 |
| 1605M8SN | 17.61 | 130 | | | 22.08 | 130 | 17.61 | 130 |
| 2006M8SN | | | | | | | 22.93 | 135 |
| P | ● | | ● | | ● | | ● | |
| M | ○ | | ○ | | ○ | | ○ | |
| K | ○ | | ○ | | ○ | | ○ | |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |
| O | | | | | | | | |

# RPHX

| | -F50 CTPM225 DRAGONSKIN | | -M30 CTPM225 DRAGONSKIN | | -SN CTPM225 DRAGONSKIN | | -F50 CTCM235 DRAGONSKIN | | -M30 CTCM235 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|---|---|
| |  | |  | |  | |  | |  | |
| | RPHX | | RPHX | | RPHX | | RPHX | | RPHX | |
| | 51 051 ... | | 51 049 ... | | 51 052 ... | | 51 051 ... | | 51 049 ... | |
| ISO | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | | £ 1B/61 | |
| 1204M8EN | | | 16.23 | 225 | | | | | 16.23 | 325 |
| 1204M8SN | 16.23 | 225 | | | 16.23 | 225 | 16.23 | 325 | | |
| P | ● | | ● | | ● | | ● | | ● | |
| M | ● | | ● | | ● | | ● | | ● | |
| K | | | | | | | | | | |
| N | | | | | | | | | | |
| S | | | | | | | | | | |
| H | | | | | | | | | | |
| O | | | | | | | | | | |

# RPHX / RPNX

| ISO | -F50 CTPM240 DRAGONSKIN RPHX 51 051 ... £ 1B/61 | | -F50 CTPM240 DRAGONSKIN RPNX 51 055 ... £ 1B/61 | | -M30 CTPM240 DRAGONSKIN RPHX 51 049 ... £ 1B/61 | | -M30 CTPM240 DRAGONSKIN RPNX 51 053 ... £ 1B/61 | | -M50 CTPM240 DRAGONSKIN RPHX 51 050 ... £ 1B/61 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10T3M8EN | | | | | 14.80 | 420 | | | | |
| 10T3M8SN | 14.80 | 420 | | | | | | | 14.80 | 420 |
| 1204M8EN | | | | | 16.23 | 425 | | | | |
| 1204M8SN | 16.23 | 425 | | | | | | | 16.23 | 425 |
| 1605M8EN | | | | | 22.08 | 430 | | | | |
| 1605M8SN | 22.08 | 430 | | | | | | | | |
| 2006M8EN | | | | | | | 22.93 | 420 | | |
| 2006M8SN | | | 22.93 | 435 | | | | | | |
| P | ○ | | ○ | | ○ | | ○ | | ○ | |
| M | ● | | ● | | ● | | ● | | ● | |
| K | | | | | | | | | | |
| N | | | | | | | | | | |
| S | | | | | | | | | | |
| H | | | | | | | | | | |
| O | | | | | | | | | | |

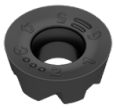
# RPHX / RPNX

| ISO | CTPM245 DRAGONSKIN RPHX 51 052 ... £ 1H/17 | | -F50 CTPM245 DRAGONSKIN RPHX 51 051 ... £ 1H/17 | | -F50 CTPM245 DRAGONSKIN RPNX 51 055 ... £ 1H/17 | | -M32 CTPM245 DRAGONSKIN RPHX 51 108 ... £ 1H/17 | | -M50 CTPM245 DRAGONSKIN RPHX 51 050 ... £ 1H/17 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10T3M4SN | | | 18.70 | 470 [1] | 15.54 | 470 [1] | | | 18.70 | 470 [1] |
| 10T3M8SN | | | 18.70 | 471 | 15.54 | 471 | | | 18.70 | 471 |
| 1204M4EN | 20.60 | 475 [1] | | | | | 20.60 | 475 [1] | | |
| 1204M4SN | | | 20.60 | 475 [1] | 18.29 | 475 [1] | | | 20.60 | 475 [1] |
| 1204M6SN | | | 20.60 | 476 | | | | | 20.60 | 476 |
| 1204M8SN | | | 20.60 | 477 | 18.29 | 476 | | | 20.60 | 477 |
| 1605M8SN | | | 28.11 | 480 | | | | | | |
| 2006M4SN | | | 35.59 | 485 [1] | | | | | | |
| 2006M8SN | | | | | 28.11 | 485 | | | | |
| P | ● | | ● | | ● | | ● | | ● | |
| M | ● | | ● | | ● | | ● | | ● | |
| K | | | | | | | | | | |
| N | | | | | | | | | | |
| S | | | | | | | | | | |
| H | | | | | | | | | | |
| O | | | | | | | | | | |

1) Insert with 4 indexes

15

# RPNX / RPHX

| | -F50 CTCM245 DRAGONSKIN | | -M50 CTCM245 DRAGONSKIN | | -F50 CTCM245 DRAGONSKIN | | -M50 CTCM245 DRAGONSKIN | |
|---|---|---|---|---|---|---|---|---|
| |  RPNX | |  RPNX | |  RPHX | |  RPHX | |
| | 51 055 ... | | 51 054 ... | | 51 051 ... | | 51 050 ... | |
| ISO | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | |
| 10T3M4SN | 18.70 | 92001[1)] | | | 18.70 | 92001[1)] | 18.70 | 92001[1)] |
| 10T3M8SN | 18.70 | 92101 | | | 18.70 | 92101 | | |
| 1204M4SN | 18.29 | 92501[1)] | | | 20.60 | 92501[1)] | 20.60 | 92501[1)] |
| 1204M6SN | | | 18.29 | 92601 | 20.60 | 92601 | 20.60 | 92601 |
| 1204M8SN | 18.29 | 92601 | | | | | 20.60 | 92701 |
| 1605M8SN | 20.60 | 93001 | | | 28.11 | 93001 | | |
| 2006M8SN | 28.11 | 93501 | 28.11 | 93501 | | | | |
| P | ● | | ● | | ● | | ● | |
| M | ● | | ● | | ● | | ● | |
| K | | | | | | | | |
| N | | | | | | | | |
| S | ○ | | ○ | | ○ | | ○ | |
| H | | | | | | | | |
| O | | | | | | | | |

1) Insert with 4 indexes

# RPHX / RPNX

NEW

| | -SN CTCK215 DRAGONSKIN | | -SN CTCK215 DRAGONSKIN | | -SN CTPK220 DRAGONSKIN | | -F10 CTPX715 DRAGONSKIN | | -27P H216T | |
|---|---|---|---|---|---|---|---|---|---|---|
| |  RPHX | |  RPNX | |  RPNX | |  RPHX | |  RPHX | |
| | 51 052 ... | | 51 057 ... | | 51 057 ... | | 51 156 ... | | 50 483 ... | |
| ISO | £ 1B/61 | | £ 1B/18 | | £ 1B/61 | | £ 1A/90 | | £ 1A/90 | |
| 10T3M8FN | | | | | | | 21.97 | 02002 | 16.92 | 600 |
| 10T3M8SN | 14.80 | 520 | | | 11.28 | 620 | | | | |
| 1204M8FN | | | | | | | 24.36 | 02502 | 18.75 | 602 |
| 1204M8SN | 16.23 | 525 | 12.96 | 525 | 12.96 | 625 | | | | |
| 1605M8FN | | | | | | | 33.24 | 03002 | 25.59 | 604 |
| 1605M8SN | 22.08 | 530 | 17.61 | 530 | 17.61 | 630 | | | | |
| 2006M8SN | | | 22.93 | 535 | 22.93 | 635 | | | | |
| P | | | | | | | ○ | | | |
| M | | | | | | | ○ | | | |
| K | ● | | ● | | ● | | ● | | ○ | |
| N | | | | | | | ● | | ● | |
| S | | | | | | | ○ | | | |
| H | | | | | | | | | | |
| O | | | | | | | ○ | | ○ | |

# RPNX / RPHX

| | -M31 CTC5240 DRAGONSKIN | | -M31 CTC5240 DRAGONSKIN | | -F50 CTCS245 DRAGONSKIN | | -F50 CTCS245 DRAGONSKIN | | -R60 CTP6215 | |
|---|---|---|---|---|---|---|---|---|---|---|
| |  | |  | |  | |  | |  | |
| | RPNX | | RPHX | | RPHX | | RPNX | | RPNX | |
| | 51 149 ... | | 50 493 ... | | 51 051 ... | | 51 055 ... | | 50 508 ... | |
| ISO | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | | £ 1H/17 | | £ 1B/61 | |
| 10T3M4EN | | | 18.70 | 550 [1] | | | | | | |
| 10T3M4SN | | | | | 18.70 | 570 [1] | | | | |
| 10T3M8EN | | | 18.70 | 551 | | | | | | |
| 10T3M8SN | | | | | 18.70 | 571 | | | | |
| 1204M4EN | | | 20.60 | 552 [1] | | | | | | |
| 1204M4SN | | | | | 20.60 | 575 | | | | |
| 1204M6EN | | | 20.60 | 56200 | | | | | | |
| 1204M6SN | | | | | 20.60 | 57800 | | | | |
| 1204M8EN | | | 20.60 | 582 | | | | | 13.98 | 300 |
| 1204M8SN | | | | | 20.60 | 577 | | | | |
| 1605M8EN | | | 28.11 | 555 | 28.11 | 58100 | | | | |
| 2006M8EN | 28.11 | 12001 | | | | | | | | |
| 2006M8SN | | | | | | | 28.11 | 585 | | |
| P | | | | | | | | | | |
| M | | | | | | | | | | |
| K | | | | | | | | | | ● |
| N | | | | | | | | | | |
| S | | ● | | ● | | ● | | ● | | |
| H | | | | | | | | | | ● |
| O | | | | | | | | | | |

1) Insert with 4 indexes

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 181 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |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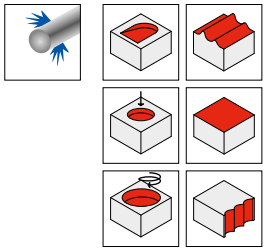
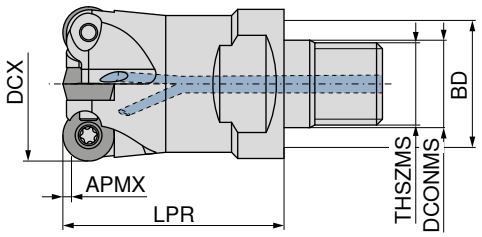
# R 1000 screw-in button insert milling cutter

▲ Insert angle 0°



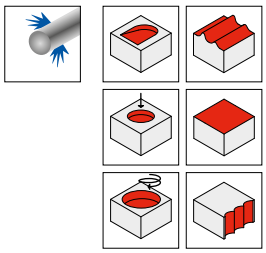


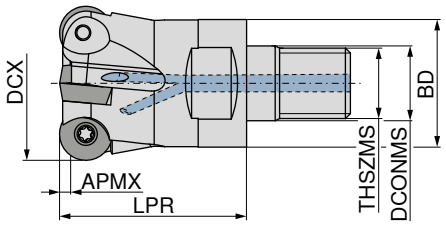

| Designation | DCX mm | ZNF | APMX mm | THSZMS | LPR mm | DCONMS mm | BD mm | torque moment Nm | Insert | 56 403 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **R1000G.15.2.M8-07.IK** | 15 | 2 | 1.5 | M8 | 28.5 | 8.5 | 13.8 | 0,9 | RD.X 0702.. | 209.45 | **153** |
| **R1000G.16.3.M8-07.IK** | 16 | 3 | 1.5 | M8 | 28.5 | 8.5 | 13.8 | 0,9 | RD.X 0702.. | 257.10 | **161** |
| **R1000G.20.4.M10-07.IK** | 20 | 4 | 1.5 | M10 | 28.5 | 10.5 | 18.0 | 0,9 | RD.X 0702.. | 322.00 | **203** |
| **R1000G.25.5.M12-07.IK** | 25 | 5 | 1.5 | M12 | 28.5 | 12.5 | 21.0 | 0,9 | RD.X 0702.. | 369.66 | **252** |
| **R1000G.30.5.M16-07.IK** | 30 | 5 | 1.5 | M16 | 28.5 | 17.0 | 29.0 | 0,9 | RD.X 0702.. | 394.65 | **301** |
| **R1000G.35.6.M16-07.IK** | 35 | 6 | 1.5 | M16 | 28.5 | 17.0 | 29.0 | 0,9 | RD.X 0702.. | 421.28 | **351** |
| **R1000G.42.7.M16-07.IK** | 42 | 7 | 1.5 | M16 | 42.5 | 17.0 | 29.0 | 0,9 | RD.X 0702.. | 500.87 | **421** |
| | | | | | | | | | | | |
| **R1000G.20.2.M10-10.IK** | 20 | 2 | 2.8 | M10 | 29.0 | 10.5 | 18.0 | 2,4 | RD.X 1003.. | 223.75 | **204** |
| **R1000G.25.2.M12-10.IK** | 25 | 2 | 2.8 | M12 | 33.0 | 12.5 | 21.0 | 2,4 | RD.X 1003.. | 224.93 | **253** |
| **R1000G.25.3.M12-10.IK** | 25 | 3 | 2.8 | M12 | 33.0 | 12.5 | 21.0 | 2,4 | RD.X 1003.. | 234.68 | **254** |
| **R1000G.30.4.M12-10.IK** | 30 | 4 | 2.3 | M12 | 33.0 | 12.5 | 21.0 | 2,4 | RD.X 1003.. | 324.59 | **302** |
| **R1000G.30.4.M16-10.IK** | 30 | 4 | 2.8 | M16 | 43.0 | 17.0 | 23.0 | 2,4 | RD.X 1003.. | 324.59 | **303** |
| **R1000G.35.5.M16-10.IK** | 35 | 5 | 2.8 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 1003.. | 396.26 | **352** |
| **R1000G.42.5.M16-10.IK** | 42 | 5 | 2.8 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 1003.. | 420.28 | **422** |
| **R1000G.42.6.M16-10.IK** | 42 | 6 | 2.8 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 1003.. | 446.49 | **423** |
| | | | | | | | | | | | |
| **R1000G.24.2.M12-12.IK** | 24 | 2 | 3.0 | M12 | 33.0 | 12.5 | 21.0 | 2,4 | RD.X 12T3.. | 232.89 | **241** |
| **R1000G.35.3.M16-12.IK** | 35 | 3 | 3.0 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 12T3.. | 262.42 | **353** |
| **R1000G.35.4.M16-12.IK** | 35 | 4 | 3.0 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 12T3.. | 338.88 | **354** |
| **R1000G.42.4.M16-12.IK** | 42 | 4 | 3.0 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 12T3.. | 370.82 | **424** |
| **R1000G.42.5.M16-12.IK** | 42 | 5 | 3.0 | M16 | 43.0 | 17.0 | 29.0 | 2,4 | RD.X 12T3.. | 410.73 | **425** |
| | | | | | | | | | | | |
| **R1000G.32.2.M16-16.IK** | 32 | 2 | 4.0 | M16 | 43.5 | 17.0 | 29.0 | 4,3 | RD.X 1604.. | 270.40 | **321** |
| **R1000G.35.3.M16-16.IK** | 35 | 3 | 4.0 | M16 | 43.5 | 17.0 | 29.0 | 4,3 | RD.X 1604.. | 332.72 | **355** |

| | TORX® blade | | Clamping Screw | | over clamp | | Key D | | Molykote | | Clamping screw | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 56 950 ... | | 56 950 ... | | 80 950 ... | | 70 950 ... | | 56 950 ... | | 80 950 ... | |
| **Spare parts** | £ | | £ | | £ | | £ | | £ | | £ | | £ | |
| **Insert** | Y7 | | WA | | WA | | Y7 | | 2A/28 | | WA | | Y7 | |
| RD.X 0702.. | 8.49 | **032** | | | | | 13.09 | **109** | 5.06 | **303** | 5.24 | **006** | 207.73 | **191** |
| RD.X 1003.. | 8.49 | **036** | | | | | 15.56 | **113** | 5.06 | **303** | 7.06 | **010** | 195.92 | **192** |
| RD.X 12T3.. | 8.49 | **036** | 4.57 | **022** | | | 15.56 | **113** | 5.06 | **303** | 7.06 | **010** | 195.92 | **192** |
| RD.X 1604.. | 8.49 | **037** | | | 3.20 | **210** | 16.66 | **114** | 5.06 | **303** | 7.53 | **012** | 195.92 | **192** |

# R 1007 screw-in button insert milling cutter

▲ Insert angle 7°
▲ for Steel < 10 % Cr

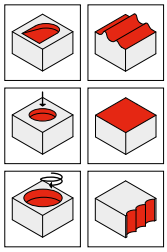


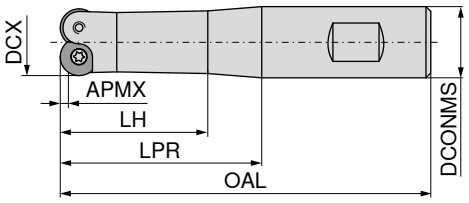



| Designation | DCX mm | ZNF | APMX mm | THSZMS | LPR mm | DCONMS mm | BD mm | torque moment Nm | Insert | 56 405 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **R1007G.25.3.M12-10.IK** | 25 | 3 | 2.5 | M12 | 32.5 | 12.5 | 21 | 2,4 | RD.X 1003.. | 234.68 | **251** |
| **R1007G.42.6.M16-10.IK** | 42 | 6 | 2.5 | M16 | 42.5 | 17.0 | 29 | 2,4 | RD.X 1003.. | 446.49 | **421** |
| **R1007G.35.4.M16-12.IK** | 35 | 4 | 3.0 | M16 | 42.5 | 17.0 | 29 | 2,4 | RD.X 12T3.. | 338.88 | **352** |

# R 1000 shank button insert milling cutter

▲ Insert angle 0°





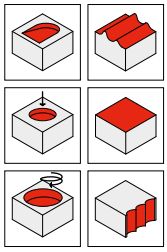

| Designation | DCX mm | ZNF | APMX mm | OAL mm | LPR mm | LH mm | DCONMS mm | torque moment Nm | Insert | 56 441 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **R1000C.8.1.30-05** | 8 | 1 | 1.3 | 75 | 30 | 18 | 10 | 0,43 | RDHX 0501.. | 229.32 | **081** |
| **R1000C.10.2.30-05** | 10 | 2 | 1.3 | 75 | 30 | 23 | 10 | 0,43 | RDHX 0501.. | 257.10 | **101** |
| **R1000C.12.3.30-05** | 12 | 3 | 1.3 | 81 | 30 | 23 | 12 | 0,43 | RDHX 0501.. | 286.07 | **121** |

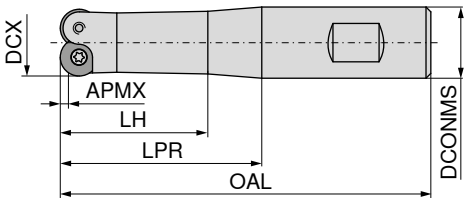
| Spare parts / Insert |  TORX® blade 80 950 ... £ Y7 | |  Clamping Screw 56 950 ... £ WA | |  Key D 80 950 ... £ Y7 | |  Molykote 70 950 ... £ 2A/28 | |  Clamping screw 56 950 ... £ WA | |  Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RDHX 0501.. | | | | | 14.16 | **108** | 5.06 | **303** | 5.97 | **002** | 207.73 | **191** |
| RD.X 1003.. | 8.49 | **036** | | | 15.56 | **113** | 5.06 | **303** | 7.06 | **010** | 195.92 | **192** |
| RD.X 12T3.. | 8.49 | **036** | 4.57 | **022** | 15.56 | **113** | 5.06 | **303** | 7.06 | **010** | 195.92 | **192** |

15

# R 1002 shank button insert milling cutter

▲ Insert angle 0°



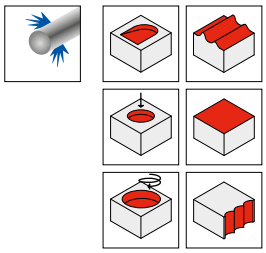


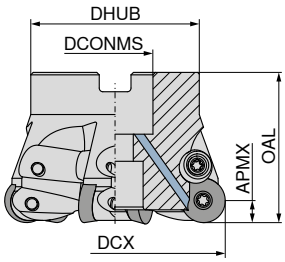

**56 443 ...**

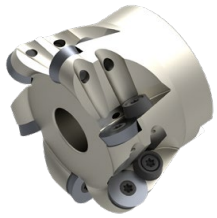
| Designation | DCX mm | ZNF | APMX mm | OAL mm | LPR mm | LH mm | DCONMS mm | Insert | £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **R1002C.15.2.40-07** | 15 | 2 | 2.6 | 89 | 40 | 23 | 16 | RD.X 0702.. | 186.81 | **151** |
| **R1002C.15.2.60-07** | 15 | 2 | 2.6 | 109 | 60 | 23 | 16 | RD.X 0702.. | 198.74 | **152** |
| **R1002C.15.2.80-07** | 15 | 2 | 2.6 | 131 | 80 | 22 | 20 | RD.X 0702.. | 213.02 | **153** |
| **R1002C.15.2.100-07** | 15 | 2 | 2.6 | 151 | 100 | 22 | 20 | RD.X 0702.. | 226.53 | **154** |
| **R1002C.20.2.40-10** | 20 | 2 | 4.0 | 91 | 40 | 23 | 20 | RD.X 1003.. | 209.45 | **201** |
| **R1002C.20.2.60-10** | 20 | 2 | 4.0 | 111 | 60 | 23 | 20 | RD.X 1003.. | 214.62 | **202** |
| **R1002C.20.2.80-10** | 20 | 2 | 4.0 | 137 | 80 | 23 | 25 | RD.X 1003.. | 225.33 | **203** |
| **R1002C.20.2.100-10** | 20 | 2 | 4.0 | 157 | 100 | 23 | 25 | RD.X 1003.. | 238.43 | **204** |
| **R1002C.20.2.120-10** | 20 | 2 | 4.0 | 177 | 125 | 23 | 25 | RD.X 1003.. | 253.13 | **205** |

# R 1000 shell button insert milling cutter

▲ Insert angle 0°





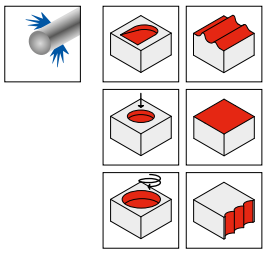
**56 407 ...**

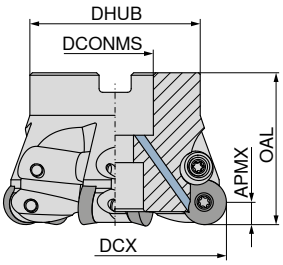
| Designation | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **R1000A.42.6.43-10.IK** | 42 | 6 | 2.8 | 43.0 | 16 | 35 | 2,4 | RD.X 1003.. | 446.49 | **420** |
| **R1000A.42.4.43-12.IK** | 42 | 4 | 3.0 | 43.0 | 16 | 35 | 2,4 | RD.X 12T3.. | 358.93 | **421** |
| **R1000A.42.5.43-12.IK** | 42 | 5 | 3.0 | 43.0 | 16 | 35 | 2,4 | RD.X 12T3.. | 410.73 | **422** |
| **R1000A.52.5.53-12.IK** | 52 | 5 | 3.5 | 53.0 | 22 | 40 | 2,4 | RD.X 12T3.. | 445.27 | **521** |
| **R1000A.52.4.53,5-16.IK** | 52 | 4 | 4.7 | 53.5 | 22 | 40 | 4,3 | RD.X 1604.. | 437.36 | **522** |
| **R1000A.66.5.53,5-16.IK** | 66 | 5 | 5.1 | 53.5 | 27 | 48 | 4,3 | RD.X 1604.. | 515.53 | **661** |
| **R1000A.80.6.53,5-16.IK** | 80 | 6 | 5.8 | 53.5 | 27 | 60 | 4,3 | RD.X 1604.. | 661.05 | **801** |

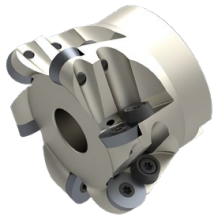
| |  TORX® blade |  Clamping Screw |  over clamp |  Key D |  Molykote |  Clamping screw |  Torque screw-driver |
|---|---|---|---|---|---|---|---|
| | **80 950 ...** | **56 950 ...** | **56 950 ...** | **80 950 ...** | **70 950 ...** | **56 950 ...** | **80 950 ...** |
| **Spare parts** | £ | £ | £ | £ | £ | £ | £ |
| **Insert** | Y7 | WA | WA | Y7 | 2A/28 | WA | Y7 |
| RD.X 1003.. | 8.49 **036** | | | 15.56 **113** | 5.06 **303** | 7.06 **010** | 195.92 **192** |
| RD.X 12T3.. | 8.49 **036** | 4.57 **022** | | 15.56 **113** | 5.06 **303** | 7.06 **010** | 195.92 **192** |
| RD.X 1604.. | 8.49 **037** | | 3.20 **210** | 16.66 **114** | 5.06 **303** | 7.53 **012** | 195.92 **192** |

# R 1007 shell button insert milling cutter

▲ Insert angle 7°
▲ for Steel < 10 % Cr + Milling machines with low power





| Designation | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | 56 409 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **R1007A.42.6.42,5-10.IK** | 42 | 6 | 3.5 | 42.5 | 16 | 35 | 2,4 | RD.X 1003.. | 446.49 | **421** |
| **R1007A.52.7.52,5-10.IK** | 52 | 7 | 3.5 | 52.5 | 22 | 40 | 2,4 | RD.X 1003.. | 649.17 | **521** |
| **R1007A.52.5.52,5-12.IK** | 52 | 5 | 3.5 | 52.5 | 22 | 40 | 2,4 | RD.X 12T3.. | 445.27 | **522** |
| **R1007A.66.6.52,5-12.IK** | 66 | 6 | 3.5 | 52.5 | 27 | 48 | 2,4 | RD.X 12T3.. | 525.90 | **661** |
| **R1007A.80.7.54,5-12.IK** | 80 | 7 | 3.5 | 54.5 | 27 | 60 | 2,4 | RD.X 12T3.. | 661.05 | **801** |
| **R1007A.52.5.53-16.IK** | 52 | 5 | 4.1 | 53.0 | 22 | 40 | 4,3 | RD.X 1604.. | 488.75 | **523** |
| **R1007A.66.5.53-16.IK** | 66 | 5 | 4.6 | 53.0 | 27 | 48 | 4,3 | RD.X 1604.. | 515.53 | **662** |
| **R1007A.66.6.53-16.IK** | 66 | 6 | 5.1 | 53.0 | 27 | 48 | 4,3 | RD.X 1604.. | 593.37 | **663** |
| **R1007A.80.6.53-16.IK** | 80 | 6 | 5.1 | 53.0 | 27 | 60 | 4,3 | RD.X 1604.. | 661.05 | **802** |
| **R1007A.100.7.53-16** | 100 | 7 | 5.1 | 53.0 | 32 | 70 | 4,3 | RD.X 1604.. | 816.92 | **910** 1) |
| **R1007A.125.8.53-16** | 125 | 8 | 5.2 | 53.0 | 40 | 90 | 4,3 | RD.X 1604.. | 926.48 | **925** 1) |
| **R1007A.160.9.53-16** | 160 | 9 | 5.1 | 53.0 | 40 | 120 | 4,3 | RD.X 1604.. | 1,270.94 | **960** 1) |

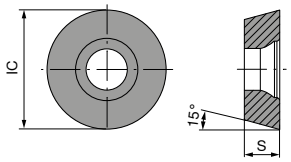
1) Without Through Coolant

| Spare parts |  TORX® blade | |  Clamping Screw | |  over clamp | |  Key D | |  Molykote | |  Clamping screw | |  Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 56 950 ... | | 56 950 ... | | 80 950 ... | | 70 950 ... | | 56 950 ... | | 80 950 ... | |
| **Insert** | £ Y7 | | £ WA | | £ WA | | £ Y7 | | £ 2A/28 | | £ WA | | £ Y7 | |
| RD.X 1003.. | 8.49 | **036** | | | | | 15.56 | **113** | 5.06 | **303** | 7.06 | **010** | 195.92 | **192** |
| RD.X 12T3.. | 8.49 | **036** | 4.57 | **022** | | | 15.56 | **113** | 5.06 | **303** | 7.06 | **010** | 195.92 | **192** |
| RD.X 1604.. | 8.49 | **037** | | | 3.20 | **210** | 16.66 | **114** | 5.06 | **303** | 7.53 | **012** | 195.92 | **192** |

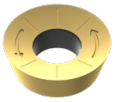
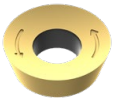
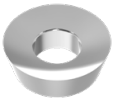
15

# RDHX / RDMX / RDEX / RDPX

| Designation | IC mm | S mm |
|---|---|---|
| RDHX 0501.. | 5 | 1.50 |
| RD.X 0702.. | 7 | 2.38 |
| RD.X 1003.. | 10 | 3.18 |
| RD.X 12T3.. | 12 | 3.97 |
| RD.X 1604.. | 16 | 4.76 |



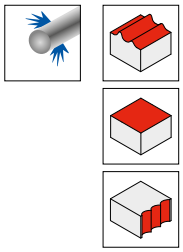

# RDHX / RDMX / RDEX / RDPX

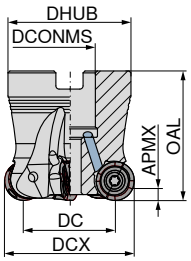
| | WTN1205 | WAN1240 | WAX1240 | -HP WAN2225 | -F30P WUN4210 |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| | RDHX | RDMX | RDEX | RDPX | RDHX |
| | 56 302 ... | 56 309 ... | 56 314 ... | 56 348 ... | 56 304 ... |
| ISO | £ WB | £ WB | £ WB | £ WB | £ WB |
| 0501M0T | 20.65 100 | | | | |
| 0702M0E | | | | | 19.52 611 |
| 0702M0T | 21.24 111 | | 14.90 611 | | |
| 1003M0S | | | | 20.87 231 | |
| 1003M0T | 20.87 131 | 15.89 731 | 15.26 631 | | 22.45 631 |
| 12T3M0S | | | | 22.60 241 | |
| 12T3M0T | 22.60 141 | 18.28 741 | 17.40 641 | | 27.19 641 |
| 1604M0S | | | | 28.20 251 | |
| 1604M0T | 22.60 151 | 19.74 751 | 19.69 651 | | 33.15 651 |
| P | ● | ● | ● | | |
| M | ● | ○ | ○ | ● | |
| K | ● | ○ | ○ | | ○ |
| N | | | | | ● |
| S | | | | ● | |
| H | ● | | | | |
| O | | | | | ○ |

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 182–184 | Machining strategy | → 185+186 |
| Technical Information | → 193–198 | Grade description | → 199–201 |
| Designation System | → 202–208 | | |

# **MaxiMill** – 252 Shell mill






NEW

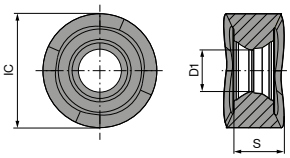
| Designation | DC mm | DCX mm | ZNF | APMX mm | OAL mm | DCONMS mm | DHUB mm | torque moment Nm | Insert | 50 689 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A252.40.R.05-10** | 30 | 40 | 5 | 2.5 | 40 | 16 | 38 | 2 | RNHU 1004.. | 472.72 | **140** |
| **A252.42.R.05-10** | 32 | 42 | 5 | 2.5 | 40 | 16 | 38 | 2 | RNHU 1004.. | 542.12 | **142** |
| **A252.50.R.06-10** | 40 | 50 | 6 | 2.5 | 40 | 22 | 43 | 2 | RNHU 1004.. | 562.09 | **150** |
| **A252.52.R.07-10** | 42 | 52 | 7 | 2.5 | 40 | 22 | 43 | 2 | RNHU 1004.. | 610.47 | **152** |
| **A252.63.R.08-10** | 53 | 63 | 8 | 2.5 | 40 | 22 | 48 | 2 | RNHU 1004.. | 691.84 | **16300** |
| **A252.80.R.10-10** | 70 | 80 | 10 | 2.5 | 50 | 27 | 58 | 2 | RNHU 1004.. | 786.98 | **18000** |
| **A252.40.R.04-12** | 28 | 40 | 4 | 3.0 | 40 | 16 | 38 | 3,2 | RNHU 1205.. | 434.30 | **240** |
| **A252.50.R.05-12** | 38 | 50 | 5 | 3.0 | 40 | 22 | 43 | 3,2 | RNHU 1205.. | 527.33 | **250** |
| **A252.52.R.05-12** | 40 | 52 | 5 | 3.0 | 40 | 22 | 43 | 3,2 | RNHU 1205.. | 528.60 | **252** |
| **A252.63.R.06-12** | 51 | 63 | 6 | 3.0 | 40 | 22 | 48 | 3,2 | RNHU 1205.. | 651.43 | **263** |
| **A252.66.R.07-12** | 54 | 66 | 7 | 3.0 | 40 | 22 | 48 | 3,2 | RNHU 1205.. | 686.18 | **266** |
| **A252.80.R.08-12** | 68 | 80 | 8 | 3.0 | 50 | 27 | 58 | 3,2 | RNHU 1205.. | 749.44 | **280** |
| **A252.100.R.10-12** | 88 | 100 | 10 | 3.0 | 50 | 32 | 78 | 3,2 | RNHU 1205.. | 891.89 | **30000** |
| **A252.125.R.12-12** | 113 | 125 | 12 | 3.0 | 63 | 40 | 88 | 3,2 | RNHU 1205.. | 1,079.04 | **32500** |

| **Spare parts** | TORX® blade | | Clamping key – T | | Key D | | Power Screw | | Molykote | | Clamping screw | | Torque screw-driver | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 950 ... | | 80 397 ... | | 80 950 ... | | 70 950 ... | | 70 950 ... | | 70 950 ... | | 80 950 ... | |
| **Insert** | £ Y7 | | £ Y7 | | £ Y7 | | £ 2A/28 | | £ 2A/28 | | £ 2A/28 | | £ Y7 | |
| RNHU 1004.. (Ø40 – Ø80) | 8.49 | **053** | | | 19.45 | **127** | | | 5.06 | **303** | 3.57 | **710** | 195.92 | **192** |
| RNHU 1205.. (Ø40) | 8.49 | **054** | 6.07 | **040** | 20.03 | **128** | 15.12 | **151** | 5.06 | **303** | 3.67 | **839** | 195.92 | **192** |
| RNHU 1205.. (Ø50 – Ø125) | 8.49 | **054** | | | 20.03 | **128** | | | 5.06 | **303** | 3.67 | **839** | 195.92 | **192** |

15

# RNHU

| Designation | IC mm | D1 mm | S mm |
|---|---|---|---|
| RNHU 1004.. | 10 | 3.4 | 4.60 |
| RNHU 1205.. | 12 | 4.4 | 5.30 |




# RNHU

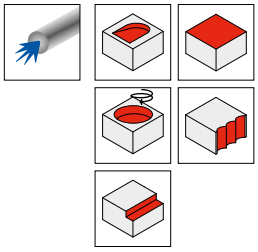
| | NEW -M50 CTPP235 DRAGONSKIN | NEW -F50 CTPM240 DRAGONSKIN | NEW -M31 CTPM245 DRAGONSKIN | NEW -M32 CTPM245 DRAGONSKIN | NEW -M31 CTC5240 DRAGONSKIN | NEW -M31 CTC5240 DRAGONSKIN |
|---|---|---|---|---|---|---|
| |  RNHU |  RNHU |  RNHU |  RNHU |  RNHU |  RNHU |
| | 51 130 ... | 51 129 ... | 51 106 ... | 51 107 ... | 50 520 ... | 50 521 ... |
| ISO | £ 1B/61 | £ 1B/61 | £ 1H/17 | £ 1H/17 | £ 1H/17 | £ 1H/17 |
| 1004M4ER | 21.17 12000 | 21.17 42000 | 28.64 470 | 28.64 470 | 28.64 550 | |
| 1205M4ER | | 22.93 42500 | 31.35 475 | 31.35 475 | | 31.35 552 |
| 1205M4SR | 22.93 12500 | | | | | |
| P | ● | ○ | ● | ● | | |
| M | ○ | ● | ● | ● | | |
| K | ○ | | | | | |
| N | | | | | | |
| S | | | | | ● | ● |
| H | | | | | | |
| O | | | | | | |

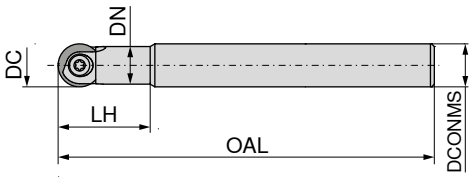
*Milling guide*

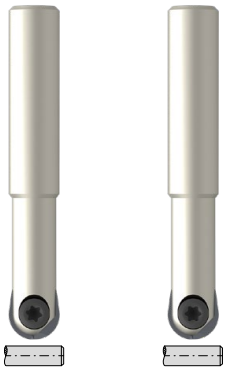
| | | | |
|---|---|---|---|
| Cutting data standard values | → 145–148 | Machining strategy | → 187 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# K 2000 / K 2001 shank copy milling cutter

▲ with carbide shank





| ISO designation | DC mm | DN mm | LH mm | OAL mm | DCONMS mm | torque moment Nm | 56 100 ... £ WA | | 56 101 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **K2000C.6.16.100** | 6 | 5.3 | 16 | 100 | 8 | 0,5 | 654.57 | **060** [1] | | |
| **K2000C.6.20.100** | 6 | 5.8 | 20 | 100 | 6 | 0,5 | 654.57 | **061** [1] | | |
| **K2000C.6.70.150** | 6 | 5.8 | 70 | 150 | 6 | 0,5 | 851.44 | **062** [1] | | |
| **K2000C.6.100.200** | 6 | 5.8 | 100 | 200 | 6 | 0,5 | 1,031.67 | **063** [1] | | |
| **K2000C.8.25.80** | 8 | 7.0 | 25 | 80 | 8 | 1 | 694.90 | **081** [1] | | |
| **K2000C.8.25.100** | 8 | 7.0 | 25 | 100 | 8 | 1 | 694.90 | **082** [1] | | |
| **K2000C.8.40.150** | 8 | 7.0 | 40 | 150 | 8 | 1 | 770.80 | **083** [1] | | |
| **K2000C.10.35.80** | 10 | 8.8 | 35 | 80 | 10 | 3 | 834.85 | **101** [1] | | |
| **K2000C.10.35.120** | 10 | 8.8 | 35 | 120 | 10 | 3 | 860.92 | **102** [1] | | |
| **K2000C.10.50.150** | 10 | 8.8 | 50 | 150 | 10 | 3 | 953.43 | **103** [1] | | |
| **K2000C.12.35.80** | 12 | 10.5 | 35 | 80 | 12 | 4 | 870.43 | **121** [1] | | |
| **K2001C.12.35.80** | 12 | 10.5 | 35 | 80 | 12 | 4 | | | 870.43 | **121** |
| **K2000C.12.35.120** | 12 | 10.5 | 35 | 120 | 12 | 4 | 908.35 | **122** [1] | | |
| **K2001C.12.35.120** | 12 | 10.5 | 35 | 120 | 12 | 4 | | | 908.35 | **122** |
| **K2000C.12.50.160** | 12 | 10.5 | 50 | 160 | 12 | 4 | 972.42 | **123** [1] | | |
| **K2001C.12.50.160** | 12 | 10.5 | 50 | 160 | 12 | 4 | | | 972.42 | **123** |
| **K2001C.16.40.100** | 16 | 14.0 | 40 | 100 | 16 | 5 | | | 1,200.09 | **161** |
| **K2001C.16.40.140** | 16 | 14.0 | 40 | 140 | 16 | 5 | | | 1,200.09 | **162** |
| **K2001C.16.55.175** | 16 | 14.0 | 55 | 175 | 16 | 5 | | | 1,306.77 | **163** |
| **K2001C.20.50.100** | 20 | 18.0 | 50 | 100 | 20 | 5 | | | 1,525.00 | **201** |
| **K2001C.20.50.140** | 20 | 18.0 | 50 | 140 | 20 | 5 | | | 1,525.00 | **202** |
| **K2001C.20.75.190** | 20 | 18.0 | 75 | 190 | 20 | 5 | | | 1,793.00 | **203** |
| **K2001C.25.60.160** | 25 | 22.4 | 60 | 160 | 25 | 8 | | | 2,167.73 | **252** |
| **K2001C.25.90.210** | 25 | 22.4 | 90 | 210 | 25 | 8 | | | 2,706.10 | **253** |

