

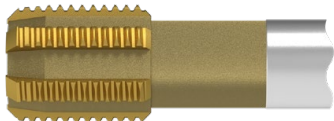
## Nowe produkty

**NEW** Gwintownik wygniatający HSS-E z listwami z węgliku spiekanego



M

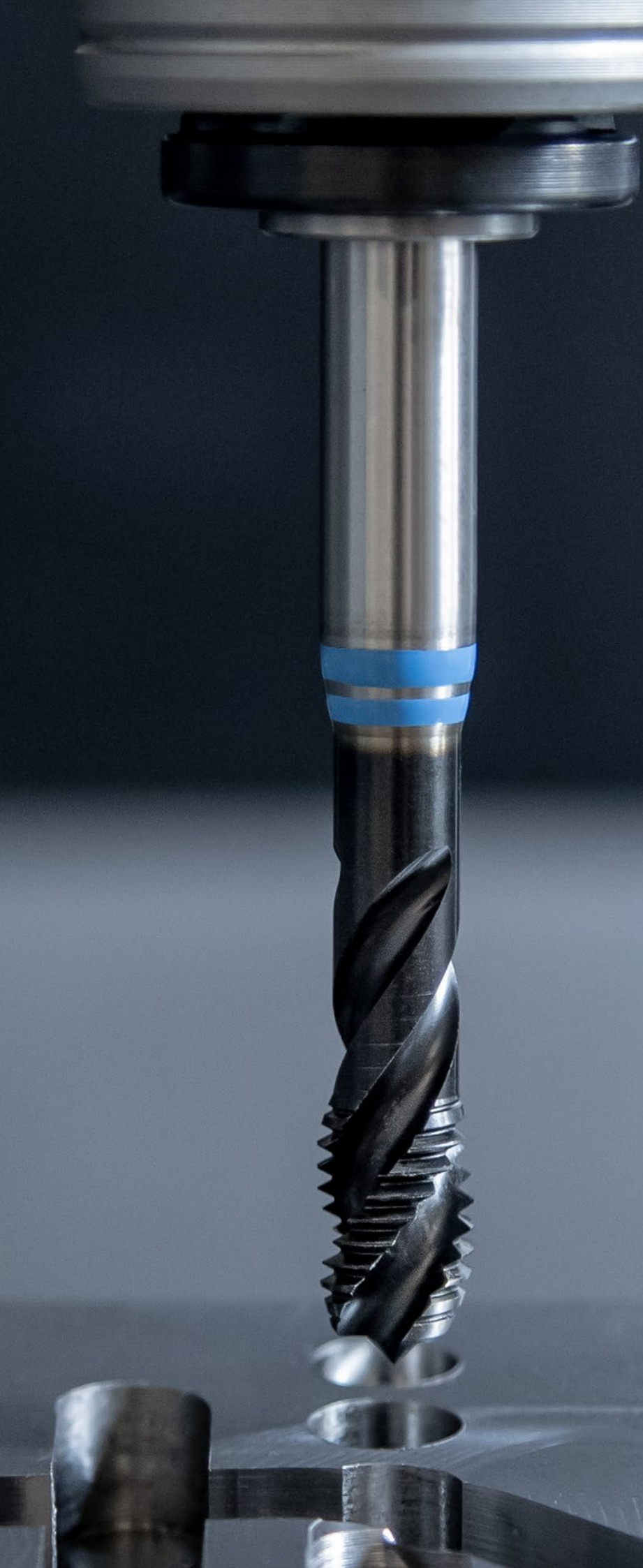
→ strona 52



MF

→ strona 73

- ▲ najwyższa trwałość dzięki innowacyjnemu połączeniu elastycznego materiału oprawki HSS i odpornych na zużycie, wlutowanych płytek skrawających z węgliku spiekanego
- ▲ uniwersalne zastosowanie we wszystkich materiałach plastycznych
- ▲ redukcja kosztów narzędzi



Wiercenie w pełnym materiale i obróbka otworów

- 1 Wiertła HSS
- 2 Wiertła VHM
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## WNT \ Performance

Markowe narzędzia klasy Premium, gwarantujące najwyższą wydajność.

Linia narzędzi **WNT Performance** obejmuje markowe narzędzia klasy Premium, odznaczające się wyjątkową wydajnością, co czyni je narzędziami do zadań specjalnych. Jeżeli w procesie produkcji najważniejsze są wydajność i wynik, polecamy wybrać właśnie produkty klasy Premium z tej linii narzędzi.

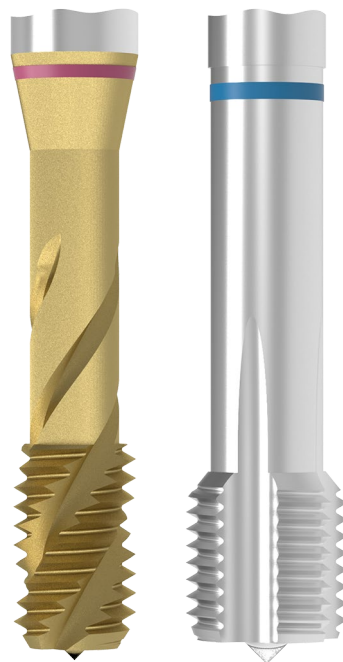
## WNT \ Standard

Markowe narzędzia do standardowych zastosowań.

Linia markowych narzędzi **WNT Standard** wyróżnia się jakością, wydajnością i niezawodnością, czym zdobywa sobie zaufanie naszych klientów na całym świecie. W przypadku standardowych zastosowań, są to narzędzia pierwszego wyboru, gwarantujące doskonałe rezultaty obróbki.

## Objaśnienie symboli

|                                                                                     |                                                                                                                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>M</b>                                                                            | Rodzaj gwintu<br>Objaśnienie do rodzajów gwintu znajduje się na → <b>stronie 6</b> .                                                                       |
| <b>UNI<br/>NCW</b>                                                                  | Zakres stosowania<br>Specjalne właściwości<br>Objaśnienia dotyczące zakresów stosowania / specjalnych właściwości znajdują Państwo na → <b>stronie 7</b> . |
| <b>C</b><br>2-3                                                                     | Kształt nakroju<br>Objaśnienia dotyczące kształtów nacięcia znajdują Państwo na → <b>stronie 6</b> .                                                       |
| <b>ISO 2<br/>6H</b>                                                                 | Tolerancja<br>Objaśnienie do tolerancji znajduje się na → <b>stronie 105</b> .                                                                             |
| <b>TiN</b>                                                                          | Powłoka<br>Objaśnienia dotyczące powłok znajdują Państwo na → <b>stronie 108</b> .                                                                         |
|  | Doprowadzanie chłodziwa                                                                                                                                    |



Kolorowy pierścień  
Objaśnienia dotyczące kolorowych pierścieni znajdują Państwo na → **stronie 5**.

HSS-E      Materiał skrawający  
Objaśnienia dotyczące materiałów skrawających znajdują Państwo na → **stronie 6**.

FHA 42°      Kąt pochylenia linii śubowej

≤ 1100 N/mm<sup>2</sup>      Wytrzymałość na rozciąganie



gwint otworu przelotowego



gwint otworu nieprzelotowego



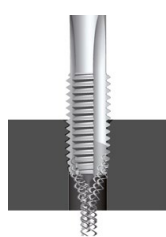
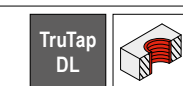
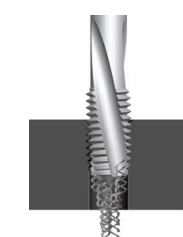
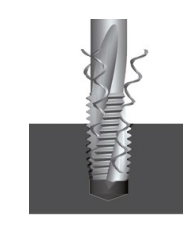
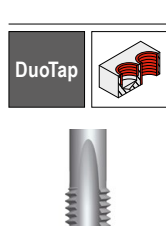
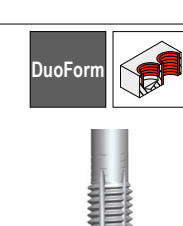
gwinty otworu przelotowego i nieprzelotowego



Parametry są w bardzo dużym stopniu zależne od warunków zewnętrznych, jak np. sztywności układu narzędzia – przedmiot obrabiany, materiału i typu obrabiarki! Podane parametry przedstawiają pewne wartości średnie, które w zależności od warunków zastosowania należy zwiększyć lub zmniejszyć!



## Typy narzędzi

|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Gwintowniki do otworów przelotowych, typ TruTap</b> <ul style="list-style-type: none"> <li>▲ Do gwintowania otworów przelotowych do 4xD</li> <li>▲ Kształt B: nakrój 3,5–5 zwojów, ze skośną powierzchnią natarcia</li> <li>▲ Rowki proste</li> <li>▲ M. in. do obróbki synchronicznej, z chwytem Weldon, ekstradługie</li> <li>▲ Dzięki specjalnej geometrii rowków wiórowych wióry są odprowadzane w kierunku nacinania</li> </ul>                                                                                                                                                 |    | <b>Gwintowniki do otworów przelotowych, typ TruTap DL</b> <ul style="list-style-type: none"> <li>▲ Do gwintowania otworów przelotowych do 4xD</li> <li>▲ Kształt D: nakrój 3,5–5 zwojów, bez skośnej powierzchni natarcia</li> <li>▲ z rowkami lewoskrętnymi 15°</li> <li>▲ Do stali, tytanu i stopów tytanu oraz Inconel 718</li> <li>▲ Wióry są odprowadzane w kierunku nacinania</li> </ul>                                                                                                                                                                                                               |
|    | <b>Gwintowniki do otworów ślepych, typ CavTap</b> <ul style="list-style-type: none"> <li>▲ Do gwintowania otworów ślepych do 3xD</li> <li>▲ Kształt C: nakrój 2–3 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Kształt E: nakrój 1,5–2 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Rowki prawoskrętne (35°, 42°, 45°, 50°), silnie skrócone</li> <li>▲ M. in. do obróbki synchronicznej, z chwytem Weldon, ekstradługie i z chłodzeniem wewnętrznym</li> <li>▲ Dzięki wysokim rowkom skrętnym wióry są odprowadzane w kierunku przeciwnym do kierunku nacinania</li> </ul> |    | <b>Gwintowniki do otworów ślepych, typ CavTap SL</b> <ul style="list-style-type: none"> <li>▲ Do gwintowania otworów ślepych do 2xD</li> <li>▲ Kształt C: nakrój 2–3 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Kształt E: nakrój 1,5–2 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Rowki prawoskrętne (15°, 25°, 30°), lekko skrócone</li> <li>▲ Do stali, tytanu i stopów tytanu oraz Inconel 718</li> <li>▲ M. in. do obróbki synchronicznej, ekstradługie, z chłodzeniem wewnętrznym</li> <li>▲ Również do pracy w trudnych warunkach, np. do gwintowania otworów poprzecznych</li> </ul> |
|   | <b>Gwintowniki do otworów przelotowych i ślepych, typ DuoTap</b> <ul style="list-style-type: none"> <li>▲ Do gwintowania otworów ślepych i przelotowych do 2xD</li> <li>▲ Kształt C: nakrój 2–3 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Kształt D: nakrój 3,5–5 zwojów, bez skośnej powierzchni natarcia</li> <li>▲ Kształt E: nakrój 1,5–2 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Rowki proste</li> <li>▲ Do stali oraz materiałów dających krótkie wióry i utwardzonych do 55 (62) HRC</li> <li>▲ M. in. ekstradługie i z chłodzeniem wewnętrznym</li> </ul>   |   | <b>Gwintowniki wyginające, typ DuoForm</b> <ul style="list-style-type: none"> <li>▲ Do gwintowania otworów ślepych i przelotowych do 3xD</li> <li>▲ Kształt C: nakrój 2–3 zwoje, bez skośnej powierzchni natarcia</li> <li>▲ Do materiałów obrabialnych plastycznie na zimno do 1400 N/mm<sup>2</sup></li> <li>▲ M. in. do obróbki synchronicznej, z rowkami smarowymi i chłodzeniem wewnętrznym</li> </ul>                                                                                                                                                                                                  |

## Kolorowe pierścienie

|                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>do stali do 750 N/mm<sup>2</sup></b><br><b>ST</b><br>zakres stosowania ST: gwintownik bez powłoki do stali do 750 N/mm <sup>2</sup> wytrzymałości na rozciąganie                   |  <b>do stali nierdzewnej i kwasoodpornej</b><br><b>VA</b><br>zakres stosowania VA: do stali nierdzewnych                          |  <b>do stali hartowanych</b><br><b>HT</b><br>zakres stosowania HT: do obróbki materiałów utwardzonych                                                                                                    |
|  <b>do stali do 1100 N/mm<sup>2</sup></b><br><b>ST</b><br><b>VG</b><br>zakres stosowania ST i VG: gwintownik z powłoką do stali do 1100 N/mm <sup>2</sup> wytrzymałości na rozciąganie |  <b>do stopów żaroodpornych</b><br><b>Ti</b><br><b>Ni</b><br>zakres stosowania Ti i Ni: do stali żaroodpornych, tytanu i Inconelu |  <b>do aluminium i metali nieżelaznych</b><br><b>NW</b> <b>Ms</b><br><b>Soft</b> <b>AMPCO</b><br>zakres stosowania NW, Soft, Ms i AMPCO: do aluminium, miedzi dającego krótki wiór i materiałów miękkich |
|  <b>do stali wysokowytrzymałych do 1400 N/mm<sup>2</sup></b><br><b>HR</b><br>zakres stosowania HR: do stali do 1400 N/mm <sup>2</sup> wytrzymałości na rozciąganie                     |  <b>do materiałów żeliwnych</b><br><b>GG</b><br>zakres stosowania GG: do materiałów lanych                                        |  <b>do uniwersalnego stosowania do 1100 N/mm<sup>2</sup></b><br><b>UNI</b><br>zakres stosowania UNI: do uniwersalnego zastosowania                                                                       |

## Rodzaje gwintów

|               |                                                                            |
|---------------|----------------------------------------------------------------------------|
| <b>M</b>      | metryczny gwint standardowy ISO DIN 13                                     |
| <b>MF</b>     | metryczny gwint drobnoz. ISO DIN 13                                        |
| <b>G</b>      | gwint rurowy Whitworth DIN EN ISO 228                                      |
| <b>UNC</b>    | zunifikowany gwint grubozw. ASME B1.15 i ISO 3161                          |
| <b>UNF</b>    | Zunifikowany gwint drobnozwojowy ASME B1.1                                 |
| <b>EG M</b>   | zunifikowany gwint standardowy ISO do gwintów z wkładką z drutu DIN 8140-2 |
| <b>EG UNC</b> | zunifikowany gwint grubozw. EG do gwintów z wkładką z drutu ASME B18.29.1  |
| <b>EG UNF</b> | zunifikowany gwint grubozw. EG do gwintów z wkładką z drutu ASME B18.29.1  |

|             |                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UNJC</b> | zunifikowany gwint grubozw. ASME B1.15 i ISO 3161                                                                                                                |
| <b>UNJF</b> | Zunifikowany gwint drobnozwojowy ASME B1.15 i ISO 3161                        |
| <b>BSW</b>  | gwint Whitwortha BS84                                                         |
| <b>NPT</b>  | amerykański stożkowy gwint rurowy z uszczelniającym (1:16) ANSI/ASME B1.20.1                                                                                     |
| <b>NPTF</b> | amerykański stożkowy gwint rurowy z uszczelniającym (1:16) ANSI/ASME B1.20.3  |
| <b>Rc</b>   | stożkowy gwint rurowy Whitwortha (1:16) DIN EN 10226-2 (ISO7-1)               |
| <b>Rp</b>   | cyldryczny gwint rurowy Whitwortha DIN EN 10226-1 (ISO7-1)                    |



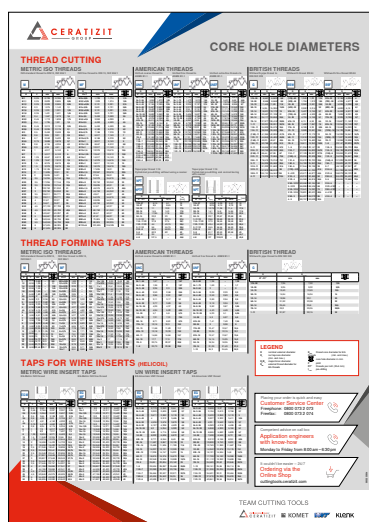
Te rodzaje gwintów, a także gwintowniki ręczne i narzynki są dostępne w sklepie internetowym.

## Kształty nacięcia

|                   |                                                             |
|-------------------|-------------------------------------------------------------|
| <b>B</b><br>4-5   | kształt B<br>(z nacięciem śrubowym, nakrój 4-5 biegowy)     |
| <b>C</b><br>2-3   | kształt C<br>(bez nacięcia śrubowego, nakrój 2-3 biegowy)   |
| <b>D</b><br>4-5   | kształt D<br>(bez nacięcia śrubowego, nakrój 4-5 biegowy)   |
| <b>E</b><br>1,5-2 | kształt E<br>(bez nacięcia śrubowego, nakrój 1,5-2 biegowy) |

## Materiały skrawające

|                   |                                                             |
|-------------------|-------------------------------------------------------------|
| <b>HSS</b>        | Stal szybko tnąca                                           |
| <b>HSS-E</b>      | Stal do skrawania wysokowydajnego                           |
| <b>HSS-E / HM</b> | material oprawki HSS-E<br>material skrawający/formujący: HM |
| <b>HSS-PM</b>     | Stal do skrawania wysokowydajnego metalu proszkowego        |
| <b>VHM</b>        | Węgiel spiekany                                             |



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CORE HOLE DIAMETERS

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AMERICAN THREADS  
BRITISH THREADS

**THREAD FORMING TAPS**  
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AMERICAN THREADS  
BRITISH THREAD

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METRIC WIRE INSERT TAPS  
AMERICAN WIRE INSERT TAPS

**LEGEND**

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Aby uzyskać egzemplarz w Państwa języku, proszę skontaktować się z przedstawicielem handlowym.

## Obszary zastosowania

| WNT \ Performance |                                                                  |                                                                                                                                                             |                                                                                                                                                                                         |
|-------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNI               | do uniwersalnego stosowania do 1100 N/mm <sup>2</sup>            | EC                                                                                                                                                          | gwintownik wyginiający DuoForm do uniwersalnego stosowania                                                                                                                              |
| ST                | do stali dobrze obrabialnych                                     | NEO                                                                                                                                                         | gwintownik wyginiający DuoForm do stopów żaroodpornych                                                                                                                                  |
| FE                | narzynka do stali                                                | ERGO                                                                                                                                                        | gwintownik ręczny do stali nierdzewnych, żaroodpornych i uszlachetnionych do 1100 N/mm <sup>2</sup>  |
| VG                | do stali ulepszonych i żaroodpornych do 1100 N/mm <sup>2</sup>   | ERGO F.T                                                                                                                                                    | gwintownik ręczny do stali do 1400 N/mm <sup>2</sup> , wolframu, żeliwa utwardzonego                 |
| HR                | do stali wysokowytrzymałych do 1400 N/mm <sup>2</sup>            |  Narzędzia do tych zakresów stosowania są dostępne w sklepie internetowym. |                                                                                                                                                                                         |
| VA                | do stali nierdzewnych i kwasoodpornych do 1100 N/mm <sup>2</sup> |                                                                                                                                                             |                                                                                                                                                                                         |
| GG                | do żeliwa                                                        |                                                                                                                                                             |                                                                                                                                                                                         |
| NW                | do aluminium                                                     |                                                                                                                                                             |                                                                                                                                                                                         |
| Soft              | do miękkich materiałów                                           |                                                                                                                                                             |                                                                                                                                                                                         |
| Ms                | do mosiądzu dającego krótki wiór                                 |                                                                                                                                                             |                                                                                                                                                                                         |
| AMPCO             | do stopów Ampco                                                  |                                                                                                                                                             |                                                                                                                                                                                         |
| Ti                | do tytanu i jego stopów                                          |                                                                                                                                                             |                                                                                                                                                                                         |
| Ni                | specjalnie do Inconel 718                                        |                                                                                                                                                             |                                                                                                                                                                                         |
| HT                | do stali utwardzonych i żeliwa utwardzonego do 55 HRC            |                                                                                                                                                             |                                                                                                                                                                                         |

## WNT \ Standard

|       |                                                    |
|-------|----------------------------------------------------|
| UNI   | uniwersalne zastosowanie do 1000 N/mm <sup>2</sup> |
| FE    | do stali do 850 N/mm <sup>2</sup>                  |
| FE-HF | do stali o wytrzymałości do 1100 N/mm <sup>2</sup> |
| VA    | do stali nierdzewnej i kwasoodpornej               |
| GG    | do żeliwa                                          |
| AL    | do aluminium i jego stopów                         |

## Specjalne właściwości

|     |                                                                                     |                   |                                                                                               |
|-----|-------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------|
| AUT | wersja krótka do automatów                                                          | MMB               | gwintownik do nakrętek                                                                        |
| AZ  | z rozrzedzonymi zwojami, redukuje tarcie                                            | NC                | do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości           |
| CNC | do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości | NCW               | z chwytem typu Weldon do obróbki synchronicznej CNC bez użycia uchwytu z kompensacją długości |
| DRY | do obróbki na sucho lub przy użyciu minimalnej ilości środka smarnego (MMS)         | R <sub>z</sub> =1 | narzynka docierana                                                                            |
| EL  | gwintownik ekstradługi, tzn. o podwójnej długości całkowitej                        | S                 | ze stożkowym gwintem prowadzącym, do gwintowania głębokich otworów                            |
| ES  | bardzo krótki                                                                       | SN                | gwintownik wyginiający z rowkami smarowymi                                                    |
| HML | z wlutowanymi listwami z węgla spiekanego dla wyższej prędkości skrawania           | TS                | do obróbki z dużą prędkością, tj. nawet do 100 m/min.                                         |
| LH  | do gwintów lewoskrętnych                                                            |                   |                                                                                               |

## Toolfinder

## Gwintowniki bezwiórowe

|     |                                                        | Obróbka | Zakres stosowania | WNT \ Standard |    |   |     |     |
|-----|--------------------------------------------------------|---------|-------------------|----------------|----|---|-----|-----|
|     |                                                        |         |                   | M              | MF | G | UNC | UNF |
| UNI | do materiałów poddawanych obróbce plastycznej na zimno |         | UNI               | 55             | 74 |   |     |     |

## Gwintowniki

|     |                                                                                                                                  |  |       |       |       |    |    |                            |
|-----|----------------------------------------------------------------------------------------------------------------------------------|--|-------|-------|-------|----|----|----------------------------|
| UNI | do uniwersalnego stosowania<br>do 1000 N/mm <sup>2</sup> <b>WNT Standard</b><br>do 1100 N/mm <sup>2</sup> <b>WNT Performance</b> |  | UNI   | 26+27 | 60+61 | 76 | 83 | 91                         |
|     |                                                                                                                                  |  | UNI   | 43+44 | 67    | 79 | 85 | 94                         |
| P   | do stali<br>do 850 N/mm <sup>2</sup> <b>WNT Standard</b><br>do 1100 N/mm <sup>2</sup> <b>WNT Performance</b>                     |  | FE    | 27    | 61    |    |    |                            |
|     |                                                                                                                                  |  | FE    | 44    | 68    |    |    | 23 282...<br>23 283...<br> |
|     |                                                                                                                                  |  |       |       |       |    |    |                            |
| P   | do stali wysokowytrzymałych<br>do 1100 N/mm <sup>2</sup> <b>WNT Standard</b><br>do 1400 N/mm <sup>2</sup> <b>WNT Performance</b> |  | FE-HF | 27    |       |    | 83 |                            |
|     |                                                                                                                                  |  | FE-HF | 44    |       |    | 85 |                            |
|     |                                                                                                                                  |  |       |       |       |    |    |                            |
| M   | do stali nierdzewnej i kwasoodpornej                                                                                             |  | VA    | 28    | 61    |    | 83 |                            |
|     |                                                                                                                                  |  | VA    | 44+45 | 69    |    | 85 | 94                         |
| K   | do materiałów żeliwnych                                                                                                          |  | GG    | 51    |       |    |    |                            |
| N   | do aluminium i metali nieżelaznych                                                                                               |  | AL    | 28    |       |    |    |                            |
|     |                                                                                                                                  |  | AL    | 45    |       |    |    |                            |
|     |                                                                                                                                  |  |       |       |       |    |    |                            |
| S   | do materiałów żaroodpornych                                                                                                      |  |       |       |       |    |    |                            |
|     |                                                                                                                                  |  |       |       |       |    |    |                            |
| H   | Obróbka materiałów hartowanych                                                                                                   |  |       |       |       |    |    |                            |

Narzędzia do pozostałych zastosowań znajdują się w wykazie gwintowników na → **stronach 10–15.**Ten artykuł znajdują Państwo w naszym sklepie internetowym pod adresem [cuttingtools.ceratizit.com](https://cuttingtools.ceratizit.com)

| Typ narzędzia | Zakres stosowania | WNT \ Performance |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
|---------------|-------------------|-------------------|------|-------|-------|----------------|--------|------|-----|--------|----------------|-----------------------------|-----|-----------------------------|----------------|----------------|
|               |                   | M                 | EG M | MF    | G     | UNC            | EG UNC | UNJC | UNF | EG UNF | UNJF           | BSW                         | NPT | NPTF                        | Rp             | Rc             |
| DuoForm       | EC                | 52+53             |      | 73    | 81    | 86             |        |      | 95  |        |                |                             |     |                             |                |                |
| TruTap        | UNI               | 16–18             | 56   | 58+59 | 75    | 82             | 87     |      | 90  | 96     |                | 22 626...<br>22 627...<br>↓ |     |                             |                |                |
| CavTap        | UNI               | 29–32             | 57   | 62+63 | 77+78 | 84             | 88     |      | 92  | 97     |                | 22 628...<br>22 629...<br>↓ |     |                             |                |                |
| TruTap        | ST                | 19+20             |      | 59    | 75    |                |        |      |     |        |                |                             |     |                             |                |                |
| CavTap        | ST                | 34+35             |      | 64+65 | 78    |                |        |      |     |        |                |                             |     |                             |                |                |
| DuoTap        | ST                | 46+47             |      | 71+72 | 80    |                |        |      |     |        |                |                             | 100 | 22 367...<br>22 382...<br>↓ | 22 381...<br>↓ | 22 389...<br>↓ |
| TruTap        | HR                | 20                |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
| CavTap        | HR                | 35                |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
| DuoTap        | HR                | 46+47             |      | 70+71 | 80    |                |        |      |     |        |                |                             |     |                             |                |                |
| TruTap        | VA                | 21                |      |       | 75    | 82             |        |      |     |        |                |                             |     |                             |                |                |
| CavTap        | VA                | 36                |      | 66    | 78    | 84             |        |      | 92  |        |                |                             | 98  |                             |                |                |
| DuoTap        | GG                | 48                |      | 71    |       |                |        |      |     |        |                |                             |     |                             |                |                |
| TruTap        | NW                | 21                |      | 59    | 75    |                |        |      |     |        |                |                             |     |                             |                |                |
| CavTap        | NW                | 37                |      | 66    | 78    |                |        |      |     |        |                |                             |     |                             |                |                |
| DuoTap        | AMPCO             | 46+47             |      |       |       |                |        |      |     |        |                |                             |     |                             |                |                |
| TruTap        | Ti                | 22                |      |       |       | 82             |        |      |     |        | 22 167...<br>↓ |                             |     |                             |                |                |
| CavTap SL     | Ti                | 38                |      |       |       | 22 262...<br>↓ |        | 89   | 93  |        | 22 168...<br>↓ |                             |     |                             |                |                |
| DuoTap        | HT                | 49                |      | 70    |       |                |        |      |     |        |                |                             |     |                             |                |                |

 Przedłużacze chwytu gwintownika znajdą Państwo na → **stronie 101**.

 Oleje do gwintowania znajdą Państwo w sklepie internetowym pod adresem [cuttingtools.ceratzit.com](https://cuttingtools.ceratzit.com)



## Wykaz gwintowników

| Zakres stosowania /<br>specjalne właściwości                                        | Typ narzędzia                             | Kształt nakroju                                                                     | Tolerancja                      | Materiał skrawający | ■<br>pokrywany<br>□<br>bez powłoki | Chłodziwo | WNT / Performance    | WNT / Standard |
|-------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------|---------------------|------------------------------------|-----------|----------------------|----------------|
| <b>M</b>                                                                            | <b>Gwint metryczny standardowy wg ISO</b> |                                                                                     |                                 |                     |                                    |           |                      |                |
|    | <b>UNI – gwint otworu przelotowego</b>    |                                                                                     |                                 |                     |                                    |           |                      |                |
| UNI                                                                                 | TruTap                                    |    | ISO 2 6H<br>ISO 3 6G<br>7G      | HSS-E               | ■                                  |           | 16+17                |                |
| UNI<br>CNC                                                                          | TruTap                                    |    | ISO 2X 6HX<br>ISO 3X 6GX<br>7GX | HSS-E               | ■                                  |           | 18                   |                |
| UNI<br>NCW                                                                          | TruTap                                    |    | ISO 2 6H                        | HSS-PM              | ■                                  |           | 18                   |                |
| UNI<br>EL                                                                           | TruTap                                    |    | ISO 2 6H                        | HSS-E               | ■                                  |           | 24                   |                |
| UNI                                                                                 |                                           |    | ISO 2 6H                        | HSS-E<br>HSS-PM     | ■                                  |           | 26                   |                |
| UNI<br>NC                                                                           |                                           |    | ISO 2 6H                        | HSS-E               | ■                                  |           | 27                   |                |
| UNI<br>NCW                                                                          |                                           |    | ISO 2 6H                        | HSS-PM              | ■                                  |           | 27                   |                |
|  | <b>UNI – gwint otworu nieprzelotowego</b> |                                                                                     |                                 |                     |                                    |           |                      |                |
| UNI                                                                                 | CavTap                                    |  | ISO 2 6H<br>7G                  | HSS-E               | ■                                  |           | 29                   |                |
| UNI                                                                                 | CavTap                                    |  | ISO 2 6H                        | HSS-E               | ■                                  | ■         | 30                   |                |
| UNI                                                                                 |                                           |  | ISO 2 6H                        | HSS-E<br>HSS-PM     | ■                                  |           | 43                   |                |
| UNI<br>NC                                                                           |                                           |  | ISO 2 6H                        | HSS-E               | ■                                  |           | 43                   |                |
| UNI<br>NCW                                                                          | CavTap                                    |  | ISO 2 6H                        | HSS-PM              | ■                                  |           | 30                   |                |
| UNI<br>NCW                                                                          |                                           |  | ISO 2 6H                        | HSS-PM              | ■                                  |           | 44                   |                |
| UNI<br>CNC                                                                          | CavTap                                    |  | ISO 2X 6HX<br>ISO 2 6H<br>7G    | HSS-E               | ■                                  |           | 31                   |                |
| UNI<br>CNC                                                                          | CavTap                                    |  | ISO 2 6H                        | HSS-E               | ■                                  | ■         | 31                   |                |
| UNI<br>CNC                                                                          | CavTap                                    |  | ISO 3 6G                        | HSS-E               | ■                                  |           | 22 588..., 22 589... |                |
| UNI<br>DRY                                                                          | CavTap                                    |  | ISO 2 6H                        | HSS-E               | ■                                  | ■         | 32                   |                |
| UNI                                                                                 | CavTap                                    |  | ISO 1 4H                        | HSS-E               | ■                                  |           | 22 528...            |                |
| UNI                                                                                 | CavTap                                    |  | ISO 3 6G                        | HSS-E               | ■                                  |           | 22 530...            |                |
| UNI<br>S                                                                            | CavTap                                    |  | ISO 2 6H                        | HSS-E               | ■                                  |           | 22 536..., 22 537... |                |
| UNI<br>ES                                                                           | CavTap                                    |  | ISO 2 6H                        | HSS-E               | ■                                  |           | 39                   |                |
| UNI<br>EL                                                                           | CavTap                                    |  | ISO 2 6H                        | HSS-E               | ■                                  |           | 41                   |                |
| UNI                                                                                 | CavTap SL                                 |  | ISO 2 6H                        | HSS-E               | □                                  |           | 22 516...            |                |