1) Without Through Coolant

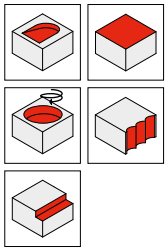
## Applicable inserts

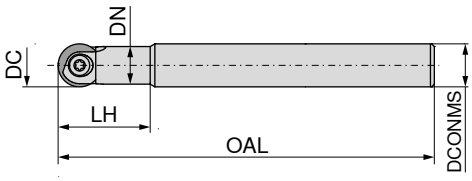
| | |
|---|---|
|  | **ROHX-FM3, ROHX-FM4, ROHX-FM6, ROHX-MR5, ROGX-MR4** |

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

# K 2002 shank copy milling cutter

▲ cylindrical steel shank version






**56 102 ...**

| Designation | DC mm | DN mm | LH mm | OAL mm | DCONMS mm | torque moment Nm | £ WA | |
|---|---|---|---|---|---|---|---|---|
| **K2002C.12.32.90** | 12 | 10.5 | 32 | 90 | 12 | 4 | 187.36 | **121** |
| **K2002C.12.32.130** | 12 | 10.5 | 32 | 130 | 12 | 4 | 187.36 | **122** |
| **K2002C.12.46.150** | 12 | 10.5 | 46 | 150 | 12 | 4 | 196.84 | **123** |
| **K2002C.16.36.100** | 16 | 14.0 | 36 | 100 | 16 | 5 | 199.22 | **161** |
| **K2002C.16.36.140** | 16 | 14.0 | 36 | 140 | 16 | 5 | 199.22 | **162** |
| **K2002C.16.53.160** | 16 | 14.0 | 53 | 160 | 16 | 5 | 213.47 | **163** |
| **K2002C.20.45.160** | 20 | 18.0 | 45 | 160 | 20 | 5 | 208.73 | **202** |
| **K2002C.20.61.175** | 20 | 18.0 | 61 | 175 | 20 | 5 | 246.65 | **203** |
| **K2002C.25.45.160** | 25 | 22.4 | 45 | 160 | 25 | 8 | 291.72 | **252** |
| **K2002C.25.70.190** | 25 | 22.4 | 70 | 190 | 25 | 8 | 303.58 | **253** |
| **K2002C.32.56.175** | 32 | 28.6 | 56 | 175 | 32 | 8 | 374.75 | **322** |
| **K2002C.32.80.210** | 32 | 28.6 | 80 | 210 | 32 | 8 | 393.72 | **323** |

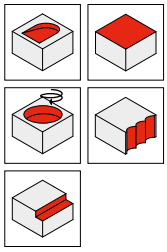
## Applicable inserts

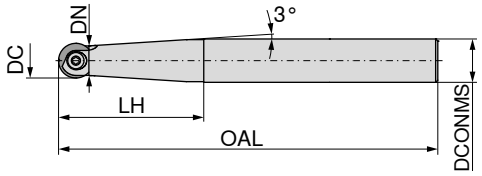
| | |
|---|---|
|  | **ROHX-FM3, ROHX-FM4, ROHX-FM6, ROHX-MR5, ROGX-MR4** |

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

# K 2003 shank copy milling cutter

▲ tapered execution






**56 104 ...**

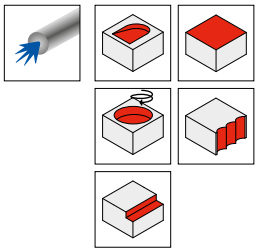
| Designation | DC mm | DN mm | LH mm | OAL mm | DCONMS mm | torque moment Nm | £ WA | |
|---|---|---|---|---|---|---|---|---|
| **K2003C.6.16.90** | 6 | 5.3 | 40 | 90 | 10 | 0,5 | 213.47 | **061** |
| **K2003C.8.50.85** | 8 | 7.5 | 50 | 85 | 12 | 1 | 253.77 | **081** |
| **K2003C.8.50.140** | 8 | 7.5 | 50 | 140 | 12 | 1 | 253.77 | **082** |
| **K2003C.10.35.85** | 10 | 9.0 | 35 | 85 | 12 | 3 | 253.77 | **101** |
| **K2003C.10.35.150** | 10 | 9.0 | 35 | 150 | 12 | 3 | 253.77 | **102** |
| **K2003C.12.60.110** | 12 | 10.5 | 60 | 110 | 16 | 4 | 256.17 | **121** |
| **K2003C.12.60.160** | 12 | 10.5 | 60 | 160 | 16 | 4 | 256.17 | **122** |
| **K2003C.16.67.120** | 16 | 14.0 | 67 | 120 | 20 | 5 | 277.51 | **161** |
| **K2003C.16.67.175** | 16 | 14.0 | 67 | 175 | 20 | 5 | 277.51 | **162** |
| **K2003C.20.80.190** | 20 | 18.0 | 80 | 190 | 25 | 5 | 322.56 | **201** |
| **K2003C.25.100.210** | 25 | 22.4 | 100 | 210 | 32 | 8 | 398.44 | **251** |
| **K2003C.32.123.240** | 32 | 28.6 | 123 | 240 | 40 | 8 | 509.91 | **321** |

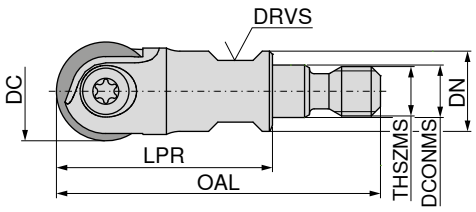
## Applicable inserts

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

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

# K 2000 screw-in copy milling cutter






| Designation | DC mm | LPR mm | DN mm | OAL mm | DCONMS mm | THSZMS | DRVS mm | torque moment Nm | 56 120 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|
| **K2000G.8.25.M6** | 8 | 25 | 10 | 39.5 | 6.5 | M6 | 8 | 1 | 419.81 | **081** [1] |
| **K2000G.10.25.M6** | 10 | 25 | 10 | 39.5 | 6.5 | M6 | 8 | 3 | 417.43 | **101** [1] |
| **K2000G.12.25.M6** | 12 | 25 | 10 | 39.5 | 6.5 | M6 | 8 | 4 | 431.65 | **121** [1] |
| **K2000G.12.26.M8** | 12 | 26 | 13 | 43.5 | 8.5 | M8 | 10 | 4 | 431.65 | **122** |
| **K2000G.16.26.M8** | 16 | 26 | 13 | 43.5 | 8.5 | M8 | 10 | 5 | 450.63 | **161** |
| **K2000G.20.30.M10** | 20 | 30 | 18 | 49.5 | 10.5 | M10 | 15 | 5 | 457.72 | **201** |
| **K2000G.25.40.M12** | 25 | 40 | 21 | 62.0 | 12.5 | M12 | 17 | 8 | 476.72 | **251** |
| **K2000G.32.45.M16** | 32 | 45 | 30 | 69.0 | 17.0 | M16 | 26 | 8 | 502.81 | **321** |

1) Without Through Coolant

## Applicable inserts

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

**XOHX-FM1**



TORX® blade

Key D

Molykote

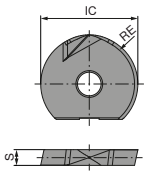
Clamping screw

Torque screw-driver

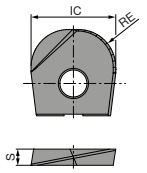
| Spare parts DC | 80 950 ... £ Y7 | | 80 950 ... £ Y7 | | 70 950 ... £ 2A/28 | | 56 950 ... £ WA | | 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 8.49 | **031** | 14.16 | **108** | 5.06 | **303** | 12.29 | **041** | 207.73 | **191** |
| 8 | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 12.29 | **042** | 207.73 | **191** |
| 10 | 8.49 | **036** | 15.56 | **113** | 5.06 | **303** | 12.29 | **043** | 232.67 | **193** |
| 12 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 16.61 | **044** | 232.67 | **193** |
| 16 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 16.61 | **045** | 232.67 | **193** |
| 20 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 16.61 | **046** | 232.67 | **193** |
| 25 | | | 17.96 | **131** | 5.06 | **303** | 16.67 | **047** | | |
| 32 | | | 17.96 | **131** | 5.06 | **303** | 17.22 | **048** | | |

# ROHX / XOHX / ROGX

| Designation | IC mm | S mm |
|---|---|---|
| ROHX0616R.. | 6 | 1.60 |
| ROHX0820R.. | 8 | 2.00 |
| ROHX1025R.. | 10 | 2.50 |
| XOHX10254.. | 10 | 2.50 |
| XOHX12255.. | 12 | 2.50 |
| RO.X1225R.. | 12 | 2.50 |
| RO.X1630R.. | 16 | 3.00 |
| XOHX16307.. | 16 | 3.00 |
| XOHX20309.. | 20 | 3.00 |
| RO.X2030R.. | 20 | 3.00 |
| RO.X2540R.. | 25 | 4.00 |
| RO.X3250R.. | 32 | 5.00 |



RO.X



XOHX

# ROHX / XOHX / ROGX

| | -MR5 CTPP211 | -FM1 CTPP216 | -FM3 CTPP216 | -FM4 CTPP216 | -FM4 CTPK226 | -MR4 CTPK231 | -FM6 CTCN211 |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| | ROHX | XOHX | ROHX | ROHX | ROHX | ROGX | ROHX |
| | 56 149 ... | 56 169 ... | 56 147 ... | 56 141 ... | 56 141 ... | 56 143 ... | 56 145 ... |
| ISO / RE mm | £ WB | £ WB | £ WB | £ WB | £ WB | £ WB | £ WB |
| 0616 R3 / 3.0 | | | 53.42 30200 | 44.51 90200 | | | 130.44 602 1) |
| 0820 R4 / 4.0 | 54.31 71300 | | 64.78 31300 | 42.78 71300 | 44.85 11300 | | 168.40 613 1) |
| 1025 R5 / 5.0 | 54.31 72400 | | 64.78 32400 | 42.78 72400 | 44.85 12400 | | 168.40 624 1) |
| 102540 / 4.0 | | 58.67 92400 | | | | | |
| 1225 R6 / 6.0 | | | 65.81 33500 | 44.51 73500 | 44.85 13500 | 43.65 53500 | 168.40 635 1) |
| 122550 / 5.0 | | 62.84 93500 | | | | | |
| 1630 R8 / 8.0 | | | 70.86 34600 | 51.14 74600 | 52.28 14600 | 51.14 54600 | 192.13 646 1) |
| 163070 / 7.0 | | 67.22 94700 | | | | | |
| 2030 R10 / 10.0 | | | 75.06 35700 | 58.67 75700 | 58.44 15700 | 58.67 55700 | |
| 203090 / 9.0 | | 76.63 95900 | | | | | |
| 2540 R12,5 / 12.5 | | | 93.41 36800 | 87.47 76800 | 87.16 16800 | 86.42 56800 | |
| 3250 R16 / 16.0 | | | 125.18 37900 | 127.77 77900 | 129.26 17900 | 119.22 57900 | |
| P | ● | ● | ● | ● | ● | ● | |
| M | ○ | ○ | ○ | ○ | ● | ● | |
| K | ○ | ● | ● | ● | ● | ● | |
| N | ○ | ○ | ○ | ○ | | ○ | ○ |
| S | ○ | ○ | ○ | ○ | | ○ | |
| H | ○ | ● | ● | ● | ○ | ○ | |
| O | ○ | ○ | ○ | ○ | | | ● |

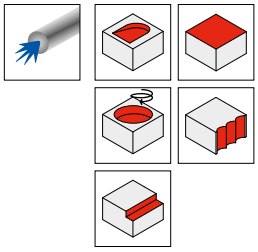
1) Specifically for machining graphite !

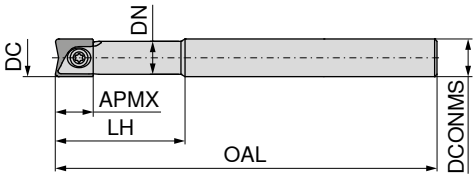
*Milling guide*

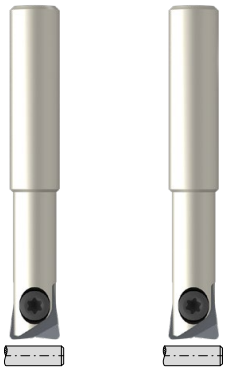

| | | | |
|---|---|---|---|
| Cutting data standard values | → 188+189 | Depth of Cut | → 190 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |

# K 2005 / K 2006 shank copy milling cutter

▲ with carbide shank





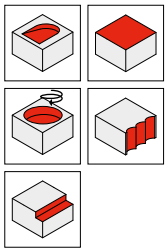
| Designation | DC mm | APMX mm | DN mm | LH mm | OAL mm | DCONMS mm | torque moment Nm | 56 110 ... £ WA | | 56 111 ... £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **K2005C.8.27.82** | 8 | 9.5 | 7.0 | 27 | 82 | 8 | 1 | 694.90 | **081** [1] | | |
| **K2005C.8.27.102** | 8 | 9.5 | 7.0 | 27 | 102 | 8 | 1 | 694.90 | **082** [1] | | |
| **K2005C.8.42.152** | 8 | 9.5 | 7.0 | 42 | 152 | 8 | 1 | 770.80 | **083** [1] | | |
| **K2005C.10.37.82** | 10 | 11.5 | 8.8 | 37 | 82 | 10 | 3 | 834.85 | **101** [1] | | |
| **K2005C.10.37.122** | 10 | 11.5 | 8.8 | 37 | 122 | 10 | 3 | 860.92 | **102** [1] | | |
| **K2005C.10.52.152** | 10 | 11.5 | 8.8 | 52 | 152 | 10 | 3 | 953.43 | **103** [1] | | |
| **K2005C/K2006C.12.37.82** | 12 | 14.0 | 10.5 | 37 | 82 | 12 | 4 | 870.43 | **121** [1] | 870.43 | **121** |
| **K2005C/K2006C.12.37.122** | 12 | 14.0 | 10.5 | 37 | 122 | 12 | 4 | 908.35 | **122** [1] | 908.35 | **122** |
| **K2005C/K2006C.12.52.162** | 12 | 14.0 | 10.5 | 52 | 162 | 12 | 4 | 972.42 | **123** [1] | 972.42 | **123** |
| **K2006C.16.42.102** | 16 | 16.0 | 14.0 | 42 | 102 | 16 | 5 | | | 1,200.09 | **161** |
| **K2006C.16.42.142** | 16 | 16.0 | 14.0 | 42 | 142 | 16 | 5 | | | 1,200.09 | **162** |
| **K2006C.16.57.177** | 16 | 16.0 | 14.0 | 57 | 177 | 16 | 5 | | | 1,306.77 | **163** |
| **K2006C.20.52.102** | 20 | 18.0 | 18.0 | 52 | 102 | 20 | 5 | | | 1,525.00 | **201** |
| **K2006C.20.52.142** | 20 | 18.0 | 18.0 | 52 | 142 | 20 | 5 | | | 1,525.00 | **202** |
| **K2006C.20.77.192** | 20 | 18.0 | 18.0 | 77 | 192 | 20 | 5 | | | 1,793.00 | **203** |
| **K2006C.25.62.162** | 25 | 23.5 | 22.4 | 62 | 162 | 25 | 8 | | | 2,167.73 | **252** |
| **K2006C.25.92.212** | 25 | 23.5 | 22.4 | 92 | 212 | 25 | 8 | | | 2,706.10 | **253** |

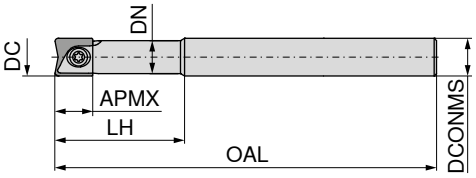
**1)** Without Through Coolant

## Applicable inserts

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

# K 2007 shank copy milling cutter






**56 112 ...**

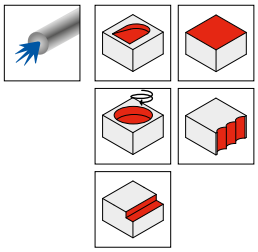
| Designation | DC mm | APMX mm | DN mm | LH mm | OAL mm | DCONMS mm | torque moment Nm | £ WA | |
|---|---|---|---|---|---|---|---|---|---|
| **K2007C.12.34.132** | 12 | 14.0 | 10.5 | 34 | 132 | 12 | 4 | 187.36 | **122** |
| **K2007C.12.34.92** | 12 | 14.0 | 10.5 | 34 | 92 | 12 | 4 | 206.34 | **121** |
| **K2007C.12.48.152** | 12 | 14.0 | 10.5 | 48 | 152 | 12 | 4 | 196.84 | **123** |
| **K2007C.16.38.102** | 16 | 16.0 | 14.0 | 38 | 102 | 16 | 5 | 199.22 | **161** |
| **K2007C.16.38.142** | 16 | 16.0 | 14.0 | 38 | 142 | 16 | 5 | 199.22 | **162** |
| **K2007C.16.55.162** | 16 | 16.0 | 14.0 | 55 | 162 | 16 | 5 | 213.47 | **163** |
| **K2007C.20.47.162** | 20 | 18.0 | 18.0 | 47 | 162 | 20 | 5 | 208.73 | **202** |
| **K2007C.20.63.177** | 20 | 18.0 | 18.0 | 63 | 177 | 20 | 5 | 246.65 | **203** |
| **K2007C.25.47.162** | 25 | 23.5 | 22.4 | 47 | 162 | 25 | 8 | 291.72 | **252** |
| **K2007C.25.72.192** | 25 | 23.5 | 22.4 | 72 | 192 | 25 | 8 | 303.58 | **253** |
| **K2007C.32.58.177** | 32 | 28.0 | 28.6 | 58 | 177 | 32 | 8 | 374.75 | **322** |
| **K2007C.32.82.212** | 32 | 28.0 | 28.6 | 82 | 212 | 32 | 8 | 393.72 | **323** |

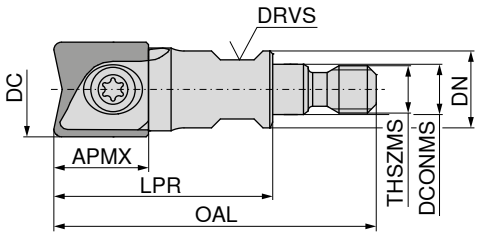
## Applicable inserts

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

15

# K 2005 screw-in copy milling cutter






**56 130 ...**

| Designation | DC mm | APMX mm | DN mm | LPR mm | OAL mm | DCONMS mm | THSZMS | DRVS mm | torque moment Nm | £ WA | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **K2005G.8.25.M6** | 8 | 9.5 | 10 | 25 | 39.5 | 6.5 | M6 | 8 | 1 | 419.81 | **081** 1) |
| **K2005G.10.25.M6** | 10 | 11.5 | 10 | 25 | 39.5 | 6.5 | M6 | 8 | 3 | 417.43 | **101** 1) |
| **K2005G.12.25.M6** | 12 | 14.0 | 10 | 25 | 39.5 | 6.5 | M6 | 8 | 4 | 431.65 | **121** 1) |
| **K2005G.12.28.M8** | 12 | 14.0 | 13 | 28 | 45.5 | 8.5 | M8 | 8 | 4 | 431.65 | **122** |
| **K2005G.16.28.M8** | 16 | 16.0 | 13 | 28 | 45.5 | 8.5 | M8 | 10 | 5 | 450.63 | **161** |
| **K2005G.20.32.M10** | 20 | 18.0 | 18 | 32 | 51.5 | 10.5 | M10 | 15 | 5 | 457.72 | **201** |
| **K2005G.25.42.M12** | 25 | 23.5 | 21 | 42 | 64.0 | 12.5 | M12 | 17 | 8 | 476.72 | **251** |
| **K2005G.32.47.M16** | 32 | 28.0 | 30 | 47 | 71.0 | 17.0 | M16 | 26 | 8 | 502.81 | **321** |

1) Without Through Coolant

## Applicable inserts

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



TORX® blade

**80 950 ...**

Key D

**80 950 ...**

Molykote

**70 950 ...**

Clamping screw

**56 950 ...**

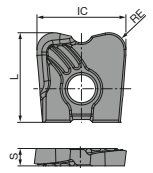
Torque screw-driver

**80 950 ...**

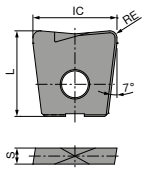
| Spare parts DC | £ Y7 | | £ Y7 | | £ 2A/28 | | £ WA | | £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 12.29 | **042** | 207.73 | **191** |
| 10 | 8.49 | **036** | 15.56 | **113** | 5.06 | **303** | 12.29 | **043** | 232.67 | **193** |
| 12 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 16.61 | **044** | 232.67 | **193** |
| 16 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 16.61 | **045** | 232.67 | **193** |
| 20 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 16.61 | **046** | 232.67 | **193** |
| 25 | | | 17.96 | **131** | 5.06 | **303** | 16.67 | **047** | | |
| 32 | | | 17.96 | **131** | 5.06 | **303** | 17.22 | **048** | | |

# XOHX / XOGX

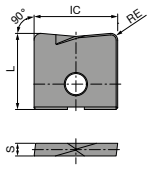
| Designation | IC mm | S mm | L mm |
|---|---|---|---|
| XO.X10251.. | 10 | 2.50 | 11.5 |
| XO.X12251.. | 12 | 2.50 | 14.0 |
| XO.X16301.. | 16 | 3.00 | 16.0 |
| XO.X16303.. | 16 | 3.00 | 16.0 |
| XO.X20301.. | 20 | 3.00 | 18.0 |
| XO.X20304.. | 20 | 3.00 | 18.0 |
| XOGX12252.. | 12 | 2.50 | 14.0 |
| 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 |



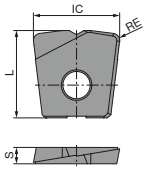
XOGX



XOHX



XOHX



XOHX

# XOHX / XOGX

| ISO | RE mm | -MR2 CTPP211 XOHX 56 167 ... £ WB | | -MR6 CTPP211 XOHX 56 163 ... £ WB | | -FM2 CTPP216 XOHX 56 165 ... £ WB | | -FM5 CTPP216 XOHX 56 159 ... £ WB | | -MF4 CTPP216 XOGX 56 161 ... £ WB | | -MR3 CTPK231 XOHX 56 171 ... £ WB | | -MR2 CTCN211 XOHX 56 168 ... £ WB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 061605 | 0.5 | 55.53 | 71000 | | | | | | | | | | | 130.44 | 610 1) |
| 082006 | 0.6 | | | 59.70 | 71000 | 52.55 | 71000 | 45.92 | 71000 | | | | | | |
| 082010 | 1.0 | 60.75 | 71200 | | | 52.55 | 71200 | | | | | | | 154.16 | 612 1) |
| 102508 | 0.8 | | | 59.70 | 72100 | 52.55 | 72100 | 45.40 | 72100 | | | 66.18 | 32100 | | |
| 102510 | 1.0 | 60.75 | 72200 | | | 52.55 | 72200 | | | 53.07 | 92200 | | | 163.66 | 622 1) |
| 122510 | 1.0 | 65.10 | 73200 | 65.10 | 73200 | 54.31 | 73200 | 51.14 | 73200 | 57.60 | 93200 | 66.18 | 53200 | 180.26 | 632 1) |
| 122520 | 2.0 | 65.10 | 73500 | | | 54.31 | 73500 | | | 57.60 | 93500 | | | | |
| 163010 | 1.0 | 70.35 | 74200 | | | 62.84 | 74200 | | | 65.10 | 94200 | | | 225.32 | 642 1) |
| 163013 | 1.3 | | | 69.32 | 74300 | 62.84 | 74300 | 58.67 | 74300 | | | | | | |
| 163015 | 1.5 | | | | | | | | | | | 70.35 | 54400 | | |
| 163030 | 3.0 | 70.35 | 74700 | | | 62.84 | 74500 | | | 65.10 | 94700 | | | | |
| 203010 | 1.0 | 81.01 | 75200 | | | 69.32 | 75200 | | | 73.50 | 95200 | | | | |
| 203016 | 1.6 | | | 78.90 | 75400 | 69.32 | 75400 | 67.22 | 75400 | | | | | | |
| 203020 | 2.0 | | | | | | | | | | | 83.09 | 55500 | | |
| 203040 | 4.0 | 81.01 | 75800 | | | 69.32 | 75800 | | | 73.50 | 95800 | | | | |
| 254010 | 1.0 | 103.34 | 76200 | | | 89.56 | 76200 | | | | | | | | |
| 254020 | 2.0 | | | 108.59 | 76500 | 89.56 | 76500 | 93.75 | 76500 | | | | | | |
| 254050 | 5.0 | 103.34 | 76900 | | | 89.56 | 76900 | | | | | | | | |
| 325025 | 2.5 | | | 153.43 | 77600 | | | 130.06 | 77600 | | | | | | |
| P | | ● | | ● | | ● | | ● | | ● | | ● | | | |
| M | | ○ | | ○ | | ○ | | ○ | | ○ | | ● | | | |
| K | | ○ | | ○ | | ● | | ● | | ● | | ● | | | |
| N | | ○ | | ○ | | ○ | | ○ | | ○ | | ○ | | ○ | |
| S | | ○ | | ○ | | ○ | | ○ | | ○ | | ○ | | | |
| H | | ○ | | ○ | | ● | | ● | | ● | | ○ | | | |
| O | | ○ | | ○ | | ○ | | ○ | | ○ | | | | ● | |

1) Specifically for machining graphite !

*Milling guide*


| | | | |
|---|---|---|---|
| Cutting data standard values | → 188+189 | Depth of Cut | → 190 |
| Technical Information | → 193–198 | Chip groove description and overview | → 199–201 |
| Grade description and overview | → 202–208 | | |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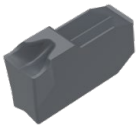
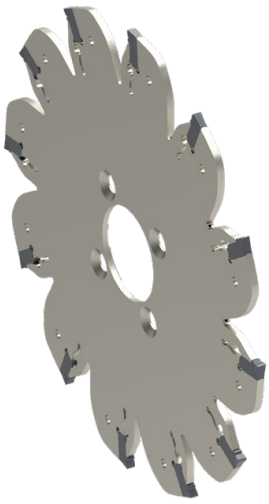
# Application tips – **MaxiMill** – Slot-SX

▲ The following components are required to complete the tool:

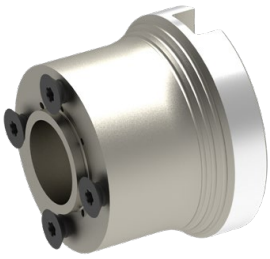
Spanner



Grooving insert



Saw cutters

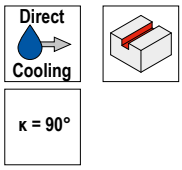


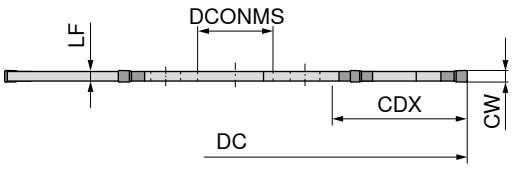
Multipurpose milling cutter adapter

## **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 383 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.80.R.6.13.DC-SX2** | 80 | 2 | 23 | 13 | 1.65 | 6 | SX E2 .. | AD.SLOT.13... | 585.39 | **08002** |
| **ASLOT.80.R.6.13.DC-SX3** | 80 | 3 | 23 | 13 | 2.50 | 6 | SX E3 .. | AD.SLOT.13... | 585.39 | **08003** |
| **ASLOT.80.R.4.13.DC-SX4** | 80 | 4 | 23 | 13 | 3.50 | 4 | SX E4 .. | AD.SLOT.13... | 585.39 | **08004** |
| **ASLOT.80.R.4.13.DC-SX5** | 80 | 5 | 23 | 13 | 4.50 | 4 | SX E5 .. | AD.SLOT.13... | 585.39 | **08005** |

Clamping screw

Ejector SX

| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 383 08002 | 5.40 | **00100** | 32.20 | **836** |
| 50 383 08003 | 5.40 | **00100** | 32.20 | **836** |
| 50 383 08004 | 5.40 | **00100** | 32.84 | **837** |
| 50 383 08005 | 5.40 | **00100** | 32.84 | **837** |

Suitable multipurpose milling cutter adapters can be found on → **Page 136**

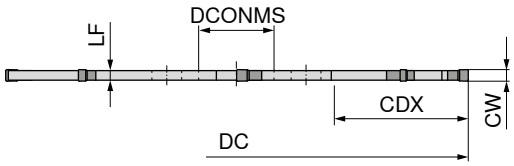
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | £ 2B/40 | 50 384 ... |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.100.R.8.22.DC-SX2** | 100 | 2 | 29 | 22 | 1.65 | 8 | SX E2 .. | AD.SLOT.22... | 780.51 | **10002** |
| **ASLOT.100.R.8.22.DC-SX3** | 100 | 3 | 29 | 22 | 2.50 | 8 | SX E3 .. | AD.SLOT.22... | 780.51 | **10003** |
| **ASLOT.100.R.6.22.DC-SX4** | 100 | 4 | 29 | 22 | 3.50 | 6 | SX E4 .. | AD.SLOT.22... | 780.51 | **10004** |
| **ASLOT.100.R.6.22.DC-SX5** | 100 | 5 | 29 | 22 | 4.50 | 6 | SX E5 .. | AD.SLOT.22... | 780.51 | **10005** |
| **ASLOT.100.R.4.22.DC-SX6** | 100 | 6 | 29 | 22 | 5.40 | 4 | SX E6 .. | AD.SLOT.22... | 780.51 | **10006** |

Clamping screw

Ejector SX

| Spare parts for Article no. | £ 2A/28 | 50 950 ... | £ 2A/28 | 70 950 ... |
|---|---|---|---|---|
| 50 384 10002 | 5.40 | **00100** | 32.20 | **836** |
| 50 384 10003 | 5.40 | **00100** | 32.20 | **836** |
| 50 384 10004 | 5.40 | **00100** | 32.84 | **837** |
| 50 384 10005 | 5.40 | **00100** | 32.84 | **837** |
| 50 384 10006 | 5.40 | **00100** | 32.84 | **837** |

Suitable multipurpose milling cutter adapters can be found on → **Page 136**

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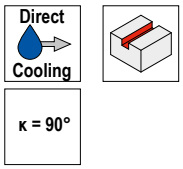
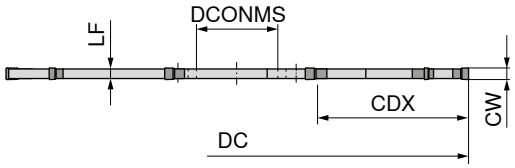
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 385 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.125.R.10.22.DC-SX2** | 125 | 2 | 42 | 22 | 1.65 | 10 | SX E2 .. | AD.SLOT.22... | 975.66 | **12502** |
| **ASLOT.125.R.10.22.DC-SX3** | 125 | 3 | 42 | 22 | 2.50 | 10 | SX E3 .. | AD.SLOT.22... | 975.66 | **12503** |


Clamping screw


Ejector SX

| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 385 12502 | 5.40 | **00100** | 32.20 | **836** |
| 50 385 12503 | 5.40 | **00100** | 32.20 | **836** |

Suitable multipurpose milling cutter adapters can be found on → **Page 136**

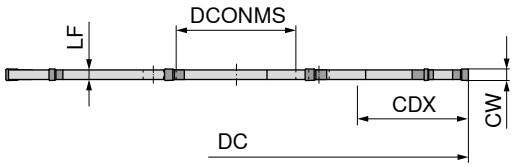
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 386 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.125.R.10.32.DC-SX2** | 125 | 2 | 30 | 32 | 1.65 | 10 | SX E2 .. | AD.SLOT.32... | 975.66 | **12502** |
| **ASLOT.125.R.10.32.DC-SX3** | 125 | 3 | 30 | 32 | 2.50 | 10 | SX E3 .. | AD.SLOT.32... | 975.66 | **12503** |
| **ASLOT.125.R.8.32.DC-SX4** | 125 | 4 | 30 | 32 | 3.50 | 8 | SX E4 .. | AD.SLOT.32... | 975.66 | **12504** |
| **ASLOT.125.R.8.32.DC-SX5** | 125 | 5 | 30 | 32 | 4.50 | 8 | SX E5 .. | AD.SLOT.32... | 975.66 | **12505** |
| **ASLOT.125.R.8.32.DC-SX6** | 125 | 6 | 30 | 32 | 5.40 | 8 | SX E6 .. | AD.SLOT.32... | 975.66 | **12506** |

Clamping screw

Ejector SX

| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 386 12502 | 5.58 | **00200** | 32.20 | **836** |
| 50 386 12503 | 5.58 | **00200** | 32.20 | **836** |
| 50 386 12504 | 5.58 | **00200** | 32.84 | **837** |
| 50 386 12505 | 5.58 | **00200** | 32.84 | **837** |
| 50 386 12506 | 5.58 | **00200** | 32.84 | **837** |

Suitable multipurpose milling cutter adapters can be found on → **Page 136**

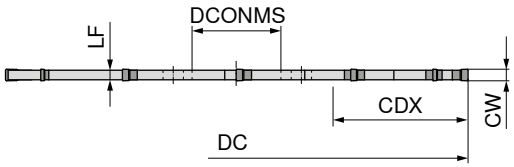
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 387 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.160.R.12.32.DC-SX2** | 160 | 2 | 48 | 32 | 1.65 | 12 | SX E2 .. | AD.SLOT.32... | 1,101.92 | **16002** |
| **ASLOT.160.R.12.32.DC-SX3** | 160 | 3 | 48 | 32 | 2.50 | 12 | SX E3 .. | AD.SLOT.32... | 1,101.92 | **16003** |

Clamping screw

Ejector SX

| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 387 16002 | 5.58 | **00200** | 32.20 | **836** |
| 50 387 16003 | 5.58 | **00200** | 32.20 | **836** |

Suitable multipurpose milling cutter adapters can be found on → **Page 136**

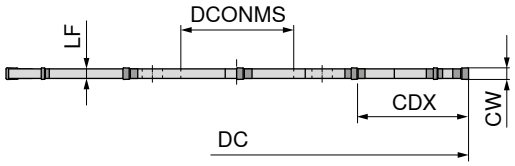
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 388 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.160.R.12.40.DC-SX2** | 160 | 2 | 39 | 40 | 1.65 | 12 | SX E2 .. | AD.SLOT.40...SK | 1,101.92 | **16002** |
| **ASLOT.160.R.12.40.DC-SX3** | 160 | 3 | 39 | 40 | 2.50 | 12 | SX E3 .. | AD.SLOT.40...SK | 1,101.92 | **16003** |
| **ASLOT.160.R.10.40.DC-SX4** | 160 | 4 | 39 | 40 | 3.50 | 10 | SX E4 .. | AD.SLOT.40...SK | 1,101.92 | **16004** |
| **ASLOT.160.R.10.40.DC-SX5** | 160 | 5 | 39 | 40 | 4.50 | 10 | SX E5 .. | AD.SLOT.40...SK | 1,101.92 | **16005** |
| **ASLOT.160.R.10.40.DC-SX6** | 160 | 6 | 39 | 40 | 5.40 | 10 | SX E6 .. | AD.SLOT.40...SK | 1,101.92 | **16006** |

Clamping screw

Ejector SX

| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 388 16002 | 20.08 | **00300** | 32.20 | **836** |
| 50 388 16003 | 20.08 | **00300** | 32.20 | **836** |
| 50 388 16004 | 20.08 | **00300** | 32.84 | **837** |
| 50 388 16005 | 20.08 | **00300** | 32.84 | **837** |
| 50 388 16006 | 20.08 | **00300** | 32.84 | **837** |

Suitable multipurpose milling cutter adapters can be found on → **Page 136**

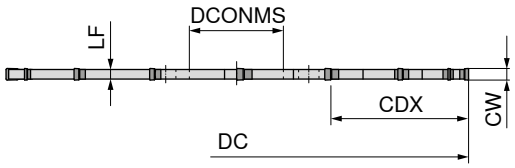
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | £ 2B/40 | 50 389 ... |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.200.R.16.40.DC-SX2** | 200 | 2 | 59 | 40 | 1.65 | 16 | SX E2 .. | AD.SLOT.40...SK | 1,469.21 | **20002** |
| **ASLOT.200.R.16.40.DC-SX3** | 200 | 3 | 59 | 40 | 2.50 | 16 | SX E3 .. | AD.SLOT.40...SK | 1,469.21 | **20003** |
| **ASLOT.200.R.14.40.DC-SX4** | 200 | 4 | 59 | 40 | 3.50 | 14 | SX E4 .. | AD.SLOT.40...SK | 1,469.21 | **20004** |
| **ASLOT.200.R.14.40.DC-SX5** | 200 | 5 | 59 | 40 | 4.50 | 14 | SX E5 .. | AD.SLOT.40...SK | 1,469.21 | **20005** |
| **ASLOT.200.R.14.40.DC-SX6** | 200 | 6 | 59 | 40 | 5.40 | 14 | SX E6 .. | AD.SLOT.40...SK | 1,469.21 | **20006** |

Clamping screw

Ejector SX

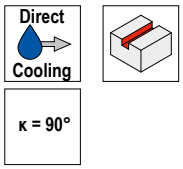
| Spare parts for Article no. | £ 2A/28 | 50 950 ... | £ 2A/28 | 70 950 ... |
|---|---|---|---|---|
| 50 389 20002 | 20.08 | **00300** | 32.20 | **836** |
| 50 389 20003 | 20.08 | **00300** | 32.20 | **836** |
| 50 389 20004 | 20.08 | **00300** | 32.84 | **837** |
| 50 389 20005 | 20.08 | **00300** | 32.84 | **837** |
| 50 389 20006 | 20.08 | **00300** | 32.84 | **837** |

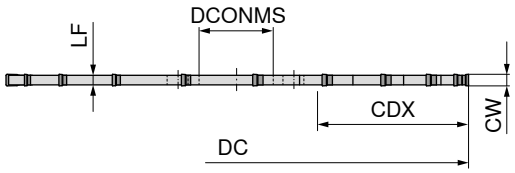
Suitable multipurpose milling cutter adapters can be found on → **Page 136**

# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 380 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.250.R.20.40.DC-SX3** | 250 | 3 | 84 | 40 | 2.5 | 20 | SX E3 .. | AD.SLOT.40...ZK | 2,582.62 | **25003** |
| **ASLOT.250.R.18.40.DC-SX4** | 250 | 4 | 84 | 40 | 3.5 | 18 | SX E4 .. | AD.SLOT.40...ZK | 2,582.62 | **25004** |
| **ASLOT.250.R.18.40.DC-SX5** | 250 | 5 | 84 | 40 | 4.5 | 18 | SX E5 .. | AD.SLOT.40...ZK | 2,583.76 | **25005** |
| **ASLOT.250.R.18.40.DC-SX6** | 250 | 6 | 84 | 40 | 5.4 | 18 | SX E6 .. | AD.SLOT.40...ZK | 3,420.53 | **25006**[1)] |