| Zakres stosowania /<br>specjalne właściwości                                        | Typ narzędzia                             | Kształt nakroju                                                                      | Tolerancja | Materiał skrawający | ■<br>pokrywany<br>□<br>bez powłoki | Chłodziwo | WNT / Performance    | WNT / Standard |
|-------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------|------------|---------------------|------------------------------------|-----------|----------------------|----------------|
| <b>M</b>                                                                            | <b>Gwint metryczny standardowy wg ISO</b> |                                                                                      |            |                     |                                    |           |                      |                |
|    | <b>P – gwint otworu przelotowego</b>      |                                                                                      |            |                     |                                    |           |                      |                |
| ST                                                                                  | TruTap                                    |    | ISO 2 6H   | HSS-E               | □                                  |           | 19                   |                |
| ST<br>LH                                                                            | TruTap                                    |    | ISO 2 6H   | HSS-E               | □                                  |           | 19                   |                |
| ST                                                                                  | TruTap                                    |    | ISO 1 4H   | HSS-E               | □                                  |           | 22 002..., 22 003... |                |
| ST                                                                                  | TruTap                                    |    | ISO 3 6G   | HSS-E               | □                                  |           | 22 004...            |                |
| ST<br>TS                                                                            | TruTap                                    |    | ISO 2X 6HX | HSS-E               | ■                                  |           | 20                   |                |
| HR                                                                                  | TruTap                                    |    | ISO 2X 6HX | HSS-PM              | ■                                  |           | 20                   |                |
| VG                                                                                  | TruTap                                    |    | ISO 2X 6HX | HSS-E               | ■                                  |           | 20                   |                |
| ST<br>EL                                                                            | TruTap                                    |    | ISO 2 6H   | HSS-E               | □                                  |           | 24                   |                |
| ST<br>MMB                                                                           |                                           |   | ISO 2 6H   | HSS-E               | □                                  |           | 25                   |                |
| FE                                                                                  |                                           |  | ISO 2 6H   | HSS-E               | □                                  |           | 27                   |                |
| FE-HF                                                                               |                                           |  | ISO 2 6H   | HSS-E               | ■                                  |           | 27                   |                |
|  | <b>P – gwint otworu nieprzelotowego</b>   |                                                                                      |            |                     |                                    |           |                      |                |
| ST                                                                                  | CavTap                                    |  | ISO 2 6H   | HSS-E               | ■□                                 |           | 34                   |                |
| ST                                                                                  | CavTap                                    |  | ISO 3 6G   | HSS-E               | □                                  |           | 22 134..., 22 135... |                |
| ST<br>CNC                                                                           | CavTap SL                                 |  | ISO 2X 6HX | HSS-E               | ■                                  | ■         | 33                   |                |
| ST<br>TS                                                                            | CavTap SL                                 |  | ISO 2X 6HX | HSS-E               | ■                                  |           | 33                   |                |
| ST<br>ES                                                                            | CavTap SL                                 |  | ISO 2 6H   | HSS-E               | □                                  |           | 40                   |                |
| ST<br>EL                                                                            | CavTap                                    |  | ISO 2 6H   | HSS-E               | □                                  |           | 41                   |                |
| ST<br>EL                                                                            | CavTap SL                                 |  | ISO 2 6H   | HSS-E               | □                                  |           | 42                   |                |
| ST<br>LH                                                                            | CavTap                                    |  | ISO 2 6H   | HSS-E               | □                                  |           | 34                   |                |
| ST<br>TS                                                                            | CavTap                                    |  | ISO 2 6H   | HSS-E               | ■                                  | ■         | 35                   |                |
| HR                                                                                  | CavTap SL                                 |  | ISO 2 6H   | HSS-PM              | ■                                  |           | 33                   |                |
| HR                                                                                  | CavTap                                    |  | ISO 2 6H   | HSS-PM              | ■□                                 |           | 35                   |                |



Ten artykuł znajduje Państwo w naszym sklepie internetowym pod adresem [cuttingtools.ceratzit.com](http://cuttingtools.ceratzit.com)

## Wykaz gwintowników

| Zakres stosowania /<br>specjalne właściwości | Typ narzędzia                                           | Kształt nakroju | Tolerancja | Materiał skrawający | ■ pokrywany<br>□ bez powłoki | Chłodziwo | WNT \ Performance | WNT \ Standard       |
|----------------------------------------------|---------------------------------------------------------|-----------------|------------|---------------------|------------------------------|-----------|-------------------|----------------------|
| <b>M</b>                                     | <b>Gwint metryczny standardowy wg ISO</b>               |                 |            |                     |                              |           |                   |                      |
| FE                                           |                                                         |                 | ISO 2 6H   | HSS-E               | □                            |           |                   | 44                   |
| FE-HF                                        |                                                         |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 44                   |
|                                              | <b>P – gwint otworu nieprzelotowego</b>                 |                 |            |                     |                              |           |                   |                      |
| ST                                           | DuoTap                                                  |                 | ISO 2X 6HX | HSS-E               | □                            |           |                   | 46+47                |
| ST<br>AZ                                     | DuoTap                                                  |                 | ISO 2X 6HX | HSS-E               | □                            |           |                   | 22 111..., 22 113... |
| HR                                           | DuoTap                                                  |                 | ISO 2X 6HX | HSS-E               | ■                            |           |                   | 46+47                |
| HR<br>EL                                     | DuoTap                                                  |                 | ISO 2X 6HX | HSS-E               | ■                            |           |                   | 50                   |
|                                              | <b>M – gwint otworu przelotowego</b>                    |                 |            |                     |                              |           |                   |                      |
| VA                                           | TruTap                                                  |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 21                   |
| VA                                           |                                                         |                 | ISO 2 6H   | HSS-PM<br>HSS-E     | ■                            |           |                   | 28                   |
|                                              | <b>M – gwint otworu nieprzelotowego</b>                 |                 |            |                     |                              |           |                   |                      |
| VA                                           | CavTap                                                  |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 36                   |
| VA                                           | CavTap                                                  |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 36                   |
| VA                                           |                                                         |                 | ISO 2 6H   | HSS-E<br>HSS-PM     | ■ □                          |           |                   | 44+45                |
|                                              | <b>K – gwinty otworu przelotowego i nieprzelotowego</b> |                 |            |                     |                              |           |                   |                      |
| GG                                           | DuoTap                                                  |                 | ISO 2X 6HX | HSS-E               | ■                            |           |                   | 48                   |
| GG                                           |                                                         |                 | ISO 2X 6HX | HSS-E               | ■                            |           |                   | 51                   |
|                                              | <b>N – gwint otworu przelotowego</b>                    |                 |            |                     |                              |           |                   |                      |
| NW                                           | TruTap                                                  |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 21                   |
| Soft                                         | TruTap                                                  |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 22 305...            |
| AL                                           |                                                         |                 | ISO 2 6H   | HSS-E               | ■ □                          |           |                   | 28                   |
|                                              | <b>N – gwint otworu nieprzelotowego</b>                 |                 |            |                     |                              |           |                   |                      |
| Soft                                         | CavTap                                                  |                 | ISO 2 6H   | HSS-E               | ■ □                          |           |                   | 37                   |
| NW                                           | CavTap                                                  |                 | ISO 2 6H   | HSS-E               | ■                            |           |                   | 37                   |
| AL                                           |                                                         |                 | ISO 2 6H   | HSS-E               | ■ □                          |           |                   | 45                   |

| Zakres stosowania /<br>specjalne właściwości | Typ narzędzia                                           | Kształt nakroju | Tolerancja               | Materiał skrawający | ■ pokrywany<br>□ bez powłoki | Chłodziwo | WNT \ Performance | WNT \ Standard |
|----------------------------------------------|---------------------------------------------------------|-----------------|--------------------------|---------------------|------------------------------|-----------|-------------------|----------------|
| <b>M</b>                                     | <b>Gwint metryczny standardowy wg ISO</b>               |                 |                          |                     |                              |           |                   |                |
|                                              | <b>N – gwinty otworu przelotowego i nieprzelotowego</b> |                 |                          |                     |                              |           |                   |                |
| AMPCO                                        | DuoTap                                                  |                 | ISO 2X 6HX               | HSS-PM              | □                            |           |                   | 46+47          |
| Ms                                           | DuoTap                                                  |                 | ISO 2X 6HX               | HSS-E               | □                            |           |                   | 22 119...      |
|                                              | <b>S – gwint otworu przelotowego</b>                    |                 |                          |                     |                              |           |                   |                |
| Ti                                           | TruTap                                                  |                 | ISO 1X 4HX<br>ISO 2X 6HX | HSS-PM              | ■                            |           |                   | 22             |
| Ti                                           | TruTap<br>DL                                            |                 | ISO 2X 6HX               | HSS-E               | ■                            |           |                   | 23             |
| Ni                                           | TruTap<br>DL                                            |                 | ISO 2X 6HX               | HSS-E               | ■                            |           |                   | 23             |
|                                              | <b>S – gwint otworu nieprzelotowego</b>                 |                 |                          |                     |                              |           |                   |                |
| Ti                                           | CavTap<br>SL                                            |                 | ISO 2X 6HX               | HSS-PM              | ■                            |           |                   | 38             |
| Ni                                           | CavTap<br>SL                                            |                 | ISO 2X 6HX               | HSS-PM              | ■                            |           |                   | 38             |
|                                              | <b>H – gwinty otworu przelotowego i nieprzelotowego</b> |                 |                          |                     |                              |           |                   |                |
| HT                                           | DuoTap                                                  |                 | ISO 2X 6HX               | VHM                 | ■                            |           |                   | 49             |
| HT                                           | DuoTap                                                  |                 | ISO 2X 6HX               | HSS-PM              | ■                            |           |                   | 49             |
|                                              | <b>Gwintownik maszynowy-wygniatak</b>                   |                 |                          |                     |                              |           |                   |                |
| EC                                           | DuoForm                                                 |                 | ISO 2X 6HX               | HSS-E               | ■                            |           |                   | 52             |
| EC<br>SN                                     | DuoForm                                                 |                 | ISO 2X 6HX<br>ISO 3X 6GX | HSS-E               | ■                            |           |                   | 53             |
| NW<br>HML                                    | DuoForm                                                 |                 | ISO 2X 6HX               | HSS-E               | □                            |           |                   | 52             |
| NEO<br>SN                                    | DuoForm                                                 |                 | ISO 2X 6HX               | HSS-PM              | ■                            |           |                   | 54             |
| UNI                                          |                                                         |                 | ISO 2X 6HX               | HSS-E               | ■                            |           |                   | 55             |
| UNI<br>SN                                    |                                                         |                 | ISO 2X 6HX               | HSS-E               | ■                            |           |                   | 55             |
|                                              | <b>Gwintownik ręczny</b>                                |                 |                          |                     |                              |           |                   |                |
| ST                                           |                                                         |                 | ISO 2X 6HX               | VHM                 | □                            |           |                   | 22 800...      |
| ST                                           |                                                         |                 | ISO 2X 6HX               | HSS-E               | □                            |           |                   | 22 010...      |
| ERGO                                         |                                                         |                 | ISO 2X 6HX               | HSS-E               | □                            |           |                   | 22 012...      |
| ERGO<br>F.T.                                 |                                                         |                 | ISO 2X 6HX               | HSS-E               | ■                            |           |                   | 22 013...      |

## Wykaz gwintowników

| Zakres stosowania /<br>specjalne właściwości                                      | Typ narzędzia                                                                     | Kształt nakroju  | Tolerancja | Materiał skrawający      | <input checked="" type="checkbox"/> pokrywany<br><input type="checkbox"/> bez powłoki<br> Chłodziwo | WNT / Performance                                                                 | WNT / Standard |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------|------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------|
| <b>M</b>                                                                          | <b>Gwint metryczny standardowy wg ISO</b>                                         |                  |            |                          |                                                                                                                                                                                      |                                                                                   |                |
|  | <b>Narzędzia do gwintów</b>                                                       |                  |            |                          |                                                                                                                                                                                      |                                                                                   |                |
| FE                                                                                |  | ISO 6g<br>ISO 6e | HSS        | <input type="checkbox"/> | 22 700..., 22 701...                                                                                                                                                                 |  |                |
| FE                                                                                |  | ISO 6g           | HSS        | <input type="checkbox"/> | 23 910...                                                                                                                                                                            |  |                |
| FE<br>LH                                                                          |  | ISO 6g           | HSS        | <input type="checkbox"/> | 22 702...                                                                                                                                                                            |  |                |
| VA                                                                                |  | ISO 6g           | HSS-E      | <input type="checkbox"/> | 22 704...                                                                                                                                                                            |  |                |
| VA<br>R <sub>Z</sub> =1                                                           |  | ISO 6g           | HSS-E      | <input type="checkbox"/> | 22 705...                                                                                                                                                                            |  |                |

| EG M                                                                                |                                                                  |                                                                                     |                 |        |       |      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------|--------|-------|------|
|  | <b>Gwint mityczny standardowy wg ISO do wkładek sprężynowych</b> |                                                                                     |                 |        |       |      |
|  | <b>UNI – gwint otworu przelotowego</b>                           |                                                                                     |                 |        |       |      |
| <b>UNI</b>                                                                          | <b>TruTap</b>                                                    |  | <b>B</b><br>4-5 | 6H mod | HSS-E | ■ 56 |
|  | <b>UNI – gwint otworu nieprzelotowego</b>                        |                                                                                     |                 |        |       |      |
| <b>UNI</b>                                                                          | <b>CavTap</b>                                                    |  | <b>C</b><br>2-3 | 6H mod | HSS-E | ■ 57 |
|  | <b>N – gwint otworu nieprzelotowego</b>                          |                                                                                     |                 |        |       |      |
| <b>Soft</b>                                                                         | <b>CavTap</b>                                                    |  | <b>C</b><br>2-3 | 6H mod | HSS-E | ■ 57 |

| MF Gwint metryczny drobnozwojowy wg ISO                                                                                       |        |                                                                                     |                      |                 |   |                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|----------------------|-----------------|---|-------------------------------------------------------------------------------------------------------|
|  <b>UNI – gwint otworu przelotowego</b>    |        |                                                                                     |                      |                 |   |                                                                                                       |
| UNI                                                                                                                           | TruTap |  | ISO 2 6H             | HSS-E           | ■ | 58+59                                                                                                 |
| UNI                                                                                                                           | TruTap |  | ISO 3 6G             | HSS-E           | ■ | 22 599...<br>↓<br> |
| UNI                                                                                                                           |        |  | ISO 2 6H             | HSS-PM<br>HSS-E | ■ | 60+61                                                                                                 |
|  <b>UNI – gwint otworu nieprzelotowego</b> |        |                                                                                     |                      |                 |   |                                                                                                       |
| UNI                                                                                                                           | CavTap |  | ISO 2 6H<br>ISO 3 6G | HSS-E           | ■ | 62                                                                                                    |
| UNI                                                                                                                           | CavTap |  | ISO 2 6H             | HSS-E           | ■ | 63                                                                                                    |
| UNI                                                                                                                           |        |  | ISO 2 6H             | HSS-PM<br>HSS-E | ■ | 67+68                                                                                                 |

| Zakres stosowania /<br>specjalne właściwości                                        | Typ narzędzia                                           | Kształt nakroju                                                                      | Tolerancja  | Materiał skrawający | <div> <div>■</div> <div>□</div> <div>🔹</div> </div> <p>                     pokrywany<br/>                     bez powłoki<br/>                     Chłodziwo                 </p> | <div>WNT</div> <div>Performance</div>                                                              | <div>WNT</div> <div>Standard</div> |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------|
| <b>MF</b>                                                                           | <b>Gwint metryczny drobnozwojowy wg ISO</b>             |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>UNI CNC</b>                                                                      | CavTap                                                  |    | ISO 3 6G    | HSS-E               | ■                                                                                                                                                                                  | 22 561...<br>   |                                    |
| <b>UNI CNC</b>                                                                      | CavTap                                                  |    | ISO 2 6H 7G | HSS-E               | ■                                                                                                                                                                                  | 63                                                                                                 |                                    |
| <b>UNI NC</b>                                                                       |                                                         |    | ISO 2 6H    | HSS-E               | ■                                                                                                                                                                                  |                                                                                                    | 68                                 |
|    | <b>P – gwint otworu przelotowego</b>                    |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>ST TS</b>                                                                        | TruTap                                                  |    | ISO 2X 6HX  | HSS-E               | ■                                                                                                                                                                                  | 59                                                                                                 |                                    |
| <b>ST LH</b>                                                                        | TruTap                                                  |    | ISO 2 6H    | HSS-E               | □                                                                                                                                                                                  | 59                                                                                                 |                                    |
| <b>FE</b>                                                                           |                                                         |    | ISO 2 6H    | HSS-E               | □                                                                                                                                                                                  |                                                                                                    | 61                                 |
|    | <b>P – gwint otworu nieprzelotowego</b>                 |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>ST TS</b>                                                                        | CavTap                                                  |  | ISO 2 6H    | HSS-E               | ■                                                                                                                                                                                  | 22 216...<br> |                                    |
| <b>ST LH</b>                                                                        | CavTap                                                  |  | ISO 2 6H    | HSS-E               | □                                                                                                                                                                                  | 64                                                                                                 |                                    |
| <b>ST</b>                                                                           | CavTap SL                                               |  | ISO 2 6H    | HSS-E               | □                                                                                                                                                                                  | 65                                                                                                 |                                    |
| <b>FE</b>                                                                           |                                                         |  | ISO 2 6H    | HSS-E               | □                                                                                                                                                                                  |                                                                                                    | 68                                 |
|  | <b>P – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>ST</b>                                                                           | DuoTap                                                  |  | ISO 2X 6HX  | HSS-E               | □                                                                                                                                                                                  | 70+71                                                                                              |                                    |
| <b>ST ES</b>                                                                        | DuoTap                                                  |  | ISO 2X 6HX  | HSS-E               | □                                                                                                                                                                                  | 72                                                                                                 |                                    |
| <b>ST LH/ES</b>                                                                     | DuoTap                                                  |  | ISO 2X 6HX  | HSS-E               | □                                                                                                                                                                                  | 72                                                                                                 |                                    |
| <b>HR</b>                                                                           | DuoTap                                                  |  | ISO 2X 6HX  | HSS-E               | ■                                                                                                                                                                                  | 70+71                                                                                              |                                    |
|  | <b>M – gwint otworu przelotowego</b>                    |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>VA</b>                                                                           |                                                         |  | ISO 2 6H    | HSS-E               | ■                                                                                                                                                                                  |                                                                                                    | 61                                 |
|  | <b>M – gwint otworu nieprzelotowego</b>                 |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>VA</b>                                                                           | CavTap                                                  |  | ISO 2 6H    | HSS-E               | ■                                                                                                                                                                                  | 66                                                                                                 |                                    |
| <b>VA</b>                                                                           |                                                         |  | ISO 2 6H    | HSS-E               | ■                                                                                                                                                                                  |                                                                                                    | 69                                 |
|  | <b>K – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                      |             |                     |                                                                                                                                                                                    |                                                                                                    |                                    |
| <b>GG</b>                                                                           | DuoTap                                                  |  | ISO 2X 6HX  | HSS-E               | ■                                                                                                                                                                                  | 71                                                                                                 |                                    |



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## Wykaz gwintowników

| Zakres stosowania /<br>specjalne właściwości                                        | Typ narzędzia                                           | Kształt nakroju                                                                     | Tolerancja | Materiał skrawający | ■<br>pokrywany<br>bez powłoki | ■<br>Chłodziwo | WNT \ Performance | WNT \ Standard |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------|------------|---------------------|-------------------------------|----------------|-------------------|----------------|
| <b>MF</b>                                                                           | <b>Gwint metryczny drobnozwojowy wg ISO</b>             |                                                                                     |            |                     |                               |                |                   |                |
|    | <b>N – gwint otworu przelotowego</b>                    |                                                                                     |            |                     |                               |                |                   |                |
| NW                                                                                  | TruTap                                                  |    | ISO 2 6H   | HSS-E               | ■                             |                | 59                |                |
|    | <b>N – gwint otworu nieprzelotowego</b>                 |                                                                                     |            |                     |                               |                |                   |                |
| NW                                                                                  | CavTap                                                  |    | ISO 2 6H   | HSS-E               | ■                             |                | 66                |                |
|    | <b>H – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                     |            |                     |                               |                |                   |                |
| HT                                                                                  | DuoTap                                                  |    | ISO 2X 6HX | VHM                 | ■                             |                | 70                |                |
|    | <b>Gwintownik maszynowy-wyginiatak</b>                  |                                                                                     |            |                     |                               |                |                   |                |
| EC SN                                                                               | DuoForm                                                 |    | ISO 2X 6HX | HSS-E               | ■                             |                | 73                |                |
| EC HML                                                                              | DuoForm                                                 |  | ISO 2X 6HX | HSS-E               | ■                             | ■              | 73                |                |
| UNI SN                                                                              |                                                         |  | ISO 2X 6HX | HSS-E               | ■                             |                | 74                |                |
|  | <b>Narzynka do gwintów</b>                              |                                                                                     |            |                     |                               |                |                   |                |
| FE                                                                                  |                                                         |  | ISO 6g     | HSS                 | □                             |                | 22 711...         |                |
| VA                                                                                  |                                                         |  | ISO 6g     | HSS-E               | □                             |                | 22 714...         |                |

|                                                                                     |                                           |                                                                                     |                              |       |   |  |    |  |
|-------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------|------------------------------|-------|---|--|----|--|
| <b>G</b>                                                                            | <b>Gwint rurowy Whitworth`a</b>           |                                                                                     |                              |       |   |  |    |  |
|  | <b>UNI – gwint otworu przelotowego</b>    |                                                                                     |                              |       |   |  |    |  |
| UNI                                                                                 | TruTap                                    |  | ISO 228                      | HSS-E | ■ |  | 75 |  |
| UNI                                                                                 |                                           |  | ISO 228                      | HSS-E | ■ |  | 76 |  |
|  | <b>UNI – gwint otworu nieprzelotowego</b> |                                                                                     |                              |       |   |  |    |  |
| UNI                                                                                 | CavTap                                    |  | ISO 228                      | HSS-E | ■ |  | 77 |  |
| UNI                                                                                 | CavTap                                    |  | ISO 228,<br>ISO 228<br>+0,05 | HSS-E | ■ |  | 77 |  |
| UNI CNC                                                                             | CavTap                                    |  | ISO 228                      | HSS-E | ■ |  | 78 |  |
| UNI                                                                                 |                                           |  | ISO 228                      | HSS-E | ■ |  | 79 |  |

|                                                                                     |                                                         |                                                                                      |          |       |   |  |           |  |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------|----------|-------|---|--|-----------|--|
| <b>G</b>                                                                            | <b>Gwint rurowy Whitworth`a</b>                         |                                                                                      |          |       |   |  |           |  |
|    | <b>P – gwint otworu przelotowego</b>                    |                                                                                      |          |       |   |  |           |  |
| ST                                                                                  | TruTap                                                  |    | ISO 228  | HSS-E | □ |  | 75        |  |
| FE                                                                                  |                                                         |    | ISO 228  | HSS-E | □ |  | 23 260... |  |
|    | <b>P – gwint otworu nieprzelotowego</b>                 |                                                                                      |          |       |   |  |           |  |
| ST                                                                                  | CavTap                                                  |    | ISO 228  | HSS-E | □ |  | 78        |  |
| ST                                                                                  | CavTap SL                                               |    | ISO 228  | HSS-E | □ |  | 22 353... |  |
| FE                                                                                  |                                                         |    | ISO 228  | HSS-E | □ |  | 23 261... |  |
|   | <b>P – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                      |          |       |   |  |           |  |
| ST                                                                                  | DuoTap                                                  |  | ISO 228X | HSS-E | □ |  | 80        |  |
| HR                                                                                  | DuoTap                                                  |  | ISO 228X | HSS-E | ■ |  | 80        |  |
|  | <b>M – gwint otworu przelotowego</b>                    |                                                                                      |          |       |   |  |           |  |
| VA                                                                                  | TruTap                                                  |  | ISO 228  | HSS-E | ■ |  | 75        |  |
|  | <b>M – gwint otworu nieprzelotowego</b>                 |                                                                                      |          |       |   |  |           |  |
| VA                                                                                  | CavTap                                                  |  | ISO 228  | HSS-E | ■ |  | 78        |  |
|  | <b>K – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                      |          |       |   |  |           |  |
| GG                                                                                  | DuoTap                                                  |  | ISO 228X | HSS-E | ■ |  | 22 348... |  |
|  | <b>N – gwint otworu przelotowego</b>                    |                                                                                      |          |       |   |  |           |  |
| NW                                                                                  | TruTap                                                  |  | ISO 228  | HSS-E | ■ |  | 75        |  |
|  | <b>N – gwint otworu nieprzelotowego</b>                 |                                                                                      |          |       |   |  |           |  |
| NW                                                                                  | CavTap                                                  |  | ISO 228  | HSS-E | ■ |  | 78        |  |
|  | <b>Gwintownik maszynowy-wyginiatak</b>                  |                                                                                      |          |       |   |  |           |  |
| EC                                                                                  | DuoForm                                                 |  | ISO 228  | HSS-E | ■ |  | 81        |  |
| EC SN                                                                               | DuoForm                                                 |  | ISO 228  | HSS-E | ■ |  | 81        |  |
|  | <b>Narzynka do gwintów</b>                              |                                                                                      |          |       |   |  |           |  |
| FE                                                                                  |                                                         |  | ISO 228A | HSS   | □ |  | 22 741... |  |

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## Wykaz gwintowników

| Zakres stosowania /<br>specjalne właściwości | Typ narzędzia                      | Kształt nakroju | Tolerancja | Materiał skrawający | ■<br>pokrywany<br>□<br>bez powłoki | Chłodziwo | WNT / Performance | WNT / Standard |
|----------------------------------------------|------------------------------------|-----------------|------------|---------------------|------------------------------------|-----------|-------------------|----------------|
| <b>UNC</b>                                   | Zunifikowany gwint grubozw.        |                 |            |                     |                                    |           |                   |                |
|                                              | UNI – gwint otworu przelotowego    |                 |            |                     |                                    |           |                   |                |
| UNI                                          | TruTap                             |                 | 2B         | HSS-E               | ■                                  |           | 82                |                |
| UNI                                          |                                    |                 | 2B         | HSS-E               | ■                                  |           |                   | 83             |
|                                              | UNI – gwint otworu nieprzelotowego |                 |            |                     |                                    |           |                   |                |
| UNI                                          | CavTap                             |                 | 2B         | HSS-E               | ■                                  |           | 84                |                |
| UNI                                          |                                    |                 | 2B         | HSS-E               | ■                                  |           |                   | 85             |
|                                              | P – gwint otworu przelotowego      |                 |            |                     |                                    |           |                   |                |
| FE-HF                                        |                                    |                 | 2B         | HSS-E               | ■                                  |           |                   | 83             |
|                                              | P – gwint otworu nieprzelotowego   |                 |            |                     |                                    |           |                   |                |
| ST                                           | CavTap                             |                 | 2B         | HSS-E               | □                                  |           | 22 264...         |                |
| FE-HF                                        |                                    |                 | 2B         | HSS-E               | ■                                  |           |                   | 85             |
|                                              | M – gwint otworu przelotowego      |                 |            |                     |                                    |           |                   |                |
| VA                                           | TruTap                             |                 | 2B         | HSS-E               | ■                                  |           | 82                |                |
| VA                                           |                                    |                 | 2B         | HSS-E               | ■                                  |           |                   | 83             |
|                                              | M – gwint otworu nieprzelotowego   |                 |            |                     |                                    |           |                   |                |
| VA                                           | CavTap                             |                 | 2B         | HSS-E               | ■                                  |           | 84                |                |
| VA                                           |                                    |                 | 2B         | HSS-E               | □                                  |           |                   | 85             |
|                                              | S – gwint otworu przelotowego      |                 |            |                     |                                    |           |                   |                |
| Ti                                           | TruTap                             |                 | 2BX        | HSS-PM              | ■                                  |           | 82                |                |
|                                              | S – gwint otworu nieprzelotowego   |                 |            |                     |                                    |           |                   |                |
| TI                                           | CavTap SL                          |                 | 2BX        | HSS-PM              | ■                                  |           | 22 262...         |                |
|                                              | Gwintownik maszynowy-wyginiatak    |                 |            |                     |                                    |           |                   |                |
| EC                                           | DuoForm                            |                 | 2BX        | HSS-E               | ■                                  |           | 86                |                |
| EC SN                                        | DuoForm                            |                 | 2BX        | HSS-E               | ■                                  |           | 86                |                |

| Zakres stosowania /<br>specjalne właściwości | Typ narzędzia               | Kształt nakroju | Tolerancja | Materiał skrawający | ■<br>pokrywany<br>□<br>bez powłoki | Chłodziwo | WNT / Performance | WNT / Standard |
|----------------------------------------------|-----------------------------|-----------------|------------|---------------------|------------------------------------|-----------|-------------------|----------------|
| <b>UNC</b>                                   | Zunifikowany gwint grubozw. |                 |            |                     |                                    |           |                   |                |
|                                              | Narzędzie do gwintów        |                 |            |                     |                                    |           |                   |                |
| FE                                           |                             |                 | 2A         | HSS                 | □                                  |           | 22 721...         |                |

|               |                                                  |  |        |       |   |  |    |  |
|---------------|--------------------------------------------------|--|--------|-------|---|--|----|--|
| <b>EG UNC</b> | Gwint grubozwojny Unifed do wkładek sprężynowych |  |        |       |   |  |    |  |
|               | UNI – gwint otworu przelotowego                  |  |        |       |   |  |    |  |
| UNI           | TruTap                                           |  | 2B mod | HSS-E | ■ |  | 87 |  |
|               | UNI – gwint otworu nieprzelotowego               |  |        |       |   |  |    |  |
| UNI           | CavTap                                           |  | 2B mod | HSS-E | ■ |  | 88 |  |

|             |                                  |  |     |       |   |  |    |  |
|-------------|----------------------------------|--|-----|-------|---|--|----|--|
| <b>UNJC</b> | Zunifikowany gwint grubozw.      |  |     |       |   |  |    |  |
|             | S – gwint otworu nieprzelotowego |  |     |       |   |  |    |  |
| Ti          | CavTap SL                        |  | 3BX | HSS-E | ■ |  | 89 |  |

|            |                                    |  |          |       |   |  |    |    |
|------------|------------------------------------|--|----------|-------|---|--|----|----|
| <b>UNF</b> | Zunifikowany gwint drobnoszwojny   |  |          |       |   |  |    |    |
|            | UNI – gwint otworu przelotowego    |  |          |       |   |  |    |    |
| UNI        | TruTap                             |  | 2B       | HSS-E | ■ |  | 90 |    |
| UNI        |                                    |  | 2B       | HSS-E | ■ |  |    | 91 |
|            | UNI – gwint otworu nieprzelotowego |  |          |       |   |  |    |    |
| UNI        | CavTap                             |  | 2B       | HSS-E | ■ |  | 92 |    |
| UNI        | CavTap                             |  | 2B +0,05 | HSS-E | ■ |  | 92 |    |
| UNI        |                                    |  | 2B       | HSS-E | ■ |  |    | 94 |
|            | M – gwint otworu nieprzelotowego   |  |          |       |   |  |    |    |
| VA         | CavTap                             |  | 2B       | HSS-E | ■ |  | 92 |    |
| VA         |                                    |  | 2B       | HSS-E | □ |  |    | 94 |