1) Not ex-stock

Clamping screw

Ejector SX

| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 380 25003 | 20.08 | **00400** | 32.20 | **836** |
| 50 380 25004 | 20.08 | **00400** | 32.84 | **837** |
| 50 380 25005 | 20.08 | **00400** | 32.84 | **837** |
| 50 380 25006 | 20.08 | **00400** | 32.84 | **837** |

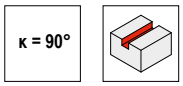
Suitable multipurpose milling cutter adapters can be found on → **Page 136**

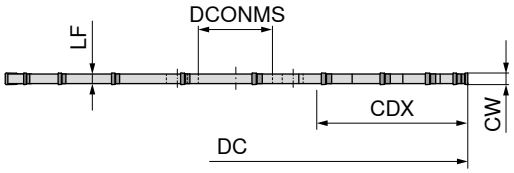
# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws

κ = 90°






NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | £ 2B/40 | 50 390 ... |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.250.R.20.40-SX3** | 250 | 3 | 84 | 40 | 2.5 | 20 | SX E3 .. | AD.SLOT.40...ZK | 1,767.66 | **25003** |
| **ASLOT.250.R.18.40-SX4** | 250 | 4 | 84 | 40 | 3.5 | 18 | SX E4 .. | AD.SLOT.40...ZK | 1,767.66 | **25004** |
| **ASLOT.250.R.18.40-SX5** | 250 | 5 | 84 | 40 | 4.5 | 18 | SX E5 .. | AD.SLOT.40...ZK | 1,767.66 | **25005** |
| **ASLOT.250.R.18.40-SX6** | 250 | 6 | 84 | 40 | 5.4 | 18 | SX E6 .. | AD.SLOT.40...ZK | 2,640.01 | **25006**[1)] |

1) Not ex-stock

Clamping screw

Ejector SX

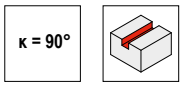
| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 390 25003 | 20.08 | **00400** | 32.20 | **836** |
| 50 390 25004 | 20.08 | **00400** | 32.84 | **837** |
| 50 390 25005 | 20.08 | **00400** | 32.84 | **837** |
| 50 390 25006 | 20.08 | **00400** | 32.84 | **837** |

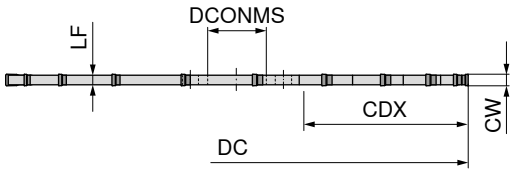
Suitable multipurpose milling cutter adapters can be found on → **Page 136**

# **MaxiMill** – Slot-SX side and face milling cutter

**Scope of supply:**

Side and face milling cutters **without** assembly key, **without** clamping screws




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | LF mm | ZEFP | Insert | Adapter | 50 391 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **ASLOT.315.R.22.40-SX4** | 315 | 4 | 115 | 40 | 3.5 | 22 | SX E4 .. | AD.SLOT.40...ZK | 1,974.27 | **31504** |
| **ASLOT.315.R.22.40-SX5** | 315 | 5 | 115 | 40 | 4.5 | 22 | SX E5 .. | AD.SLOT.40...ZK | 1,974.27 | **31505** |
| **ASLOT.315.R.22.40-SX6** | 315 | 6 | 115 | 40 | 5.4 | 22 | SX E6 .. | AD.SLOT.40...ZK | 3,420.53 | **31506**[1)] |

1) Not ex-stock

Clamping screw

Ejector SX

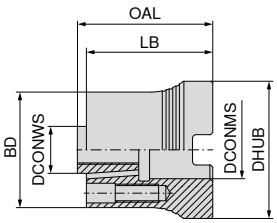
| Spare parts for Article no. | 50 950 ... £ 2A/28 | | 70 950 ... £ 2A/28 | |
|---|---|---|---|---|
| 50 391 31504 | 20.08 | **00400** | 32.84 | **837** |
| 50 391 31505 | 20.08 | **00400** | 32.84 | **837** |
| 50 391 31506 | 20.08 | **00400** | 32.84 | **837** |

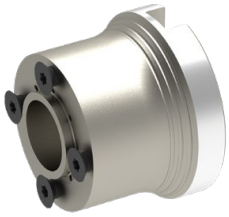
Suitable multipurpose milling cutter adapters can be found on → **Page 136**

# **MaxiMill** – Slot-SX multipurpose milling cutter adapter

**Scope of supply:**

Multipurpose milling cutter adapter including screws



NEW

| Designation | DCONMS mm | DCONWS mm | DHUB mm | LB mm | OAL mm | BD mm | 50 395 ... £ 2E/45 | |
|---|---|---|---|---|---|---|---|---|
| **AD.SLOT.13.32.A16** | 16 | 13 | 38 | 35 | 37.5 | 32 | 182.73 | **01300** |
| **AD.SLOT.22.40.A22** | 22 | 22 | 48 | 35 | 37.5 | 40 | 187.56 | **02200** |
| **AD.SLOT.32.63.A27** | 27 | 32 | 58 | 45 | 47.5 | 63 | 204.77 | **03200** |
| **AD.SLOT.40.80.A32.SK** | 32 | 40 | 78 | 55 | 57.5 | 80 | 259.41 | **04000** |
| **AD.SLOT.40.80.A32.ZK** | 32 | 40 | 78 | 55 | 57.5 | 80 | 259.41 | **04100** |

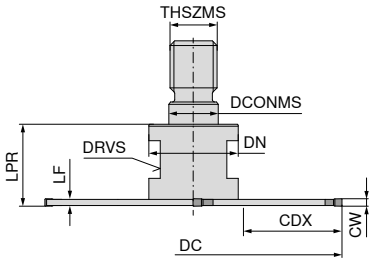
| Spare parts for Article no. |  Clamping screw 50 950 ... £ 2A/28 | |  Clamping screw 50 950 ... £ 2A/28 | |  Clamping screw 50 950 ... £ 2A/28 | |  Power Screw 70 950 ... £ 2A/28 | |
|---|---|---|---|---|---|---|---|---|
| 50 395 01300 | 5.40 | **00100** | | | | | 15.12 | **151** |
| 50 395 02200 | 5.40 | **00100** | | | | | | |
| 50 395 03200 | 5.58 | **00200** | | | | | | |
| 50 395 04000 | | | | | 20.08 | **00300** | | |
| 50 395 04100 | | | 20.08 | **00400** | | | | |

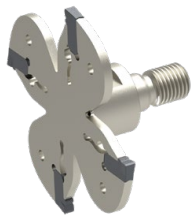
# **MaxiMill** – Slot-SX screw-in multipurpose milling cutter

**Scope of supply:**

Screw-in multipurpose milling cutter **without** assembly key


κ = 90°



NEW

**50 392 ...**

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | THSZMS | LF mm | DN mm | LPR mm | DRVS mm | ZEFP | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GSLOT.63.R.4.M10.DC-SX2** | 63 | 2 | 21 | 10.5 | M10 | 1.65 | 19 | 18 | 15 | 4 | SX E2 .. | 677.21 | **06302** |
| **GSLOT.63.R.4.M10.DC-SX3** | 63 | 3 | 21 | 10.5 | M10 | 2.50 | 19 | 18 | 15 | 4 | SX E3 .. | 677.21 | **06303** |

Ejector SX

**70 950 ...**

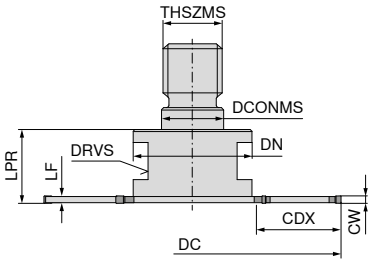
| Spare parts for Article no. | £ 2A/28 | |
|---|---|---|
| 50 392 06302 | 32.20 | **836** |
| 50 392 06303 | 32.20 | **836** |

# **MaxiMill** – Slot-SX screw-in multipurpose milling cutter

**Scope of supply:**

Screw-in multipurpose milling cutter **without** assembly key


κ = 90°




NEW

**50 393 ...**

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | THSZMS | LF mm | DN mm | LPR mm | DRVS mm | ZEFP | Insert | £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GSLOT.80.R.6.M16.DC-SX2** | 80 | 2 | 23 | 17 | M16 | 1.65 | 32 | 20 | 24 | 6 | SX E2 .. | 849.40 | **08002** |
| **GSLOT.80.R.6.M16.DC-SX3** | 80 | 3 | 23 | 17 | M16 | 2.50 | 32 | 20 | 24 | 6 | SX E3 .. | 849.40 | **08003** |
| **GSLOT.80.R.4.M16.DC-SX4** | 80 | 4 | 23 | 17 | M16 | 3.50 | 32 | 20 | 24 | 4 | SX E4 .. | 849.40 | **08004** |

Ejector SX

**70 950 ...**

| Spare parts for Article no. | £ 2A/28 | |
|---|---|---|
| 50 393 08002 | 32.20 | **836** |
| 50 393 08003 | 32.20 | **836** |
| 50 393 08004 | 32.84 | **837** |

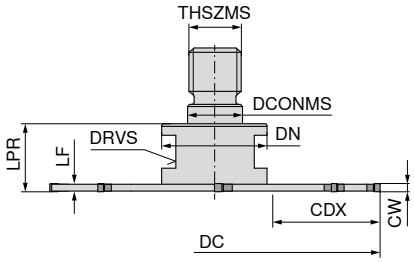
15

# **MaxiMill** – Slot-SX screw-in multipurpose milling cutter

**Scope of supply:**

Screw-in multipurpose milling cutter **without** assembly key


κ = 90°




NEW

| Designation | DC mm | CW mm | CDX mm | DCONMS mm | THSZMS | LF mm | DN mm | LPR mm | DRVS mm | ZEFP | Insert | 50 394 ... £ 2B/40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GSLOT.100.R.8.M16.DC-SX2** | 100 | 2 | 33 | 17 | M16 | 1.65 | 32 | 20 | 24 | 8 | SX E2 .. | 1,010.08 | **10002** |
| **GSLOT.100.R.8.M16.DC-SX3** | 100 | 3 | 33 | 17 | M16 | 2.50 | 32 | 20 | 24 | 8 | SX E3 .. | 1,010.08 | **10003** |
| **GSLOT.100.R.6.M16.DC-SX4** | 100 | 4 | 33 | 17 | M16 | 3.50 | 32 | 20 | 24 | 6 | SX E4 .. | 1,010.08 | **10004** |

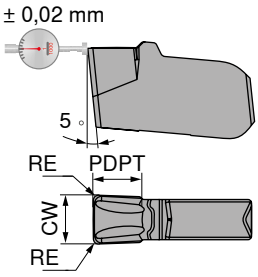
Ejector SX

| Spare parts for Article no. | 70 950 ... £ 2A/28 | |
|---|---|---|
| 50 394 10002 | 32.20 | **836** |
| 50 394 10003 | 32.20 | **836** |
| 50 394 10004 | 32.84 | **837** |

Suitable adapters for screw-in cutters can be found in – Chapter 16 Adapters and accessories

# Insert SX

| F | M | R |
|---|---|---|
| | | |

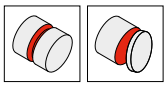



**-F2**
CTP1340
DRAGONSKIN

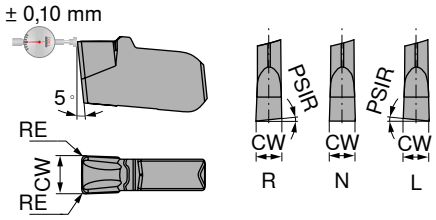
| Designation | CW mm | RE mm | PDPT mm | for tool holder | 70 346 ... £ 1C/72 | |
|---|---|---|---|---|---|---|
| **SX E2.00 N 0.20** | 2 | 0.2 | 1.5 | -SX2 | 21.81 | **622** |
| **SX E3.00 N 0.30** | 3 | 0.3 | 2.0 | -SX3 | 23.44 | **623** |
| **SX E4.00 N 0.40** | 4 | 0.4 | 2.5 | -SX4 | 24.81 | **624** |

| | |
|---|---|
| P | ● |
| M | ● |
| K | ○ |
| N | ○ |
| S | ● |
| H | |
| O | |

# Insert SX

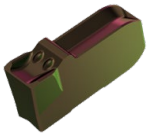


| F | M | R |
|---|---|---|
| | | |




**-M1**
CTCP335
DRAGONSKIN

**-M1**
CTP1340
DRAGONSKIN



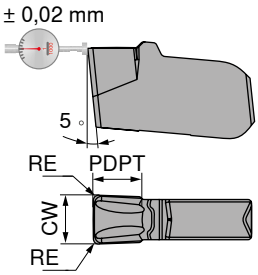
| Designation | IH | CW mm | RE mm | for tool holder | 70 342 ... £ 1C/72 | | 70 342 ... £ 1C/72 | |
|---|---|---|---|---|---|---|---|---|
| **SX E2.00 N 0.20** | N | 2 | 0.2 | -SX2 | 15.05 | **52200** | 14.63 | **622** |
| **SX E3.00 N 0.20** | N | 3 | 0.2 | -SX3 | 15.56 | **523** | 15.56 | **623** |
| **SX E4.00 N 0.30** | N | 4 | 0.3 | -SX4 | 16.42 | **524** | 16.42 | **624** |
| **SX E5.00 N 0.30** | N | 5 | 0.3 | -SX5 | 18.00 | **52500** | 17.47 | **625** |
| **SX E6.00 N 0.40** | N | 6 | 0.4 | -SX6 | 19.41 | **52600** | 18.83 | **626** |

| | | |
|---|---|---|
| P | ● | ● |
| M | ○ | ● |
| K | ● | ○ |
| N | | ○ |
| S | | ● |
| H | | |
| O | | |

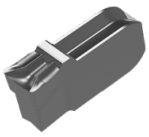
15

# Insert SX

| F | M | R |
|---|---|---|
| | ◢ | |




**-27P**
H216T

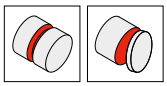


**70 349 ...**

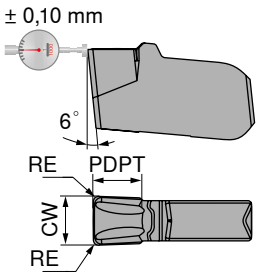
| Designation | CW mm | RE mm | PDPT mm | for tool holder | £ 1C/72 | |
|---|---|---|---|---|---|---|
| **SX E2.00 N 0.20** | 2 | 0.2 | 2.0 | -SX2 | 17.34 | **122** |
| **SX E3.00 N 0.30** | 3 | 0.3 | 2.5 | -SX3 | 18.57 | **123** |
| **SX E4.00 N 0.40** | 4 | 0.4 | 3.0 | -SX4 | 19.65 | **124** |

| | |
|---|---|
| P | |
| M | |
| K | ○ |
| N | ● |
| S | |
| H | |
| O | ○ |

# Insert SX



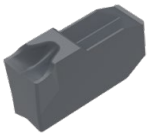
| F | M | R |
|---|---|---|
| | ◢ | |




NEW

**-M7**
CTP1340

DRAGONSKIN

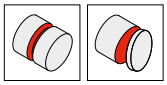


**70 347 ...**

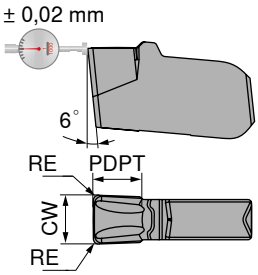
| Designation | CW mm | RE mm | PDPT mm | for tool holder | £ 1C/72 | |
|---|---|---|---|---|---|---|
| **SX E2.00 N 0.20** | 2 | 0.2 | 1.5 | -SX2 | 15.05 | **62200** |
| **SX E3.00 N 0.20** | 3 | 0.2 | 2.0 | -SX3 | 16.03 | **62300** |
| **SX E4.00 N 0.30** | 4 | 0.3 | 2.5 | -SX4 | 16.90 | **62400** |
| **SX E5.00 N 0.30** | 5 | 0.3 | 2.7 | -SX5 | 18.00 | **62500** |
| **SX E6.00 N 0.40** | 6 | 0.4 | 3.0 | -SX6 | 19.41 | **62600** |

| | |
|---|---|
| P | ● |
| M | ● |
| K | ○ |
| N | ○ |
| S | ● |
| H | |
| O | |

# Insert SX



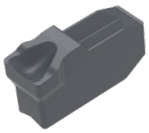
| F | M | R |
|---|---|---|
| | | |




NEW

**-M8**
CTP1340

DRAGONSKIN



| Designation | CW mm | RE mm | PDPT mm | for tool holder | 70 348 ... £ 1C/72 | |
|---|---|---|---|---|---|---|
| **SX E2.00 N 0.20** | 2 | 0.2 | 1.5 | -SX2 | 22.47 | **62200** |
| **SX E3.00 N 0.20** | 3 | 0.2 | 2.0 | -SX3 | 24.16 | **62300** |
| **SX E4.00 N 0.30** | 4 | 0.3 | 2.5 | -SX4 | 25.55 | **62400** |
| **SX E5.00 N 0.30** | 5 | 0.3 | 2.7 | -SX5 | 27.20 | **62500** |
| **SX E6.00 N 0.40** | 6 | 0.4 | 3.0 | -SX6 | 29.33 | **62600** |

| | |
|---|---|
| P | ● |
| M | ● |
| K | ○ |
| N | ○ |
| S | ● |
| H | |
| O | |

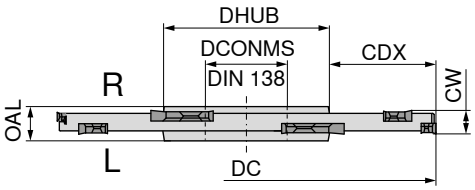
*Milling guide*

| | | | |
|---|---|---|---|
| Cutting data standard values | → 191 | Technical Information | → 193–198 |
| Chip groove description and overview | → 199–201 | Grade description and overview | → 202–208 |

# TX side and face milling cutter

▲ Note: side and face milling cutters TX are cross-pitched and equipped with indexable inserts for both right-hand and left-hand version.
▲ ZEFP = number of inserts

**Scope of supply:**
side and face milling cutter, 2 spare clamping screws and 1 Torx key




| Designation | DC mm | CW mm | ZNF | CDX mm | DCONMS mm | DHUB mm | OAL mm | ZEFP | Insert | torque moment Nm | £ V5 | 50 730 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TX.STF.80X27.03.Z4** | 80 | 3 | 4 | 18.0 | 27 | 40 | 8 | 8 | TX. 161702 | 0,7 | 1,034.74 | **083** | |
| **TX.STF.100X32.03.Z5** | 100 | 3 | 5 | 25.0 | 32 | 46 | 8 | 10 | TX. 161702 | 0,7 | 1,100.54 | **103** | |
| **TX.STF.125X40.03.Z6** | 125 | 3 | 6 | 32.0 | 40 | 54 | 10 | 12 | TX. 161702 | 0,7 | 1,200.18 | **123** | |
| **TX.STF.160X40.03.Z8** | 160 | 3 | 8 | 50.0 | 40 | 54 | 10 | 16 | TX. 161702 | 0,7 | 1,404.05 | **163** | 1) |
| **TX.STF.80X27.04.Z4** | 80 | 4 | 4 | 18.0 | 27 | 40 | 8 | 8 | TX. 162302 | 1,3 | 864.49 | **084** | |
| **TX.STF.100X32.04.Z5** | 100 | 4 | 5 | 25.0 | 32 | 46 | 8 | 10 | TX. 162302 | 1,3 | 1,089.81 | **104** | |
| **TX.STF.125X40.04.Z6** | 125 | 4 | 6 | 32.0 | 40 | 54 | 10 | 12 | TX. 162302 | 1,3 | 1,189.45 | **124** | |
| **TX.STF.160X40.04.Z8** | 160 | 4 | 8 | 50.0 | 40 | 54 | 10 | 16 | TX. 162302 | 1,3 | 1,391.78 | **164** | 1) |
| **TX.STF.80X27.06.Z4** | 80 | 6 | 4 | 21.0 | 27 | 36 | 10 | 8 | TX. 223202 | 2 | 565.59 | **086** | |
| **TX.STF.80X22.06.Z4** | 80 | 6 | 4 | 22.0 | 22 | 33 | 10 | 8 | TX. 223202 | 2 | 565.59 | **080** | |
| **TX.STF.100X32.06.Z5** | 100 | 6 | 5 | 25.5 | 32 | 47 | 10 | 10 | TX. 223202 | 2 | 674.42 | **106** | |
| **TX.STF.125X40.06.Z6** | 125 | 6 | 6 | 32.5 | 40 | 58 | 10 | 12 | TX. 223202 | 2 | 908.97 | **136** | |
| **TX.STF.160X40.06.Z8** | 160 | 6 | 8 | 50.0 | 40 | 58 | 10 | 16 | TX. 223202 | 2 | 1,429.40 | **166** | 1) |
| **TX.STF.80X27.08.Z4** | 80 | 8 | 4 | 21.0 | 27 | 36 | 12 | 8 | TX. 224302 | 2,8 | 565.59 | **088** | |
| **TX.STF.100X32.08.Z5** | 100 | 8 | 5 | 25.5 | 32 | 47 | 12 | 10 | TX. 224302 | 2,8 | 674.42 | **108** | |
| **TX.STF.125X40.08.Z6** | 125 | 8 | 6 | 32.5 | 40 | 58 | 12 | 12 | TX. 224302 | 2,8 | 908.97 | **138** | |
| **TX.STF.160X40.08.Z8** | 160 | 8 | 8 | 50.0 | 40 | 58 | 12 | 16 | TX. 224302 | 2,8 | 1,168.00 | **168** | 1) |
| **TX.STF.80X27.10.Z4** | 80 | 10 | 4 | 21.0 | 27 | 36 | 12 | 8 | TX. 225402 | 3 | 565.59 | **090** | |
| **TX.STF.100X32.10.Z5** | 100 | 10 | 5 | 25.5 | 32 | 47 | 12 | 10 | TX. 225402 | 3 | 674.42 | **110** | |
| **TX.STF.125X40.10.Z6** | 125 | 10 | 6 | 32.5 | 40 | 58 | 14 | 12 | TX. 225402 | 3 | 908.97 | **140** | |
| **TX.STF.160X40.10.Z8** | 160 | 10 | 8 | 50.0 | 40 | 58 | 14 | 16 | TX. 225402 | 3 | 1,429.40 | **170** | 1) |

**1)** Without Through Coolant


TORX® blade


Key D


Molykote


Clamping screw

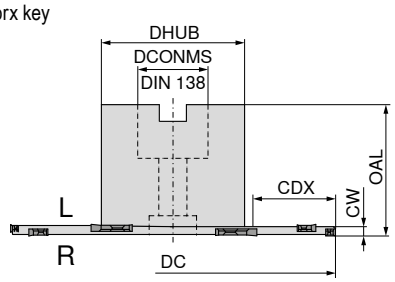

Torque screw-driver

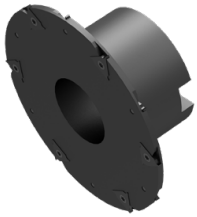
| Spare parts CW | £ Y7 | 80 950 ... | £ Y7 | 80 950 ... | £ 2A/28 | 70 950 ... | £ V5 | 70 950 ... | £ Y7 | 80 950 ... |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 8.49 | **032** | 13.09 | **109** | 5.06 | **303** | 9.83 | **858** | 207.73 | **191** |
| 4 | 8.49 | **033** | 13.09 | **110** | 5.06 | **303** | 4.57 | **218** | 207.73 | **191** |
| 6 | 8.49 | **036** | 15.56 | **113** | 5.06 | **303** | 5.81 | **101** | 195.92 | **192** |
| 8 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 5.81 | **135** | 195.92 | **192** |
| 10 | 8.49 | **037** | 16.66 | **114** | 5.06 | **303** | 5.81 | **146** | 195.92 | **192** |

# TX shell / side and face milling cutter

▲ Note: side and face milling cutters TX are cross-pitched and equipped with indexable inserts for both right-hand and left-hand version.
▲ ZEFP = number of inserts

**Scope of supply:**
side and face milling cutter, 2 spare clamping screws and 1 Torx key



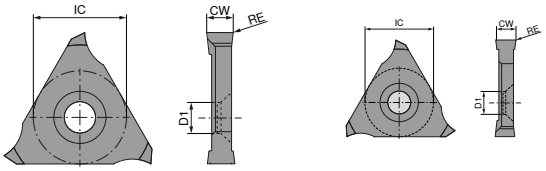
| Designation | DC mm | CW mm | ZNF | CDX mm | DCONMS mm | DHUB mm | OAL mm | ZEFP | torque moment Nm | Insert | 50 734 ... £ V5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TX.ASF.100.R.03.Z5** | 100 | 3 | 5 | 25.0 | 27 | 48 | 50 | 10 | 0,7 | TX. 161702 | 1,169.35 | **300** |
| **TX.ASF.125.R.03.Z6** | 125 | 3 | 6 | 37.5 | 27 | 48 | 50 | 12 | 0,7 | TX. 161702 | 1,814.92 | **225** |
| **TX.ASF.160.R.03.Z8** | 160 | 3 | 8 | 44.0 | 40 | 70 | 50 | 16 | 0,7 | TX. 161702 | 1,944.05 | **260** 1) |
| | | | | | | | | | | | | |
| **TX.ASF.100.R.04.Z5** | 100 | 4 | 5 | 25.0 | 27 | 48 | 50 | 10 | 3,2 | TX. 162302 | 1,156.61 | **100** |
| **TX.ASF.125.R.04.Z6** | 125 | 4 | 6 | 37.5 | 27 | 48 | 50 | 12 | 3,2 | TX. 162302 | 1,671.24 | **025** |
| **TX.ASF.125.R.04.Z6** | 125 | 4 | 6 | 26.5 | 40 | 70 | 50 | 12 | 3,2 | TX. 162302 | 1,625.84 | **125** |
| **TX.ASF.160.R.04.Z8** | 160 | 4 | 8 | 55.0 | 27 | 48 | 50 | 16 | 3,2 | TX. 162302 | 2,047.72 | **060** 1) |
| **TX.ASF.160.R.04.Z8** | 160 | 4 | 8 | 44.0 | 40 | 70 | 50 | 16 | 3,2 | TX. 162302 | 1,925.88 | **160** 1) |
| **TX.ASF.180.R.04.Z9** | 180 | 4 | 9 | 54.0 | 40 | 70 | 50 | 18 | 3,2 | TX. 162302 | 2,229.58 | **180** 1) |
| **TX.ASF.200.R.04.Z10** | 200 | 4 | 10 | 64.0 | 40 | 70 | 50 | 20 | 3,2 | TX. 162302 | 2,480.51 | **200** 1) |

1) Without Through Coolant

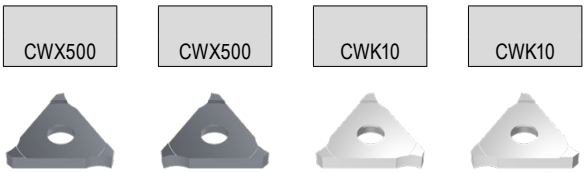
| Spare parts CW | DCONMS |  Washer 70 950 ... £ V5 | |  TORX® blade 80 950 ... £ Y7 | |  Clamping Screw 70 950 ... £ V5 | |  Key D 80 950 ... £ Y7 | |  Molykote 70 950 ... £ 2A/28 | |  Clamping screw 70 950 ... £ V5 | |  Torque screw-driver 80 950 ... £ Y7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 27 | 1.93 | **221** | 8.49 | **032** | 3.41 | **219** | 13.09 | **109** | 5.06 | **303** | 9.83 | **858** | 207.73 | **191** |
| 3 | 40 | 3.41 | **222** | 8.49 | **032** | 14.78 | **220** | 13.09 | **109** | 5.06 | **303** | 9.83 | **858** | 207.73 | **191** |
| 4 | 27 | 1.93 | **221** | 8.49 | **033** | 3.41 | **219** | 13.09 | **110** | 5.06 | **303** | 4.57 | **218** | 195.92 | **192** |
| 4 | 40 | 3.41 | **222** | 8.49 | **033** | 14.78 | **220** | 13.09 | **110** | 5.06 | **303** | 4.57 | **218** | 195.92 | **192** |

# TX_L / TX_R

| Designation | IC mm | D1 mm | CW 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




| ISO | RE mm | TX-L 50 382 ... £ V5 | | TX-R 50 381 ... £ V5 | | TX-L 50 382 ... £ V5 | | TX-R 50 381 ... £ V5 | |
|---|---|---|---|---|---|---|---|---|---|
| TX 161702 | 0.15 | 28.72 | 217 | 28.72 | 217 | | | | |
| TX 162302 | 0.15 | 41.33 | 223 | 41.33 | 223 | | | | |
| TX 223202 | 0.15 | 62.37 | 232 | 62.37 | 232 | | | | |
| TX 223202 | 0.20 | | | | | 55.54 | 532 | 55.54 | 532 |
| TX 224302 | 0.15 | 61.89 | 243 | 61.89 | 243 | | | | |
| TX 224302 | 0.20 | | | | | 56.66 | 543 | 56.66 | 543 |
| TX 225402 | 0.15 | 46.83 | 254 | 46.83 | 254 | | | | |
| TX 225402 | 0.20 | | | | | 40.21 | 554 | 40.21 | 554 |
| P | | ● | | ● | | | | | |
| M | | ● | | ● | | | | | |
| K | | ● | | ● | | | | | |
| N | | ● | | ● | | ● | | ● | |
| S | | ○ | | ○ | | | | | |
| H | | | | | | | | | |
| O | | ○ | | ○ | | ○ | | ○ | |

*Milling guide*

Cutting data standard values → 192
Chip groove description and overview → 199–201
Technical Information → 193–198
Grade description and overview → 202–208

# Material examples for cutting data tables

| | Material sub-group | Index | Composition / Structure / Heat treatment | | Tensile strength N/mm²* / HB / HRC | Material number | Material designation | Material number | Material designation |
|---|---|---|---|---|---|---|---|---|---|
| P | Unalloyed steel | P.1.1 | < 0,15 % C | Annealed | 420 N/mm² / 125 HB | 1.0401 | C15 | 1.1141 | Ck15 |
| | | P.1.2 | < 0,45 % C | Annealed | 640 N/mm² / 190 HB | 1.1191 | C45E | 1.0718 | 9SMnPb28 |
| | | P.1.3 | | Tempered | 840 N/mm² / 250 HB | 1.1191 | C45E | 1.0535 | C55 |
| | | P.1.4 | < 0,75 % C | Annealed | 910 N/mm² / 270 HB | 1.1223 | C60R | 1.0535 | C55 |
| | | P.1.5 | | Tempered | 1010 N/mm² / 300 HB | 1.1223 | C60R | 1.0727 | 45S20 |
| | Low-alloy steel | P.2.1 | | Annealed | 610 N/mm² / 180 HB | 1.7131 | 16MnCr5 | 1.6587 | 17CrNiMo6 |
| | | P.2.2 | | Tempered | 930 N/mm² / 275 HB | 1.7131 | 16MnCr5 | 1.6587 | 17CrNiMo6 |
| | | P.2.3 | | Tempered | 1010 N/mm² / 300 HB | 1.7225 | 42CrMo4 | 1.3505 | 100Cr6 |
| | | P.2.4 | | Tempered | 1200 N/mm² / 375 HB | 1.7225 | 42CrMo4 | 1.3505 | 100Cr6 |
| | High-alloy steel and high-alloy tool steel | P.3.1 | | Annealed | 680 N/mm² / 200 HB | 1.4021 | X20Cr13 | 1.4034 | X46Cr13 |
| | | P.3.2 | | Hardened and tempered | 1100 N/mm² / 300 HB | 1.2343 | X38CrMoV5-1 | 1.4034 | X46Cr13 |
| | | P.3.3 | | Hardened and tempered | 1300 N/mm² / 400 HB | 1.2343 | X38CrMoV5-1 | 1.4034 | X46Cr13 |
| | Stainless steel | P.4.1 | Ferritic / martensitic | Annealed | 680 N/mm² / 200 HB | 1.4016 | X6Cr17 | 1.2316 | X36CrMo16 |
| | | P.4.2 | Martensitic | Tempered | 1010 N/mm² / 300 HB | 1.4112 | X90CrMoV18 | 1.2316 | X36CrMo16 |
| M | Stainless steel | M.1.1 | Austenitic / austenitic-ferritic | Quenched | 610 N/mm² / 180 HB | 1.4301 | X5CrNi18-10 | 1.4571 | X6CrNiMoTi17-12-2 |
| | | M.2.1 | Austenitic | Tempered | 300 HB | 1.4841 | X15CrNiSi25-21 | 1.4539 | X1NiCrMoCu25-20-5 |
| | | M.3.1 | Austenitic / ferritic (Duplex) | | 780 N/mm² / 230 HB | 1.4462 | X2CrNiMoN22-5-3 | 1.4501 | X2CrNiMoCuWN25-7-4 |
| K | Grey cast iron | K.1.1 | Pearlitic / ferritic | | 350 N/mm² / 180 HB | 0.6010 | GG-10 | 0.6025 | GG-25 |
| | | K.1.2 | Pearlitic (martensitic) | | 500 N/mm² / 260 HB | 0.6030 | GG-30 | 0.6045 | GG-45 |
| | Spherulitic graphite cast iron | K.2.1 | Ferritic | | 540 N/mm² / 160 HB | 0.7040 | GGG-40 | 0.7060 | GGG-60 |
| | | K.2.2 | Pearlitic | | 845 N/mm² / 250 HB | 0.7070 | GGG-70 | 0.7080 | GGG-80 |
| | Malleable iron | K.3.1 | Ferritic | | 440 N/mm² / 130 HB | 0.8035 | GTW-35-04 | 0.8045 | GTW-45 |
| | | K.3.2 | Pearlitic | | 780 N/mm² / 230 HB | 0.8165 | GTS-65-02 | 0.8170 | GTS-70-02 |
| N | Aluminium wrought alloy | N.1.1 | Non-hardenable | | 60 HB | 3.0255 | Al99,5 | 3.3315 | AlMg1 |
| | | N.1.2 | Hardenable | Age-hardened | 340 N/mm² / 100 HB | 3.1355 | AlCuMg2 | 3.2315 | AlMgSi1 |
| | Cast aluminium alloy | N.2.1 | ≤ 12 % Si, non-hardenable | | 250 N/mm² / 75 HB | 3.2581 | G-AlSi12 | 3.2163 | G-AlSi9Cu3 |
| | | N.2.2 | ≤ 12 % Si, hardenable | Age-hardened | 300 N/mm² / 90 HB | 3.2134 | G-AlSi5Cu1Mg | 3.2373 | G-AlSi9Mg |
| | | N.2.3 | > 12 % Si, non-hardenable | | 440 N/mm² / 130 HB | | G-AlSi17Cu4Mg | | G-AlSi18CuNiMg |
| | Copper and copper alloys (bronze/brass) | N.3.1 | Free-machining alloys, PB > 1 % | | 375 N/mm² / 110 HB | 2.0380 | CuZn39Pb2 (Ms58) | 2.0410 | CuZn44Pb2 |
| | | N.3.2 | CuZn, CuSnZn | | 300 N/mm² / 90 HB | 2.0331 | CuZn15 | 2.4070 | CuZn28Sn1As |
| | | N.3.3 | CuSn, lead-free copper and electrolytic copper | | 340 N/mm² / 100 HB | 2.0060 | E-Cu57 | 2.0590 | CuZn40Fe |
| | Magnesium alloys | N.4.1 | Magnesium and magnesium alloys | | 70 HB | 3.5612 | MgAl6Zn | 3.5312 | MgAl3Zn |
| S | Heat-resistant alloys | S.1.1 | Fe - basis | Annealed | 680 N/mm² / 200 HB | 1.4864 | X12NiCrSi 36-16 | 1.4865 | G-X40NiCrSi38-18 |
| | | S.1.2 | | Age-hardened | 950 N/mm² / 280 HB | 1.4980 | X6NiCrTiMoVB25-15-2 | 1.4876 | X10NiCrAlTi32-20 |
| | | S.2.1 | Ni or Co basis | Annealed | 840 N/mm² / 250 HB | 2.4631 | NiCr20TiAl (Nimonic80A) | 3.4856 | NiCr22Mo9Nb |
| | | S.2.2 | | Age-hardened | 1180 N/mm² / 350 HB | 2.4668 | NiCr19Nb5Mo3 (Inconel 718) | 2.4955 | NiFe25Cr20NbTi |
| | | S.2.3 | | Cast | 1080 N/mm² / 320 HB | 2.4765 | CoCr20W15Ni | 1.3401 | G-X120Mn12 |
| | Titanium alloys | S.3.1 | Pure titanium | | 400 N/mm² | 3.7025 | Ti99,8 | 3.7034 | Ti99,7 |
| | | S.3.2 | Alpha + beta alloys | Age-hardened | 1050 N/mm² / 320 HB | 3.7165 | TiAl6V4 | Ti-6246 | Ti-6Al-2Sn-4Zr-6Mo |
| | | S.3.3 | Beta alloys | | 1400 N/mm² / 410 HB | Ti555.3 | Ti-5Al-5V-5Mo-3Cr | R56410 | Ti-10V-2Fe-3Al |
| H | Hardened steel | H.1.1 | | Hardened and tempered | 46–55 HRC | | | | |
| | | H.1.2 | | Hardened and tempered | 56–60 HRC | | | | |
| | | H.1.3 | | Hardened and tempered | 61–65 HRC | | | | |
| | | H.1.4 | | Hardened and tempered | 66–70 HRC | | | | |
| | Chilled iron | H.2.1 | | Cast | 400 HB | | | | |
| | Hardened cast iron | H.3.1 | | Hardened and tempered | 55 HRC | | | | |
| O | Non-metal materials | O.1.1 | Plastics, duroplastic | | ≤ 150 N/mm² | | | | |
| | | O.1.2 | Plastics, thermoplastic | | ≤ 100 N/mm² | | | | |
| | | O.2.1 | Aramid fibre-reinforced | | ≤ 1000 N/mm² | | | | |
| | | O.2.2 | Glass/carbon-fibre reinforced | | ≤ 1000 N/mm² | | | | |
| | | O.3.1 | Graphite | | | | | | |