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## Wykaz gwintowników

| Zakres stosowania /<br>specjalne właściwości                                      | Typ narzędzia                           | Kształt nakroju                                                                            | Tolerancja | Materiał skrawający | ■<br>pokrywany<br>bez powłoki | ■<br>Chłodziwo | WNT / Performance | WNT / Standard |
|-----------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------|------------|---------------------|-------------------------------|----------------|-------------------|----------------|
| <b>UNF</b>                                                                        | Zunifikowany gwint drobnozwojowy        |                                                                                            |            |                     |                               |                |                   |                |
|  | <b>S – gwint otworu nieprzelotowego</b> |                                                                                            |            |                     |                               |                |                   |                |
| <b>Ti</b>                                                                         | CavTap<br>SL                            |  C<br>2-3 | 2BX<br>3BX | HSS-PM              | ■                             |                | 93                |                |
|  | <b>Gwintowniki bezwiorowe</b>           |                                                                                            |            |                     |                               |                |                   |                |
| <b>EC<br/>SN</b>                                                                  | DuoForm                                 |  C<br>2-3 | 2BX        | HSS-E               | ■                             |                | 95                |                |

|                                                                                     |                                                     |                                                                                                |    |       |   |  |    |  |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------|----|-------|---|--|----|--|
| <b>EG<br/>UNF</b>                                                                   | Gwint drobnozwojowy Unified do wkładek sprężynowych |                                                                                                |    |       |   |  |    |  |
|    | <b>UNI – gwint otworu przelotowego</b>              |                                                                                                |    |       |   |  |    |  |
| <b>UNI</b>                                                                          | TruTap                                              |  B<br>4-5    | 2B | HSS-E | ■ |  | 96 |  |
|  | <b>UNI – gwint otworu nieprzelotowego</b>           |                                                                                                |    |       |   |  |    |  |
| <b>UNI</b>                                                                          | CavTap                                              |  E<br>1,5-2 | 2B | HSS-E | ■ |  | 97 |  |

|                                                                                     |                                         |                                                                                              |     |       |   |  |           |                                                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------|-----|-------|---|--|-----------|-------------------------------------------------------------------------------------|
| <b>UNJF</b>                                                                         | Zunifikowany gwint drobnozwojowy        |                                                                                              |     |       |   |  |           |                                                                                     |
|  | <b>S – gwint otworu przelotowego</b>    |                                                                                              |     |       |   |  |           |                                                                                     |
| <b>Ti</b>                                                                           | TruTap<br>DL                            |  D<br>4-5 | 3BX | HSS-E | ■ |  | 22 167... |  |
|  | <b>S – gwint otworu nieprzelotowego</b> |                                                                                              |     |       |   |  |           |                                                                                     |
| <b>Ti</b>                                                                           | CavTap<br>SL                            |  C<br>2-3 | 3BX | HSS-E | ■ |  | 22 168... |  |

|                                                                                     |                                           |                                                                                              |      |       |   |  |                      |                                                                                     |
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| <b>BSW</b>                                                                          | Gwint Whitworta                           |                                                                                              |      |       |   |  |                      |                                                                                     |
|  | <b>UNI – gwint otworu przelotowego</b>    |                                                                                              |      |       |   |  |                      |                                                                                     |
| <b>UNI</b>                                                                          | TruTap                                    |  B<br>4-5 | med. | HSS-E | ■ |  | 22 626..., 22 627... |  |
|  | <b>UNI – gwint otworu nieprzelotowego</b> |                                                                                              |      |       |   |  |                      |                                                                                     |
| <b>UNI</b>                                                                          | CavTap                                    |  C<br>2-3 | med. | HSS-E | ■ |  | 22 628..., 22 629... |  |

|                                                                                   |                                                         |                                                                                             |  |       |   |  |                      |                                                                                     |
|-----------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------|--|-------|---|--|----------------------|-------------------------------------------------------------------------------------|
| <b>NPT</b>                                                                        | Ameryk. stożkowy gwint rurowy                           |                                                                                             |  |       |   |  |                      |                                                                                     |
|  | <b>P – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                             |  |       |   |  |                      |                                                                                     |
| <b>ST<br/>ES</b>                                                                  | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 100                  |                                                                                     |
| <b>VG</b>                                                                         | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 99                   |                                                                                     |
| <b>VG<br/>AZ</b>                                                                  | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 22 377..., 22 378... |  |
|  | <b>M – gwint otworu nieprzelotowego</b>                 |                                                                                             |  |       |   |  |                      |                                                                                     |
| <b>VA</b>                                                                         | CavTap                                                  |  C<br>2-3 |  | HSS-E | ■ |  | 98                   |                                                                                     |

|                                                                                     |                                                         |                                                                                               |  |       |   |  |           |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|-------|---|--|-----------|---------------------------------------------------------------------------------------|
| <b>NPTF</b>                                                                         | Ameryk. stożkowy gwint rurowy                           |                                                                                               |  |       |   |  |           |                                                                                       |
|  | <b>P – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                               |  |       |   |  |           |                                                                                       |
| <b>ST</b>                                                                           | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 22 382... |  |
| <b>VG</b>                                                                           | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 22 380... |  |
| <b>ST<br/>ES</b>                                                                    | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 22 367... |  |

|                                                                                     |                                                         |                                                                                               |   |       |   |  |           |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------|---|-------|---|--|-----------|---------------------------------------------------------------------------------------|
| <b>Rp</b>                                                                           | Gwint cylindryczny Whitworth                            |                                                                                               |   |       |   |  |           |                                                                                       |
|  | <b>P – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                               |   |       |   |  |           |                                                                                       |
| <b>ST</b>                                                                           | DuoTap                                                  |  C<br>2-3 | X | HSS-E | □ |  | 22 381... |  |

|                                                                                     |                                                         |                                                                                               |  |       |   |  |           |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|-------|---|--|-----------|---------------------------------------------------------------------------------------|
| <b>Rc</b>                                                                           | Gwint stożkowy Whitworth                                |                                                                                               |  |       |   |  |           |                                                                                       |
|  | <b>P – gwinty otworu przelotowego i nieprzelotowego</b> |                                                                                               |  |       |   |  |           |                                                                                       |
| <b>ST</b>                                                                           | DuoTap                                                  |  C<br>2-3 |  | HSS-E | □ |  | 22 389... |  |

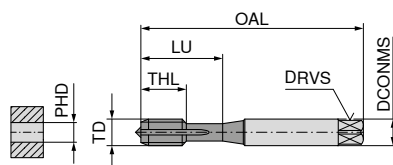
## Wypożyczenie

Przedłużacz chwytu gwintownika 101

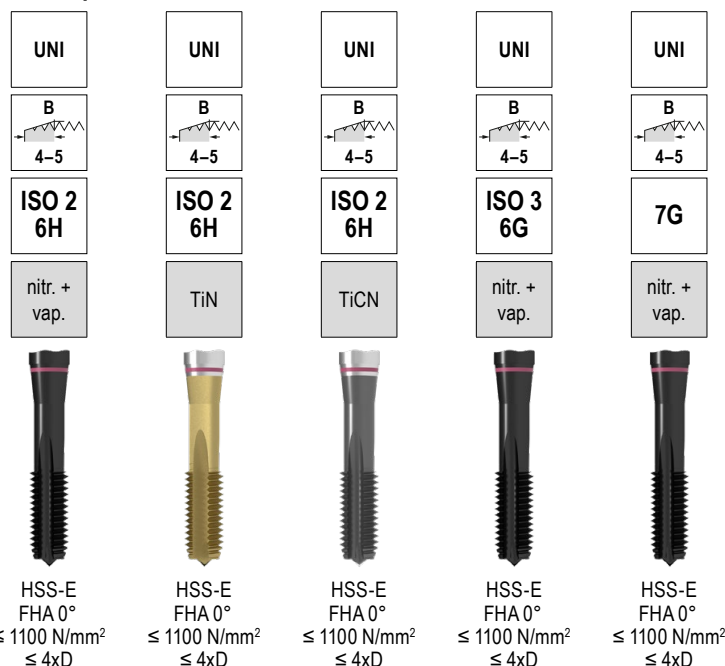
Oleje do gwintowania, bezchlorowe 22 950...

Pasta do stosowania przy nacinaniu gwintów, nie zawiera chloru  Ten artykuł znajduje Państwo w naszym sklepie internetowym pod adresem [cuttingtools.ceratizit.com](http://cuttingtools.ceratizit.com)

## Otwór przelotowy – gwintowniki maszynowe prawe



DIN 371 ze wzmocnionym chwytem



| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki | 22 501 ... |                   | 22 503 ... |     | 22 505 ... |       | 22 508 ... |     | 22 510 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|------------|-------------------|------------|-----|------------|-------|------------|-----|------------|-----|
|          |          |           |              |            |           |           |          |       | EUR<br>U0  |                   | EUR<br>U0  |     | EUR<br>U0  |       | EUR<br>U0  |     | EUR<br>U0  |     |
| M1       | 0,25     | 40        | 2,5          | 2,1        | 0,75      | 5         | 5        | 2     | 122,55     | 010 <sup>1)</sup> |            |     |            |       |            |     |            |     |
| M1,2     | 0,25     | 40        | 2,5          | 2,1        | 0,95      | 5         | 5        | 2     | 116,33     | 012 <sup>1)</sup> |            |     |            |       |            |     |            |     |
| M1,4     | 0,30     | 40        | 2,5          | 2,1        | 1,10      | 7         | 7        | 3     | 105,28     | 014 <sup>1)</sup> |            |     |            |       |            |     |            |     |
| M1,6     | 0,35     | 40        | 2,5          | 2,1        | 1,25      | 8         | 11       | 3     | 73,92      | 016               |            |     |            |       |            |     |            |     |
| M1,7     | 0,35     | 40        | 2,5          | 2,1        | 1,35      | 6         | 11       | 2     | 113,73     | 017               |            |     |            |       |            |     |            |     |
| M1,8     | 0,35     | 40        | 2,5          | 2,1        | 1,45      | 6         | 11       | 2     | 156,17     | 018               |            |     |            |       |            |     |            |     |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 7         | 12       | 2     |            |                   | 50,86      | 020 |            |       |            |     | 62,47      | 020 |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 7         | 12       | 3     | 53,74      | 020               |            |     |            |       |            |     |            |     |
| M2,2     | 0,45     | 45        | 2,8          | 2,1        | 1,75      | 7         | 12       | 2     | 57,26      | 022               |            |     |            |       |            |     |            |     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 9         | 14       | 2     | 52,82      | 025               |            |     |            | 52,82 | 025        |     | 61,16      | 025 |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 11        | 18       | 3     | 39,56      | 030               | 42,95      | 030 | 42,95      | 030   | 42,95      | 030 | 49,44      | 030 |
| M3,5     | 0,60     | 56        | 4,0          | 3,0        | 2,90      | 12        | 20       | 3     | 43,46      | 035               |            |     |            |       |            |     |            |     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 13        | 21       | 3     | 35,90      | 040               | 44,74      | 040 | 44,74      | 040   | 43,46      | 040 | 49,71      | 040 |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 15        | 25       | 3     | 36,83      | 050               | 45,40      | 050 | 45,40      | 050   | 43,72      | 050 | 50,86      | 050 |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 17        | 30       | 3     | 37,35      | 060               | 51,28      | 060 | 51,28      | 060   | 44,74      | 060 | 52,17      | 060 |
| M7       | 1,00     | 80        | 7,0          | 5,5        | 6,00      | 17        | 30       | 3     | 52,17      | 070               |            |     |            |       |            |     |            |     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 20        | 35       | 3     | 42,28      | 080               | 57,52      | 080 | 57,52      | 080   | 50,63      | 080 | 57,26      | 080 |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 22        | 39       | 3     | 50,75      | 100               | 80,15      | 100 | 80,15      | 100   | 61,16      | 100 | 69,88      | 100 |
| M12      | 1,75     | 110       | 12,0         | 9,0        | 10,20     | 24        | 44       | 3     | 74,69      | 120               |            |     |            |       |            |     |            |     |
| P        |          |           |              |            |           |           |          |       | 12         |                   | 15         |     | 15         |       | 12         |     | 12         |     |
| M        |          |           |              |            |           |           |          |       | 7          |                   | 9          |     | 9          |       | 7          |     | 7          |     |
| K        |          |           |              |            |           |           |          |       | 12         |                   | 18         |     | 18         |       | 12         |     | 12         |     |
| N        |          |           |              |            |           |           |          |       |            |                   | 12         |     | 12         |       |            |     |            |     |
| S        |          |           |              |            |           |           |          |       |            |                   |            |     |            |       |            |     |            |     |
| H        |          |           |              |            |           |           |          |       |            |                   |            |     |            |       |            |     |            |     |
| O        |          |           |              |            |           |           |          |       |            |                   |            |     |            |       |            |     |            |     |

1) Tol. ISO 14H ≤ M1,4

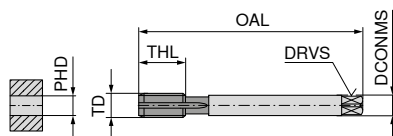
Prędkość skrawania  $v_c$  (m/min.)

DIN 376 znajduje się na następnej stronie.