* Tensile strength

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# Cutting data standard values

| Index | CTEP210 CERMET DRAGONSKIN | | TCM10 CERMET DRAGONSKIN | | CTCP220 DRAGONSKIN | | CTPP225 DRAGONSKIN | | CTCP230 DRAGONSKIN | | CTPP231 | | CTPP235 DRAGONSKIN | | CTPP236 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cutting Material **hard** ($v_c$↑) → **tough** ($v_c$↓) | | | | | | | | | | | | | | | |
| | $v_c$ (m/min) | | | | | | | | | | | | | | | |
| P.1.1 | 344 | | 292 | | 339 | 170 | 263 | 157 | 286 | 150 | 200 | 100 | 246 | 137 | 300 | 180 |
| P.1.2 | 302 | | 257 | | 308 | 154 | 234 | 143 | 242 | 133 | 170 | 90 | 208 | 121 | 270 | 160 |
| P.1.3 | 263 | | 224 | | 280 | 140 | 207 | 129 | 202 | 118 | 140 | 80 | 172 | 106 | 225 | 130 |
| P.1.4 | 250 | | 214 | | 270 | 135 | 198 | 125 | 189 | 112 | 170 | 90 | 160 | 101 | 270 | 160 |
| P.1.5 | 230 | | 197 | | 256 | 128 | 185 | 118 | 169 | 105 | 160 | 90 | 143 | 94 | 240 | 140 |
| P.2.1 | 308 | | 262 | | 313 | 157 | 238 | 145 | 249 | 136 | 170 | 90 | 214 | 123 | 270 | 160 |
| P.2.2 | 246 | | 211 | | 268 | 134 | 196 | 124 | 185 | 111 | 130 | 70 | 157 | 100 | 200 | 120 |
| P.2.3 | 230 | | 197 | | 256 | 128 | 185 | 118 | 169 | 105 | 170 | 90 | 143 | 94 | 270 | 160 |
| P.2.4 | 181 | | 157 | | 220 | 110 | 151 | 102 | 118 | 85 | 120 | 60 | 98 | 76 | 180 | 110 |
| P.3.1 | | | | | 140 | 70 | 130 | 65 | 140 | 87 | 170 | 90 | 121 | 97 | 270 | 160 |
| P.3.2 | | | | | 95 | 50 | 100 | 50 | 90 | 55 | 140 | 80 | 108 | 83 | 180 | 140 |
| P.3.3 | | | | | 50 | 30 | 70 | 35 | 40 | 22 | 120 | 70 | 96 | 69 | 150 | 120 |
| P.4.1 | | | | | 140 | 70 | 130 | 65 | 140 | 87 | 140 | 80 | 121 | 97 | 180 | 140 |
| P.4.2 | | | | | 118 | 60 | 115 | 58 | 115 | 71 | 130 | 70 | 114 | 90 | 170 | 130 |
| M.1.1 | | | | | | | | | | | 170 | 90 | 121 | 97 | 270 | 160 |
| M.2.1 | | | | | | | | | | | | | 108 | 83 | | |
| M.3.1 | | | | | | | | | | | | | 117 | 93 | | |
| K.1.1 | | | | | | | | | 310 | 190 | 150 | 110 | 160 | 110 | 360 | 90 |
| K.1.2 | 300 | | 240 | | | | | | 160 | 100 | 150 | 110 | 150 | 110 | 360 | 90 |
| K.2.1 | 350 | | 280 | | | | | | 200 | 120 | 150 | 110 | 150 | 110 | 230 | 170 |
| K.2.2 | 300 | | 240 | | | | | | 130 | 80 | 150 | 110 | 150 | 110 | 160 | 110 |
| K.3.1 | 300 | | 240 | | | | | | 190 | 115 | | | | | 210 | 160 |
| K.3.2 | | | | | | | | | 160 | 100 | | | | | 210 | 160 |
| N.1.1 | | | | | | | | | | | | | | | | |
| N.1.2 | | | | | | | | | | | | | | | | |
| N.2.1 | | | | | | | | | | | | | | | | |
| N.2.2 | | | | | | | | | | | | | | | | |
| N.2.3 | | | | | | | | | | | | | | | | |
| N.3.1 | | | | | | | | | | | | | | | | |
| N.3.2 | | | | | | | | | | | | | | | | |
| N.3.3 | | | | | | | | | | | | | | | | |
| N.4.1 | | | | | | | | | | | | | | | | |
| S.1.1 | | | | | | | | | | | | | | | | |
| S.1.2 | | | | | | | | | | | | | | | | |
| S.2.1 | | | | | | | | | | | | | | | | |
| S.2.2 | | | | | | | | | | | | | | | | |
| S.2.3 | | | | | | | | | | | | | | | | |
| S.3.1 | | | | | | | | | | | | | | | | |
| S.3.2 | | | | | | | | | | | | | | | | |
| S.3.3 | | | | | | | | | | | | | | | | |
| H.1.1 | | | | | | | | | | | | | | | | |
| H.1.2 | | | | | | | | | | | | | | | | |
| H.1.3 | | | | | | | | | | | | | | | | |
| H.1.4 | | | | | | | | | | | | | | | | |
| H.2.1 | | | | | | | | | | | | | | | | |
| H.3.1 | | | | | | | | | | | | | | | | |
| O.1.1 | | | | | | | | | | | | | | | | |
| O.1.2 | | | | | | | | | | | | | | | | |
| O.2.1 | | | | | | | | | | | | | | | | |
| O.2.2 | | | | | | | | | | | | | | | | |
| O.3.1 | | | | | | | | | | | | | | | | |

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

# Cutting data standard values

| Index | CTPM225 | | CTCM235 | | CTPM240 | | CTPM241 | | CTPM245 | | CTCM245 | | CTN3105 CERAMIC | | CTL3215 CBN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DRAGONSKIN | | | | | | | | | | | | | | | |
| | Cutting Material **hard** ($v_c$↑) → **tough** ($v_c$↓) | | | | | | | | | | | | | | | |
| | $v_c$ (m/min) | | | | | | | | | | | | | | | |
| P.1.1 | 272 | 191 | 251 | 184 | 226 | 141 | 200 | 100 | 244 | 139 | 279 | 134 | | | | |
| P.1.2 | 231 | 163 | 210 | 152 | 188 | 126 | 170 | 90 | 207 | 124 | 242 | 119 | | | | |
| P.1.3 | 193 | 137 | 172 | 123 | 152 | 112 | 140 | 70 | 173 | 109 | 208 | 104 | | | | |
| P.1.4 | 180 | 129 | 160 | 113 | 140 | 107 | 170 | 90 | 161 | 104 | 196 | 99 | | | | |
| P.1.5 | 161 | 116 | 141 | 99 | 123 | 100 | 150 | 80 | 144 | 97 | 179 | 92 | | | | |
| P.2.1 | 237 | 167 | 217 | 157 | 194 | 128 | 170 | 90 | 212 | 126 | 247 | 121 | | | | |
| P.2.2 | 177 | 127 | 157 | 111 | 137 | 106 | 120 | 60 | 158 | 103 | 193 | 98 | | | | |
| P.2.3 | 161 | 116 | 141 | 99 | 123 | 100 | 170 | 90 | 144 | 97 | 179 | 92 | | | | |
| P.2.4 | 114 | 84 | 94 | 62 | 78 | 83 | 110 | 60 | 101 | 78 | 136 | 73 | | | | |
| P.3.1 | 148 | 121 | 136 | 115 | 126 | 105 | 210 | 100 | 155 | 107 | 175 | 122 | | | | |
| P.3.2 | 121 | 101 | 128 | 110 | 112 | 95 | 180 | 100 | 143 | 93 | 163 | 108 | | | | |
| P.3.3 | 95 | 81 | 120 | 105 | 98 | 85 | 160 | 90 | 131 | 79 | 151 | 94 | | | | |
| P.4.1 | 148 | 121 | 136 | 115 | 126 | 105 | 140 | 90 | 155 | 107 | 175 | 122 | | | | |
| P.4.2 | 134 | 111 | 132 | 113 | 119 | 100 | 130 | 80 | 149 | 100 | 169 | 115 | | | | |
| M.1.1 | **148** | **121** | **136** | **115** | **126** | **105** | **210** | **100** | **155** | **107** | **175** | **122** | | | | |
| M.2.1 | **121** | **101** | **128** | **110** | **112** | **95** | **180** | **90** | **143** | **93** | **163** | **108** | | | | |
| M.3.1 | **140** | **115** | **134** | **114** | **121** | **102** | **210** | **100** | **152** | **103** | **172** | **118** | | | | |
| K.1.1 | | | | | | | | | | | | | **800** | | **800** | |
| K.1.2 | | | | | | | | | | | | | **600** | | **600** | |
| K.2.1 | | | | | | | | | | | | | | | | |
| K.2.2 | | | | | | | | | | | | | | | **450** | |
| K.3.1 | | | | | | | | | | | | | | | | |
| K.3.2 | | | | | | | | | | | | | | | | |
| N.1.1 | | | | | | | | | | | | | | | | |
| N.1.2 | | | | | | | | | | | | | | | | |
| N.2.1 | | | | | | | | | | | | | | | | |
| N.2.2 | | | | | | | | | | | | | | | | |
| N.2.3 | | | | | | | | | | | | | | | | |
| N.3.1 | | | | | | | | | | | | | | | | |
| N.3.2 | | | | | | | | | | | | | | | | |
| N.3.3 | | | | | | | | | | | | | | | | |
| N.4.1 | | | | | | | | | | | | | | | | |
| S.1.1 | | | | | | | | 60 | | | | 80 | | | | |
| S.1.2 | | | | | | | | 60 | | | | 70 | | | | |
| S.2.1 | | | | | | | | 60 | | | | 35 | | | | |
| S.2.2 | | | | | | | | 60 | | | | 25 | | | | |
| S.2.3 | | | | | | | | 60 | | | | 30 | | | | |
| S.3.1 | | | | | | | | 60 | | | | 80 | | | | |
| S.3.2 | | | | | | | | 60 | | | | 50 | | | | |
| S.3.3 | | | | | | | | 60 | | | | 40 | | | | |
| H.1.1 | | | | | | | | | | | | | | | | |
| H.1.2 | | | | | | | | | | | | | | | 150 | |
| H.1.3 | | | | | | | | | | | | | | | | |
| H.1.4 | | | | | | | | | | | | | | | | |
| H.2.1 | | | | | | | | | | | | | | | 280 | |
| H.3.1 | | | | | | | | | | | | | | | | |
| O.1.1 | | | | | | | | | | | | | | | | |
| O.1.2 | | | | | | | | | | | | | | | | |
| O.2.1 | | | | | | | | | | | | | | | | |
| O.2.2 | | | | | | | | | | | | | | | | |
| O.3.1 | | | | | | | | | | | | | | | | |

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

# Cutting data standard values

| Index | CTCK215 | | CTPK220 | | CTPK221 | | CTPX715 | | H216T | | CTWN215 | | CTC5240 | | CTCS245 | | CTP6215 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DRAGONSKIN | | DRAGONSKIN | | | | DRAGONSKIN | | | | | | DRAGONSKIN | | | | | |
| | Cutting Material **hard** ($v_c$↑) → **tough** ($v_c$↓) | | | | | | | | | | | | | | | | | |
| | $v_c$ (m/min) | | | | | | | | | | | | | | | | | |
| P.1.1 | | | | | 190 | 120 | 240 | 130 | | | | | | | | | | |
| P.1.2 | | | | | 180 | 100 | 200 | 120 | | | | | | | | | | |
| P.1.3 | | | | | 150 | 80 | 170 | 100 | | | | | | | | | | |
| P.1.4 | | | | | 180 | 100 | 160 | 100 | | | | | | | | | | |
| P.1.5 | | | | | 170 | 90 | 140 | 90 | | | | | | | | | | |
| P.2.1 | | | | | 180 | 100 | 210 | 120 | | | | | | | | | | |
| P.2.2 | | | | | 140 | 80 | 150 | 100 | | | | | | | | | | |
| P.2.3 | | | | | 180 | 100 | 140 | 90 | | | | | | | | | | |
| P.2.4 | | | | | 130 | 80 | 100 | 70 | | | | | | | | | | |
| P.3.1 | | | | | 210 | 120 | 120 | 90 | | | | | | | | | | |
| P.3.2 | | | | | 160 | 90 | 100 | 80 | | | | | | | | | | |
| P.3.3 | | | | | 130 | 80 | 90 | 70 | | | | | | | | | | |
| P.4.1 | | | | | 210 | 120 | 120 | 90 | | | | | | | | | | |
| P.4.2 | | | | | 190 | 100 | 110 | 90 | | | | | | | | | | |
| M.1.1 | | | | | | | 120 | 100 | | | | | | | | | | |
| M.2.1 | | | | | | | 110 | 90 | | | | | | | | | | |
| M.3.1 | | | | | | | 120 | 100 | | | | | | | | | | |
| K.1.1 | 360 | 210 | 320 | 190 | 270 | 200 | **320** | 190 | 130 | 130 | 130 | 130 | | | | | 280 | 250 |
| K.1.2 | 220 | 130 | 170 | 100 | 270 | 200 | **170** | 100 | 110 | 110 | 110 | 110 | | | | | 190 | 160 |
| K.2.1 | 230 | 140 | 210 | 130 | 250 | 180 | **210** | 130 | 130 | 130 | 130 | 130 | | | | | 180 | 150 |
| K.2.2 | 160 | 100 | 140 | 90 | 180 | 120 | **140** | 90 | 120 | 120 | 120 | 120 | | | | | 180 | 150 |
| K.3.1 | 250 | 150 | 200 | 120 | 220 | 170 | **200** | 120 | 130 | 130 | 130 | 130 | | | | | 250 | 220 |
| K.3.2 | 210 | 130 | 170 | 100 | 220 | 170 | **170** | 100 | 110 | 120 | 110 | 110 | | | | | 190 | 160 |
| N.1.1 | | | | | | | | **1500** | | **1500** | | **1500** | | | | | | |
| N.1.2 | | | | | | | | **1000** | | **1000** | | **1000** | | | | | | |
| N.2.1 | | | | | | | | **1100** | | **1100** | | **1100** | | | | | | |
| N.2.2 | | | | | | | | **1000** | | **1000** | | **1000** | | | | | | |
| N.2.3 | | | | | | | | **280** | | **280** | | **280** | | | | | | |
| N.3.1 | | | | | | | | **350** | | **350** | | **350** | | | | | | |
| N.3.2 | | | | | | | | **350** | | **350** | | **350** | | | | | | |
| N.3.3 | | | | | | | | **320** | | **320** | | **320** | | | | | | |
| N.4.1 | | | | | | | | **320** | | **320** | | **320** | | | | | | |
| S.1.1 | | | | | | | | 60 | | | | | | **80** | | **64** | | |
| S.1.2 | | | | | | | | 50 | | | | | | **70** | | **56** | | |
| S.2.1 | | | | | | | | 30 | | | | | | **35** | | **28** | | |
| S.2.2 | | | | | | | | 20 | | | | | | **25** | | **20** | | |
| S.2.3 | | | | | | | | 20 | | | | | | **30** | | **24** | | |
| S.3.1 | | | | | | | | 60 | | | | | | **80** | | **64** | | |
| S.3.2 | | | | | | | | 40 | | | | | | **50** | | **40** | | |
| S.3.3 | | | | | | | | 30 | | | | | | **40** | | **32** | | |
| H.1.1 | | | | | | | | | | | | | | | | | **50** | |
| H.1.2 | | | | | | | | | | | | | | | | | **40** | |
| H.1.3 | | | | | | | | | | | | | | | | | | |
| H.1.4 | | | | | | | | | | | | | | | | | | |
| H.2.1 | | | | | | | | | | | | | | | | | | |
| H.3.1 | | | | | | | | | | | | | | | | | | |
| O.1.1 | | | | | | | 160 | 160 | 160 | 160 | 160 | 160 | | | | | | |
| O.1.2 | | | | | | | | | | | | | | | | | | |
| O.2.1 | | | | | | | 240 | 240 | 240 | 240 | 240 | 240 | | | | | | |
| O.2.2 | | | | | | | | | | | | | | | | | | |
| O.3.1 | | | | | | | | | | | | | | | | | | |

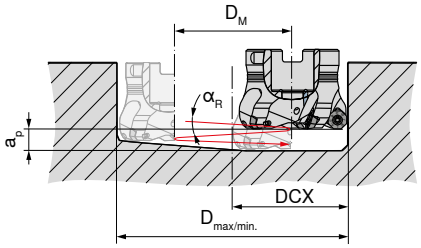
The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

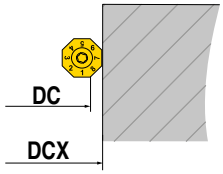
# System MaxiMill 274-04/-09

## Machining strategy

### Helical plunging

$D_{max.}$ in mm = largest diameter for flat bottom hole
$D_{min.}$ in mm = smallest hole diameter for flat bottom surface
$D_M$ = $D_{max}$ – DCX and $D_{min}$ – DCX



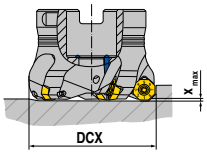

#### OF..04

| DC mm | DCX mm | $D_{max}$ mm | $D_{min}$ mm | $\alpha_{R\,max}$ ° |
|---|---|---|---|---|
| **20** | **25,5** | 45 | 39 | 2,3 |
| **25** | **30,6** | 55 | 49 | 1,9 |
| **32** | **37,6** | 69 | 63 | 1,4 |
| **40** | **45,7** | 85 | 79 | 1,2 |
| **50** | **55,7** | 105 | 99 | 0,9 |
| **63** | **68,7** | 131 | 125 | 0,7 |
| **80** | **85,7** | 165 | 159 | 0,6 |
| **100** | **105,7** | 205 | 199 | 0,5 |
| **125** | **130,7** | 255 | 249 | 0,4 |

#### SF..09

| DC mm | DCX mm | $D_{max}$ mm | $D_{min}$ mm | $\alpha_{R\,max}$ ° |
|---|---|---|---|---|
| **18,8** | **27,4** | 45,00 | 42,0 | 1,9 |
| **23,8** | **32,5** | 55,00 | 52,0 | 1,5 |
| **30,7** | **39,5** | 69,00 | 66,0 | 1,1 |
| **38,7** | **47,6** | 85,00 | 82,0 | 0,9 |
| **48,6** | **57,6** | 105,00 | 102,0 | 0,7 |
| **61,7** | **70,6** | 131,00 | 128,0 | 0,5 |
| **78,7** | **87,5** | 165,00 | 162,0 | 0,4 |
| **98,7** | **107,5** | 205,00 | 202,0 | 0,3 |
| **123,7** | **132,5** | 255,00 | 252,0 | 0,3 |

### Axial ramping



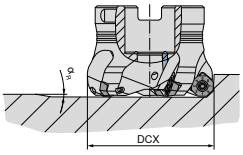

#### OF..04

| DC mm | DCX mm | $x_{max}$ mm |
|---|---|---|
| **20** | **25,6** | 2,5 |
| **25** | **30,7** | 2,5 |
| **32** | **37,7** | 2,5 |
| **40** | **45,7** | 2,5 |
| **50** | **55,7** | 2,5 |
| **63** | **68,7** | 2,5 |
| **80** | **85,7** | 2,5 |
| **100** | **105,7** | 2,5 |
| **125** | **130,7** | 2,5 |

#### SF..09

| DC mm | DCX mm | $x_{max}$ mm |
|---|---|---|
| **18,8** | **27,4** | 3,7 |
| **23,8** | **32,5** | 3,5 |
| **30,7** | **39,5** | 3,2 |
| **38,7** | **47,6** | 3,1 |
| **48,6** | **57,6** | 3,1 |
| **61,7** | **70,6** | 3,0 |
| **78,7** | **87,5** | 2,9 |
| **98,7** | **107,5** | 2,7 |
| **123,7** | **132,5** | 2,7 |

### Angled ramping




#### OF..04

| DC mm | DCX mm | $\alpha_{R\,max}$ ° |
|---|---|---|
| **20** | **25,6** | 14,2 |
| **25** | **30,7** | 9,5 |
| **32** | **37,7** | 6,5 |
| **40** | **45,7** | 4,7 |
| **50** | **55,7** | 3,5 |
| **63** | **68,7** | 2,7 |
| **80** | **85,7** | 2,0 |
| **100** | **105,7** | 1,6 |
| **125** | **130,7** | 1,2 |

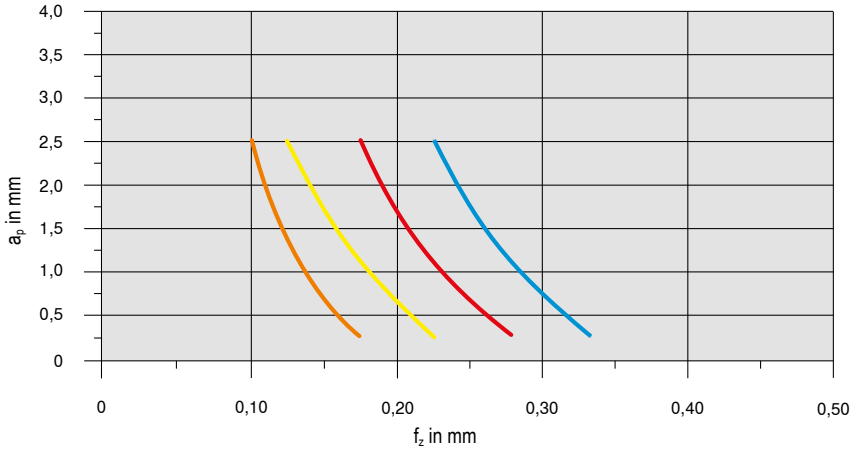
#### SF..09

| DC mm | DCX mm | $\alpha_{R\,max}$ ° |
|---|---|---|
| **18,8** | **27,4** | 20,4 |
| **23,8** | **32,5** | 13,0 |
| **30,7** | **39,5** | 8,0 |
| **38,7** | **47,6** | 5,8 |
| **48,6** | **57,6** | 4,3 |
| **61,7** | **70,6** | 3,2 |
| **78,7** | **87,5** | 2,3 |
| **98,7** | **107,5** | 1,7 |
| **123,7** | **132,5** | 1,3 |

# System MaxiMill 274-04

## Starting Parameter

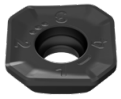
OF.. 04



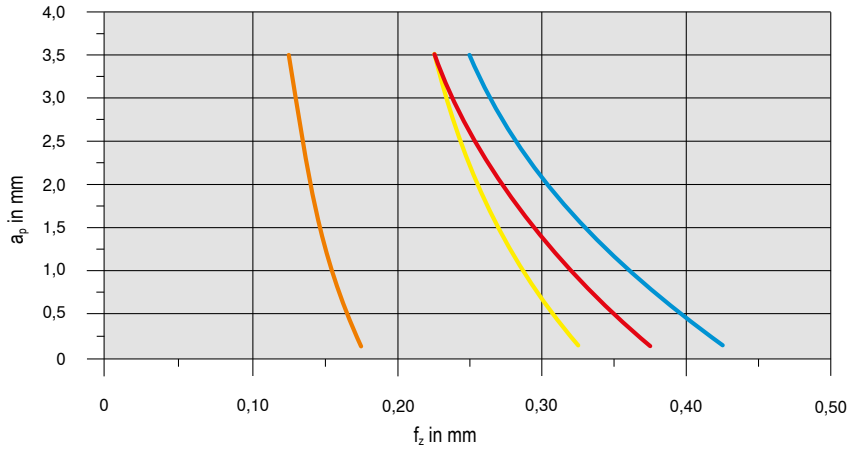

| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **OFHT040305SN-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **OFHT040305SN-F50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **OFHT040305SN-M50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **OFHT040305SN-F50** | **CTC5240** | 35 | Emulsion |

# System MaxiMill 274-09

## Starting Parameter



SF.. 09




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SFKT0903AFSR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SFHT0903AFSR-F50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SFKT0903AFSR-R50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **SFHT0903AFSR-F50** | **CTC5240** | 35 | Emulsion |

Detailed information on cutting speed for each grade can be found on → page 146–148

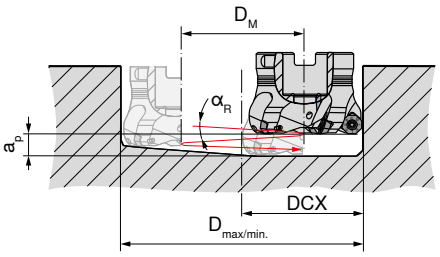
From $v_c$ > 400 m/min, the tool must be balanced!

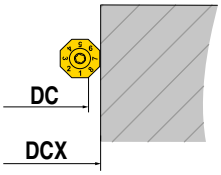
# System MaxiMill 274-05/-12

## Machining strategy

### Helical plunging

$D_{max.}$ in mm = largest diameter for flat bottom hole
$D_{min.}$ in mm = smallest hole diameter for flat bottom surface
$D_M$ = $D_{max}$ – DCX and $D_{min}$ – DCX



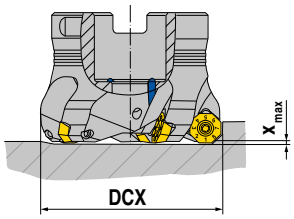

#### OF..05

| DC mm | DCX mm | $D_{max}$ mm | $D_{min}$ mm | $\alpha_{R\,max}$ ° |
|---|---|---|---|---|
| **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 mm | DCX mm | $D_{max}$ mm | $D_{min}$ mm | $\alpha_{R\,max}$ ° |
|---|---|---|---|---|
| **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 |

### Axial ramping



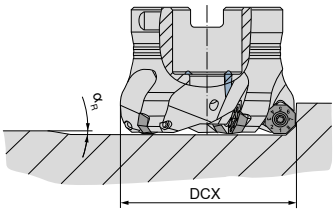

#### OF..05

| DC mm | DCX mm | $X_{max}$ 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 mm | DCX mm | $X_{max}$ 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 |

### Angled ramping




#### OF..05

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

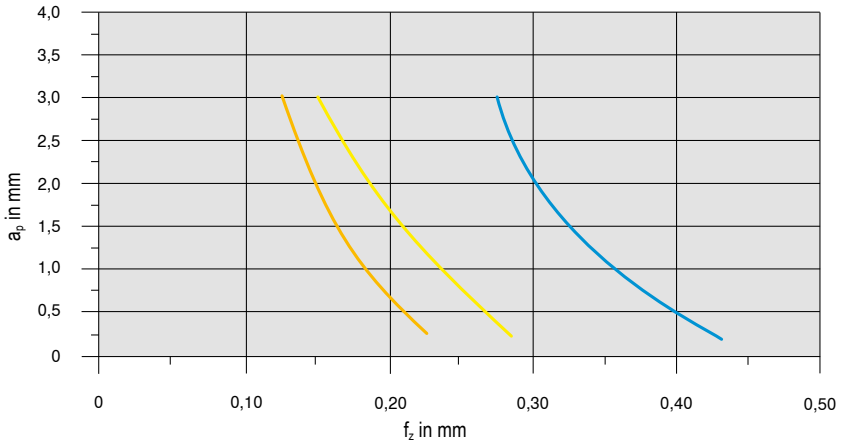
#### SF..12

| DC mm | DCX mm | $\alpha_{R\,max}$ ° |
|---|---|---|
| **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 |

# System MaxiMill 274-05

## Starting Parameter

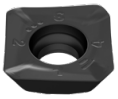
OF.. 05



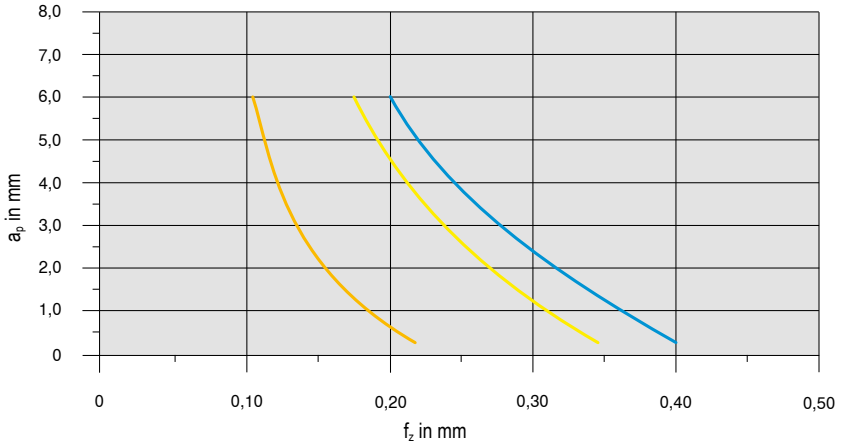

| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **OFHT050410SN-M50** | **CTCP230** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **OFHT050410SN-F50** | **CTPM240** | 180 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **OFHT050410SN-F50** | **CTC5240** | 35 | Emulsion |

# System MaxiMill 274-12

## Starting Parameter



SF.. 12



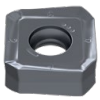

| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SFKT1204AFSR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SFKT1204AFSR-M50** | **CTPM240** | 180 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **SFHT1204AFER-F40** | **CTC5240** | 35 | Emulsion |

Detailed information on cutting speed for each grade can be found on → page 146–148

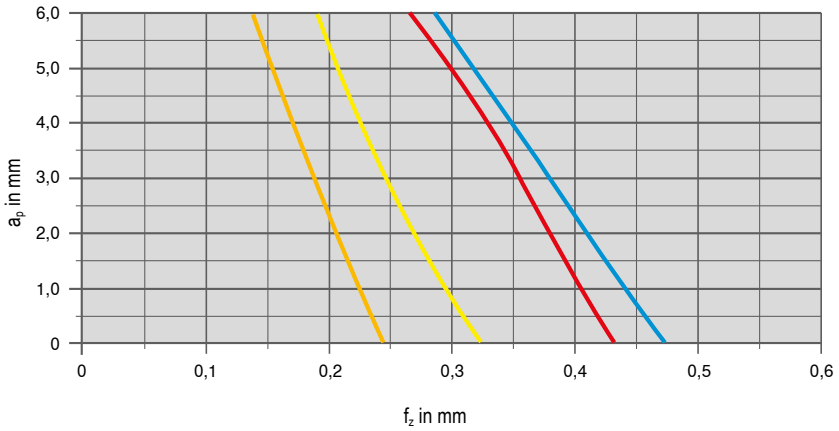
From $v_c$ > 400 m/min, the tool must be balanced!

# MaxiMill 271-12 system

## Starting Parameter



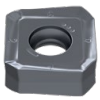
SOHU 12



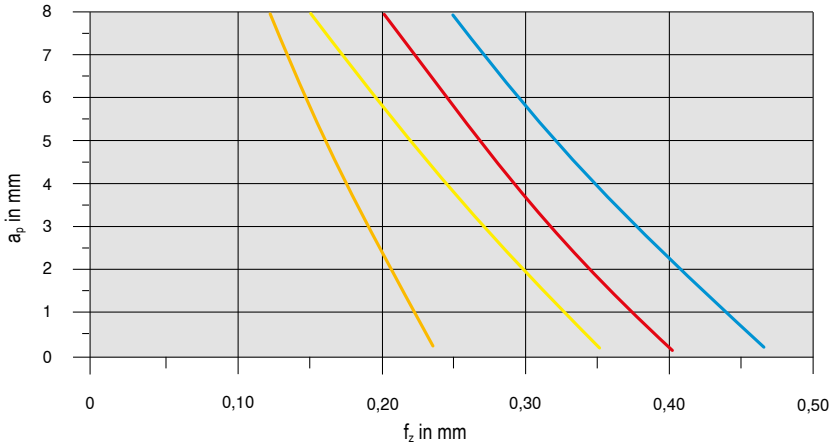

| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SOHU 1204ABSR-M50** | **CTPP230** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SOHU 1204ABSR-M50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SOHU 1204ABSR-R50** | **CTCK215** | 300 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **SOHU 1204ABSR-F50** | **CTC5240** | 30 | Emulsion |

# System MaxiMill 271-17

## Starting Parameter



SAKU 17




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SAKU 1706ABSR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SAKU 1706ABSR-F50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SAKU 1706ABSR-R50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **SAKU 1706ABSR-F50** | **CTC5240** | 35 | Emulsion |



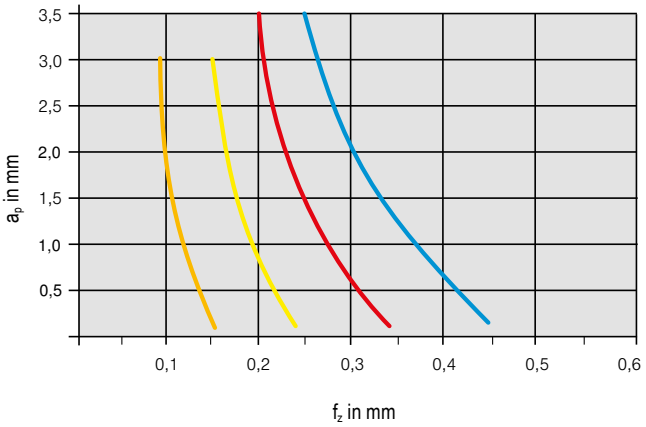
Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

# MaxiMill 273 system

## Starting Parameter

OAKU




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **OAKU 060508SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **OAKU 060508SR-F50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **OAKU 060508SR-R50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **OAKU 060508ER-F40** | **CTC5240** | 35 | Emulsion |

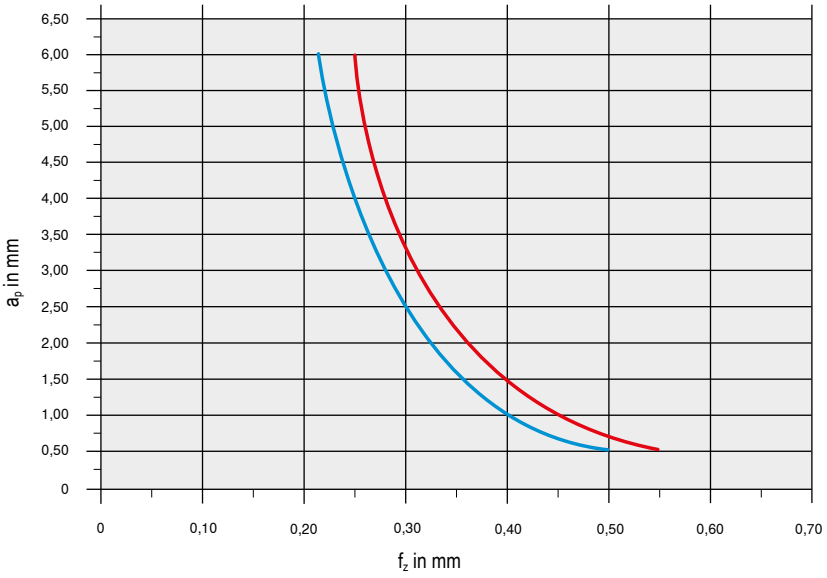
Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

# MaxiMill 273-08 system

## Starting Parameter

ONKU




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **ONKU 080608SR-M50** | **CTPP235** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **ONKU 080608SR-R50** | **CTCK215** | 250 | Dry |

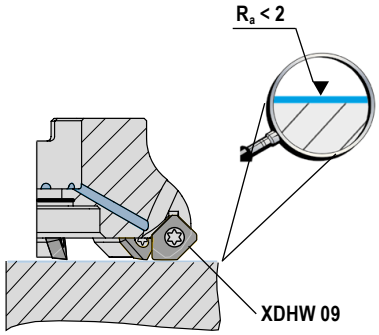
Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

15

# MaxiMill 270 system

## Machining strategy

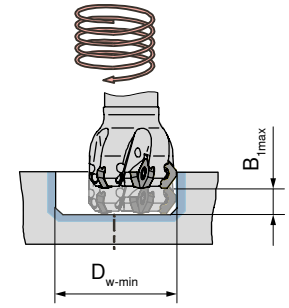



Finish milling with trailing edge inserts

Two Masterfinish inserts are mounted in each 125mm head

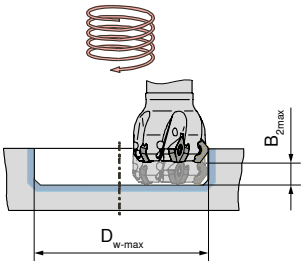
| | | | | | | |
|---|---|---|---|---|---|---|
| Steel | SDNT | 0903AESN-29 | CTPP235 | + | XDHW | 0903AESN CTPP235 |
| | SDNT | 0903AESN-29 | CTCP230 | + | XDHW | 0903AESN CTCP230 |
| | SDHT | 0903AESN-33 | CTCP230 | + | XDHW | 0903AESN CTCP230 |
| | SDHW | 0903AESN | TCM10 | + | XDHW | 0903AESN TCM10 |
| Cast iron | SDNT | 0903AESN-31 | CTCK215 | + | XDHW | 0903AEEN CTCK215 |
| Non-ferrous metals | SDHT | 0903AEFN-ALP | -27P H216T | + | XDHW | 0903AEFN -27P H216T |

## Helical plunging (without pilot hole)




### C 270-09

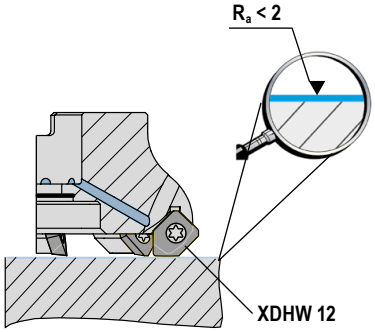
| DC mm | $D_{w-min}$ mm | $B_{1\,max}$ mm | $D_{w-max}$ mm | $B_{2\,max}$ mm |
|---|---|---|---|---|
| 6 | 14,4 | 1,5 | 19,0 | 1,5 |
| 12 | 28,5 | 1,5 | 31,0 | 1,5 |
| 16 | 36,5 | 1,5 | 39,0 | 1,5 |
| 20 | 44,5 | 1,5 | 47,0 | 1,5 |
| 25 | 54,5 | 1,5 | 57,0 | 1,5 |
| 32 | 68,5 | 1,5 | 71,0 | 1,5 |




### A 270-09

| DC mm | $D_{w-min}$ mm | $B_{1\,max}$ mm | $D_{w-max}$ mm | $B_{2\,max}$ 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 |

## System MaxiMill 270-12

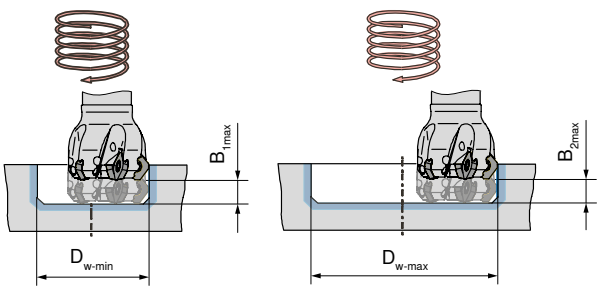



Finish milling with trailing edge inserts

Two Masterfinish inserts are mounted in each 125mm head

| | | | | | | |
|---|---|---|---|---|---|---|
| Steel | SDMT | 1204AESN-29R | CTPP235 | + | XDHW | 1204AESN CTPP235 |
| | SDMT | 1204AESN-29R | CTCP230 | + | XDHW | 1204AESN CTCP230 |
| | SDHW | 1204AESN-R | TCM10 | + | XDHW | 1204AESN TCM10 |
| Cast iron | SDMT | 1204AEEN-31 | CTCK215 | + | XDHW | 1204AEEN CTCK215 |
| | SDHW | 1204AESN-R | CTCK215 | + | XDHW | 1204AEEN CTCK215 |
| Non-ferrous metals | SDHT | 1204AEFN-ALP | -27P H216T | + | XDHW | 1204AEFN -27P H216T |

## Helical plunging (without pilot hole)

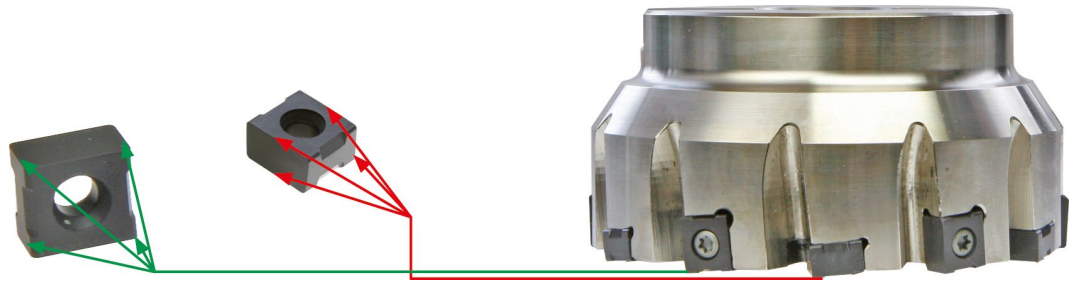



| DC mm | $D_{w-min}$ mm | $B_{1\,max}$ mm | $D_{w-max}$ mm | $B_{2\,max}$ mm |
|---|---|---|---|---|
| 32 | 74,5 | 1,5 | 78,0 | 1,5 |
| 40 | 90,5 | 1,5 | 94,0 | 1,5 |
| 50 | 110,5 | 1,5 | 114,0 | 1,5 |
| 63 | 136,5 | 1,5 | 140,0 | 1,5 |
| 80 | 170,5 | 1,5 | 174,0 | 1,5 |
| 100 | 210,5 | 1,5 | 214,0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

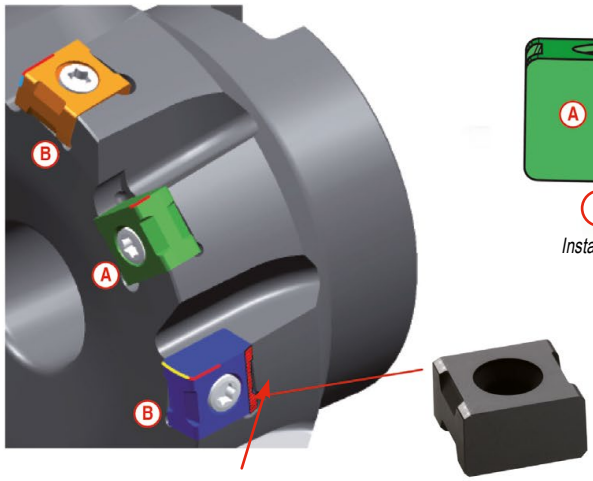
From $v_c$ > 400 m/min, the tool must be balanced!