## Otwór przelotowy – gwintowniki maszynowe prawe

TruTap

M



DIN 376 ze zwężonym chwytem

|                                          |                                          |                                          |                                          |
|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| UNI                                      | UNI                                      | UNI                                      | UNI                                      |
| B<br>4-5                                 | B<br>4-5                                 | B<br>4-5                                 | B<br>4-5                                 |
| ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 3<br>6G                              | 7G                                       |
| nitr. +<br>vap.                          | TiN                                      | nitr. +<br>vap.                          | nitr. +<br>vap.                          |
|                                          |                                          |                                          |                                          |
| HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD |

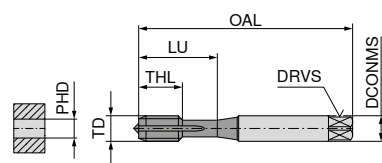
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 22 502 ... |     | 22 504 ... |     | 22 509 ... |     | 22 511 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |       | EUR        | U0  | EUR        | U0  | EUR        | U0  | EUR        | U0  |
| M3       | 0,50     | 56        | 2,2          |            | 2,5       | 11        | 3     | 73,26      | 030 |            |     |            |     |            |     |
| M4       | 0,70     | 63        | 2,8          | 2,1        | 3,3       | 13        | 3     | 48,80      | 040 |            |     |            |     |            |     |
| M5       | 0,80     | 70        | 3,5          | 2,7        | 4,2       | 15        | 3     | 46,59      | 050 |            |     |            |     |            |     |
| M6       | 1,00     | 80        | 4,5          | 3,4        | 5,0       | 17        | 3     | 45,68      | 060 |            |     |            |     |            |     |
| M8       | 1,25     | 90        | 6,0          | 4,9        | 6,8       | 20        | 3     | 50,09      | 080 |            |     |            |     |            |     |
| M10      | 1,50     | 100       | 7,0          | 5,5        | 8,5       | 22        | 3     | 58,04      | 100 |            |     |            |     |            |     |
| M12      | 1,75     | 110       | 9,0          | 7,0        | 10,2      | 24        | 3     | 56,74      | 120 | 92,25      | 120 | 70,27      | 120 | 79,39      | 120 |
| M14      | 2,00     | 110       | 11,0         | 9,0        | 12,0      | 26        | 3     | 81,84      | 140 | 136,61     | 140 |            |     |            |     |
| M16      | 2,00     | 110       | 12,0         | 9,0        | 14,0      | 27        | 3     | 82,76      | 160 | 118,79     | 160 | 103,19     | 160 | 120,29     | 160 |
| M18      | 2,50     | 125       | 14,0         | 11,0       | 15,5      | 30        | 3     | 162,72     | 180 | 214,58     | 180 |            |     |            |     |
| M20      | 2,50     | 140       | 16,0         | 12,0       | 17,5      | 32        | 3     | 126,61     | 200 | 221,14     | 200 | 157,48     | 200 |            |     |
| M22      | 2,50     | 140       | 18,0         | 14,5       | 19,5      | 32        | 3     | 203,13     | 220 | 327,95     | 220 |            |     |            |     |
| M24      | 3,00     | 160       | 18,0         | 14,5       | 21,0      | 34        | 3     | 165,23     | 240 | 279,78     | 240 |            |     |            |     |
| M27      | 3,00     | 160       | 20,0         | 16,0       | 24,0      | 36        | 3     | 230,32     | 270 |            |     |            |     |            |     |
| M30      | 3,50     | 180       | 22,0         | 18,0       | 26,5      | 40        | 4     | 270,73     | 300 |            |     |            |     |            |     |
| M33      | 3,50     | 180       | 25,0         | 20,0       | 29,5      | 40        | 4     | 624,66     | 330 |            |     |            |     |            |     |
| M36      | 4,00     | 200       | 28,0         | 22,0       | 32,0      | 50        | 4     | 744,36     | 360 |            |     |            |     |            |     |
| M42      | 4,50     | 200       | 32,0         | 24,0       | 37,5      | 56        | 4     | 1.417,43   | 420 |            |     |            |     |            |     |
| M48      | 5,00     | 250       | 36,0         | 29,0       | 43,0      | 65        | 4     | 1.430,54   | 480 |            |     |            |     |            |     |
| P        |          |           |              |            |           |           |       | 12         |     | 15         |     | 12         |     | 12         |     |
| M        |          |           |              |            |           |           |       | 7          |     | 9          |     | 7          |     | 7          |     |
| K        |          |           |              |            |           |           |       | 12         |     | 18         |     | 12         |     | 12         |     |
| N        |          |           |              |            |           |           |       |            |     | 12         |     |            |     |            |     |
| S        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |
| H        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |
| O        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |

Prędkość skrawania  $v_c$  (m/min.)

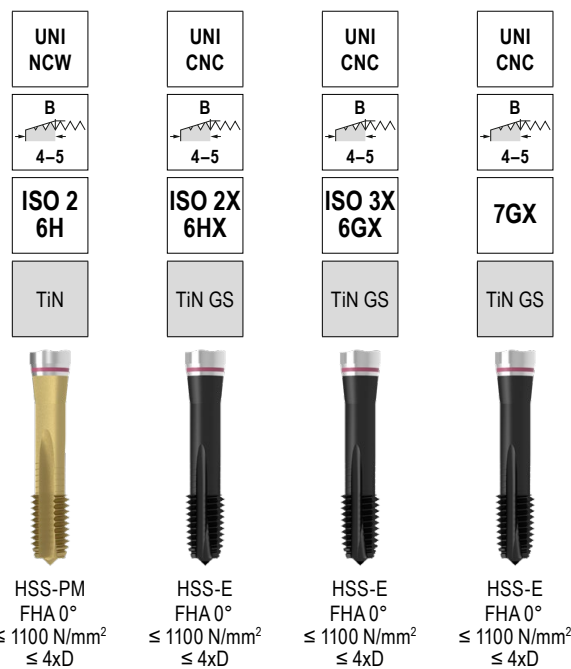
# Otwór przelotowy – gwintowniki maszynowe prawe

▲ CNC = do obróbki synchronicznej CNC przy użyciu uchwyty z kompensacją minimalnej długości

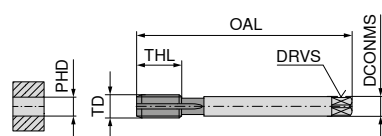
▲ NCW = z chwytem typu Weldon do obróbki synchronicznej CNC bez użycia uchwyty z kompensacją długości



DIN 371 ze wzmocnionym chwytem



| 22 148 ... | 22 542 ... | 22 596 ... | 22 592 ... |
|------------|------------|------------|------------|
| EUR U0     | EUR U0     | EUR U0     | EUR U0     |
| 61,41 030  | 46,59 030  |            |            |
| 63,89 040  | 49,44 040  | 59,61 040  | 59,61 040  |
| 64,54 050  | 50,09 050  | 61,41 050  | 61,41 050  |
| 81,19 060  | 63,63 060  | 67,27 060  | 75,07 060  |
| 90,69 080  | 70,27 080  | 72,74 080  | 81,99 080  |
| 111,39 100 | 87,46 100  | 90,69 100  | 98,51 100  |
| 135,31 120 |            |            |            |
| 188,71 160 |            |            |            |



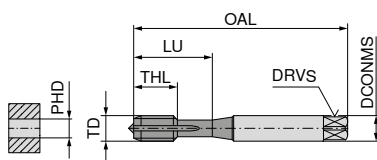
DIN 376 ze zwężonym chwytem

| TD mm | TP mm | OAL mm | DCONMS mm | DRVS mm | PHD mm | THL mm | Rowki | 22 543 ...        | 22 593 ...        |
|-------|-------|--------|-----------|---------|--------|--------|-------|-------------------|-------------------|
| M12   | 1,75  | 110    | 9         | 7       | 10,2   | 18     | 4     | EUR U0 101,77 120 | EUR U0 119,33 120 |
| M14   | 2,00  | 110    | 11        | 9       | 12,0   | 20     | 4     | 286,35 140        |                   |
| M16   | 2,00  | 110    | 12        | 9       | 14,0   | 22     | 4     | 145,79 160        |                   |
| M20   | 2,50  | 140    | 16        | 12      | 17,5   | 25     | 4     | 247,13 200        |                   |
| P     |       |        |           |         |        |        |       | 15                | 15                |
| M     |       |        |           |         |        |        |       | 8                 | 9                 |
| K     |       |        |           |         |        |        |       | 15                | 18                |
| N     |       |        |           |         |        |        |       | 22                | 12                |
| S     |       |        |           |         |        |        |       |                   |                   |
| H     |       |        |           |         |        |        |       |                   |                   |
| O     |       |        |           |         |        |        |       |                   |                   |

Prędkość skrawania  $v_c$  (m/min.)

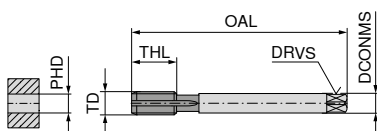
## Otwór przelotowy – gwintownik maszynowy

▲ LH = do gwintów lewoskrętnych



DIN 371 ze wzmocnionym chwytem

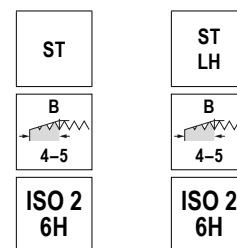
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 7         | 12       | 2     |
| M2,3     | 0,40     | 45        | 2,8          | 2,1        | 1,90      | 7         | 12       | 2     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 9         | 14       | 2     |
| M2,6     | 0,45     | 50        | 2,8          | 2,1        | 2,15      | 9         | 14       | 2     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 11        | 18       | 3     |
| M3,5     | 0,60     | 56        | 4,0          | 3,0        | 2,90      | 12        | 20       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 13        | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 15        | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 17        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 20        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 22        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M5       | 0,80     | 70        | 3,5          | 2,7        | 4,2       | 15        | 3     |
| M6       | 1,00     | 80        | 4,5          | 3,4        | 5,0       | 17        | 3     |
| M8       | 1,25     | 90        | 6,0          | 4,9        | 6,8       | 20        | 3     |
| M10      | 1,50     | 100       | 7,0          | 5,5        | 8,5       | 22        | 3     |
| M12      | 1,75     | 110       | 9,0          | 7,0        | 10,2      | 24        | 3     |
| M14      | 2,00     | 110       | 11,0         | 9,0        | 12,0      | 26        | 3     |
| M16      | 2,00     | 110       | 12,0         | 9,0        | 14,0      | 27        | 3     |
| M18      | 2,50     | 125       | 14,0         | 11,0       | 15,5      | 30        | 3     |
| M20      | 2,50     | 140       | 16,0         | 12,0       | 17,5      | 32        | 3     |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M |    |    |
| K | 12 | 12 |
| N | 12 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 4xD

22 020 ...

| EUR U0 |     |
|--------|-----|
| 35,13  | 020 |
| 38,63  | 023 |
| 35,13  | 025 |
| 38,63  | 026 |
| 28,50  | 030 |
| 30,43  | 035 |
| 28,89  | 040 |
| 30,43  | 050 |
| 30,43  | 060 |
| 36,56  | 080 |
| 43,85  | 100 |

22 127 ...

| EUR U0 |     |
|--------|-----|
|        |     |
|        |     |
|        |     |
| 45,40  | 030 |
|        |     |
| 47,36  | 040 |
| 48,80  | 050 |
| 48,80  | 060 |
| 54,91  | 080 |
| 69,88  | 100 |

22 021 ...

| EUR U0 |     |
|--------|-----|
| 36,05  | 050 |
| 36,96  | 060 |
| 39,29  | 080 |
| 44,74  | 100 |
| 54,38  | 120 |
| 73,92  | 140 |
| 77,30  | 160 |
| 113,73 | 180 |
| 115,28 | 200 |

22 147 ...

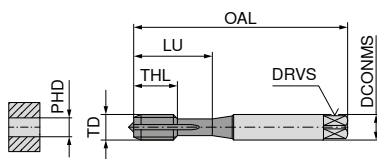
| EUR U0 |     |
|--------|-----|
|        |     |
|        |     |
|        |     |
| 83,54  | 120 |
|        |     |
| 127,43 | 160 |
|        |     |
| 187,40 | 200 |

## Otwór przelotowy – gwintowniki maszynowe prawe

▲ TS = do obróbki z dużą prędkością, tj. nawet do 100 m/min.

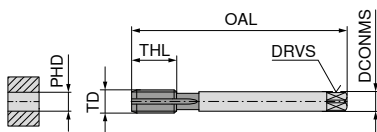
TruTap

M



DIN 371 ze wzmocnionym chwytem

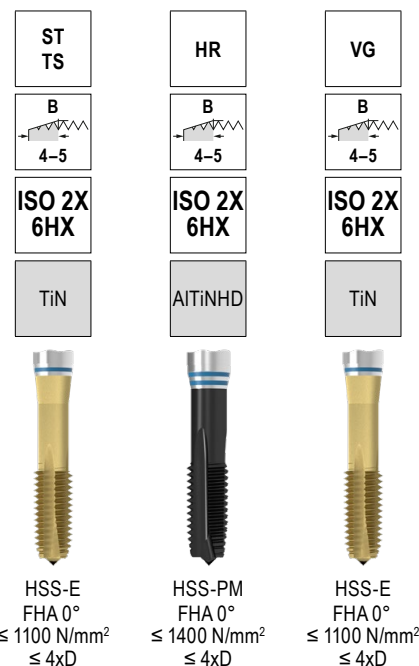
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 7   | 12 | 2     |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 4   | 12 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 9   | 14 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 5   | 15 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 11  | 18 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 6   | 18 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 13  | 21 | 2     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 7   | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 15  | 25 | 2     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8   | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 17  | 30 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10  | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 20  | 35 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14  | 35 | 4     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 22  | 39 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16  | 39 | 4     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M12 | 1,75 | 110 | 9      | 7    | 10,2 | 18  | 4     |
| M16 | 2,00 | 110 | 12     | 9    | 14,0 | 22  | 4     |
| M20 | 2,50 | 140 | 16     | 12   | 17,5 | 25  | 4     |

|   |    |    |    |
|---|----|----|----|
| P | 65 | 8  | 10 |
| M |    | 8  | 8  |
| K | 65 |    |    |
| N | 75 | 10 | 22 |
| S |    | 4  |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

22 092 ...

EUR  
U0

60,38

020

60,38

025

47,36

030

51,66

040

56,47

050

68,70

060

86,67

080

93,96

100

22 468 ...

EUR  
U0

89,77

02000

89,77

02500

58,37

03000

60,91

04000

62,86

05000

71,22

06000

78,25

08000

110,22

10000

22 120 ...

EUR  
U0

52,82

020

52,82

025

38,91

030

41,78

040

44,50

050

54,13

060

57,26

080

81,99

100

22 093 ...

EUR  
U0

126,37

120

163,91

160

244,74

200

22 121 ...

EUR  
U0

97,07

120

135,31

160

227,70

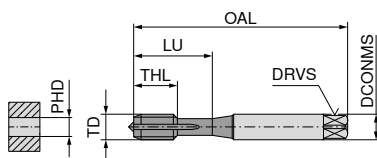
200



## Otwór przelotowy – gwintowniki maszynowe prawe

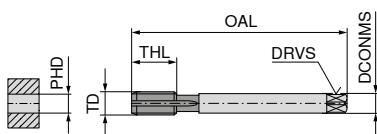
TruTap

M



DIN 371 ze wzmocnionym chwytem

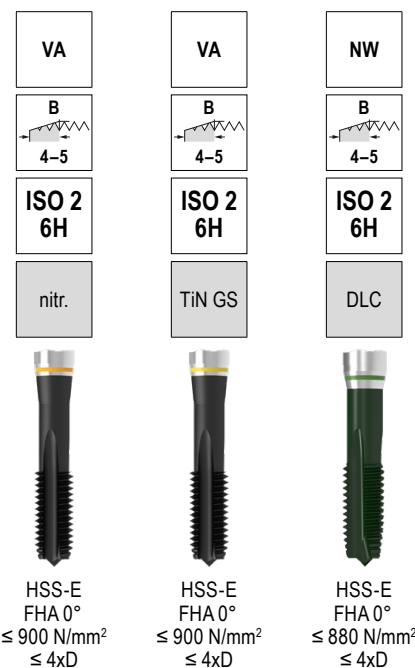
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M1,6     | 0,35     | 40        | 2,5          | 2,1        | 1,25      | 6         | 11       | 2     |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 7         | 12       | 2     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 9         | 14       | 2     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 11        | 18       | 3     |
| M3,5     | 0,60     | 56        | 4,0          | 3,0        | 2,90      | 12        | 20       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 13        | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 15        | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 17        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 20        | 35       | 3     |
| M8       | 1,25     | 100       | 8,0          | 6,2        | 6,80      | 20        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 22        | 39       | 3     |
| M10      | 1,50     | 110       | 10,0         | 8,0        | 8,50      | 22        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 24        | 3     |
| M14      | 2,00     | 110       | 11           | 9          | 12,0      | 26        | 3     |
| M16      | 2,00     | 110       | 12           | 9          | 14,0      | 27        | 3     |
| M18      | 2,50     | 125       | 14           | 11         | 15,5      | 30        | 3     |
| M20      | 2,50     | 140       | 16           | 12         | 17,5      | 32        | 3     |

|   |   |    |
|---|---|----|
| P | 8 | 10 |
| M | 6 | 8  |
| K |   |    |
| N |   | 15 |
| S |   |    |
| H |   |    |
| O |   |    |

Prędkość skrawania  $v_c$  (m/min.)

22 056 ...

EUR  
U0

020

025

030

035

040

050

060

080

100

22 038 ...

EUR  
U0

016

020

025

030

040

050

060

080

100

22 464 ...