# MaxiMill HEC 11 / HEC 12 system

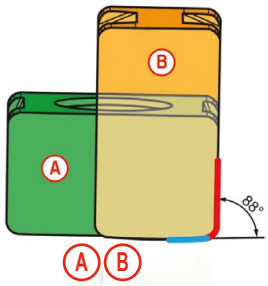
## 4 cutting edges per installation position



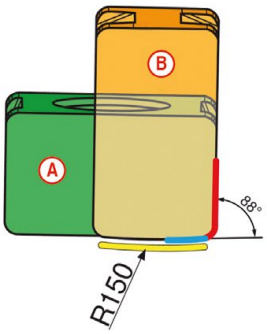
## Correct assembly of standard and trailing edge inserts




*Marking for the correct assembly*



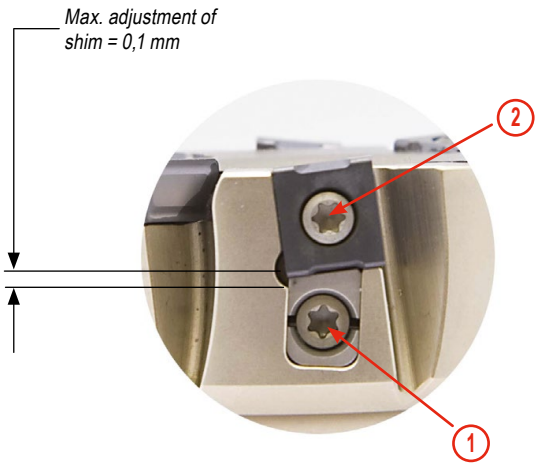

*Installation position*




Face machining insert — B
Insert main cutting edge — A B
Trailing edge facet — B

## Adjust the tools in axial direction

- ▲ Install the wedge into the cutter body and lightly clamp the clamping screw so as not to clamp. — 1
- ▲ Install the inserts as shown and tighten to 1,0 Nm torque. — 2
- ▲ Using pre-setting equipment, mark the highest cutting edge. — 1
- ▲ With small adjustments of the setting screw set all cutting edges to the same height by 0,005 mm or better. — 1
- ▲ Clamp insert with 3,2 Nm torque. — 2



# Average chip thickness [$h_m$] – the approach

## Face milling

**1** Select appropriate average chip thickness [$h_m$] for the steel from the table.

| Material | Tensile strength N/mm² | $h_m$ mm |
|---|---|---|
| for steel | ...–800 | 0,2 |
| for steel | 800–1000 | 0,18 |
| for steel | 1000–1200 | 0,16 |
| for steel | 1200–... | 0,14 |
| for stainless steel | ... –750 | 0,21 |
| for stainless steel | 750–900 | 0,19 |
| for stainless steel | 900–1150 | 0,17 |
| for stainless steel | 1150– ... | 0,15 |

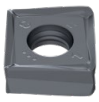
**2** Select the corrected feed rate value from the table based on the appropriate chip thickness [$h_m$] and depth of cut [$a_e$].

| $h_m$ mm | Corrected feed value $f_z$ for $h_m$ | | | |
|---|---|---|---|---|
| 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 |
| **$a_e$ =** | **0,3 x DC** | **0,4 x DC** | **0,75 x DC** | **1 x DC** |

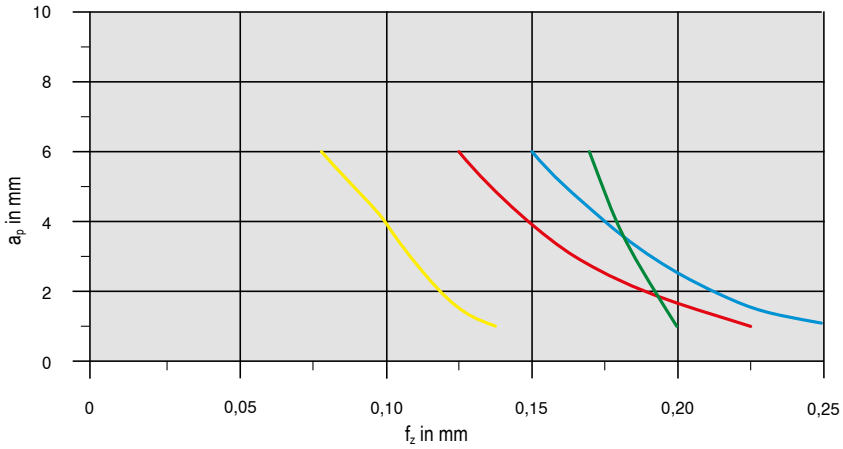
** $f_z$ > 0,4 mm: Danger of an open space contact

# MaxiMill 491-09 system

## Starting Parameter



SNHU 09

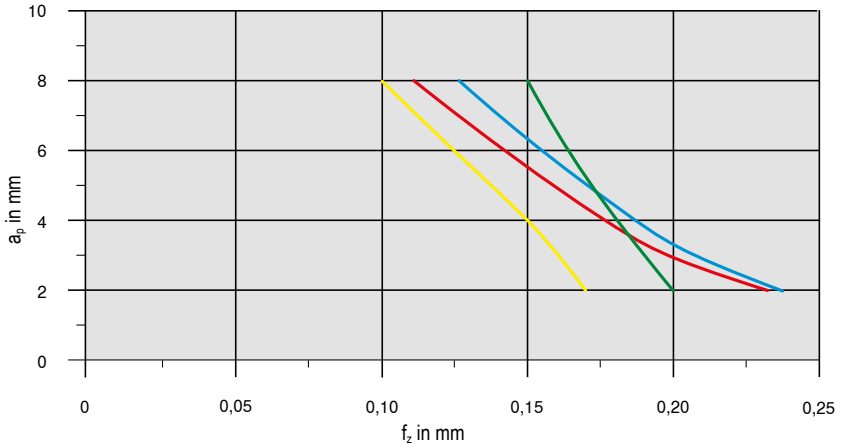



| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SNHU09T308SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SNHU09T308SR-F50** | **CTPM240** | 180 | Emulsion |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SNHU09T308SR-R50** | **CTCK215** | 250 | Dry |
| Non-ferrous metals | **N.1.2** | AlMgSi1 | **SNHU09T308FR-F10** | **CTWN215** | 500 | Emulsion |

# MaxiMill 491-12 system

## Starting Parameter

SNHU 12




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SNHU120408SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SNHU120408SR-F50** | **CTPM240** | 180 | Emulsion |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SNHU120408SR-R50** | **CTCK215** | 250 | Dry |
| Non-ferrous metals | **N.1.2** | AlMgSi1 | **SNHU120408FR-F10** | **CTC5240** | 500 | Emulsion |



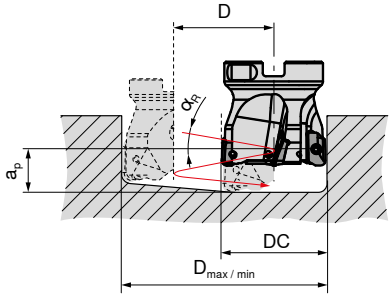
Detailed information on cutting speed for each grade can be found on → page 146–148

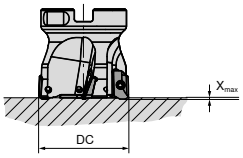
From $v_c$ > 400 m/min, the tool must be balanced!

# System MaxiMill 211-07

## Machining strategy

### Helical plunging



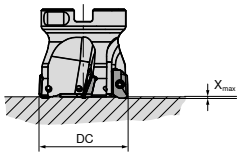




$a_p$ in mm = $D * \pi * \tan \alpha_R$

| DC mm | $D_{max}$ / RE 0,4 mm | $D_{min}$ mm | $\alpha_{R\,max}$ ° |
|---|---|---|---|
| 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 mm | D mm | $\alpha_{R\,max\,360°}$ ° |
|---|---|---|
| 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 |

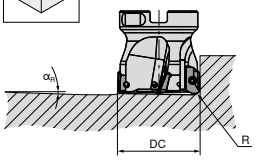
### Axial ramping




| DC mm | $X_{max}$ 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 |

$D_{max.}$ in mm = largest diameter for flat bottom hole
$D_{min.}$ in mm = smallest hole diameter for flat bottom surface

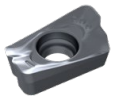
### Angled ramping



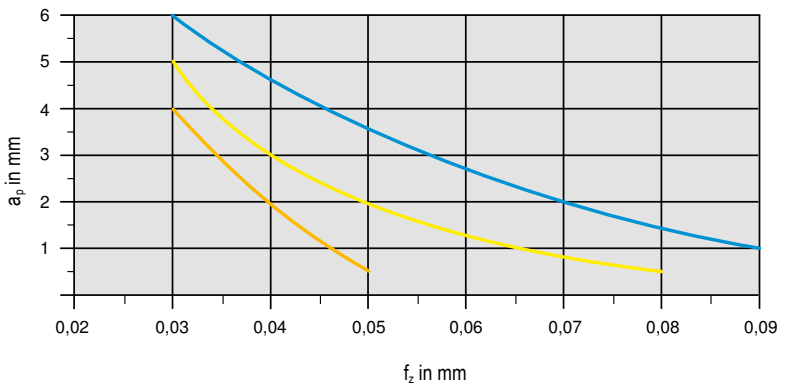

| DC mm | α ° |
|---|---|
| 10 | 11,0 |
| 12 | 7,9 |
| 16 | 4,3 |
| 20 | 3,0 |
| 25 | 2,5 |
| 32 | 1,6 |
| 40 | 1,2 |
| 50 | 1,0 |

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

## Starting Parameter



XDKT 07



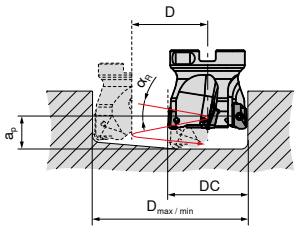

| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | P.2.2 | 40CrMnMoS 8-6 | XDKT070308SR-M50 | CTCP230 | 200 | Dry |
| Stainless steel | M.1.1 | X6CrNiMoTi 1712 2 | XDKT070308SR-F50 | CTPM240 | 180 | Dry |
| Heat-resistant | S.2.2 | Inconel 718 | XDKT070308ER-F50 | CTC5240 | 35 | Emulsion |

Detailed information on cutting speed for each grade can be found on → page 146–148

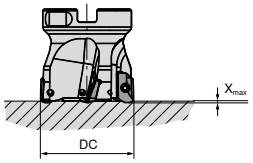
From $v_c$ > 400 m/min, the tool must be balanced!

# System MaxiMill 211-11

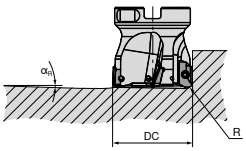
## Machining strategy




### 1 Helical plunging




### 2 Axial ramping




### 3 Angled ramping

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

| Maximum speed related to projection length $n_{max}$ in $min^{-1}$ | | | | | |
|---|---|---|---|---|---|
| DC mm | $l_a$ = 1–2 x Ø mm | $l_a$ = 2,5 x Ø mm | $l_a$ = 3 x Ø mm | $l_a$ = 4 x Ø mm | $l_a$ = 5 x Ø 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 | | |

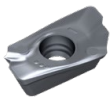
$D_{max.}$ in mm = largest diameter for flat bottom hole

$D_{min.}$ in mm = Smallest diameter for flat bottom surface

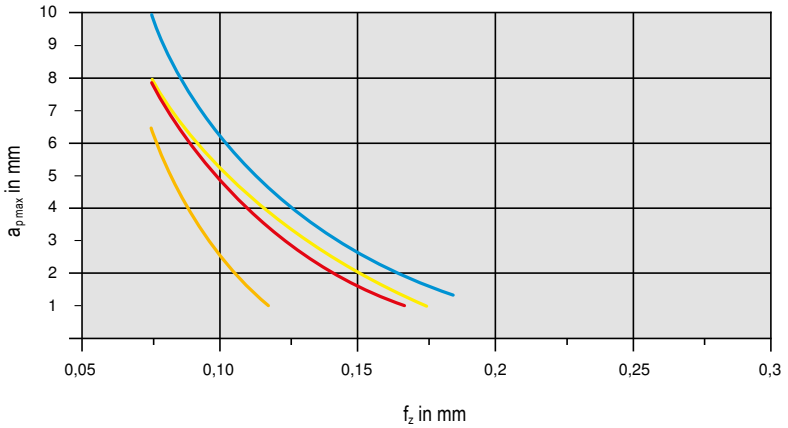
$a_p$ in mm = D x π x tan ($\alpha_R$) = Pitch

$l_a$ in mm = Overhang length

## Starting Parameter



XDKT 11




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | P.2.2 | 40CrMnMoS 8-6 | XDKT11T308SR-M50 | CTCP230 | 200 | Dry |
| Stainless steel | M.1.1 | X6CrNiMoTi 1712 2 | XDKT11T308SR-F50 | CTPM240 | 180 | Dry |
| Cast iron | K.1.1 | EN-GJL-250 (GG25) | XDKT11T308SR-R50 | CTCK215 | 250 | Dry |
| Heat-resistant | S.2.2 | Inconel 718 | XDKT11T308ER-F50 | CTC5240 | 35 | Emulsion |

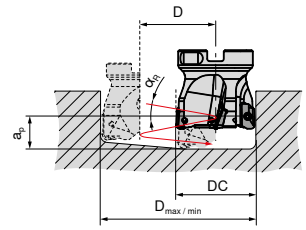
Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

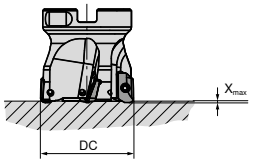
15

# System MaxiMill 211-15

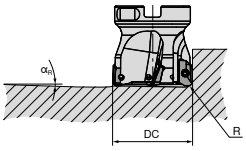
## Machining strategy




### 1 Helical plunging




### 2 Axial ramping




### 3 Angled ramping

| DC mm | | 1 Helical plunging RE = 0,8 mm | 2 Axial ramping $X_{max}$ | 3 Angled ramping $\alpha_R$ |
|---|---|---|---|---|
| 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 | | |
| 100 | $\alpha_R$ | 0,8 ° | | |
| | $D_{max.}$ | 107 mm | 1,6 mm | 1,1 ° |
| | $D_{min.}$ | 101 mm | | |

| DC mm | Maximum speed related to projection length $n_{max}$ in $min^{-1}$ $l_a$ = 2 x Ø mm | $l_a$ = 3 x Ø mm | $l_a$ = 5 x Ø 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 | | |

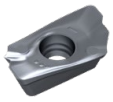
$D_{max.}$ in mm = largest diameter for flat bottom hole

$D_{min.}$ in mm = Smallest diameter for flat bottom surface

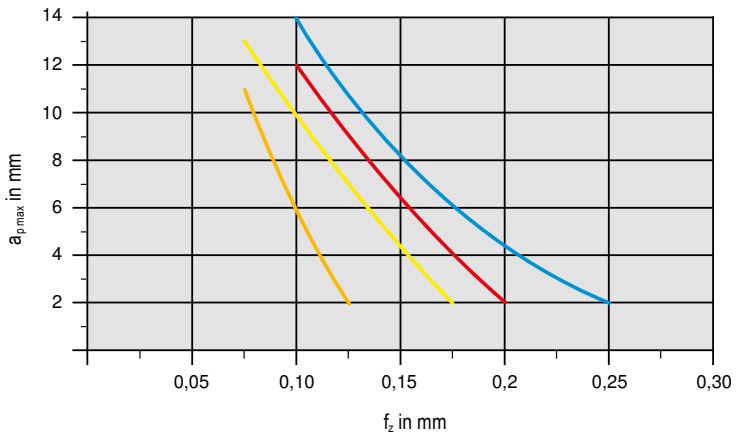
$a_p$ in mm = D x π x tan ($\alpha_R$) = Pitch

$l_a$ in mm = Overhang length

## Starting Parameter



XDKT 15




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | P.2.2 | 40CrMnMoS 8-6 | XDKT150508SR-M50 | CTCP230 | 200 | Dry |
| Stainless steel | M.1.1 | X6CrNiMoTi 1712 2 | XDKT150508SR-F50 | CTPM240 | 180 | Dry |
| Cast iron | K.1.1 | EN-GJL-250 (GG25) | XDKT150508SR-R50 | CTCK215 | 250 | Dry |
| Heat-resistant | S.2.2 | Inconel 718 | XDKT150508ER-F40 | CTC5240 | 35 | Emulsion |

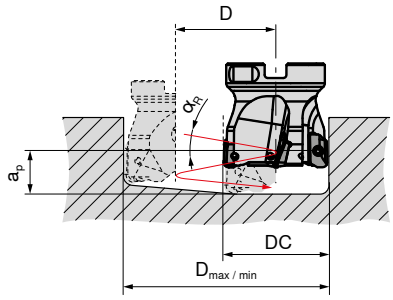
Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

# System MaxiMill 211-20

## Machining strategy

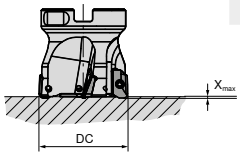
### Helical plunging




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

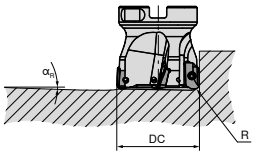
$a_p$ in mm $= D * \pi * \tan \alpha_R$

### Axial ramping




| DC mm | $X_{max}$ mm |
|---|---|
| **63** | 2,0 |
| **80** | 2,0 |
| **100** | 2,0 |

### Angled ramping

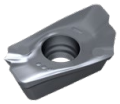



| DC mm | α ° |
|---|---|
| **63** | 2,2 |
| **80** | 1,7 |
| **100** | 1,3 |

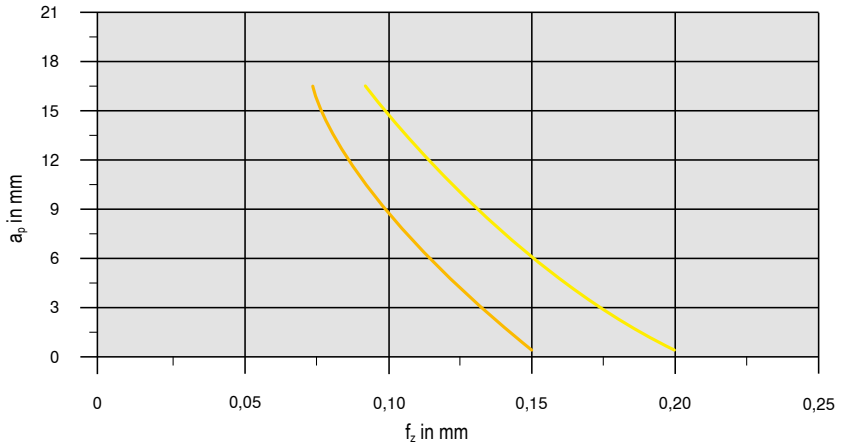
$D = D_{max} - DC / D_{min} - DC$

$D_{max.}$ in mm = largest diameter for flat bottom hole
$D_{min.}$ in mm = smallest hole diameter for flat bottom surface

## Starting Parameter



XDKT 20




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **XDKT200708ER-F40** | **CTPM240** | 180 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **XDKT200708ER-F40** | **CTC5240** | 35 | Emulsion |

Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

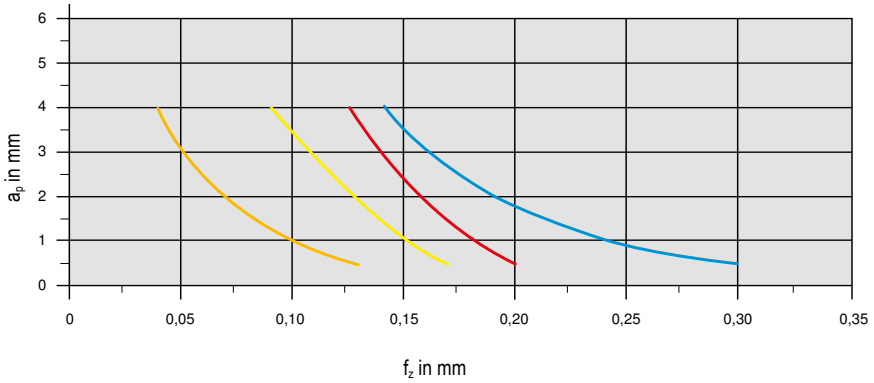
# System MaxiMill 490-09

## Machining strategy

System MaxiMill 490-09 is not suitable for plunging!

## Starting Parameter

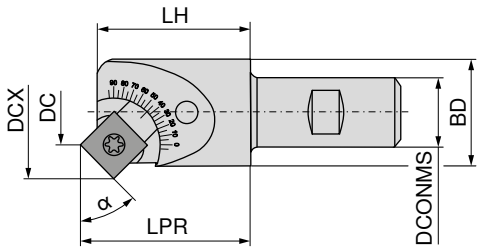
SDNT 09




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SDNT09T308SR-29** | **CTCP230** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SDNT09T308SR-33** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SDNT09T308SR-31** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **SDNT09T308ER-M31** | **CTC5240** | 35 | Emulsion |

Detailed information on cutting speed for each grade can be found on → page 146–148

# MaxiMill 490-09 adjustable angle milling cutter – dimensions



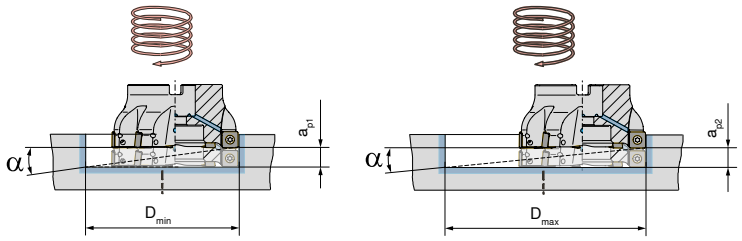

| Constant dimensions | | | Angle-dependent dimensions* | | | |
|---|---|---|---|---|---|---|
| BD | DCONMS | LH | α | DC* | DCX | LPR* |
| 18,6 | 16 | 32 | **0°** | **9,35/1,60**** | **20,14** | **33,07** |
| | | | 5° | 3,81 | 20,82 | 33,40 |
| | | | 10° | 4,59 | 21,44 | 33,69 |
| | | | **15°** | **5,42** | **21,98** | **33,95** |
| | | | 20° | 6,30 | 22,45 | 34,17 |
| | | | 25° | 7,23 | 22,85 | 34,35 |
| | | | **30°** | **8,18** | **23,16** | **34,49** |
| | | | 35° | 9,15 | 23,39 | 34,58 |
| | | | 40° | 10,14 | 23,53 | 34,64 |
| | | | **45°** | **11,13** | **23,59** | **34,65** |
| | | | 50° | 12,12 | 23,56 | 34,61 |
| | | | 55° | 13,09 | 23,44 | 34,54 |
| | | | **60°** | **14,04** | **23,24** | **34,42** |
| | | | 65° | 14,96 | 22,96 | 34,26 |
| | | | 70° | 15,84 | 22,60 | 34,06 |
| | | | **75°** | **16,68** | **22,16** | **33,83** |
| | | | 80° | 17,46 | 21,65 | 33,56 |
| | | | 85° | 18,19 | 21,07 | 33,25 |
| | | | **90°** | **10,07/1,90**** | **20,44** | **32,93** |

* Tangential cutting point at deepest engagement point
** Smallest diameter in centre

# System MaxiMill 490-12

## Machining strategy

Helical plunging (without pilot hole)



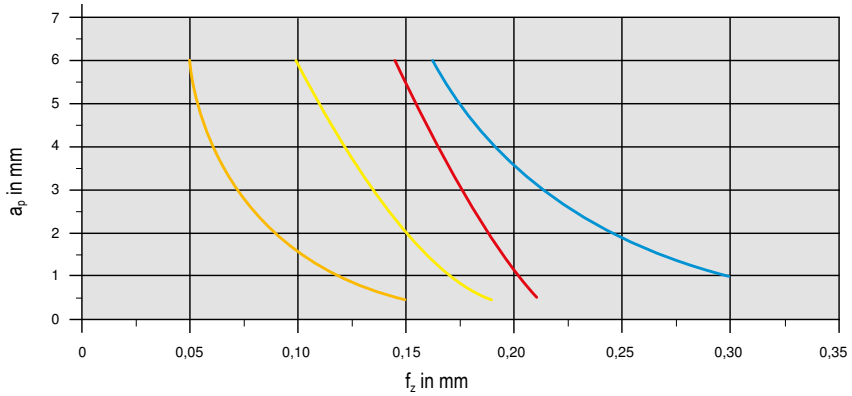

$$B = (D_W - DC) \times \pi \times \tan \alpha$$

$D_w$ = Diameter of the hole to be produced
DC = Nominal diameter of the milling tool
B = Axial feed to 360° circular movement

| DC mm | $D_{min}$ mm | $a_{p1}$ mm | $D_{max}$ mm | $a_{p2}$ mm | α ° |
|---|---|---|---|---|---|
| 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 |

## Starting Parameter

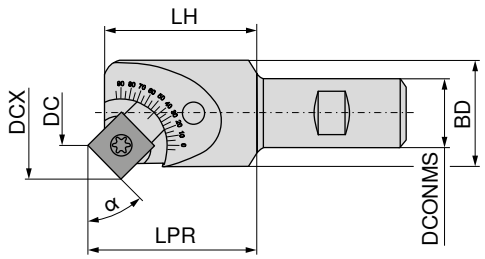
SDMT 12




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **SDMT1205ZZSN-29** | **CTCP230** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **SDMT120512SR-33** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **SDMT1205ZZSN-31** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **SDMT120508ER-M31** | **CTC5240** | 35 | Emulsion |

Detailed information on cutting speed for each grade can be found on → page 146–148

# MaxiMill 490-12 adjustable angle milling cutter – dimensions




| Constant dimensions | | | Angle-dependent dimensions* | | | |
|---|---|---|---|---|---|---|
| BD | DCONMS | LH | α | DC* | DCX | LPR* |
| 25 | 20 | 37 | **0°** | **25,07/1,12**** | **26,64** | **38,36** |
| | | | 5° | 3,72 | 27,61 | 38,79 |
| | | | 10° | 4,84 | 28,48 | 39,21 |
| | | | **15°** | **6,03** | **29,25** | **39,58** |
| | | | 20° | 7,27 | 29,92 | 39,90 |
| | | | 25° | 8,57 | 30,48 | 40,16 |
| | | | **30°** | **9,91** | **30,92** | **40,37** |
| | | | 35° | 11,28 | 31,25 | 40,51 |
| | | | 40° | 12,67 | 31,45 | 40,60 |
| | | | **45°** | **14,08** | **31,54** | **40,62** |
| | | | 50° | 15,48 | 31,50 | 40,58 |
| | | | 55° | 16,86 | 31,34 | 40,48 |
| | | | **60°** | **18,23** | **31,06** | **40,33** |
| | | | 65° | 19,56 | 30,66 | 40,11 |
| | | | 70° | 20,85 | 30,15 | 39,83 |
| | | | **75°** | **22,08** | **29,52** | **39,51** |
| | | | 80° | 23,26 | 28,79 | 39,12 |
| | | | 85° | 24,35 | 27,95 | 38,69 |
| | | | **90°** | **25,37/1,42**** | **26,94** | **38,21** |

* Tangential cutting point at deepest engagement point
** Smallest diameter in centre

# HSC/HPC machining

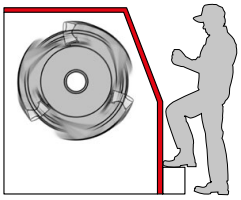
## Safety advice

### Suitability of the tool for HSC machining

HSC tools from CERATIZIT have been specially developed for this machining strategy and guarantee maximum operational reliability.

### Observation of safety precautions of the machine manufacturer

Make sure that all safety precautions of the machine-manufacturer are observed (e.g.: closed machine guards).

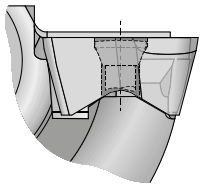


### Suitability of the adapters for HSC machining

According to the milling situation, choose the optimum tool/clamping device combination. For high speed milling applications it is necessary to dynamically balance tool and tool adapter together (see ISO 1940 directives).

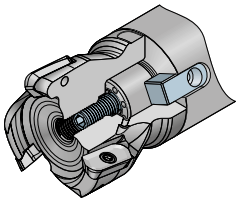
### Mounting the indexable insert with centrifugal force protection

Insert clamping: EURO-patent EP 1083017A1
Make sure that the insert pocket is cleaned and the threading bore for the clamping screw is in good condition.
Check the axial and radial contact points of the insert in the pocket.
The clamping screws for positive insert clamping must be tightened with a torque of (XDHT11 = 1,8 Nm; XDH.19 = 6,0 Nm).



### Optimum mounting of HSC milling cutters (DC = Ø 40–63) to milling arbors using power screw

The power screw guarantees a stable connection of tool and milling adapter and is easy to use.



*Power Screw*

### Maximum admissible number of revolutions

Please note the maximum number of revolutions stated on the tool. This number is exclusively valid for the specific tool and must be adapted according to the selected tool adapter, total overhang length and the respective machining situation.

Optimum application range of the tool ($a_e$, $a_p$, $f_z$, n)

In order to guarantee productive milling, please observe the recommendations regarding the cutting parameters.

Failure to comply with these safety regulations automatically excludes CERATIZIT from any liability

# System MaxiMill HSC-11

## Cutting data standard values

| Workpiece material | | Treatment / alloy | | VDI 3323 Group | Hardness HB | H216T (CTWN215) $v_c$ in m/min (dry) | H216T (CTWN215) $v_c$ in m/min (MQL) |
|---|---|---|---|---|---|---|---|
| N | Aluminum alloys | non hardenable | | 21 | 60 | | 660–9840 |
| | | hardenable | | 22 | 100 | | 660–6560 |
| | Cast aluminum alloy | non hardenable | < 12% Si | 23 | 80 | | 660–6560 |
| | | hardenable | < 12% Si | 24 | 90 | | 660–5900 |
| | | non hardenable | > 12% Si | 25 | 130 | | 660–3280 |
| | Copper and copper alloys (Bronze, Brass) | | Free-cutting steel alloy (1% Pb) | 26 | | | 660–1970 |
| | | | brass, red bronze | 27 | 90 | 820–3280 | 820–3280 |
| | | | bronze | 28 | 100 | | 490–1310 |
| | | | lead-free copper and electrolytic copper | 29 | 100 | | 980–2620 |
| O | Non metal materials | | Duroplastics | 29 | | 260–3280 | 260–3280 |
| | | | Fibre-reinforced plastics | 29 | | 230–1640 | 230–1640 |
| | | | hard rubber | 30 | | 260–100 | 260–100 |

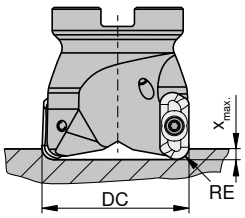
= full lubricant = Minimum quantity lubrication = dry machining

15

# System MaxiMill HSC-11

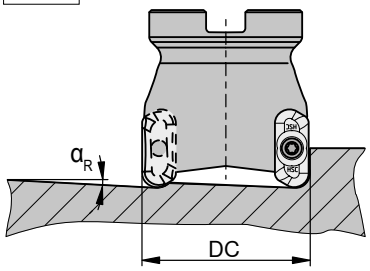
## Machining strategy

### Axial ramping




| DC mm | 11 RE 0,2–4,0 $x_{max.}$ 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 |

### Angled ramping




| DC 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 |

## Milling strategy for roughing and finishing

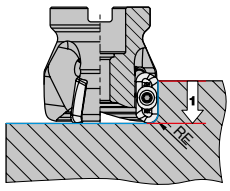
### With maximum chip volume

| Indexable Insert | RE mm | 1 $a_p$ mm | 2 3 4 $a_{p\,max.}$ 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 |

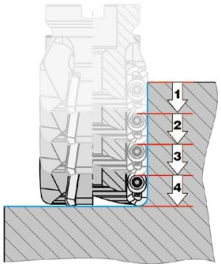
### With maximum side wall quality

| Indexable Insert | RE mm | 2 3 4 $a_{p\,max.}$ 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 |

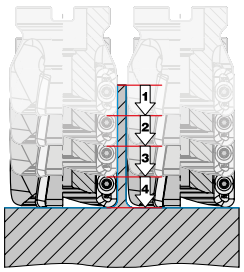
Shoulder milling



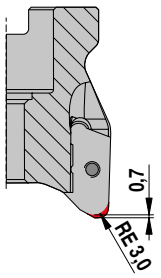

Pocket milling

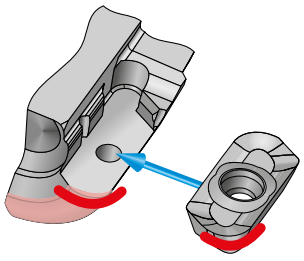



Pocket milling with thin walled components




Modification to front profile



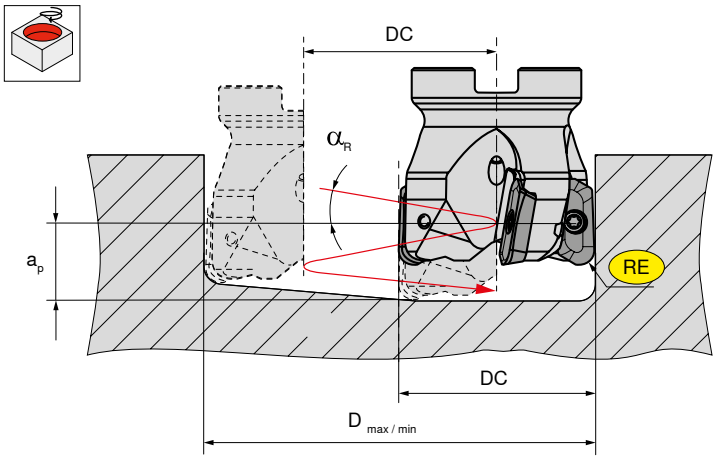



For inserts with a corner radius larger than 3.2 mm the basic body of the tool must be modified according to the drawing above.

# System MaxiMill HSC-11

## Machining strategy

### Helical plunging




RE = Insert radius
$\alpha_R$ in mm = Maximum ramping angle (related to centre of tool)

$a_p$ in mm = pitch → D x π x tan ( $\alpha_R$)

D in mm = → $D_{max}$ – DC and/or $D_{min}$ – DC

**For flat bottom hole**

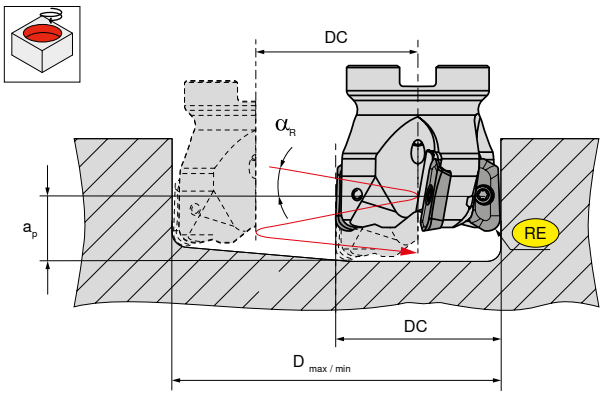
$D_{max.}$ in mm = largest drilling diameter
$D_{min.}$ in mm = smallest drilling diameter
$DN_{max.}$ in mm = Maximum hole diameter for non flat bottom

| DC mm | | XDHT-11 (HSC-11) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ($DN_{max}$) | | 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** | $\alpha_R$ | 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 |
| (31) | $D_{min.}$ | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| **18** | $\alpha_R$ | 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 |
| (35) | $D_{min.}$ | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| **19** | $\alpha_R$ | 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 |
| (37) | $D_{min.}$ | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| **20** | $\alpha_R$ | 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 |
| (39) | $D_{min.}$ | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| **22** | $\alpha_R$ | 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 |
| (43) | $D_{min.}$ | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| **25** | $\alpha_R$ | 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 |
| (49) | $D_{min.}$ | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| **32** | $\alpha_R$ | 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 |
| (63) | $D_{min.}$ | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| **40** | $\alpha_R$ | 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 |
| (79) | $D_{min.}$ | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| **50** | $\alpha_R$ | 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 |
| (99) | $D_{min.}$ | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| **63** | $\alpha_R$ | 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 |
| (125) | $D_{min.}$ | 112 | 112 | 112 | 112 | 112 | 112 | 112 | 112 | 112 |
| **80** | $\alpha_R$ | 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 |
| (159) | $D_{min.}$ | 146 | 146 | 146 | 146 | 146 | 146 | 146 | 146 | 146 |
| **100** | $\alpha_R$ | 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 |
| (199) | $D_{min.}$ | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 |

# System MaxiMill HSC/HPC-19

## Machining strategy

### Helical plunging




RE = Insert radius
$\alpha_R$ in mm = Maximum ramping angle (related to centre of tool)

$a_p$ in mm = pitch → D x π x tan ( $\alpha_R$)

D in mm = → $D_{max}$ – DC and/or $D_{min}$ – DC

**For flat bottom hole**

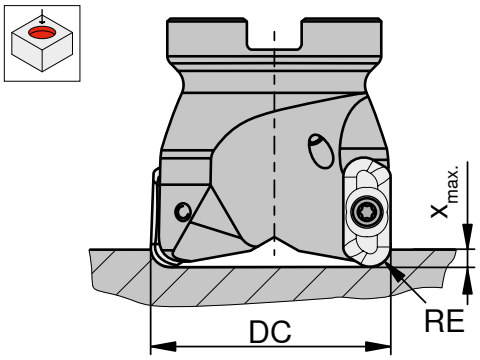
$D_{max.}$ in mm = largest drilling diameter
$D_{min.}$ in mm = smallest drilling diameter
$DN_{max.}$ in mm = Maximum hole diameter for non flat bottom

| | DC mm | $DN_{max}$ mm | $\alpha_R$ ° | $D_{max}$ mm | $D_{min}$ 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 |
| **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 |
| **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 |
| **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 |
| **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 |
| **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 |
| **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 |
| **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 |

# System MaxiMill HSC/HPC-19

## Machining strategy

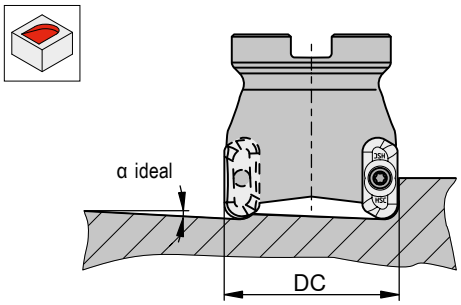
### Axial ramping




| HSC 19 | DC mm | 19 RE 0,2–4,0 $x_{max.}$ mm | 19 RE 5,0 $x_{max.}$ 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 mm | 19 RE 0,2–4,0 $x_{max.}$ mm | 19 RE 5,0 $x_{max.}$ 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 |

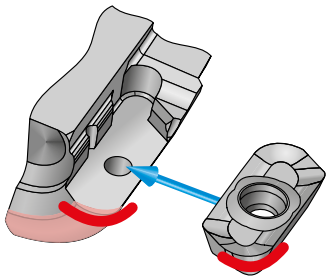
### Angled ramping

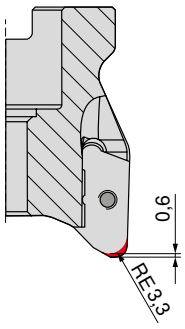



| DC mm | α ideal HSC 19 | α ideal HPC 19 |
|---|---|---|
| 25 | 11° | 11° |
| 32 | 7° | 7° |
| 40 | 5° | 5° |
| 50 | 4° | 4° |
| 63 | 3° | 3° |
| 80 | 2° | |
| 100 | 2° | |

### Modification to basic body

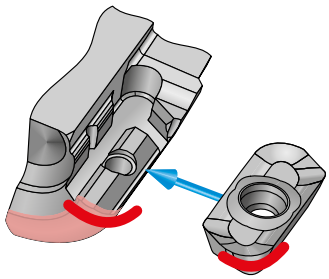
**HSC 19**






*Modification to front profile*

**HPC 19**



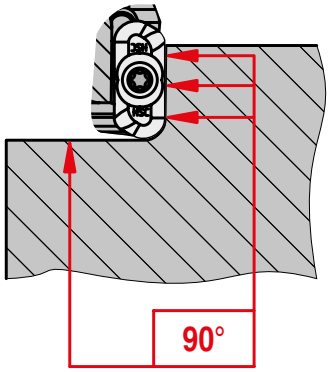
For inserts with a corner radius larger than 4.0 mm the basic body of the tool must be modified according to the drawing above.

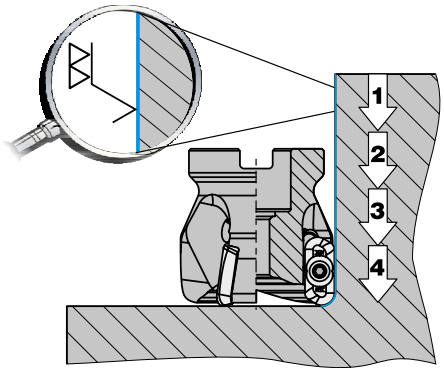
15

# System MaxiMill HSC/HPC-19

## Machining strategy

▽ + ▽▽ Excellent side wall quality after roughing operation.
Additional finishing operations minimized or no longer required.



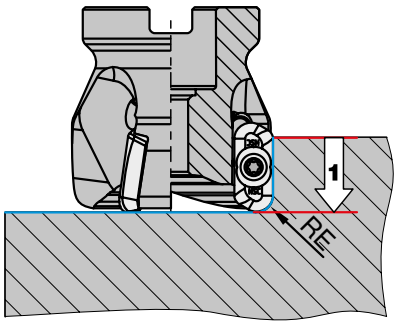

### With maximum chip volume

| Indexable Insert | RE mm | $a_p$ mm | $a_{p\ max.}$ 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 |

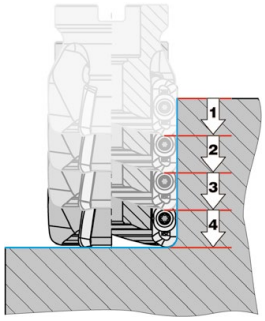
### With maximum side wall quality

| Indexable Insert | RE mm | $a_{p\ max.}$ 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 |

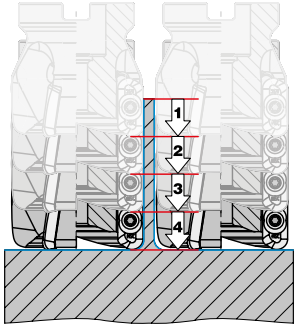
Shoulder milling




Pocket milling




Pocket milling with
thin walled components




This information applies to the inserts type XDHT 19 and XDHX 19.

# System MaxiMill HPC-04/12

## Machining strategy

### What do you have to take into account?

- Machine stability.
- Stable work piece clamping and tool adapter.
- Use of coolant generally not necessary, however, this will facilitate the removal of the chips - also improved surface quality.
- Take into account thermal stress and critical temperature of 600°C! If required for material, work with coolant.
- Avoid vibration.
- Observe balancing quality class.
- Observe chemical reactions of diamond to carbide forming elements (Fe, Ti, Ta, Co, Ni)

### Excellent suitability

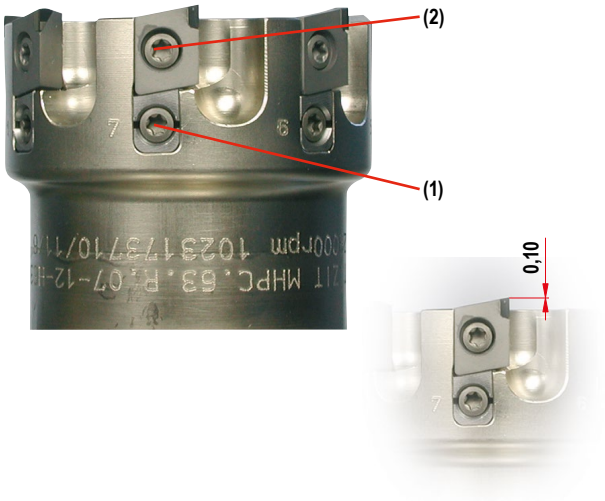
- for components made of light metals and non-ferrous metals, plastic, fibre composite materials, graphite ...
- when the simplest setting method saves cost for tool presetting.
- for high-volume production.
- for high surface quality of the work pieces.
- when long tool life is necessary to reduce tool changes and expensive machine downtime.
- when the tool is already on site (presetting, etc.)

### Quality class check

After assembly, clamping of the inserts and adjustment of the axial run-out the balancing quality class of the tools should be checked. When applying shell milling cutters, after assembly with an adapter balancing is necessary.

### Setting trailing edge inserts

As in the setting procedure described above the standard inserts are adjusted to a radial run-out of = 0.02 mm. The inserts with Masterfinish edge are then set to 0.02–0.03 mm above the highest cutting edge.




### The adjustment procedure

**1** Mount Adjustment wedgesin the tools (as delivered). Tighten adjustment screw (1) without deforming the wedges.

**2** Mount the PCD inserts and tighten the clamping screws (2) with 1.0 Nm.

**3** Mark " highest edge" with the help of pre-setting equipment.

**4** Adjust the PCD insert by 0.02 mm turning the clamping screw (1) clockwise.

Pre-loading must be reached. Use the angled TORX screwdrivers

**5** Set other cutting edges to this level, maximum deviation of 0.005 mm. Maximum length adjustment = 0.10 mm.

**6** Tighten all insert tightening screws (2) to 5,0 Nm.

**7** Check axial run-out of all inserts: Target = 0.005 mm.

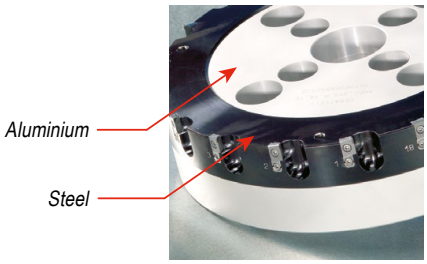
15

# Perfect precision – MaxiMill HPC-12

## The adjustable high-performance tool for the finishing of aluminium components

**Tool body made of steel**

- For highest stability
- Maximum abrasion resistance
- Bimetallic version from diameter 160 mm easier handling and spindle protection with large tools



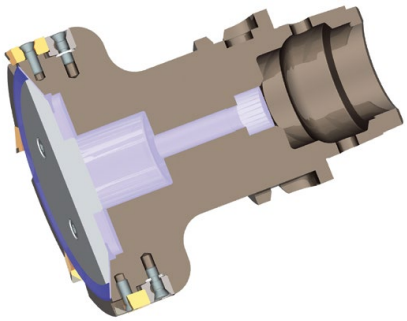
*Picture shows bimetallic version*

**Available as shell milling cutters and monobloc type**

- Direct HSK63 connection as monobloc type
- Monobloc tools balanced to G2.5 at n=20,000 $min^{-1}$ (ISO1940)

**Particularly for HSC applications with internal coolant supply**

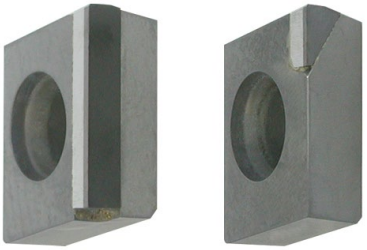
- Improved chip evacuation
- High surface quality
- Optimum application conditions
- Suitability for minimum quantity lubrication



## Time is money – the system MaxiMill HPC-12 is simple and quick to adjust!

**Highly positive rake angle of +25°**

- Low cutting forces
- Increased parallelism of surfaces
- Minimised component deformation



**Tangential concept**

- Stable location for the PCD segment and maximum process security

**Adapted PCD cutting edge**

- High impact strength when milling!
- Maximum edge stability
- Reduced built-up edge on the work piece
- The machining of Al-Si alloys with over 12 % silicon is possible without problems

**Inserts Selection**

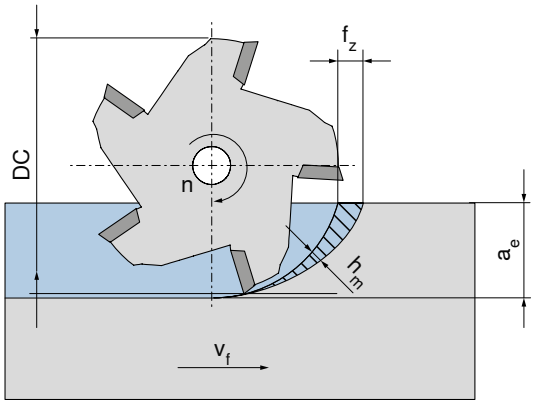
- Standard insert
- Insert with corner radius
- Insert with trailing edge

# Average chip thickness [$h_m$] – the approach

## Shoulder milling

**1** Select appropriate average chip thickness [$h_m$] for the steel from the table.

| Material | Tensile strength N/mm² | $h_m$ mm |
|---|---|---|
| for steel | ...–800 | 0,16 |
| for steel | 800–1000 | 0,14 |
| for steel | 1000–1200 | 0,12 |
| for steel | 1200–... | 0,10 |
| for stainless steel | ...–750 | 0,15 |
| for stainless steel | 750–900 | 0,13 |
| for stainless steel | 900–1150 | 0,11 |
| for stainless steel | 1150–... | 0,09 * |

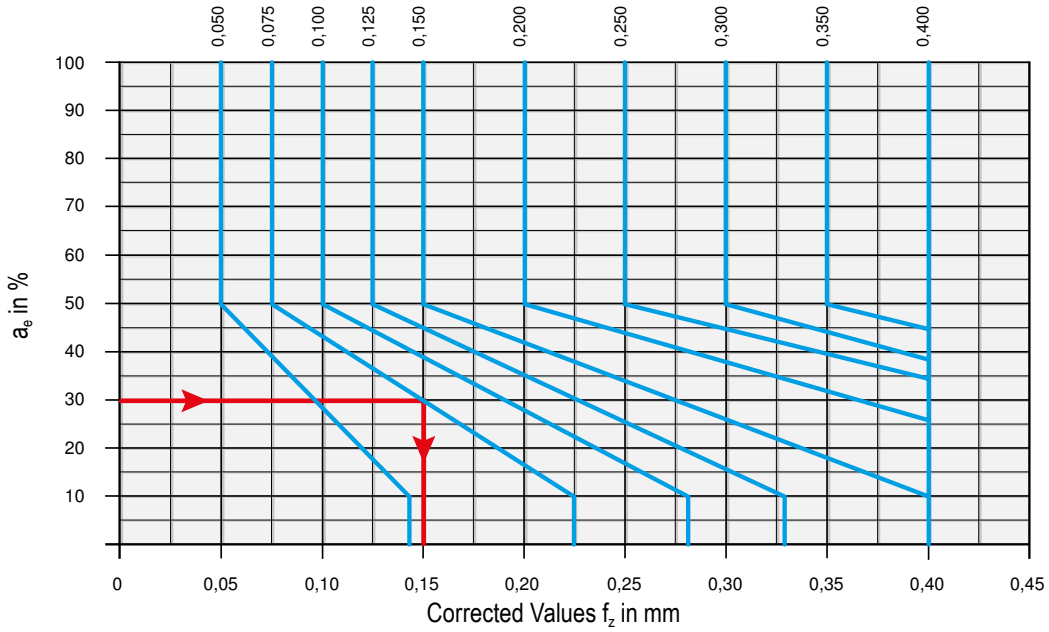



**2** Select the corrected feed rate value from the table based on the appropriate chip thickness [$h_m$] and depth of cut [$a_e$].

| $h_m$ mm | Corrected feed value $f_z$ for $h_m$ | | | | |
|---|---|---|---|---|---|
| 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 * |
| **$a_e$ =** | **0,2 x DC** | **0,3 x DC** | **0,4 x DC** | **0,75 x DC** | **1 x DC** |

* $f_z$ < 0,08 mm: Danger, as tool is not working and cutting

Start values $f_z$ in mm from starting parameter diagram



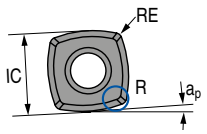

**Example:**
Start value ($f_z$) = 0.075 mm
$a_e$ = 30 %
corrected value ($f_z$) = 0.15 mm

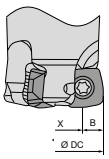
15

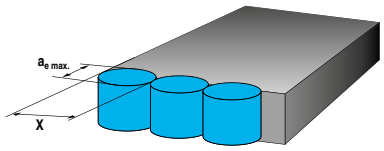
# System MaxiMill HFC-06

## Machining strategy

## Programmed radius R = 1.2 mm



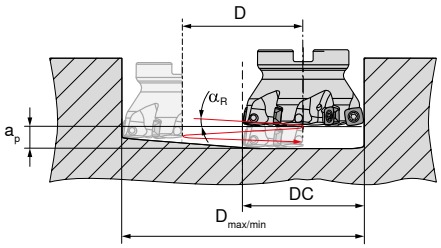




| Cutting depth and remaining material | | | Cutting width for flat surfaces | | | Cutting depth when plunging | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC in mm | RE in mm | $a_{p\ max.}$ in mm | DC in mm | X in mm | B in mm | $a_{e\ max.}$ in mm | $f_z$ in mm | | | X |
| | | | | | | | initial | min. | max. | |
| 6,35 | 0,5 | 0,8 | 16–32 | DC–(2 x B) | 4,3 | 5,3 | 0,10 | 0,08 | 0,15 | <0,7 x DC |

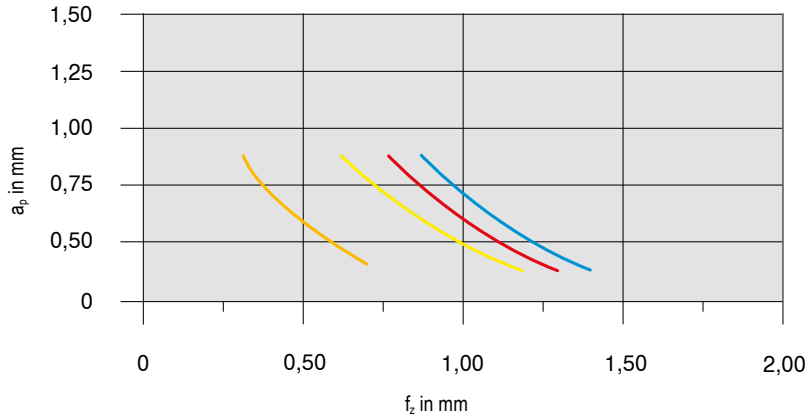
| | circular | | |
|---|---|---|---|
| | Helical plunging (helical plunging into solid material) | | |
| DC mm | $D_{min.}$ mm | $D_{max.}$ mm | $\alpha_{R\ max.}$ ° |
| 16 | 22 | 31 | 4,5° |
| 20 | 30 | 39 | 2,3° |
| 25 | 40 | 49 | 1,3° |
| 32 | 54 | 63 | 0,9° |

| | axial | Angled |
|---|---|---|
| | Plunging | |
| DC mm | $X_{max.}$ mm | $\alpha_{R\ max.}$ ° |
| 16 | 0,5 | 5,9° |
| 20 | | 3,2° |
| 25 | | 2° |
| 32 | | 1,3° |




## Starting Parameter

XPLX 06




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **XPLX 060305SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **XPLX 060305ER-M50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **XPLX 060305ER-M50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **XPLX 060305SR-F40** | **CTC5240** | 35 | Emulsion |

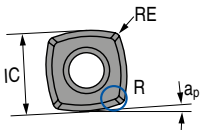
Detailed information on cutting speed for each grade can be found on → page 146–148

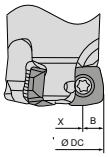
From $v_c$ > 400 m/min, the tool must be balanced!

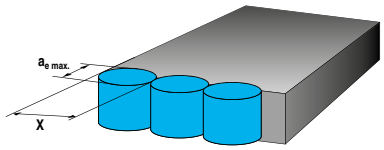
# System MaxiMill HFC-09

## Machining strategy

## Programmed radius R = 2 mm



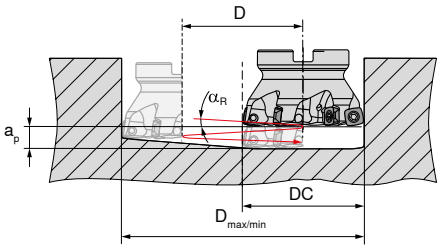




| Cutting depth and remaining material | | | Cutting width for flat surfaces | | | Cutting depth when plunging | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC in mm | RE in mm | $a_{p\,max.}$ in mm | DC in mm | X in mm | B in mm | $a_{e\,max.}$ in mm | $f_z$ in mm | | | X |
| | | | | | | | initial | min. | max. | |
| 9 | 0,8 | 1 | 25–66 | DC–(2 x B) | 5,9 | 7,5 | 0,10 | 0,08 | 0,15 | <0,7 x DC |

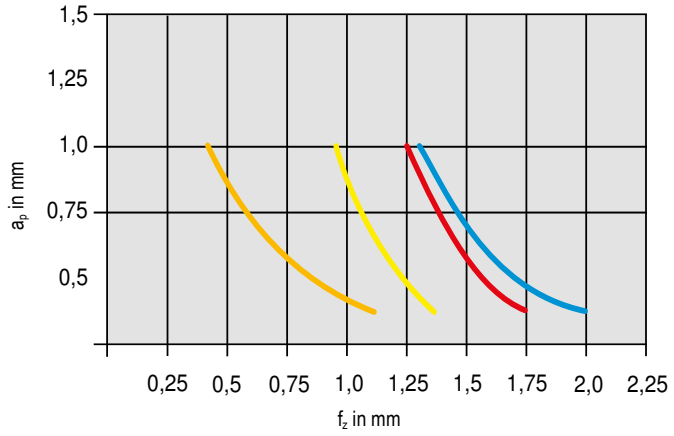
| | circular | | |
|---|---|---|---|
| | Helical plunging (helical plunging into solid material) | | |
| DC | $D_{min.}$ | $D_{max.}$ | $\alpha_{R\,max.}$ |
| mm | mm | mm | ° |
| **25** | 35 | 48 | 3,1° |
| **32** | 49 | 62 | 1,7° |
| **35** | 55 | 68 | 1,4° |
| **40** | 65 | 78 | 1,0° |
| **42** | 69 | 82 | 0,9° |
| **50** | 85 | 98 | 0,8° |
| **52** | 89 | 102 | 0,7° |
| **63** | 111 | 124 | 0,7° |
| **66** | 117 | 130 | 0,6° |

| | axial | Angled |
|---|---|---|
| | Plunging | |
| DC | $X_{max.}$ | $\alpha_{R\,max.}$ |
| mm | mm | ° |
| **25** | | 3,6° |
| **32** | | 2,0° |
| **35** | | 1,6° |
| **40** | | 1,2° |
| **42** | 0,75 | 1,1° |
| **50** | | 0,9° |
| **52** | | 0,8° |
| **63** | | 0,8° |
| **66** | | 0,7° |




## Starting Parameter

XDLX 09




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **XDLX09T308SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **XDLX09T308SR-M50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **XDLX09T308SR-M50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **XDLX09T308ER-F40** | **CTC5240** | 35 | Emulsion |

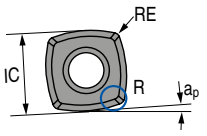
Detailed information on cutting speed for each grade can be found on → page 146–148

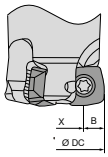
From $v_c$ > 400 m/min, the tool must be balanced!

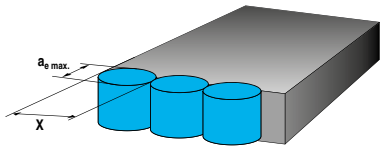
# System MaxiMill HFC-12

## Machining strategy

## Programmed radius R = 3 mm



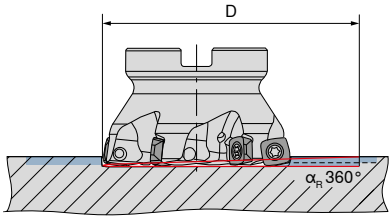




| Cutting depth and remaining material | | | Cutting width for flat surfaces | | | Cutting depth when plunging | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC in mm | RE in mm | $a_{p\,max.}$ in mm | DC in mm | X in mm | B in mm | $a_{e\,max.}$ in mm | $f_z$ in mm | | | X |
| | | | | | | | initial | min. | max. | |
| 12 | 1,0 | 2 | 32–100 | DC–(2 x B) | 8,3 | 10 | 0,15 | 0,10 | 0,20 | <0,7 x DC |

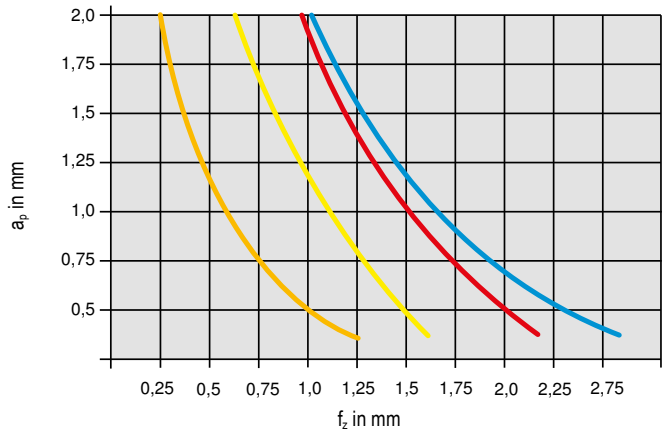
| | circular | | |
|---|---|---|---|
| | Helical plunging (helical plunging into solid material) | | |
| DC | $D_{min.}$ | $D_{max.}$ | $\alpha_{R\,max.}$ |
| mm | mm | mm | ° |
| **32** | 44 | 62 | 6,1° |
| **35** | 50 | 68 | 3,7° |
| **40** | 60 | 78 | 2,5° |
| **42** | 64 | 82 | 2,3° |
| **50** | 80 | 98 | 1,3° |
| **52** | 84 | 102 | 1,3° |
| **63** | 106 | 124 | 0,9° |
| **66** | 112 | 130 | 0,9° |
| **80** | 140 | 158 | 1,1° |
| **100** | 180 | 198 | 0,6° |

| | axial | Angled |
|---|---|---|
| | Plunging | |
| DC | $X_{max.}$ | $\alpha_{R\,max.}$ |
| mm | mm | ° |
| **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° |




## Starting Parameter

XOLX 12




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **XOLX120410SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **XOLX120410ER-M50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **XOLX120410ER-M50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **XOLX120410ER-F40** | **CTC5240** | 35 | Emulsion |

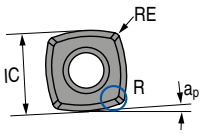
Detailed information on cutting speed for each grade can be found on → page 146–148

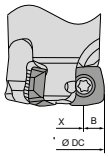
From $v_c$ > 400 m/min, the tool must be balanced!

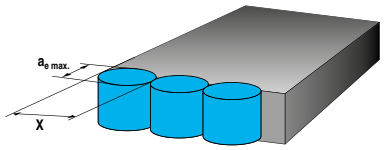
# System MaxiMill HFC-19

## Machining strategy

## Programmed radius R = 5 mm



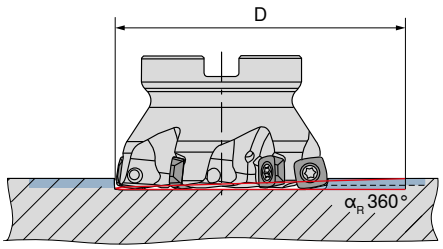




| Cutting depth and remaining material | | | Cutting width for flat surfaces | | | Cutting depth when plunging | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| IC in mm | RE in mm | $a_{p\,max.}$ in mm | DC in mm | X in mm | B in mm | $a_{e\,max.}$ in mm | $f_z$ in mm | | | X |
| | | | | | | | initial | min. | max. | |
| 19,14 | 1,5 | 3,3 | 63–160 | DC–(2 x B) | 13,1 | 12 | 0,2 | 0,10 | 0,25 | <0,65 x DC |

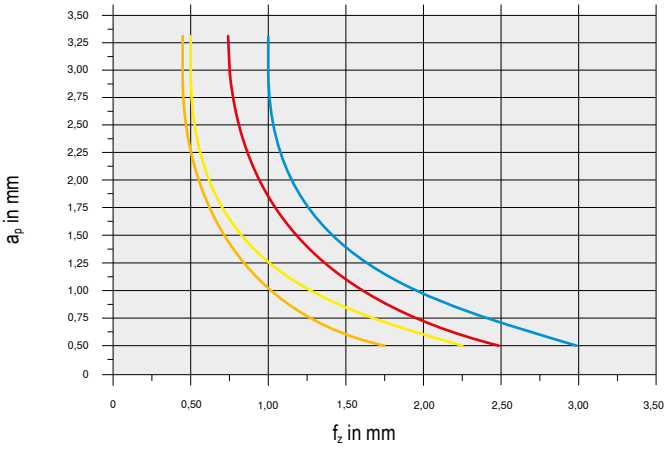
| | circular | | |
|---|---|---|---|
| | Helical plunging (helical plunging into solid material) | | |
| DC | $D_{min.}$ | $D_{max.}$ | $\alpha_{R\,max.}$ |
| mm | mm | mm | ° |
| **63** | 97 | 123 | 2,5 |
| **80** | 131 | 157 | 1,4 |
| **100** | 171 | 197 | 1,0 |
| **125** | 221 | 247 | 0,7 |
| **160** | 291 | 317 | 0,5 |

| | axial | Angled | |
|---|---|---|---|
| | | Plunging | |
| DC | $X_{max.}$ | $\alpha_{R\,max.}$ | $a_{p\,max}$ |
| mm | mm | ° | mm |
| **63** | | 2,9 | |
| **80** | | 1,8 | |
| **100** | 1,7 | 1,3 | 3,3 |
| **125** | | 1,0 | |
| **160** | | 0,7 | |




## Starting Parameter

XOLX 19




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | **P.2.2** | 40CrMnMoS 8-6 | **XOLX190615SR-M50** | **CTPP235** | 200 | Dry |
| Stainless steel | **M.1.1** | X6CrNiMoTi 1712 2 | **XOLX190615SR-M50** | **CTPM240** | 180 | Dry |
| Cast iron | **K.1.1** | EN-GJL-250 (GG25) | **XOLX190615SR-M50** | **CTCK215** | 250 | Dry |
| Heat-resistant | **S.2.2** | Inconel 718 | **XOLX190615ER-F40** | **CTC5240** | 35 | Emulsion |



Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

# System DHFC

## Cutting data standard values

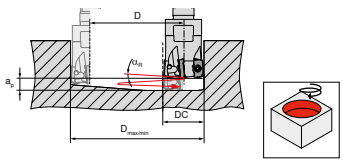
### for standard inserts

| | F | | | M | | | R | | |
|---|---|---|---|---|---|---|---|---|---|
| **Material** | $v_c$ m/min | $f_z$ mm | $a_p$ mm | $v_c$ m/min | $f_z$ mm | $a_p$ mm | $v_c$ m/min | $f_z$ mm | $a_p$ mm |
| Steel | 130–300 | 0,25–1,0 | 0,7 | 130–300 | 0,25–1,0 | 0,75 | | | |
| Stainless steel | | | | 90–210 | 0,25–1,0 | 0,60 | | | |
| Cast iron | | | | 120–270 | 0,2–1,1 | 0,70 | 120–270 | 0,2–1,2 | 0,75 |
| Non-ferrous metals | | | | | | | | | |
| Heat-resistant | | | | 40–80 | 0,15–0,75 | 0,6 | | | |
| Tempered steel | | | | | | | | | |
| Non-metal materials | | | | | | | | | |

## Machining strategy

### Programmed Radius R = 1,4 mm

**Helical plunging**




| DC mm | $D_{min}$ mm | $D_{max}$ mm | α° |
|---|---|---|---|
| 16 | 23 | 31 | 2,5 |
| 20 | 31 | 39 | 1,9 |
| 25 | 41 | 49 | 1,5 |
| 32 | 55 | 63 | 1,2 |
| 35 | 61 | 69 | 1,0 |
| 42 | 75 | 83 | 0,9 |

**Axial plunging into solid material**

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

**Angled ramping**

| DC mm | α° | y 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 |

Detailed information on cutting speed for each grade can be found on → page 146–148

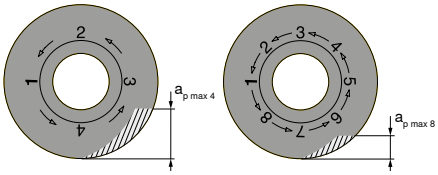
# MaxiMill 251/251 RS system

## Technical data

### Recommended cutting depth

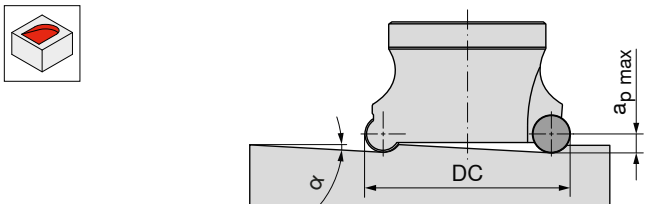
| Ø mm | 4-position $a_{p\,max.}$ mm | 4-position $a_{p\,max}$ theoretical mm | 8-face $a_{p\,max.}$ mm |
|---|---|---|---|
| 5 | 1,0 | 2,0 | 0,7 |
| 8 | 1,5 | 3,5 | 1,1 |
| 10 | 2,5 | 4,5 | 1,4 |
| 12 | 3,0 | 5,5 | 1,7 |
| 16 | 4,0 | 7,5 | 2,3 |
| 20 | 4,0 | 9,5 | 2,9 |

**Average depth for the 4/8 index use of the insert**



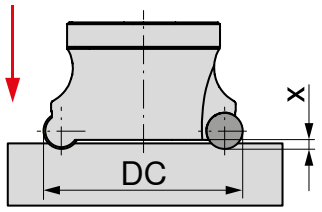

Detailed information on cutting speed for each grade can be found on → page 146–148

### Angled ramping



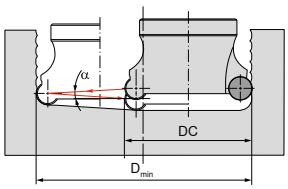

| Ø DC mm | 05 α ° | 08 α ° | 10 α ° | 12 α ° | 16 α ° | 20 α ° |
|---|---|---|---|---|---|---|
| 10 | 3,4 | | | | | |
| 12 | 16,0 | | | | | |
| 16 | 8,0 | 5,0 | | | | |
| 20 | 5,5 | 20,0 | 1,3 | | | |
| 25 | 4,0 | 13,0 | 2,0 | 6,0 | | |
| 32 | 3,0 | 8,0 | 3,0 | 4,0 | | |
| 40 | | | 3,3 | 2,8 | | |
| 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 |

### Axial ramping

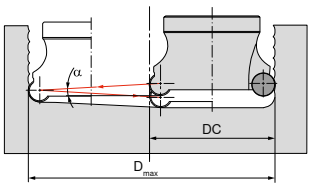



| Ø DC mm | 05 $X_{max.}$ mm | 08 $X_{max.}$ mm | 10 $X_{max.}$ mm | 12 $X_{max.}$ mm | 16 $X_{max.}$ mm | 20 $X_{max.}$ mm |
|---|---|---|---|---|---|---|
| 10 | 0,5 | | | | | |
| 12 | 1,3 | | | | | |
| 16 | 1,3 | 0,5 | | | | |
| 20 | 1,3 | 2,7 | 0,2 | | | |
| 25 | 1,3 | 2,7 | 0,4 | 1,0 | | |
| 32 | 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 |

### Helical plunging




$D_{min.}$ = smallest drilling diameter depending on the tool diameter




$D_{max.}$ = Maximum hole diameter Depending on the tool diameter

maximum possible hole diameter = 2 x DC – 1 mm

| Ø DC mm | 05 $D_{min}$ mm | 05 $D_{max}$ mm | 05 $\alpha_R$ ° | 08 $D_{min}$ mm | 08 $D_{max}$ mm | 08 $\alpha_R$ ° | 10 $D_{min}$ mm | 10 $D_{max}$ mm | 10 $\alpha_R$ ° | 12 $D_{min}$ mm | 12 $D_{max}$ mm | 12 $\alpha_R$ ° | 16 $D_{min}$ mm | 16 $D_{max}$ mm | 16 $\alpha_R$ ° | 20 $D_{min}$ mm | 20 $D_{max}$ mm | 20 $\alpha_R$ ° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

# R100. system

## Cutting data standard values

| Index | WTN1205 | WTN1205 | WAN2225 | WAN2225 | WAN1240 | WAN1240 | WAX1240 | WAX1240 | WUN4210 | WUN4210 |
|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |  |
| | $v_c$ (m/min) | | | | | | | | | |
| P.1.1 | **275** | 150 | | | **300** | 180 | **200** | 100 | | |
| P.1.2 | **230** | 130 | | | **270** | 160 | **170** | 90 | | |
| P.1.3 | **190** | 100 | | | **225** | 130 | **140** | 80 | | |
| P.1.4 | **230** | 130 | | | **270** | 160 | **170** | 90 | | |
| P.1.5 | **210** | 110 | | | **240** | 140 | **160** | 90 | | |
| P.2.1 | **230** | 130 | | | **270** | 160 | **170** | 90 | | |
| P.2.2 | **170** | 100 | | | **200** | 120 | **130** | 70 | | |
| P.2.3 | **230** | 130 | | | **270** | 160 | **170** | 90 | | |
| P.2.4 | **160** | 90 | | | **180** | 110 | **120** | 60 | | |
| P.3.1 | **230** | 130 | | | **270** | 160 | **170** | 90 | | |
| P.3.2 | **150** | 110 | | | **180** | 140 | **140** | 80 | | |
| P.3.3 | **130** | 90 | | | **150** | 120 | **120** | 70 | | |
| P.4.1 | **150** | 110 | | | **180** | 140 | **140** | 80 | | |
| P.4.2 | **150** | 100 | | | **170** | 130 | **130** | 70 | | |
| M.1.1 | **230** | 130 | **230** | **140** | 270 | 160 | 170 | 90 | | |
| M.2.1 | | | **200** | **120** | | | | | | |
| M.3.1 | | | | | | | | | | |
| K.1.1 | **275** | 200 | | | 360 | 90 | 150 | 110 | 200 | 150 |
| K.1.2 | **150** | 100 | | | 360 | 90 | 150 | 110 | 150 | 120 |
| K.2.1 | **180** | 100 | | | 230 | 170 | 150 | 110 | 200 | 150 |
| K.2.2 | **150** | 100 | | | 160 | 110 | 150 | 110 | 160 | 130 |
| K.3.1 | **180** | 100 | | | 210 | 160 | | | 200 | 150 |
| K.3.2 | **180** | 100 | | | 210 | 160 | | | 150 | 120 |
| N.1.1 | | | | | | | | | | **1200** |
| N.1.2 | | | | | | | | | | **800** |
| N.2.1 | | | | | | | | | | **880** |
| N.2.2 | | | | | | | | | | **800** |
| N.2.3 | | | | | | | | | | **230** |
| N.3.1 | | | | | | | | | | **280** |
| N.3.2 | | | | | | | | | | **280** |
| N.3.3 | | | | | | | | | | **160** |
| N.4.1 | | | | | | | | | | **260** |
| S.1.1 | | | | **50** | | | | | | |
| S.1.2 | | | | **45** | | | | | | |
| S.2.1 | | | | **24** | | | | | | |
| S.2.2 | | | | **16** | | | | | | |
| S.2.3 | | | | **20** | | | | | | |
| S.3.1 | | | | **50** | | | | | | |
| S.3.2 | | | | **32** | | | | | | |
| S.3.3 | | | | **25** | | | | | | |
| H.1.1 | **140** | 80 | | | | | | | | |
| H.1.2 | **120** | 70 | | | | | | | | |
| H.1.3 | 80 | 40 | | | | | | | | |
| H.1.4 | | | | | | | | | | |
| H.2.1 | | | | | | | | | | |
| H.3.1 | | | | | | | | | | |
| O.1.1 | | | | | | | | | 180 | 150 |
| O.1.2 | | | | | | | | | | |
| O.2.1 | | | | | | | | | 260 | 230 |
| O.2.2 | | | | | | | | | | |
| O.3.1 | | | | | | | | | 450 | |