EUR  
U0

02000

02500

03000

04000

05000

06000

08000

10000

22 057 ...

EUR  
U0

120

140

160

180

200

22 039 ...

EUR  
U0

120

140

160

200

22 465 ...

EUR  
U0

12000

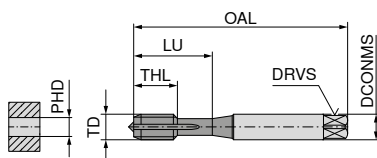
16000

20000

## Otwór przelotowy – gwintowniki maszynowe prawe

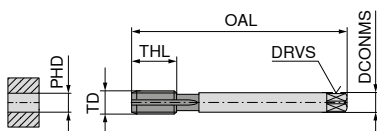
TruTap

M



DIN 371 ze wzmocnionym chwytem

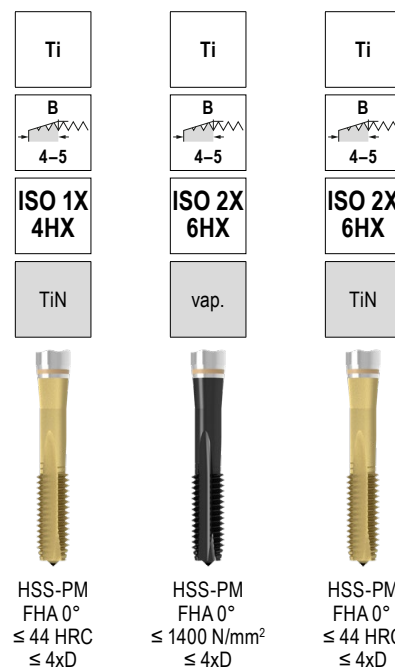
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M1,6     | 0,35     | 40        | 2,5          | 2,1        | 1,25      | 8         | 9,5      | 3     |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 8         | 9,5      | 3     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 9         | 14,0     | 3     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 11        | 18,0     | 3     |
| M3,5     | 0,60     | 56        | 4,0          | 3,0        | 2,90      | 12        | 20,0     | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 13        | 21,0     | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 15        | 25,0     | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 17        | 30,0     | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 20        | 35,0     | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 22        | 39,0     | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 24        | 3     |

|   |   |   |   |
|---|---|---|---|
| P | 7 | 5 | 7 |
| M | 7 | 5 | 7 |
| K |   |   |   |
| N |   |   |   |
| S | 5 | 3 | 5 |
| H |   |   |   |
| O |   |   |   |

Prędkość skrawania  $v_c$  (m/min.)HSS-PM  
FHA 0°  
≤ 44 HRC  
≤ 4xDHSS-PM  
FHA 0°  
≤ 1400 N/mm²  
≤ 4xDHSS-PM  
FHA 0°  
≤ 44 HRC  
≤ 4xD

22 081 ...

EUR  
U0

92,91

020

63,89

030

65,73

040

67,67

050

75,47

060

90,69

080

22 075 ...

EUR  
U0

128,99

016

103,19

020

101,11

025

70,79

030

80,94

035

74,30

040

74,30

050

76,39

060

87,46

080

101,77

100

22 077 ...

EUR  
U0

67,67

030

70,27

040

70,79

050

72,48

060

83,54

080

100,32

100

22 140 ...

EUR  
U0

123,26

120

22 142 ...

EUR  
U0

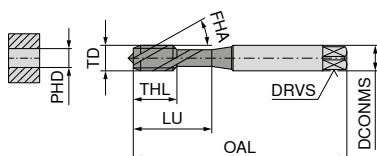
109,81

120

## Otwór przelotowy – gwintowniki maszynowe prawe

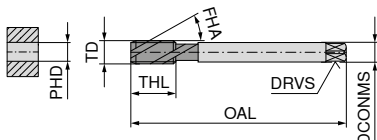
TruTap  
DL

M



DIN 371 ze wzmocnionym chwytem

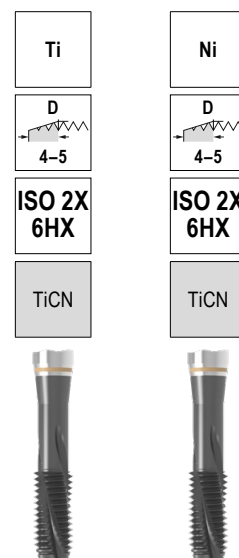
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 11        | 18       | 2     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 13        | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 15        | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 17        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 20        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 22        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7,0        | 10,2      | 24        | 3     |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 27        | 3     |
| M20      | 2,50     | 140       | 16           | 12,0       | 17,5      | 32        | 3     |
| M24      | 3,00     | 160       | 18           | 14,5       | 21,0      | 34        | 3     |

|   |    |    |
|---|----|----|
| P | 7  |    |
| M | 7  |    |
| K |    |    |
| N | 22 | 22 |
| S | 5  | 2  |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 15°  
 $\leq 1200 \text{ N/mm}^2$   
 $\leq 4xD$ HSS-E  
FHA 15°  
 $\leq 1600 \text{ N/mm}^2$   
 $\leq 4xD$ 

22 159 ...

EUR  
U056,60 030  
61,93 040  
62,32 050  
83,28 060  
91,50 080  
112,56 100

22 297 ...

EUR  
U067,67 030  
70,66 040  
72,36 050  
91,50 060  
101,50 080  
127,08 100

22 160 ...

EUR  
U0129,95 120  
183,59 160  
317,46 200  
372,18 240

22 298 ...

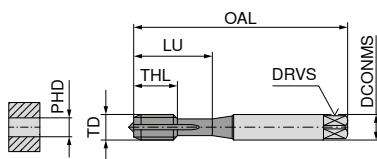
EUR  
U0147,11 120  
205,51 160  
351,32 200

## Otwór przelotowy – gwintowniki maszynowe prawe

▲ EL = ekstradługi, tzn. o podwójnej długości całkowitej

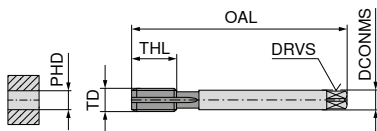
TruTap

M



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 100       | 3,5          | 2,7        | 2,5       | 11        | 18       | 3     |
| M4       | 0,70     | 125       | 4,5          | 3,4        | 3,3       | 13        | 21       | 3     |
| M5       | 0,80     | 140       | 6,0          | 4,9        | 4,2       | 15        | 25       | 3     |
| M6       | 1,00     | 160       | 6,0          | 4,9        | 5,0       | 17        | 30       | 3     |
| M8       | 1,25     | 180       | 8,0          | 6,2        | 6,8       | 20        | 35       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M6       | 1,00     | 160       | 4,5          | 3,4        | 5,0       | 17        | 3     |
| M8       | 1,25     | 180       | 6,0          | 4,9        | 6,8       | 20        | 3     |
| M10      | 1,50     | 200       | 7,0          | 5,5        | 8,5       | 22        | 3     |
| M12      | 1,75     | 224       | 9,0          | 7,0        | 10,2      | 24        | 3     |
| M14      | 2,00     | 224       | 11,0         | 9,0        | 12,0      | 26        | 3     |
| M16      | 2,00     | 224       | 12,0         | 9,0        | 14,0      | 27        | 3     |
| M18      | 2,50     | 250       | 14,0         | 11,0       | 15,5      | 30        | 3     |
| M20      | 2,50     | 280       | 16,0         | 12,0       | 17,5      | 32        | 3     |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M | 7  |    |
| K | 12 | 12 |
| N |    | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)UNI  
ELB  
4-5ISO 2  
6Hnitr. +  
vap.HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

22 514 ...

EUR  
U0

75,47

75,47

83,54

92,14

98,51

030

040

050

060

080

ST  
ELB  
4-5ISO 2  
6HHSS-E  
FHA 0°  
≤ 950 N/mm²  
≤ 4xD

22 233 ...

EUR  
U0

73,65

70,66

77,18

80,55

96,04

030

040

050

060

080

22 515 ...

EUR  
U0

76,77

94,88

104,10

128,99

195,27

249,87

298,03

261,55

060

080

100

120

140

160

180

200

22 234 ...

EUR  
U0

80,55

96,04

106,96

128,99

208,14

200,40

301,97

272,04

060

080

100

120

140

160

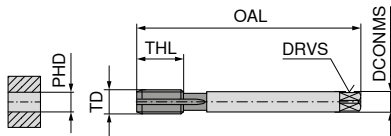
180

200

## Otwór przelotowy – gwintowniki maszynowe prawe

▲ MMB = gwintownik do nakrętek

M

ST  
MMBISO 2  
6H

DIN 357 ze zwężonym chwytem

HSS-E  
FHA 0°  
≤ 850 N/mm²  
≤ 1xD

22 098 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |    |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|----|
| M3       | 0,50     | 70        | 2,2          |            | 2,5       | 16        | 3     |    |
| M4       | 0,70     | 90        | 2,8          | 2,1        | 3,3       | 22        | 3     |    |
| M5       | 0,80     | 100       | 3,5          | 2,7        | 4,2       | 24        | 3     |    |
| M6       | 1,00     | 110       | 4,5          | 3,4        | 5,0       | 30        | 3     |    |
| M8       | 1,25     | 125       | 6,0          | 4,9        | 6,8       | 38        | 3     |    |
| M10      | 1,50     | 140       | 7,0          | 5,5        | 8,5       | 45        | 3     |    |
| M12      | 1,75     | 180       | 9,0          | 7,0        | 10,2      | 50        | 3     |    |
| M16      | 2,00     | 200       | 12,0         | 9,0        | 14,0      | 63        | 3     |    |
| P        |          |           |              |            |           |           |       | 15 |
| M        |          |           |              |            |           |           |       |    |
| K        |          |           |              |            |           |           |       |    |
| N        |          |           |              |            |           |           |       |    |
| S        |          |           |              |            |           |           |       |    |
| H        |          |           |              |            |           |           |       |    |
| O        |          |           |              |            |           |           |       |    |

EUR

U0

55,56

55,56

58,16

58,16

71,84

81,99

109,81

156,17

030

040

050

060

080

100

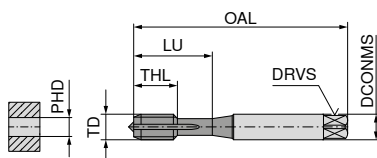
120

160

Prędkość skrawania  $v_c$  (m/min.)

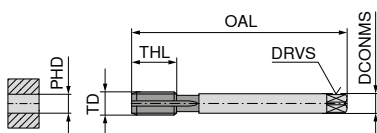
## Otwór przelotowy – gwintowniki maszynowe prawe

M



DIN 371 ze wzmocnionym chwytem

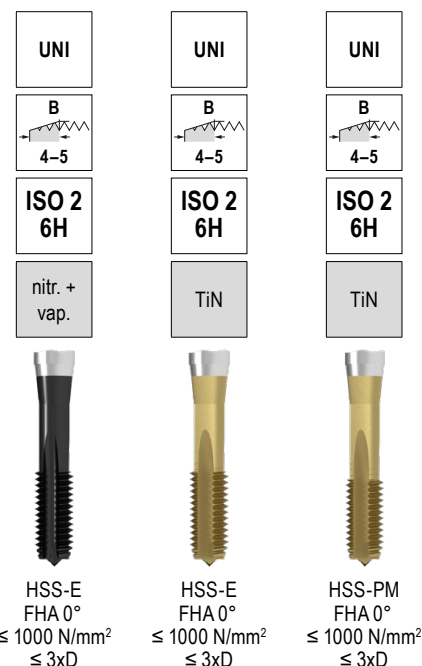
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU   | Rowki |
|------|------|-----|--------|------|------|-----|------|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm   |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 4   | 13,5 | 2     |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 7   | 12,0 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 9   | 14,0 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 11  | 18,0 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 13  | 21,0 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 15  | 25,0 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 17  | 30,0 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 20  | 35,0 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 22  | 39,0 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M3  | 0,50 | 56  | 2,2    |      | 2,5  | 11  | 3     |
| M4  | 0,70 | 63  | 2,8    | 2,1  | 3,3  | 13  | 3     |
| M5  | 0,80 | 70  | 3,5    | 2,7  | 4,2  | 15  | 3     |
| M6  | 1,00 | 80  | 4,5    | 3,4  | 5,0  | 17  | 3     |
| M8  | 1,25 | 90  | 6,0    | 4,9  | 6,8  | 20  | 3     |
| M10 | 1,50 | 100 | 7,0    | 5,5  | 8,5  | 22  | 3     |
| M12 | 1,75 | 110 | 9,0    | 7,0  | 10,2 | 24  | 3     |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 20  | 4     |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 26  | 3     |
| M16 | 2,00 | 110 | 12,0   | 9,0  | 14,0 | 27  | 3     |
| M18 | 2,50 | 125 | 14,0   | 11,0 | 15,5 | 25  | 4     |
| M18 | 2,50 | 125 | 14,0   | 11,0 | 15,5 | 30  | 3     |
| M20 | 2,50 | 140 | 16,0   | 12,0 | 17,5 | 32  | 3     |
| M22 | 2,50 | 140 | 18,0   | 14,5 | 19,5 | 32  | 3     |
| M24 | 3,00 | 160 | 18,0   | 14,5 | 21,0 | 34  | 3     |
| M27 | 3,00 | 160 | 20,0   | 16,0 | 24,0 | 36  | 3     |
| M30 | 3,50 | 180 | 22,0   | 18,0 | 26,5 | 40  | 4     |
| M33 | 3,50 | 180 | 25,0   | 20,0 | 29,5 | 40  | 4     |
| M36 | 4,00 | 200 | 28,0   | 22,0 | 32,0 | 50  | 4     |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 15 | 15 |
| M | 7  | 9  | 9  |
| K | 12 | 18 | 18 |
| N |    | 12 | 12 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |



23 110 ...

EUR  
T9

14,67 020  
14,42 025  
9,78 030  
9,96 040  
9,96 050  
10,16 060  
11,77 080  
14,05 100

23 112 ...

EUR  
T9

17,26 020  
19,24 025  
12,45 030  
13,57 040  
13,68 050  
17,39 060  
18,85 080  
23,30 100

23 010 ...

EUR  
T9

11,96 020  
14,91 030  
13,68 040  
15,30 050  
18,26 060  
20,35 080  
26,87 100

23 111 ...

EUR  
T9

10,58 030  
10,42 040  
10,42 050  
10,95 060  
12,84 080  
14,79 100  
17,75 120

23 113 ...

EUR  
T9

27,63 120  
48,06 14000  
39,08 160  
76,26 18000  
67,20 200  
112,93 22000  
101,22 240  
141,27 27000  
158,43 30000  
207,79 33000  
254,52 36000

23 021 ...

EUR  
T9

32,05 120  
48,59 140  
45,14 160  
79,03 180  
81,63 200

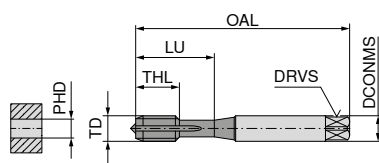
Prędkość skrawania  $v_c$  (m/min.)