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

# System R 1000, 1002, 1007

## Cutting data standard values

| | | $f_z$ / $a_p$ mm | WTN1205 | WAN2225 | WAN1240 | WAX1240 | WUN4210 |
|---|---|---|---|---|---|---|---|
| **Steel** | | | | | | | |
|  | 0501 | $f_z$ | **0,1–0,3** | | | | |
| | | $a_p$ | **0,1–0,3** | | | | |
|  | 0702 | $f_z$ | **0,1–0,7** | | | **0,2–0,5** | 0,1–0,2 |
| | | $a_p$ | **0,1–0,7** | | | **0,1–0,75** | 0,1–0,2 |
|  | 1003 | $f_z$ | **0,1–0,3** | | **0,2–0,9** | **0,2–0,7** | 0,15–0,3 |
| | | $a_p$ | **0,1–1,0** | | **0,2–1,5** | **0,2–1,5** | 0,1–0,3 |
|  | 12T3 | $f_z$ | **0,1–0,3** | | **0,25–1,0** | **0,–0,8** | 0,15–0,3 |
| | | $a_p$ | **0,1–1,5** | | **0,2–2,0** | **0,2–2,0** | 0,1–0,3 |
|  | 1604 | $f_z$ | **0,2–0,3** | | **0,3–1,2** | **0,25–1,0** | 0,15–0,3 |
| | | $a_p$ | **0,2–1,5** | | **0,25–3,0** | **0,2–3,0** | 0,1–0,4 |
| **Stainless steel** | | | | | | | |
|  | 0501 | $f_z$ | 0,1–0,15 | | | | |
| | | $a_p$ | 0,1–0,15 | | | | |
|  | 0702 | $f_z$ | 0,1–0,2 | | | 0,2–0,5 | 0,1–0,2 |
| | | $a_p$ | 0,1–0,2 | | | 0,1–0,75 | 0,1–0,2 |
|  | 1003 | $f_z$ | 0,15–0,3 | **0,15–0,6** | | 0,2–0,7 | 0,15–0,3 |
| | | $a_p$ | 0,1–0,3 | **0,4–1,0** | | 0,2–1,5 | 0,1–0,3 |
|  | 12T3 | $f_z$ | 0,15–0,3 | **0,2–0,8** | | 0,–0,8 | 0,15–0,3 |
| | | $a_p$ | 0,1–0,3 | **0,5–2,0** | | 0,2–2,0 | 0,1–0,3 |
|  | 1604 | $f_z$ | 0,15–0,3 | **0,3–1,0** | | 0,25–1,0 | 0,15–0,3 |
| | | $a_p$ | 0,1–0,3 | **0,6–3,0** | | 0,2–3,0 | 0,1–0,3 |
| **Cast iron** | | | | | | | |
|  | **0501** | $f_z$ | **0,1–0,2** | | | | |
| | | $a_p$ | **0,1–0,3** | | | | |
|  | **0702** | $f_z$ | **0,1–0,3** | | | 0,1–0,3 | 0,1–0,3 |
| | | $a_p$ | **0,1–0,7** | | | 0,1–0,7 | 0,1–0,7 |
|  | **1003** | $f_z$ | **0,15–0,3** | | 0,1–0,3 | 0,1–0,3 | 0,15–0,3 |
| | | $a_p$ | **0,1–1,0** | | 0,1–1,0 | 0,1–1,0 | 0,1–1,0 |
|  | **12T3** | $f_z$ | **0,15–0,4** | | 0,1–0,4 | 0,1–0,4 | 0,15–0,4 |
| | | $a_p$ | **0,1–1,5** | | 0,1–1,15 | 0,1–1,5 | 0,1–1,5 |
|  | **1604** | $f_z$ | **0,2–0,5** | | 0,2–0,05 | 0,2–0,5 | 0,2–0,5 |
| | | $a_p$ | **0,2–3,0** | | 0,2–2,0 | 0,2–3,0 | 0,2–3,0 |

# System R 1000, 1002, 1007

## Cutting data standard values

| | | $f_z$ / $a_p$ mm | WTN1205 | WAN2225 | WAN1240 | WAX1240 | WUN4210 |
|---|---|---|---|---|---|---|---|
| **Non-ferrous metals** | | | | | | | |
| | 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** |
| **Heat-resistant** | | | | | | | |
| | 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** | | | |
| **Tempered steel** | | | | | | | |
| | **0501** | $f_z$ | **0,1–0,15** | | | | |
| | | $a_p$ | **0,1–0,2** | | | | |
| | **0702** | $f_z$ | **01–0,2** | | | | |
| | | $a_p$ | **0,1–0,3** | | | | |
| | **1003** | $f_z$ | **0,1–0,2** | | | | |
| | | $a_p$ | **0,1–0,5** | | | | |
| | **12T3** | $f_z$ | **0,1–0,25** | | | | |
| | | $a_p$ | **0,1–0,7** | | | | |
| | **1604** | $f_z$ | **0,15–0,3** | | | | |
| | | $a_p$ | **0,2–1,0** | | | | |
| **Non-metal materials** | | | | | | | |
| | **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 |

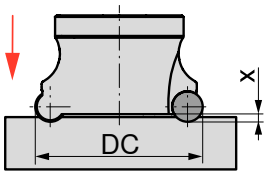
WTN 1205

**Up to 48 HRC:** $a_p$-range as indicated in the table
**Up to 55 HRC:** maximum value $a_p$ x 0,7
**Up to 65 HRC:** maximum value $a_p$ x 0,5

# System R 1000, 1002, 1007

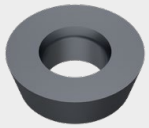
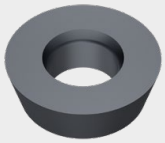
## Machining strategy

### Axial ramping

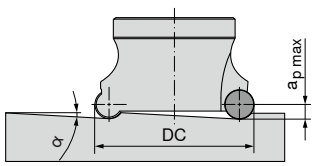


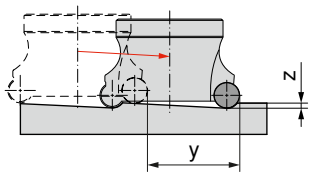

reduce $f_z$ to 30% according to application table

→ vc Page 182–184

| | 05  | 07  | 10  | 12  | 16  |
|---|---|---|---|---|---|
| Ø DC mm | $X_{max.}$ mm | $X_{max.}$ mm | $X_{max.}$ mm | $X_{max.}$ mm | $X_{max.}$ mm |
| **8–160** | 1,0 | 1,2 | 2,5 | 3,0 | 4,0 |

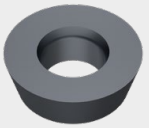
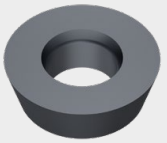
### Angled ramping




y = minimum cutter movement
z = minimum cutter movement
$a_p$ / $f_z$ application table

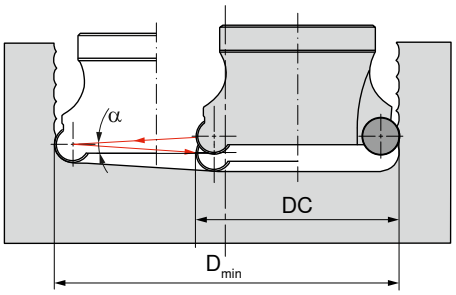
→ vc Page 182–184

| | 05  | | | 07  | | | 10  | | | 12  | | | 16  | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø DC mm | α° | y mm | z mm | α° | y mm | z mm | α° | y mm | z mm | α° | y mm | z mm | α° | y mm | z 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** | | | | | | | | | | | | | | | |
| **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 |
| **80** | | | | | | | | | | 3,0 | 58 | < 3,0 | 4,6 | 50 | < 4,0 |
| **100** | | | | | | | | | | | | | 3,3 | 70 | < 4,0 |
| **125** | | | | | | | | | | | | | 2,4 | 95 | < 4,0 |
| **160** | | | | | | | | | | | | | 1,8 | 130 | < 4,0 |

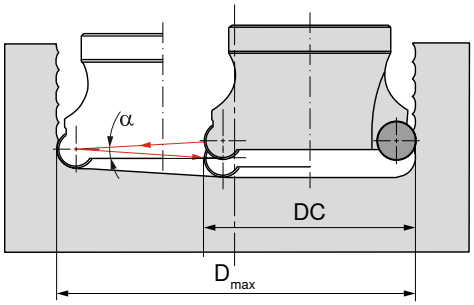
# System R 1000, 1002, 1007

## Machining strategy

### Helical plunging




$D_{min}$ = smallest drilling diameter depending on the tool diameter




$D_{max}$ = largest drilling diameter depending on the tool diameter

$a_p$ / $f_z$ according to table

→ vc Page 182–184

| | 05 | | | 07 | | | 10 | | | 12 | | | 16 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ø DC mm | α° | y mm | z mm | α° | y mm | z mm | α° | y mm | z mm | α° | y mm | z mm | α° | y mm | z 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 | | | 38,7 | 5 | < 4,0 |
| **40** | | | | | | | | | | | 42 | 80 | | | |
| **42** | | | 72 | 84 | 66 | 84 | 62 | 84 | | | | | | | |
| **50** | | | | | | | | | | | 62 | 100 | | | |
| **52** | | | | | 86 | 104 | 82 | 104 | 74 | 104 | | | 10,3 | 22 | < 4,0 |
| **66** | | | | | | | 110 | 132 | 102 | 132 | 94 | 132 | 6,4 | 36 | < 4,0 |
| **80** | | | | | | | 138 | 160 | 130 | 160 | 122 | 160 | 4,6 | 50 | < 4,0 |
| **100** | | | | | | | | | 170 | 200 | 162 | 200 | 3,3 | 70 | < 4,0 |
| **125** | | | | | | | | | 220 | 250 | 212 | 250 | 2,4 | 95 | < 4,0 |
| **160** | | | | | | | | | 290 | 320 | 282 | 320 | 1,8 | 130 | < 4,0 |

# System MaxiMill 252

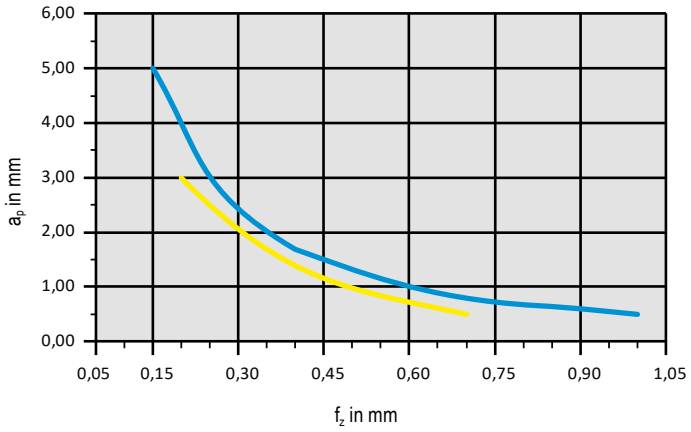
## Machining strategy

### Recommended cutting depth

| Ø mm | 4-position $a_{p\,max}$ mm | mm |
|---|---|---|
| 10 | 2,5 | 4,5 |
| 12 | 3,0 | 5,5 |

## Starting Parameter

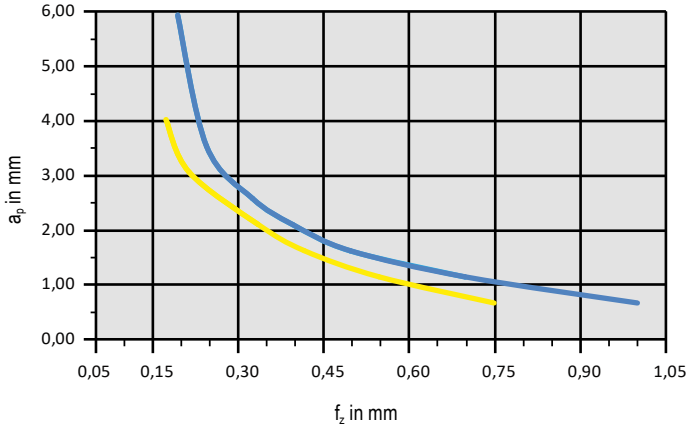
RNHU 10




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | P.2.2 | 40CrMnMoS 8-6 | XOLX120410SR-M50 | CTPP235 | 180 | Dry |
| Stainless steel | M.1.1 | X6CrNiMoTi 1712 2 | XOLX120410ER-M50 | CTPM240 | 180 | Dry |

## Starting Parameter

RNHU 12




| Material | | | Inserts | | $v_c$ in m/min | Cooling |
|---|---|---|---|---|---|---|
| Steel | P.2.2 | 40CrMnMoS 8-6 | XOLX120410SR-M50 | CTPP235 | 180 | Dry |
| Stainless steel | M.1.1 | X6CrNiMoTi 1712 2 | XOLX120410ER-M50 | CTPM240 | 180 | Dry |



Detailed information on cutting speed for each grade can be found on → page 146–148

From $v_c$ > 400 m/min, the tool must be balanced!

# Cutting data standard values for copy milling cutter K200.

| Index | CTPK226 | | CTPP211 | | CTPK231 | | CTCN211 | | CTPP216 | | ● 1st choice ○ suitable | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | F | R | F | R | F | R | F | R | F | Emulsion | Compressed air | MMS |
| | $v_c$ (m/min) | | | | | | | | | | | | |
| P.1.1 | | 280–300 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | ● |
| P.1.2 | | 220–240 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | ● |
| P.1.3 | | 220–240 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | |
| P.1.4 | | 220–240 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | |
| P.1.5 | | 220–240 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | |
| P.2.1 | | 280–300 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | ● |
| P.2.2 | | 280–300 | 180–220 | 220–300 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | ● |
| P.2.3 | | 280–300 | 180–220 | 240–320 | 160–200 | | | | 250–360 | 240–320 | ○ | ● | |
| P.2.4 | | 280–300 | 180–220 | 240–320 | 160–200 | | | | 250–360 | 240–320 | ○ | ● | |
| P.3.1 | | 280–300 | 180–220 | 220–280 | 160–200 | | | | 220–300 | 280–300 | ○ | ● | |
| P.3.2 | | 280–320 | 180 – 220 | 240–320 | 160–200 | | | | 250–360 | 240–320 | ○ | ● | ● |
| P.3.3 | | 280–320 | 180 – 220 | 240–320 | 160–200 | | | | 250–360 | 240–320 | ○ | ● | ● |
| P.4.1 | | 220–220 | 140–180 | 200–240 | 120–180 | | | | 140–180 | 200–240 | ○ | ● | |
| P.4.2 | | 220–220 | 140–180 | 200–240 | 120–180 | | | | 140–180 | 200–240 | ○ | ● | |
| M.1.1 | | 180–200 | 140–160 | 180–200 | 120–160 | | | | 220–250 | 220–240 | ● | ○ | |
| M.2.1 | | 180–200 | 140–160 | 180–240 | 120–160 | | | | 220–250 | 220–240 | ● | | |
| M.3.1 | | 220–220 | 140–180 | 200–240 | 120–180 | | | | 140–180 | 200–240 | ● | | |
| K.1.1 | | 280–300 | 160–200 | 200–300 | 120–200 | | | | 240–350 | 240–260 | | ● | ○ |
| K.1.2 | | 280–300 | 160–200 | 200–300 | 120–200 | | | | 240–350 | 240–260 | | ● | ○ |
| K.2.1 | | 280–300 | 160–200 | 200–300 | 120–200 | | | | 240–350 | 240–260 | | ● | ○ |
| K.2.2 | | 300–350 | 180–220 | 240–350 | 180–200 | | | | 340–400 | 240–360 | | ● | ○ |
| K.3.1 | | 300–350 | 180–220 | 240–350 | 180–200 | | | | 340–400 | 240–360 | | ● | ○ |
| K.3.2 | | 240–260 | 160–200 | 220–260 | 160–200 | | | | 280–340 | 220–300 | | ● | ○ |
| N.1.1 | | | 240–280 | 300–600 | 300–600 | | | | | 400–450 | ● | | |
| N.1.2 | | | 240–280 | 300–600 | 300–600 | | | | | 400–450 | ● | | |
| N.2.1 | | | 240–280 | 300–600 | 300–600 | | | | | 400–450 | ● | | |
| N.2.2 | | | 240–280 | 300–600 | 300–600 | | | | | 400–450 | ● | | |
| N.2.3 | | | | | | | | | | 300–400 | ● | | |
| N.3.1 | | | 240–280 | 280–320 | 240–280 | | | | | 300–400 | ● | | |
| N.3.2 | | | 240–280 | 280–320 | 240–280 | | | | | 300–400 | ● | | |
| N.3.3 | | | 240–280 | 280–320 | 240–280 | | | | | 300–400 | ● | | |
| N.4.1 | | | 300–400 | 300–400 | | | | 300–400 | | | ● | | |
| S.1.1 | | | | 80–120 | 80–120 | | | | | 60–80 | ● | | |
| S.1.2 | | | | 80–120 | 80–120 | | | | | 60–80 | ● | | |
| S.2.1 | | | | 80–120 | 80–120 | | | | | 60–80 | ● | | |
| S.2.2 | | | | 80–120 | 80–120 | | | | | 60–80 | ● | | |
| S.2.3 | | | | 80–120 | 80–120 | | | | | 60–80 | ● | | |
| S.3.1 | | | | 60–80 | 80–120 | | | | | 60–80 | ● | | |
| S.3.2 | | | | 60–80 | 60–80 | | | | | 60–80 | ● | ○ | |
| S.3.3 | | | | 60–80 | 60–80 | | | | | 60–80 | ● | ○ | |
| H.1.1 | | 240–260 | | 280–300 | 140–160 | | | | 240–260 | 240–260 | | ● | |
| H.1.2 | | 240–260 | | 280–300 | 80–100 | | | | 220–240 | 160–240 | | ● | ○ |
| H.1.3 | | 200–220 | | 240–260 | | | | | 120–140 | 100–140 | | ● | ○ |
| H.1.4 | | 120–140 | | 160–200 | | | | | | | | ● | ○ |
| H.2.1 | | 240–260 | | 280–300 | 80–100 | | | | 220–240 | 160–240 | | ● | ○ |
| H.3.1 | | 240–260 | | 280–300 | 80–100 | | | | 220–240 | 160–240 | | ● | |
| O.1.1 | | | 300–400 | 300–400 | | | | | | 300–350 | | ● | |
| O.1.2 | | | 500–600 | 500–600 | | | | | | 600–800 | | ● | |
| O.2.1 | | | 300–400 | 300–400 | | | | | | | | ● | |
| O.2.2 | | | 300–400 | 300–400 | | | | | | | | ● | |
| O.3.1 | | | | | | | 400–600 | 600–800 | | | | ● | |

# Cutting data standard values for copy milling cutter K200.

| Index | Roughing (R) | | Finishing (F) | | only for -MR3 Roughing (R) | | ● 1st choice ○ suitable | | |
|---|---|---|---|---|---|---|---|---|---|
| | Ø 6-16 | Ø 20-32 | Ø 6-16 | Ø 20-32 | Ø 6-16 | Ø 20-32 | Emulsion | Compressed air | MMS |
| | $f_z$ (mm/tooth) | | | | | | | | |
| P.1.1 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | ● | ● |
| P.1.2 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | ● | ● |
| P.1.3 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | | ● |
| P.1.4 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | | ● |
| P.1.5 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | | ● |
| P.2.1 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | ● | ● |
| P.2.2 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | ● | ● |
| P.2.3 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | | ● |
| P.2.4 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | | ● |
| P.3.1 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | | ● |
| P.3.2 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | ● | ● |
| P.3.3 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,6** | **0,8–1,25** | ○ | ● | ● |
| P.4.1 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | | ● |
| P.4.2 | 0,08–0,4 | **0,25–0,5** | **0,08–0,3** | **0,2–0,8** | **0,3–0,8** | **1,2–1,5** | ○ | | ● |
| M.1.1 | 0,08–0,4 | **0,25–0,5** | 0,08–0,3 | 0,2–0,5 | **0,3–0,6** | 0,8–1,5 | ● | ○ | |
| M.2.1 | 0,08–0,4 | **0,25–0,5** | 0,08–0,4 | 0,2–0,6 | **0,3–0,6** | 0,8–1,25 | ● | | |
| M.3.1 | 0,08–0,4 | **0,25–0,5** | 0,08–0,5 | 0,2–0,7 | **0,3–0,6** | 0,8–1,25 | ● | | |
| K.1.1 | 0,08–0,4 | **0,25–0,5** | 0,08–0,3 | 0,2–0,5 | **0,3–0,8** | 1,0–1,5 | | ● | ○ |
| K.1.2 | 0,08–0,5 | **0,25–0,6** | 0,08–0,4 | 0,2–0,6 | **0,3–0,8** | 1,0–1,5 | | ● | ○ |
| K.2.1 | 0,08–0,6 | **0,25–0,7** | 0,08–0,5 | 0,2–0,7 | **0,3–0,8** | 1,0–1,5 | | ● | ○ |
| K.2.2 | 0,08–0,7 | **0,25–0,8** | 0,08–0,6 | 0,2–0,8 | **0,3–0,6** | 0,8–1,25 | | ● | ○ |
| K.3.1 | 0,08–0,8 | **0,25–0,9** | 0,08–0,7 | 0,2–0,9 | **0,3–0,6** | 0,8–1,25 | | ● | ○ |
| K.3.2 | 0,08–0,9 | **0,25–0,10** | 0,08–0,8 | 0,2–0,10 | **0,3–0,6** | 0,8–1,25 | | ● | ○ |
| N.1.1 | 0,08–0,35 | 0,25–0,45 | 0,06–0,25 | 0,025–0,45 | | | ● | | |
| N.1.2 | 0,08–0,36 | 0,25–0,46 | 0,06–0,26 | 0,025–0,46 | | | ● | | |
| N.2.1 | 0,08–0,37 | 0,25–0,47 | 0,06–0,27 | 0,025–0,47 | | | ● | | |
| N.2.2 | 0,08–0,38 | 0,25–0,48 | 0,06–0,28 | 0,025–0,48 | | | ● | | |
| N.2.3 | 0,08–0,39 | 0,25–0,49 | 0,06–0,29 | 0,025–0,49 | | | ● | | |
| N.3.1 | 0,08–0,40 | 0,25–0,50 | 0,06–0,30 | 0,025–0,50 | | | ● | | |
| N.3.2 | 0,08–0,41 | 0,25–0,51 | 0,06–0,31 | 0,025–0,51 | | | ● | | |
| N.3.3 | 0,08–0,42 | 0,25–0,52 | 0,06–0,32 | 0,025–0,52 | | | ● | | |
| N.4.1 | 0,08–0,43 | 0,25–0,53 | 0,06–0,33 | 0,025–0,53 | | | ● | | |
| S.1.1 | 0,08–0,3 | 0,15–0,4 | 0,05–0,2 | 0,15–0,25 | 0,25–0,5 | 0,6–1,0 | ● | | |
| S.1.2 | 0,08–0,3 | 0,15–0,4 | 0,05–0,2 | 0,15–0,25 | 0,25–0,5 | 0,6–1,0 | ● | | |
| S.2.1 | 0,08–0,3 | 0,15–0,4 | 0,05–0,2 | 0,15–0,25 | 0,25–0,5 | 0,6–1,0 | ● | | |
| S.2.2 | 0,08–0,3 | 0,15–0,4 | 0,05–0,2 | 0,15–0,25 | 0,25–0,5 | 0,6–1,0 | ● | | |
| S.2.3 | 0,08–0,3 | 0,15–0,4 | 0,05–0,2 | 0,15–0,25 | 0,25–0,5 | 0,6–1,0 | ● | | |
| S.3.1 | 0,08–0,3 | 0,15–0,4 | 0,05–0,2 | 0,15–0,25 | 0,25–0,5 | 0,6–1,0 | ● | | |
| S.3.2 | 0,08–0,35 | 0,4–0,5 | 0,08–0,3 | 0,25–0,5 | 0,25–0,5 | 0,6–1,0 | ● | ○ | |
| S.3.3 | 0,08–0,35 | 0,4–0,5 | 0,08–0,3 | 0,25–0,5 | 0,25–0,5 | 0,6–1,0 | ● | ○ | |
| H.1.1 | | | | | | | | ● | |
| H.1.2 | | | | | | | | ● | ○ |
| H.1.3 | | | | | | | | ● | ○ |
| H.1.4 | | | | | | | | ● | ○ |
| H.2.1 | | | | | | | | ● | ○ |
| H.3.1 | | | | | | | | ● | |
| O.1.1 | | | | | | | | ● | |
| O.1.2 | | | | | | | | ● | |
| O.2.1 | | | | | | | | ● | |
| O.2.2 | | | | | | | | ● | |
| O.3.1 | | | | | | | | ● | |

# Maximum axial depths of cut $a_p$ for copy milling cutter K200.

| Ball nose insert | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Insert Ø in 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 | | | | | |

*$a_p$ with full interference 25 % of Ø DC maximum!

| Torus inserts | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Insert Ø in 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** | | | | | | | | |

## Ranges of application of geometry

| Inserts | F | M | R | Main Application |
|---|---|---|---|---|
| XOHX-FM1 | ● | ● | | Steel, steel casting, heat resistant steel, hardened steel to 63 HRc |
| XOHX-FM2 | ● | ● | | Steel, steel casting, heat resistant steel, hardened steel to 60 HRc |
| ROHX-FM3 | ● | ● | | Steel, steel casting, heat resistant steel |
| ROHX-FM4 | ● | ● | | Steel, steel casting, heat resistant steel, hardened steel to 60 HRc |
| XOHX-FM5 | ● | ● | | Steel, steel casting, heat resistant steel, hardened steel to 60 HRc |
| ROHX-FM6 | ● | ● | ● | Non ferrous metals, plastics, graphite |
| XOHX-MR2 | | ● | ● | long-chipping ferrous metals |
| XOHX-MR3 | | ● | ● | Steel, steel casting, heat resistant steel |
| ROGX-MR4 | | ● | ● | Steel, steel casting, heat resistant steel |
| XOGX-MF4 | ● | ● | | Steel, steel casting, heat resistant steel |
| ROHX-MR5 | | ● | ● | long-chipping ferrous metals |
| XOHX-MR6 | | ● | ● | long-chipping ferrous metals |

# Cutting data standard values for MaxiMill Slot-SX saws

| Index | CTCP335 | CTP1340 | H216T |
|---|---|---|---|
| | $v_c$ in m/min. | | |
| P.1.1 | **240** | **190** | |
| P.1.2 | **210** | **160** | |
| P.1.3 | **180** | **140** | |
| P.1.4 | **160** | **130** | |
| P.1.5 | **140** | **120** | |
| P.2.1 | **220** | **170** | |
| P.2.2 | **160** | **130** | |
| P.2.3 | **140** | **120** | |
| P.2.4 | **100** | **80** | |
| P.3.1 | **130** | **120** | |
| P.3.2 | **110** | **100** | |
| P.3.3 | **90** | **80** | |
| P.4.1 | **140** | **120** | |
| P.4.2 | **120** | **110** | |
| M.1.1 | 110 | **130** | |
| M.2.1 | 100 | **120** | |
| M.3.1 | 80 | **100** | |
| K.1.1 | **300** | 200 | 140 |
| K.1.2 | **240** | 180 | 115 |
| K.2.1 | **200** | 120 | 150 |
| K.2.2 | **160** | 100 | 110 |
| K.3.1 | **190** | 120 | 170 |
| K.3.2 | **160** | 100 | 140 |
| N.1.1 | | 300 | **500** |
| N.1.2 | | 200 | **330** |
| N.2.1 | | 250 | **370** |
| N.2.2 | | 220 | **330** |
| N.2.3 | | 200 | **280** |
| N.3.1 | | 300 | **350** |
| N.3.2 | | 300 | **350** |
| N.3.3 | | 200 | **320** |
| N.4.1 | | 200 | **320** |
| S.1.1 | | **70** | |
| S.1.2 | | **60** | |
| S.2.1 | | **35** | |
| S.2.2 | | **25** | |
| S.2.3 | | **30** | |
| S.3.1 | | **60** | |
| S.3.2 | | **50** | |
| S.3.3 | | **40** | |
| H.1.1 | | | |
| H.1.2 | | | |
| H.1.3 | | | |
| H.1.4 | | | |
| H.2.1 | | | |
| H.3.1 | | | |
| O.1.1 | | | 160 |
| O.1.2 | | | |
| O.2.1 | | | 240 |
| O.2.2 | | | |
| O.3.1 | | | |

average chip thickness

$h_m$ in mm

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

Feed per tooth

$f_z$ in mm

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

Feed rate

$v_f$ in mm/min

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

DC = Ø of the disc cutters

ZNF = Number of teeth of the cutter

| | Reference tool 50 386 12504 – ASLOT.125.R.8.32.DC-SX4 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SX4 -F2 | | | | SX4 -M1 | | | | SX4 -M7 | | | |
| | $a_e$ | 10 | 20 | 30 | $a_e$ | 10 | 20 | 30 | $a_e$ | 10 | 20 | 30 |
| | **hm** | $f_z$ in mm | | | **hm** | $f_z$ in mm | | | **hm** | $f_z$ in mm | | |
| P | **0,08** | 0,28 | 0,20 | 0,16 | **0,1** | 0,30 | 0,25 | 0,20 | **0,09** | 0,30 | 0,23 | 0,18 |
| M | **0,05** | 0,18 | 0,13 | 0,10 | | | | | **0,06** | 0,21 | 0,15 | 0,12 |
| K | | | | | **0,12** | 0,30 | 0,30 | 0,24 | **0,09** | 0,30 | 0,23 | 0,18 |
| N | **0,08** | 0,28 | 0,20 | 0,16 | | | | | | | | |
| S | **0,04** | 0,14 | 0,10 | 0,08 | | | | | | | | |
| H | | | | | | | | | | | | |
| O | | | | | | | | | | | | |

| | Reference tool 50 386 12504 – ASLOT.125.R.8.32.DC-SX4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | SX4 -M8 | | | | SX4 -27P | | | |
| | $a_e$ | 10 | 20 | 30 | $a_e$ | 10 | 20 | 30 |
| | **hm** | $f_z$ in mm | | | **hm** | $f_z$ in mm | | |
| P | **0,08** | 0,28 | 0,20 | 0,16 | | | | |
| M | **0,05** | 0,18 | 0,13 | 0,10 | | | | |
| K | | | | | **0,06** | 0,21 | 0,15 | 0,12 |
| N | **0,08** | 0,28 | 0,20 | 0,16 | **0,09** | 0,30 | 0,23 | 0,18 |
| S | **0,04** | 0,14 | 0,10 | 0,08 | | | | |
| H | | | | | | | | |
| O | | | | | **0,05** | 0,18 | 0,13 | 0,10 |

Caution: For narrower and wider indexable inserts, reduce or increase the feed per tooth accordingly!

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

# Cutting data for side and face milling cutters TX

| Index | CWX500 | | CWK10 |
|---|---|---|---|
| | $v_c$ (m/min) | hm (mm) | $v_c$ (m/min) |
| P.1.1 | 160 | 0,10 | |
| P.1.2 | 140 | 0,10 | |
| P.1.3 | 110 | 0,08 | |
| P.1.4 | 110 | 0,10 | |
| P.1.5 | 90 | 0,08 | |
| P.2.1 | 110 | 0,10 | |
| P.2.2 | 90 | 0,08 | |
| P.2.3 | 90 | 0,10 | |
| P.2.4 | 80 | 0,08 | |
| P.3.1 | 80 | 0,05 | |
| P.3.2 | 60 | 0,10 | |
| P.3.3 | 50 | 0,08 | |
| P.4.1 | 100 | 0,05 | |
| P.4.2 | 90 | 0,08 | |
| M.1.1 | 110 | 0,08 | |
| M.2.1 | 90 | 0,08 | |
| M.3.1 | 70 | 0,08 | |
| K.1.1 | 140 | 0,10 | |
| K.1.2 | 100 | 0,10 | |
| K.2.1 | 90 | 0,08 | |
| K.2.2 | 80 | 0,05 | |
| K.3.1 | 140 | 0,10 | |
| K.3.2 | 120 | 0,10 | |
| N.1.1 | 600 | 0,12 | 250 |
| N.1.2 | 400 | 0,12 | 230 |
| N.2.1 | 220 | 0,10 | 210 |
| N.2.2 | 180 | 0,10 | 190 |
| N.2.3 | 140 | 0,10 | 120 |
| N.3.1 | 240 | 0,12 | 200 |
| N.3.2 | 200 | 0,12 | 180 |
| N.3.3 | 180 | 0,12 | 160 |
| N.4.1 | 180 | 0,12 | 160 |
| S.1.1 | 60 | 0,05 | |
| S.1.2 | 50 | 0,05 | |
| S.2.1 | 60 | 0,05 | |
| S.2.2 | 50 | 0,05 | |
| S.2.3 | 40 | 0,05 | |
| S.3.1 | 60 | 0,06 | |
| S.3.2 | 40 | 0,06 | |
| S.3.3 | 30 | 0,06 | |
| H.1.1 | | | |
| H.1.2 | | | |
| H.1.3 | | | |
| H.1.4 | | | |
| H.2.1 | | | |
| H.3.1 | | | |
| O.1.1 | 180 | 0,10 | 160 |
| O.1.2 | 180 | 0,10 | 160 |
| O.2.1 | 150 | 0,10 | 120 |
| O.2.2 | 110 | 0,10 | 100 |
| O.3.1 | 170 | 0,10 | 160 |

average chip thickness

$h_m$ in mm

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

Feed per tooth

$f_z$ in mm

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

Feed rate

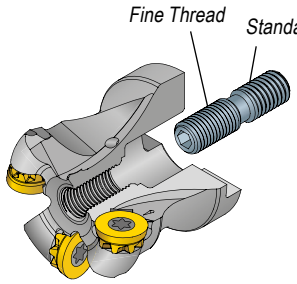
$v_f$ in mm/min

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

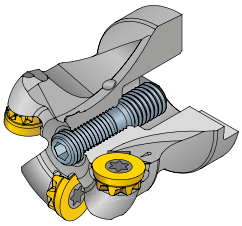
DC = Ø of the disc cutters

ZNF = Number of teeth of the cutter

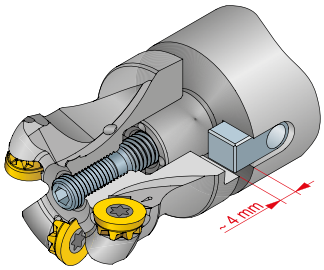
# Easy and safe clamping – with the CERATIZIT power screw



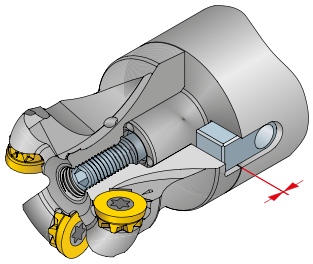

The fine-pitch part of the power screw is threaded into the milling cutter.



The power screw is turned carefully until the stop (as screw was delivered).




In order to guarantee an optimum connection of tool and shank, a gap of 4 mm is required between cutter body and adapter prior to final clamping. Using standardised adpaters this is automatically guaranteed. If necessary, you can readjust by means of the power screw with 0.5 mm/rev.



Turn clamping screw to tighten

## Torque moments for clamping screws for mounting the milling cutter to the shell mill adapter

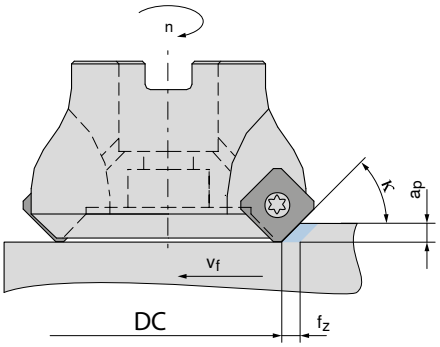
| | 10 | | | | 12 | | | | 16 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cutter Ø mm | ISK-Screw DIN 912 | $M_d$ Nm | Suits-screw Article no. | $M_d$ Nm | ISK-Screw DIN 912 | $M_d$ Nm | Suits-screw Article no. | $M_d$ Nm | ISK-Screw DIN 912 | $M_d$ Nm | Suits-screw Article no. | $M_d$ Nm |
| 40 | | | 70 950 151 | 15 | | | 70 950 151 | 15 | | | | |
| 42 | | | 70 950 151 | 15 | | | 70 950 151 | 15 | | | | |
| 50 | M10x25 | 80 | | | M10x25 | 80 | | | | | 70 950 154 | 20 |
| 52 | | | | | M10x25 | 80 | | | | | 70 950 154 | 20 |
| 63 | | | | | M10x25 | 80 | | | M10x25 | 80 | | |
| 66 | | | | | M10x25 | 80 | | | M10x25 | 80 | | |

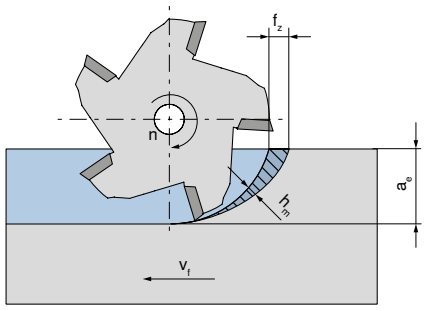
| | 12 | | | | 16 | | | | 20 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cutter Ø mm | ISK-Screw DIN 912 | $M_d$ Nm | Suits-screw Article no. | $M_d$ Nm | ISK-Screw DIN 912 | $M_d$ Nm | Suits-screw Article no. | $M_d$ Nm | ISK-Screw DIN 912 | $M_d$ Nm | Suits-screw Article no. | $M_d$ Nm |
| 80 | M12x30 | 140 | | | M12x30 | 140 | | | M12x30 | 140 | | |
| 100 | M16x35 | 180 | | | M16x35 | 180 | | | M16x35 | 180 | | |
| 125 | | | | | M16x35 | 180 | | | M16x35 | 180 | | |

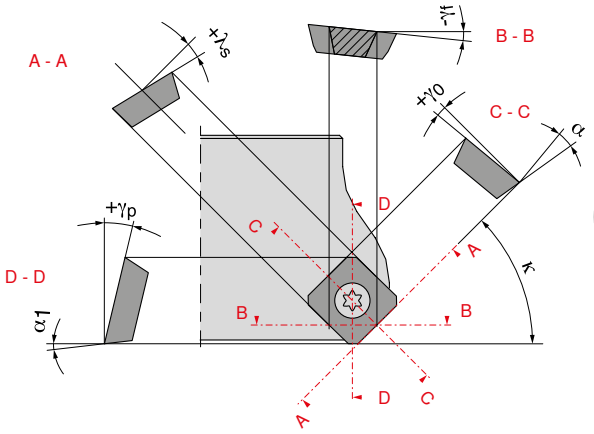
# Abbreviations & dimensions

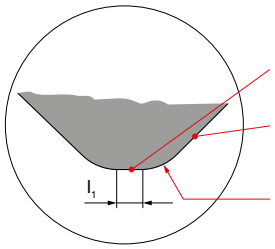
| | | |
|---|---|---|
| $a_e$ | cutting width | mm |
| $a_p$ | Cutting depth | mm |
| DC | Tool diameter | mm |
| $D_w$ | Workpiece diameter | mm |
| $f_z$ | Feed per tooth | mm |
| $h_m$ | Average Chip Thickness | mm |
| k | Number of teeth | |
| $k_c$ | Specific cutting force | N/mm² |
| $k_{c1.1}$ | Specific cutting force for 1 mm ² chip area | N/mm² |
| BS | Length of trailing edge land | mm |
| $m_c$ | Increase of specific cutting force | |
| n | rpm | rpm |
| Q | Chip volume | cm³/min |
| $v_c$ | Cutting speed | m/min |
| $v_f$ | Feed rate | mm/min. |
| ZNF | Number of Effective Teeth | |

| | | |
|---|---|---|
| $\gamma_0$ | Effective cutting angle | degree |
| $\gamma_f$ | Side clearance angle | degree |
| $\gamma_p$ | Axial cutting angle | degree |
| κ | Cutting edge angle | degree |
| $\lambda_s$ | Angle of inclination | degree |
| α | Clearance angle | degree |
| $\alpha_1$ | Side clearance angle | degree |




*Trailing edge land*

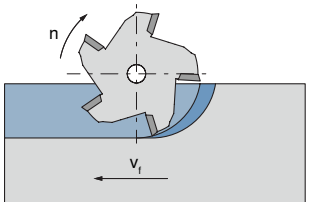
*Main cutting edge*

*Corner radius*

# Engagement conditions

## Recommended

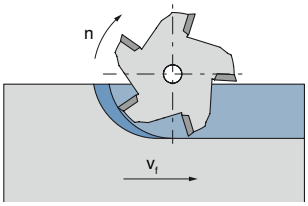
### Climb milling




The feed direction of the workpiece is the same as the direction of rotation of the milling cutter in the cutting zone. The chips have maximum thickness at the beginning, chip thickness then decreases until it becomes zero at the end of the cut.

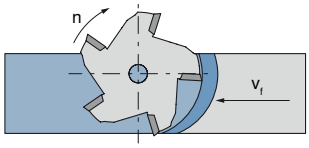
## Unsuitable

### Conventional milling

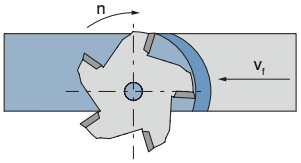



The feed direction of the workpiece is opposite to the direction of rotation of the milling cutter in the cutting zone. Chip thickness is zero at the beginning and increases until it reaches its maximum at the end of the cut.

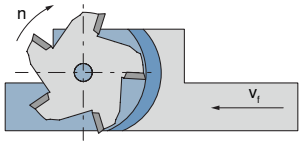
### Cutter positioning



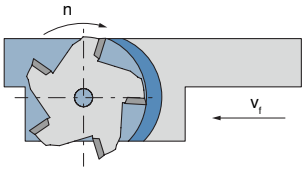

If possible the cutter should exit tangentially of the workpiece.



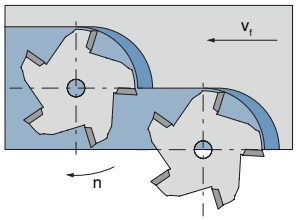

### Workpiece situation



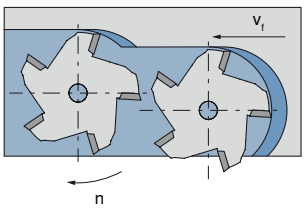

The workpiece should be clamped in such a way as to allow the cutter to emerge tangentially of the workpiece along the whole machining length.



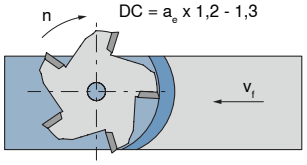

### Overlapping



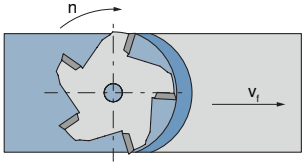

Either employ climb milling or ensure that the cutter comes out of the workpiece tangentially, as in the illustration on the left.




### Cutter size




When face milling the diameter of the cutter should be 20–30 % larger than that of the workpiece.




15

# ISO designation indexable milling inserts

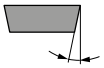
| X | D | K | T | 11 | T3 | 08 | S | R | - | F50 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 |

| 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 Insert shape

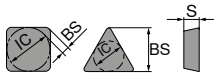
| | | |
|---|---|---|
| A | 85° |  |
| B | 82° | |
| K | 55° | |
| H | 120° |  |
| L | 90° |  |
| O | 135° |  |
| P | 108° |  |
| C | 80° |  |
| D | 55° | |
| E | 75° | |
| M | 86° | |
| V | 35° | |
| R | |  |
| S | 90° |  |
| T | 60° |  |
| W | 80° |  |
| X<br>Z | Special version | |

## 2 Clearance angle

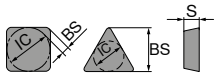


| | α |
|---|---|
| A | 3° |
| B | 5° |
| C | 7° |
| D | 15° |
| E | 20° |
| F | 25° |
| G | 30° |
| N | 0° |
| P | 11° |
| O | Special version |

## 3 Tolerances

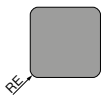



| | IC ±mm | BS ±mm | S ±mm | IC = 6,35 / 9,52 | IC = 12,7 | IC = 15,8 / 19,05 |
|---|---|---|---|---|---|---|
| A | 0,025 | 0,005 | 0,025 | ● | ● | ● |
| C | 0,025 | 0,013 | 0,025 | ● | ● | ● |
| E | 0,025 | 0,025 | 0,025 | ● | ● | ● |
| F | 0,013 | 0,005 | 0,025 | ● | ● | ● |
| G | 0,025 | 0,025 |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




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

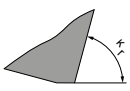
## 7 Trailing edge land / corner radius




**Radius**

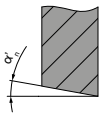
| | RE in mm |
|---|---|
| M0* | |
| 02 | 0,2 |
| 04 | 0,4 |
| 08 | 0,8 |
| 12 | 1,2 |

* Only with insert type "R"




1. Designation

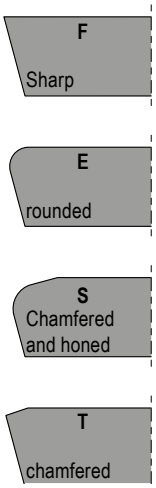
| | $K_r$ |
|---|---|
| A | 45° |
| D | 60° |
| E | 75° |
| F | 85° |
| P | 90° |
| Z | Alternative |



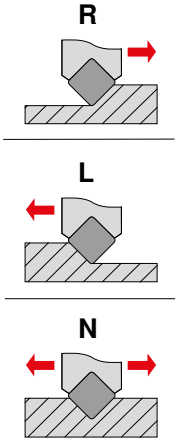

2. Designation

| | $\alpha'_n$ |
|---|---|
| A | 3° |
| B | 5° |
| C | 7° |
| D | 15° |
| E | 20° |
| F | 25° |
| G | 30° |
| N | 0° |
| P | 11° |
| Z<br>O | Alternative |

## 8 Cutting edge




## 9 Direction of cut



**4**

## Characteristics

| | |
|---|---|
| A |  |
| F |  |
| G |  |
| M |  |
| N |  |
| Q |  |
| R |  |
| T |  |
| U |  |
| W |  |
| X | Special version |

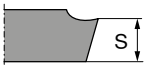
**5**

## Cutting length

| IC 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**

## Insert thickness




| | S 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**

## Chip groove

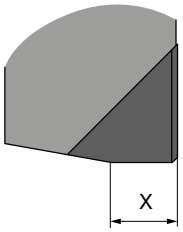
**Chip breaker designation**
F.. = fine
M.. = medium
R.. roughing

**Additional characteristics:**
R = transition radius main/ secondary cutting edge
Q = Smoothing edge

**11**

## Manufacturer specification

Length of the finishing cutting edge

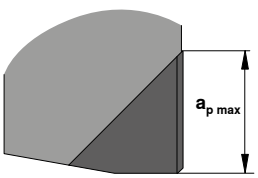



00 = 0,0 mm
10 = 1,0 mm
12 = 1,2 mm
15 = 1,5 mm
30 = 3,0 mm
50 = 5,0 mm

**12**

## Manufacturer specification

$a_{p\,max}$




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

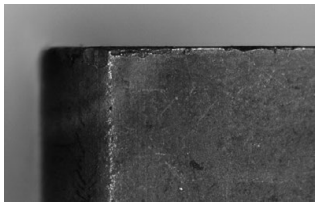
**13**

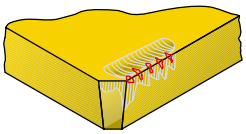
## Manufacturer specification

F = Fine
M = Medium
R = Rough

15

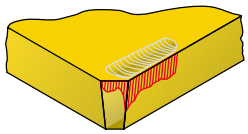
# Cutting demands when milling





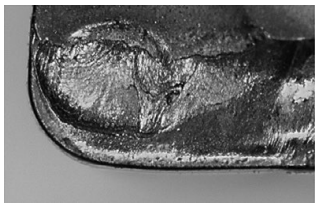
Edge chipping

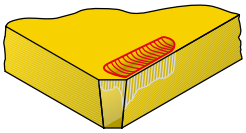
Cutting speed ↑
Feed per tooth ↓
Toughness of grade ↑
Cutting edge chamfer ↑



Wear on clearance face

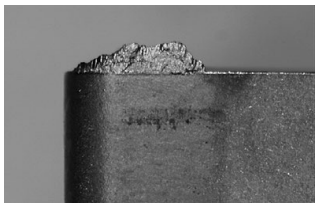
Cutting speed ↓
Feed per tooth ↑
Abrasion resistant grade ↑

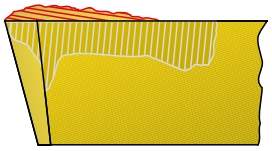




Cratering

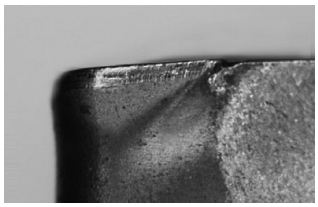
Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

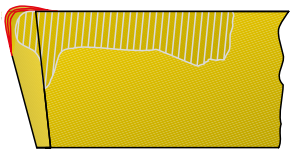




Built-up edge

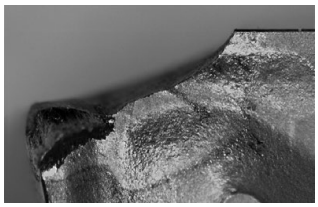
Cutting speed ↑
Feed per tooth ↑
Wear resistance ↑

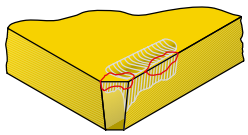




Cutting-edge deformation

Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

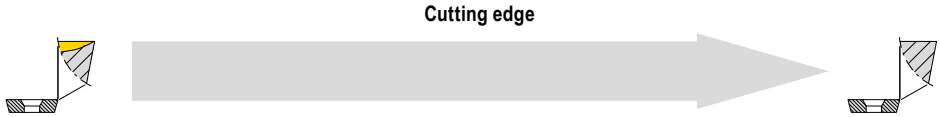




Cutting Edge Breakage

Cutting speed ↓
Toughness of grade ↑

# Chip Breakers Overview




| | | | Sharp ● | | medium ● ● | | stable ● ● ● | |
|---|---|---|---|---|---|---|---|---|
| | | | 10 | 20 | 30 | 40 | 50 | 60 |
| increasing wedge angle | fine | F | -F10<br>-27<br>-27P | -F20 | | -F40 | -F50 | -ER<br>-FN<br>-33P<br>-33 |
| | medium | M | | | -M31<br>-M30<br>-M32 | | -M50<br>-31 | -EN<br>-29 |
| | rough | R | | | -R30 | | -R50 | -SN<br>-R60<br>-SR |

## Chip breaker code

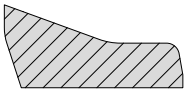
| | | | Cutting edge | | |
|---|---|---|---|---|---|
| | | | Sharp | medium | stable |
| | | | 10–20 | 30–40 | 50–60 |
| Application type | light | F | ● | ● ● | ● ● ● |
| | universal | M | ● | ● ● | ● ● ● |
| | difficult | R | ● | ● ● | ● ● ● |

**Example:** Chip breaker -M50

# Chip breaker description

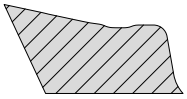
## -27P

- Highly positive geometry
- Ground, sharp cutting edge
- Low adhesion
- Recommendation for non-ferrous metals



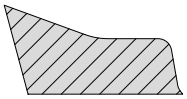
## -F10

- Highly positive geometry
- Ground, sharp cutting edge
- Low adhesion
- Recommendation for non-ferrous metals



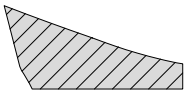
## -27

- Highly positive geometry
- Sharp cutting edges
- First choice for non-ferrous metals



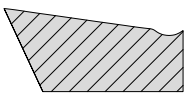
## -F20

- Highly positive geometry
- Lightly rounded cutting edge
- Recommendation for non-ferrous metals



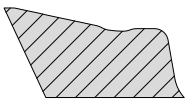
## -F40

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- Recommendation for heat-resistant materials, titanium and super alloys



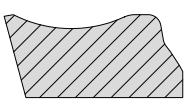
## -F50

- Streamlined geometry with protective chamfer
- Rounded cutting edge
- Light rough machining
- For unstable clamping situations
- Recommendation for stainless steel materials



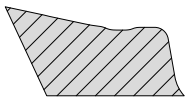
## -33P

- Positive geometry with small neutral protective chamfer
- Low adhesion
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



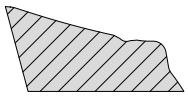
## -M30

- Positive geometry
- Rounded cutting edge
- Medium rough machining
- For unstable clamping situations
- Recommendation for martensitic stainless steels (blade machining only with MaxiMill 251)



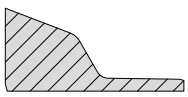
## -M31

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- For heat-resistant materials, titanium and super alloys



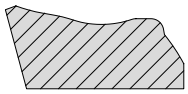
## -M32

- Positive geometry
- Rounded cutting edge
- Low cutting force and good stability
- Medium rough machining
- First choice for martensitic stainless steels



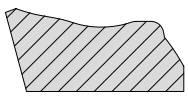
## -M50

- Universal geometry with protective chamfer
- Rounded cutting edge
- Light to medium rough machining
- Recommendation for general steel materials



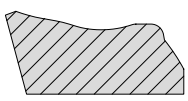
## -31

- Positive geometry with neutral protective chamfer
- Rounded cutting edge
- Heavy rough machining
- Strongly interrupted cuts
- First choice for cast iron materials



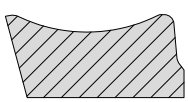
## -29

- Positive geometry with slightly negative protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



## -33

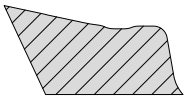
- Positive geometry with small neutral protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



# Chip breaker description

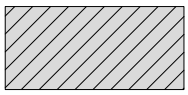
## -29R

- Positive geometry with slightly negative protective chamfer
- Heavily rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



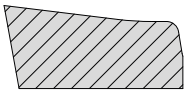
## -ER

- Neutral Geometry
- Rounded cutting edge
- Universal application
- High surface quality due to face chamfer
- First choice for machining cast iron and non-ferrous metals



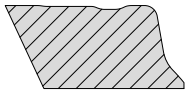
## -R30

- Slightly positive geometry
- Rounded cutting edge
- Medium rough machining
- Strongly interrupted cuts
- First choice for cast iron materials



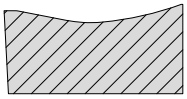
## -EN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to face chamfer (radial protective chamfer on indexable insert)
- First choice for machining cast iron and non-ferrous metals



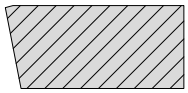
## -R50

- Rugged geometry with protective chamfer
- Rounded cutting edge
- Rough machining
- Interrupted cuts
- Recommendation for cast iron materials



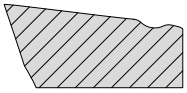
## -SN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to face chamfer (radial protective chamfer on indexable insert)
- Low cutting forces
- First choice for good flatness



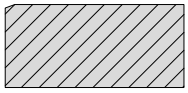
## -R60

- Rugged geometry with protective chamfer
- Rounded cutting edge
- Rough machining
- For stable clamping situations
- Recommendation for high-strength steel materials



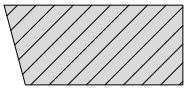
## -SR

- Neutral geometry with negative protective chamfer
- Rounded cutting edge
- Robust indexable insert
- For poor machining conditions
- First choice for machining cast iron and steels



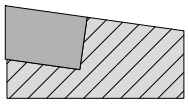
## -FN

- Neutral and highly stable geometry
- Heavily rounded cutting edge
- For stable machining conditions
- First choice for hard machining up to approx. 50 HRC



## -FR

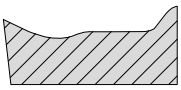
- Neutral Geometry
- Slightly rounded and stable cutting edge
- Associated with Ceramic and CBN cutting materials.
- For stable machining situations
- First choice for machining cast irons



# Chip breaker description for MaxiMill Slot-SX

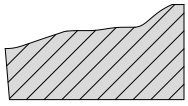
## -27P

- Positive geometry
- Ground, sharp cutting edge
- Polished chip breaker
- Low cutting forces
- Fine to medium machining
- First choice for non-ferrous metals



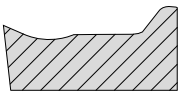
## -M8

- Extremely positive geometry
- Ground cutting edge
- Low cutting forces
- Fine to medium machining
- First choice for difficult-to-machine and stainless materials
- Alternatively, can also be used for non-ferrous metals



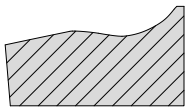
## -F2

- Positive geometry
- Ground cutting edge
- Low cutting forces
- Fine to medium machining
- For stainless and steel materials



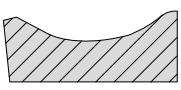
## -M7

- Positive geometry
- Medium machining
- Universal application



## -M1

- Stable cutting edge
- Medium to rough machining
- Best suited to steel materials



# Grades Overview

| Grade designation | Standard designation | ISO application range | Steel P | Stainless steel M | Cast iron K | Non-ferrous metals N | Heat-resistant S | Tempered steel H | Non-metal materials O |
|---|---|---|---|---|---|---|---|---|---|
| CTEP210 | HE-P10 | 01 10 20 30 40 50 / 05 15 25 35 45 | ● | | ● | | | | |
| | HE-K05 | | | | | | | | |
| TCM10 | HT-P15 | | ● | | ○ | | | | |
| | HT-K10 | | | | | | | | |
| WTN1205 | HC-P10 | | ● | ○ | ● | | | ● | |
| | HC-M15 | | | | | | | | |
| | HC-K05 | | | | | | | | |
| | HC-H10 | | | | | | | | |
| CTPP211 | HC-P10 | | ● | ○ | ○ | ○ | ○ | ○ | ○ |
| | HC-K10 | | | | | | | | |
| | HC-M15 | | | | | | | | |
| | HC-N10 | | | | | | | | |
| | HC-S15 | | | | | | | | |
| | HC-H10 | | | | | | | | |
| | HC-O10 | | | | | | | | |
| CTPP216 | HC-P15 | | ● | ○ | ● | ○ | ○ | ● | ○ |
| | HC-M20 | | | | | | | | |
| | HC-K15 | | | | | | | | |
| | HC-N15 | | | | | | | | |
| | HC-S20 | | | | | | | | |
| | HC-H15 | | | | | | | | |
| | HC-O15 | | | | | | | | |
| CTCP220 | HC-P20 | | ● | | ● | | | | |
| | HC-K20 | | | | | | | | |
| CTPP225 | HC-P25 | | ● | | ● | | | | |
| | HC-K25 | | | | | | | | |
| CTCP230 | HC-P30 | | ● | | ● | | | | |
| | HC-K25 | | | | | | | | |
| CTPP231 | HC-P30 | | ● | | ○ | | | | |
| | HC-K25 | | | | | | | | |
| CTPP235 | HC-P35 | | ● | ○ | ○ | | | | |
| | HC-M30 | | | | | | | | |
| | HC-K30 | | | | | | | | |
| CTPP236 | HC-P35 | | ● | ○ | ○ | | | | |
| | HC-M35 | | | | | | | | |
| | HC-K30 | | | | | | | | |
| WAN1240 | HC-P40 | | ● | ○ | ○ | | | | |
| | HC-M35 | | | | | | | | |
| | HC-K30 | | | | | | | | |
| WAX1240 | HC-P30 | | ● | ○ | ○ | | | | |
| | HC-M25 | | | | | | | | |
| | HC-K25 | | | | | | | | |
| CTPM225 | HC-P25 | | ● | ● | | | | | |
| | HC-M25 | | | | | | | | |
| WAN2225 | HC-M25 | | | ● | | | ● | | |
| | HC-S30 | | | | | | | | |
| CTCM235 | HC-P40 | | ● | ● | | | | | |
| | HC-M35 | | | | | | | | |
| CTPM240 | HC-P40 | | ○ | ● | | | | | |
| | HC-M40 | | | | | | | | |
| CWK10 | HC-N10 | | | | | ● | | | ○ |
| | HC-O10 | | | | | | | | |

● **Main Application**
○ Extended application

wear-resistant $v_c$+ ⟷ $v_c$– tough

# Grades Overview

| Grade designation | Standard designation | ISO application range | Steel P | Stainless steel M | Cast iron K | Non-ferrous metals N | Heat-resistant S | Tempered steel H | Non-metal materials O |
|---|---|---|---|---|---|---|---|---|---|
| CTPM241 | HC-P40 | 01 05 10 15 20 25 30 35 40 45 50 | ● | ● | | | ○ | | |
| | HC-M40 | | | | | | | | |
| | HC-S40 | | | | | | | | |
| CTPM245 | HC-P45 | | ● | ● | | | | | |
| | HC-M50 | | | | | | | | |
| CTCM245 | HC-P45 | | ● | ● | | | ○ | | |
| | HC-M50 | | | | | | | | |
| | HC-S35 | | | | | | | | |
| CTN3105 | CN-K05 | | | | ● | | | | |
| CTL3215 | BC-K10 | | | | ● | | | ○ | |
| | BC-H10 | | | | | | | | |
| CTCK215 | HC-K15 | | | | ● | | | | |
| CTPK220 | HC-K20 | | | | ● | | | | |
| CTPK221 | HC-P15 | | ○ | | ● | | | | |
| | HC-K10 | | | | | | | | |
| CTPK226 | HC-P15 | | ● | ● | ● | | | ○ | |
| | HC-M20 | | | | | | | | |
| | HC-K15 | | | | | | | | |
| | HC-H15 | | | | | | | | |
| CTPK231 | HC-P30 | | ● | ● | ● | ○ | ○ | ○ | |
| | HC-M35 | | | | | | | | |
| | HC-K30 | | | | | | | | |
| | HC-N30 | | | | | | | | |
| | HC-S35 | | | | | | | | |
| | HC-H30 | | | | | | | | |
| CTD4205 | DP-N05 | | | | | ● | | | ○ |
| | DP-O05 | | | | | | | | |
| CTPX715 | HC-P15 | | ○ | ○ | ● | ● | ○ | | ○ |
| | HC-M15 | | | | | | | | |
| | HC-K15 | | | | | | | | |
| | HC-N15 | | | | | | | | |
| | HC-S20 | | | | | | | | |
| | HC-O10 | | | | | | | | |
| WUN4210 | HT-K10 | | | | ○ | ● | | | |
| | HT-N15 | | | | | | | | |
| CTCN211 | HC-N10 | | | | | ○ | | | ● |
| | HC-O10 | | | | | | | | |
| CTWN215 | HC-K15 | | | | ○ | ● | | | ○ |
| | HC-N10 | | | | | | | | |
| | HC-O10 | | | | | | | | |
| H216T | HW-K15 | | | | ○ | ● | | | ○ |
| | HW-N15 | | | | | | | | |
| | HW-O15 | | | | | | | | |
| CTC5240 | HC-S35 | | | | | | ● | | |
| CTCS245 | HC-S45 | | | | | | ● | | |
| CTP6215 | HC-K15 | | | | ● | | | ● | |
| | HC-H15 | | | | | | | | |
| CWX500 | HC-P15 | | ● | ● | ○ | ● | ○ | | ○ |
| | HC-M15 | | | | | | | | |
| | HC-K15 | | | | | | | | |
| | HC-N15 | | | | | | | | |
| | HC-S15 | | | | | | | | |
| | HC-O15 | | | | | | | | |

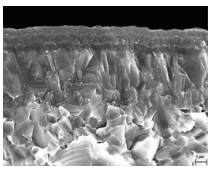
● **Main Application**
○ Extended application

wear-resistant $v_c$+ ⟷ $v_c$− tough

15

# Grade description

## CTEP210



**P10** | **K05**

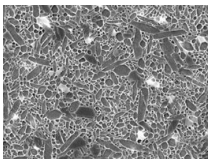
**Specification:**
Composition: Cermet Co/Ni 12.2%; mixed carbide 71.4%; others; WC balance | Fine grain size | Hardness: $HV_{30}$ 1620 | Layer system: CVD TiCN-$Al_3O_3$
**Application:**
Coated Cermet grade with reserves of toughness for finish machining at high cutting speeds

## TCM10

**P15** | K10

**Specification:**
Composition: Co/Ni 12.2%; WC 15; TaNbC10.0%; TiCn balance | Hardness: $HV_{30}$ 1620 | Layer system: uncoated
**Application:**
Uncoated Cermet grade for the finishing of hardened steel

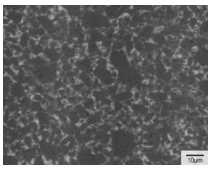
## CTN3105



**CN-K05**

**Specification:**
Composition: ß – $Si_3N_4$ | Fine grain size | Hardness: $HV_{30}$ 1620 | Layer system: uncoated
**Application:**
Universal silicon nitride for the machining of cast iron materials

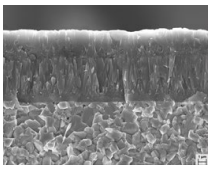
## CTL3215



**BC-K10** | BC-H10

**Specification:**
Composition: Cubic boron nitride (CBN) | 85 vol. + metallic binder phase | Cutting system: PVD
**Application:**
Coated cubic boron nitride with very good cutting toughness and good wear resistance for the machining of cast iron materials

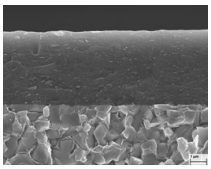
## CTCP220



**HC-P20** | **HC-K20**

**Specification:**
Composition: Co 8.0%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1500 | Layer system: CVD TiCN-$Al_3O_2$
**Application:**
Dry machining, high cutting speed + more wear resistant grades to CTCP230
**Material example:**
Low material strength up to approx. 250 HB / 840 N/mm²

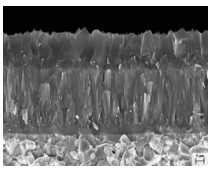
## CTPP225



**HC-P25** | **HC-K25**

**Specification:**
Composition: Co 8.0%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1500 | Layer system: PVD TiAlTaN
**Application:**
Dry or wet machining, face milling of steel materials, higher cutting speeds + more wear resistant grades to CTPP235
**Material example:**
Medium material strength up to approx. 300 HB / 1000 N/mm²

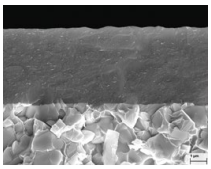
## CTCP230



**HC-P30** | HC-M25 | **HC-K25**

**Specification:**
Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1400 | Layer system: CVD TiCN-$Al_2O_3$
**Application:**
Dry machining, universal grade for higher cutting speeds

## CTPP235

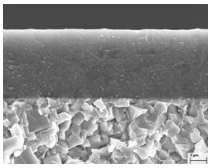


**HC-P35** | HC-M30

**Specification:**
Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1400 | Layer system: PVD TiAlTaN
**Application:**
Wet machining, universal grade for medium cutting speeds

# Grade description

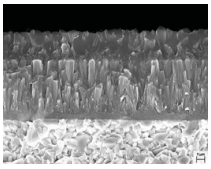
**CTPM225**



HC-P25 | **HC-M25**

**Specification:**
Composition: Co 9.0%; mixed carbide 0.75%; WC balance | Fine grain size 0.7-1µm | Hardness: $HV_{30}$ 1590 | Layer system: PVD TiAlTaN
**Application:**
Dry or wet machining at medium cutting speeds
**Material example:**
Austenitic stainless steels

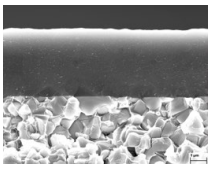
**CTCM235**



HC-P40 | **HC-M35**

**Specification:**
Composition: Co 12.5%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1380 | Layer system: CVD TiCN-$Al_2O_3$
**Application:**
Dry machining for medium cutting speeds
**Material example:**
Martensitic stainless steels

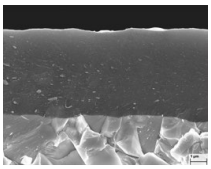
**CTPM240**



HC-P40 | **HC-M40**

**Specification:**
Composition: Co 12.0%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1380 | Layer system: PVD TiAlTaN
**Application:**
Wet machining, universal grade for higher cutting speeds
**Material example:**
Austenitic stainless steels

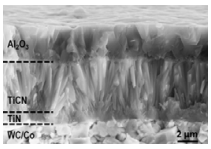
**CTPM245**



**HC-P45** | **HC-M45**

**Specification:**
Composition: Co 10.0%; others 1.5%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1330 | Layer system: PVD TiAlTaN
**Application:**
Dry or wet machining
**Material example:**
High-alloy martensitic and austenitic stainless steel

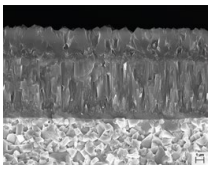
**CTCM245**




**HC-P45** | **HC-M50** | HC-S35

**Specification:**
Composition: Co 10.0%; others 1.5%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1330 | Layer system: CVD TiCN-$Al_2O_3$
**Application:**
Dry machining
**Material example:**
High-alloy martensitic and austenitic stainless steel

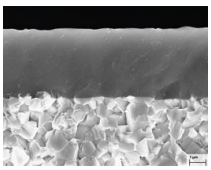
**CTCK215**



**HC-K15**

**Specification:**
Composition: Co 6.0%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1630 | Layer system: CVD TiCN-$Al_2O_3$
**Application:**
Special grade for the dry machining of cast iron materials at high cutting speeds
**Material example:**
Cast iron materials such as GG25 and GGG40

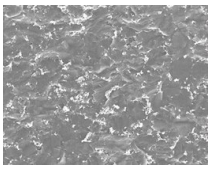
**CTPK220**



**HC-K20**

**Specification:**
Composition: Co 6.0%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1630 | Layer system: PVD TiAlTaN
**Application:**
Special grade for the wet machining of cast iron materials in demanding application ranges
**Material example:**
High-strength cast iron materials such as GGG50 and GGG70

**CTD4205**

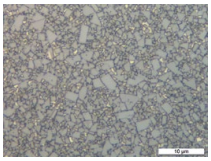


**DP-N05**

**Specification:**
Composition: Polycrystalline diamond (PKD) | grain size 2-5µm | Layer system: uncoated
**Application:**
For the machining of aluminium and non-ferrous metals
**Material example:**
Non-ferrous metals such as AlMgSi1

# Grade description

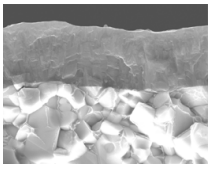
### CTWN215 (H216T)



K15 | **N15** | O15

**Specification:**
Composition: Co 6.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1650 | Layer system: uncoated
**Application:**
Uncoated carbide for the machining of aluminium and non-ferrous metals
**Material example:**
Non-ferrous metals such as AlMgSi1

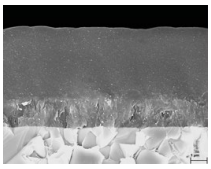
### CTPX715



ISO | **P15** | **M15** | K15 | **N15** | **S20** | O10

**Specification:**
Composition: Co 6.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1650 | Layer system: PVD AlTiN
**Application:**
For the machining of aluminium and non-ferrous metals
**Material example:**
Non-ferrous metals such as AlMgSi1 or GGG30 cast iron

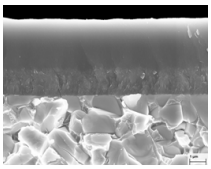
### CTC5240



**HC-S40**

**Specification:**
Composition: Co 10.0%; WC balance | Medium grain size 2µm | Hardness: $HV_{30}$ 1330 | Layer system: CVD TiN-$TiB_2$
**Application:**
Special wet machining grade for the machining of titanium materials
**Material example:**
Titanium Ti6Al4V

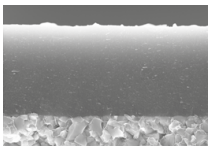
### CTCS245



**HC-S45**

**Specification:**
Composition: Co 12.0%; mixed carbide 1.8%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1260 | Layer system: CVD TiN-$TiB_2$
**Application:**
Wet machining special grade for the machining of nickel-based alloys or the dry machining of austenitic stainless steels
**Material example:**
Heat-resistant materials such as Inconel, Rene, Nimonic, etc.

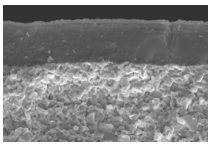
### CTP6215



**HC-H15** | **HC-K15**

**Specification:**
Composition: Co 12.0%; WC balance | Ultra-fine grain size 0.4µm | Hardness: $HV_{30}$ 1630 | Layer system: PVD TiAlN
**Application:**
For the machining of high-strength martensitic tool steels 400HB / 1300 N/$mm^2$
**Material example:**
Tool steel 1.2379, 1.2312

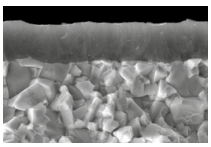
### CTPK231



**P30** | **M35** | **K30** | N30 | S35 | H30

**Specification:**
Composition: Co 9.8%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1612 | Layer system: PVD TiN / TiAlN / ZS / TiAlN / $Al_2O_3$ / TiN
**Application:**
Dry machining, tough carbide grade for the medium and rough machining of steel and cast iron metals

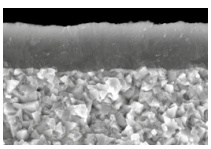
### CTPP216



**P10** | M20 | **K15** | N15 | S20 | **H15** | O15

**Specification:**
Composition: Co 9.6%; WC balance | Fine grain size 0,7-1µm | Hardness: $HV_{30}$ 1824 | Layer system: PVD TiN / TiAlN / DS
**Application:**
Highly wear-resistant carbide grade with high cutting edge stability for the machining of high-strength materials, non-alloyed tool steels, cast iron and hardened steel up to 54 HRC

### CTPK226

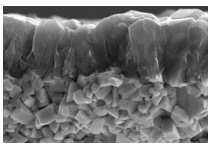


**P10** | M20 | **K15** | H15

**Specification:**
Composition: Co 11.6%; WC balance | Fine grain size 0.7-1µm | Hardness: $HV_{30}$ 1711 | Layer system: PVD TiN / AlTiN / DS
**Application:**
Highly wear-resistant ultra-fine grain carbide grade for the machining of cast iron metals and hardened steels up to 62 HRC

# Grade description

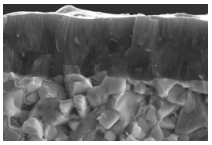
**CTCN211**



N10 | **O15**

**Specification:**
Composition: Co 6.5%; WC balance | Fine grain size 0.7-1µm | Hardness: $HV_{30}$ 1827 | Layer system: PVD diamond
**Application:**
Diamond-coated carbide grade for the machining of graphite and non-ferrous metals

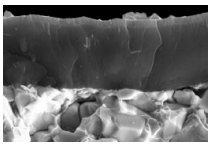
**WAN1240**



**P40** | M35 | K30

**Specification:**
Composition: Co 9%; mixed carbide 3.8%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1449 | Layer system: PVD TiAlN / TiN
**Application:**
Tough special grade for the machining of steel at medium to high cutting speeds. Also suitable for the machining of cast iron in secondary applications

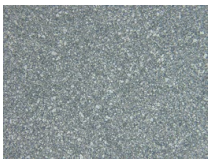
**WAN2225**



**M25** | **S25**

**Specification:**
Composition: Co 11.3%; WC balance | Medium grain size 2µm | Hardness: $HV_{30}$ 1307 | Layer system: PVD TiAlN / TiN
**Application:**
Dry and wet machining, fine grain grade with high toughness and temperature resistance. For rough and finish machining of rust and acid-resistant steels

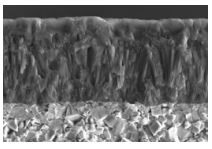
**WUN4210**



K15 | **N10** | O10

**Specification:**
Composition: Co 8.1%; WC balance | Fine grain size 0.7-1µm | Hardness: $HV_{30}$ 1715 | Layer system: uncoated
**Application:**
Uncoated carbide for the machining of aluminium and non-ferrous metals
**Material example:**
Non-ferrous metals such as AlMgSi1

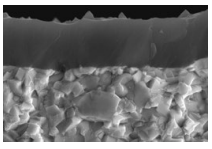
**WAX1240**



**P40** | M25 | K30

**Specification:**
Composition: Co 10.5%; mixed carbide 2.1%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1345 | Layer system: CVD TiN / TiCN / TiN / $Al_2O_3$
**Application:**
High-strength special grade for medium and rough machining at medium cutting speeds and extreme feed rates per tooth

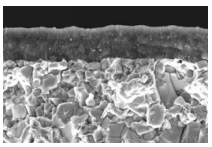
**WTN1205**



**P10** | M15 | **K05** | **H10**

**Specification:**
Composition: Co 7.3%; WC balance | Fine grain size 0.7-1µm | Hardness: $HV_{30}$ 1801 | Layer system: PVD TiN / TiAlN
**Application:**
Special grade for the machining of steel, hardened steel, cast iron, and non-ferrous metals and graphite

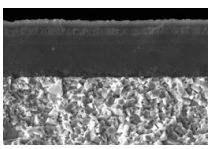
**CTPP231**



**P30** | K25

**Specification:**
Composition: Co 9.5%; mixed carbide 2%; WC balance | Medium grain size 2-3µm | Hardness: $HV_{30}$ 1400 | Layer system: PVD TiAlN
**Application:**
A very tough special grade for the medium and rough machining of steel at medium cutting speeds and extremely high feed rates

**CTPP211**

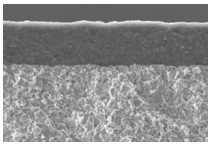


**P10** | M15 | K10 | N10 | S15 | H10 | O10

**Specification:**
Co 6.3%; WC balance | Fine grain size 0.7-1µm | Hardness: $HV_{30}$ 1843 | Layer system: PVD TiN / TiAlN / ZS / TiAN / $Al_2O_3$ / ZS / TiN
**Application:**
universal grade for medium cutting speeds

# Grade description

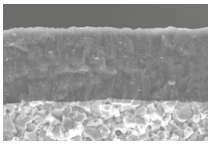
## CTPP236



**P35** | M35 | K30

**Specification:**
Composition: Co 9.5%; mixed carbide 2%; WC balance | Medium grain size 2-3µm | Hardness: $HV_{30}$ 1370 | Layer system: PVD TiAlN
**Application:**
Tough special grade for the medium and rough machining of steel at high cutting speeds. Also suitable for the machining of cast iron and stainless steels in secondary applications

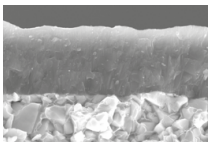
## CTPK221



P15 | **K10**

**Specification:**
Composition: Co 6%; WC balance | Medium grain size 1µm | Hardness: $HV_{30}$ 1600 | Layer system: PVD TiAlN
**Application:**
Standard grade for the fine machining of cast iron and non-ferrous metals at medium cutting speeds

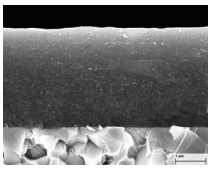
## CTPM241



**P40** | **M40** | S40

**Specification:**
Composition: Co 12%; WC balance | Medium grain size 1-2µm | Hardness: $HV_{30}$ 1450 | Layer system: PVD TiAlN
**Application:**
Tough special grade for the machining of stainless and heat-resistant steels

## CTP1340

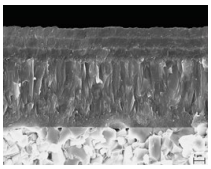


ISO | **P30** | **K30** | N30 | **S30** | O30

**Specifications:**
Composition: Co 9.0%; mixed carbide 0.75%; WC balance | grain size: 0.7–1 µm | Hardness: $HV_{30}$ 1590 | Layer system: PVD TiAlTaN

**Recommended use:**
The universal high-performance grade for steels, austenitic steel, cast iron materials and heat-resistant alloys

## CTCP335

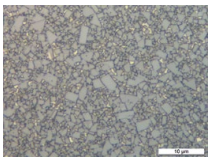


ISO | **P35** | M30 | **K35**

**Specifications:**
Composition: Co 10.5%; mixed carbide 1.9%; WC balance | grain size: 1 µm | Hardness: $HV_{30}$ 1370 | Layer system: CVD TiCN-$Al_2O_3$ Multilayer

**Recommended use:**
The reliable choice for machining steel and cast iron materials.

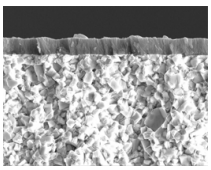
## CWK10



**N10** | O10

**Specification:**
Composition: Co 6.0%; WC balance | Fine grain size 1µm | Hardness: $HV_{30}$ 1650 | Layer system: uncoated
**Application:**
Uncoated carbide for the machining of aluminium and non-ferrous metals
**Material example:**
Non-ferrous metals such as AlMgSi1

## CWX500



ISO | **P30** | **M30** | **K35** | **N35** | **S15** | H05 | **O10**

**Specification:**
Composition: Co 10.0%; Others 0.7 %, WC balance | Grain size: 1 µm | Hardness: $HV_{30}$ 1660

**Recommended application:**
The universal carbide grade for almost all materials

# Grade description