# Otwór przelotowy – gwintowniki maszynowe prawe

▲ NCW = z chwytem typu Weldon do obróbki synchronicznej CNC bez użycia uchwytu z kompensacją długości

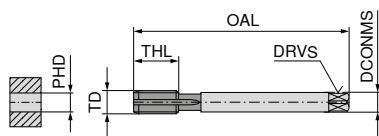
▲ NC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości

M



DIN 371 ze wzmocnionym chwytem

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M1,6 | 0,35 | 40  | 2,5    | 2,1  | 1,25 | 6   | 11 | 2     |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 7   | 12 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 9   | 14 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 11  | 18 | 3     |
| M3   | 0,50 | 70  | 6,0    | 4,9  | 2,50 | 6   | 18 | 3     |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 2,90 | 12  | 20 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 13  | 21 | 3     |
| M4   | 0,70 | 70  | 6,0    | 4,9  | 3,30 | 7   | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8   | 25 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 15  | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10  | 30 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 17  | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14  | 35 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 20  | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16  | 39 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 22  | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M12 | 1,75 | 110 | 9      | 7    | 10,2 | 24  | 3     |
| M12 | 1,75 | 110 | 10     | 8    | 10,2 | 18  | 3     |
| M14 | 2,00 | 110 | 11     | 9    | 12,0 | 26  | 3     |
| M16 | 2,00 | 110 | 12     | 9    | 14,0 | 22  | 3     |
| M16 | 2,00 | 110 | 12     | 9    | 14,0 | 27  | 3     |
| M20 | 2,50 | 140 | 16     | 12   | 17,5 | 32  | 3     |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 15 | 12 | 15 |
| M | 9  | 8  |    |    |
| K | 18 | 15 | 12 | 15 |
| N | 12 | 22 | 12 | 15 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

| UNI NC                                   | UNI NCW                                   | FE                                      | FE-HF                                    |
|------------------------------------------|-------------------------------------------|-----------------------------------------|------------------------------------------|
| B<br>4-5                                 | B<br>4-5                                  | B<br>4-5                                | B<br>4-5                                 |
| ISO 2 6H                                 | ISO 2 6H                                  | ISO 2 6H                                | ISO 2 6H                                 |
| TiN GS                                   | TiCN                                      |                                         | TiCN                                     |
|                                          |                                           |                                         |                                          |
| HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-PM<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 850 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 3xD |

23 114 ...

EUR  
T9

23 116 ...

EUR  
T9

23 212 ...

EUR  
T9

23 310 ...

EUR  
T9

21,08 030

25,28 030

30,46 016  
20,60 020  
17,26 025  
13,68 030

19,98 030

22,93 040

28,86 040  
29,34 05015,42 035  
13,68 040

21,20 040

23,07 050

29,34 060

14,19 050

21,45 050

33,79 060

37,11 080

14,19 060

29,34 060

35,75 080

44,74 100

18,37 080

31,69 080

45,00 100

21,94 100

39,81 100

23 115 ...

EUR  
T9

23 117 ...

EUR  
T9

23 213 ...

EUR  
T9

23 311 ...

EUR  
T9

51,90 120

55,97 120

29,60 120

46,11 120

70,39 160

75,32 160

35,64 140

128,28 200

44,89 160

63,99 160

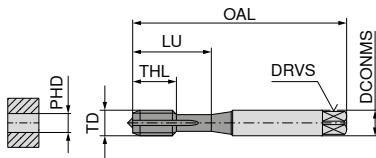
70,15 200

113,06 200



## Otwór przelotowy – gwintowniki maszynowe prawe

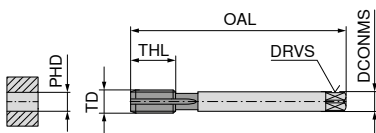
M



DIN 371 ze wzmocnionym chwytem

|                                          |                                           |                                          |                                         |                                         |
|------------------------------------------|-------------------------------------------|------------------------------------------|-----------------------------------------|-----------------------------------------|
| VA                                       | VA                                        | VA                                       | AL                                      | AL                                      |
|                                          |                                           |                                          |                                         |                                         |
| ISO 2 6H                                 | ISO 2 6H                                  | ISO 2 6H                                 | ISO 2 6H                                | ISO 2 6H                                |
| TiN                                      | nitr.                                     | nitr.                                    |                                         | CrN                                     |
|                                          |                                           |                                          |                                         |                                         |
| HSS-E<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 3xD | HSS-PM<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 500 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 500 N/mm²<br>≤ 3xD |

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki | 23 412 ... |     | 23 450 ... |     | 23 410 ... |     | 23 610 ... |     | 23 612 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |          |       | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 7         | 12       | 2     | 27,88      | 020 |            |     | 15,17      | 020 |            |     |            |     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 9         | 14       | 2     | 23,43      | 025 |            |     | 17,50      | 025 |            |     |            |     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 11        | 18       | 3     | 18,50      | 030 | 13,92      | 030 | 9,96       | 030 | 13,68      | 030 | 15,54      | 030 |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 13        | 21       | 3     | 20,60      | 040 | 14,05      | 040 | 9,96       | 040 | 13,68      | 040 | 16,03      | 040 |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 15        | 25       | 3     | 21,08      | 050 | 15,17      | 050 | 10,38      | 050 | 14,19      | 050 | 16,50      | 050 |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 17        | 30       | 3     | 27,63      | 060 | 15,42      | 060 | 10,38      | 060 | 14,19      | 060 | 16,50      | 060 |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 20        | 35       | 3     | 29,47      | 080 | 17,26      | 080 | 13,33      | 080 | 18,37      | 080 | 18,85      | 080 |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 22        | 39       | 3     | 40,57      | 100 | 19,60      | 100 | 16,15      | 100 | 21,94      | 100 | 23,19      | 100 |



DIN 376 ze zwężonym chwytem

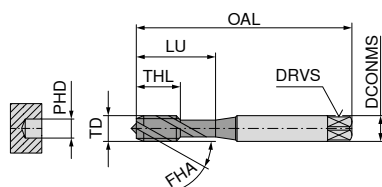
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 23 413 ... |     | 23 451 ... |     | 23 411 ... |       |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|------------|-----|------------|-----|------------|-------|
|          |          |           |              |            |           |           |       | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |       |
| M12      | 1,75     | 110       | 9            | 7,0        | 10,2      | 24        | 3     | 44,74      | 120 | 34,88      | 120 | 21,45      | 120   |
| M14      | 2,00     | 110       | 11           | 9,0        | 12,0      | 26        | 3     |            |     | 46,24      | 140 |            |       |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 27        | 3     | 55,86      | 160 | 48,95      | 160 | 33,05      | 160   |
| M20      | 2,50     | 140       | 16           | 12,0       | 17,5      | 32        | 3     | 97,65      | 200 | 73,13      | 200 | 50,55      | 200   |
| M24      | 3,00     | 160       | 18           | 14,5       | 21,0      | 34        | 3     |            |     |            |     | 66,82      | 240   |
| P        |          |           |              |            |           |           |       | 10         |     | 8          |     | 8          |       |
| M        |          |           |              |            |           |           |       | 8          |     | 6          |     | 6          |       |
| K        |          |           |              |            |           |           |       |            |     |            |     |            |       |
| N        |          |           |              |            |           |           |       | 24         |     | 22         |     | 22         | 15 20 |
| S        |          |           |              |            |           |           |       |            |     |            |     |            |       |
| H        |          |           |              |            |           |           |       |            |     |            |     |            |       |
| O        |          |           |              |            |           |           |       |            |     |            |     |            |       |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

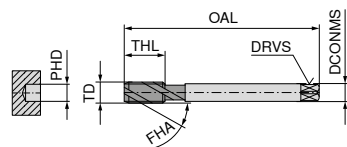
CavTap

M



DIN 371 ze wzmocnionym chwytem

| TD   | TP   | OAL | DCONMS | DRVS | PHD   | THL  | LU | Rowki |
|------|------|-----|--------|------|-------|------|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm    | mm   | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60  | 4,0  | 12 | 2     |
| M2,2 | 0,45 | 45  | 2,8    | 2,1  | 1,75  | 4,5  | 12 | 2     |
| M2,3 | 0,40 | 45  | 2,8    | 2,1  | 1,90  | 4,5  | 12 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05  | 5,0  | 15 | 2     |
| M2,6 | 0,45 | 50  | 2,8    | 2,1  | 2,15  | 5,0  | 15 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50  | 6,0  | 18 | 3     |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 2,90  | 7,0  | 20 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30  | 7,0  | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20  | 8,0  | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00  | 10,0 | 30 | 3     |
| M7   | 1,00 | 80  | 7,0    | 5,5  | 6,00  | 10,0 | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80  | 14,0 | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50  | 16,0 | 39 | 3     |
| M12  | 1,75 | 110 | 12,0   | 9,0  | 10,20 | 18,0 | 44 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M3  | 0,50 | 56  | 2,2    | 2,1  | 2,5  | 6   | 3     |
| M4  | 0,70 | 63  | 2,8    | 2,1  | 3,3  | 7   | 3     |
| M5  | 0,80 | 70  | 3,5    | 2,7  | 4,2  | 8   | 3     |
| M6  | 1,00 | 80  | 4,5    | 3,4  | 5,0  | 10  | 3     |
| M8  | 1,25 | 90  | 6,0    | 4,9  | 6,8  | 14  | 3     |
| M10 | 1,50 | 100 | 7,0    | 5,5  | 8,5  | 16  | 3     |
| M12 | 1,75 | 110 | 9,0    | 7,0  | 10,2 | 18  | 3     |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 20  | 3     |
| M16 | 2,00 | 110 | 12,0   | 9,0  | 14,0 | 22  | 3     |
| M18 | 2,50 | 125 | 14,0   | 11,0 | 15,5 | 25  | 3     |
| M20 | 2,50 | 140 | 16,0   | 12,0 | 17,5 | 25  | 3     |
| M22 | 2,50 | 140 | 18,0   | 14,5 | 19,5 | 27  | 4     |
| M24 | 3,00 | 160 | 18,0   | 14,5 | 21,0 | 30  | 4     |
| M27 | 3,00 | 160 | 20,0   | 16,0 | 24,0 | 30  | 4     |
| M30 | 3,50 | 180 | 22,0   | 18,0 | 26,5 | 35  | 4     |
| M33 | 3,50 | 180 | 25,0   | 20,0 | 29,5 | 35  | 4     |
| M36 | 4,00 | 200 | 28,0   | 22,0 | 32,0 | 40  | 4     |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 12 | 15 |
| M | 7  | 9  | 7  | 9  |
| K | 12 | 18 | 12 | 18 |
| N |    | 12 |    | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

| UNI                                       | UNI                                       | UNI                                       | UNI                                       |
|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| C<br>2-3                                  | C<br>2-3                                  | C<br>2-3                                  | C<br>2-3                                  |
| ISO 2<br>6H                               | ISO 2<br>6H                               | 7G                                        | ISO 2<br>6H                               |
| vap.                                      | TiN                                       | vap.                                      | TiCN                                      |
| HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |

22 518 ...

EUR

U0

41,52

020

46,98

022

49,71

023

39,81

025

47,36

026

35,40

030

38,25

035

37,35

040

37,74

050

38,91

060

57,26

070

45,80

080

54,91

100

60,38

120

22 520 ...

EUR

U0

59,61

020

44,74

030

47,89

040

48,27

050

56,87

060

62,72

080

74,69

100

91,50

120

22 532 ...

EUR

U0

41,52

030

41,52

040

44,50

050

59,61

060

69,61

080

103,19

100

22 522 ...

EUR

U0

44,74

030

47,89

040

48,27

050

56,87

060

63,24

080

74,69

100

95,12

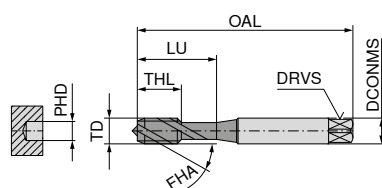
120

## Otwór nieprzelotowy – gwintownik maszynowy prawy

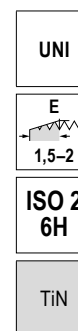
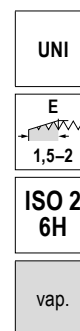
▲ NCW = z chwytem typu Weldon do obróbki synchronicznej CNC bez użycia uchwytu z kompensacją długości

CavTap

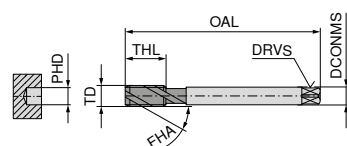
M



DIN 371 ze wzmocnionym chwytem

HSS-PM  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 6         | 18       | 3     |
| M3       | 0,50     | 70        | 6,0          | 4,9        | 2,5       | 6         | 18       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 7         | 21       | 3     |
| M4       | 0,70     | 70        | 6,0          | 4,9        | 3,3       | 7         | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 8         | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 10        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 14        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 16        | 39       | 3     |

22 149 ...  
EUR  
U022 524 ...  
EUR  
U022 534 ...  
EUR  
U022 526 ...  
EUR  
U0

DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7,0        | 10,2      | 18        | 4     |
| M12      | 1,75     | 110       | 10           | 8,0        | 10,2      | 18        | 3     |
| M14      | 2,00     | 110       | 11           | 9,0        | 12,0      | 20        | 4     |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 22        | 3     |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 22        | 4     |
| M18      | 2,50     | 125       | 14           | 11,0       | 15,5      | 25        | 4     |
| M20      | 2,50     | 140       | 16           | 12,0       | 17,5      | 25        | 4     |
| M22      | 2,50     | 140       | 18           | 14,5       | 19,5      | 27        | 5     |
| M24      | 3,00     | 160       | 18           | 14,5       | 21,0      | 30        | 5     |

22 149 ...  
EUR  
U022 525 ...  
EUR  
U022 535 ...  
EUR  
U022 527 ...  
EUR  
U0

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 12 | 12 | 15 |
| M | 8  | 7  | 7  | 9  |
| K | 15 | 12 | 12 | 18 |
| N | 22 |    |    | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

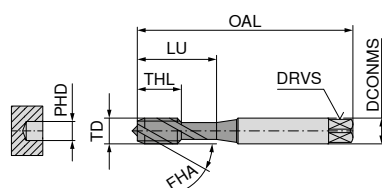
Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ CNC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości

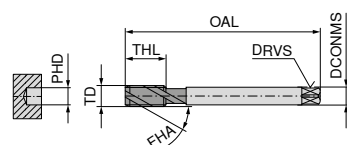
CavTap

M



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 6         | 18       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 7         | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 8         | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 10        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 14        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 16        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 22 416 ...<br>EUR<br>U0 | 22 544 ...<br>EUR<br>U0 | 22 546 ...<br>EUR<br>U0 | 22 594 ...<br>EUR<br>U0 |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|-------------------------|-------------------------|-------------------------|-------------------------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 6         | 18    | 60,75                   | 53,74                   |                         | 61,81                   |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 7         | 21    | 63,63                   | 54,91                   |                         | 62,47                   |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 8         | 25    | 65,33                   | 56,87                   | 81,19                   | 64,28                   |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 10        | 30    | 78,98                   | 58,82                   | 81,99                   | 70,27                   |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 14        | 35    | 87,84                   | 73,52                   | 105,28                  | 86,67                   |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 16        | 39    | 108,79                  | 83,54                   | 121,00                  | 96,15                   |

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 22 417 ...<br>EUR<br>U0 | 22 545 ...<br>EUR<br>U0 | 22 595 ...<br>EUR<br>U0 |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|-------------------------|-------------------------|-------------------------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 18        | 3     | 128,15                  |                         |                         |
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 18        | 4     |                         | 113,73                  | 128,99                  |
| M14      | 2,00     | 110       | 11           | 9          | 12,0      | 20        | 3     | 183,59                  |                         |                         |
| M14      | 2,00     | 110       | 11           | 9          | 12,0      | 20        | 4     |                         | 139,24                  | 153,54                  |
| M16      | 2,00     | 110       | 12           | 9          | 14,0      | 22        | 3     | 178,35                  |                         |                         |
| M16      | 2,00     | 110       | 12           | 9          | 14,0      | 22        | 4     |                         | 152,24                  | 166,53                  |
| M20      | 2,50     | 140       | 16           | 12         | 17,5      | 25        | 3     | 305,89                  |                         |                         |
| M20      | 2,50     | 140       | 16           | 12         | 17,5      | 25        | 4     |                         | 221,14                  | 243,44                  |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 15 | 15 | 15 | 15 |
| M | 9  | 9  | 9  | 9  |
| K | 18 | 18 | 18 | 18 |
| N | 22 | 12 | 12 | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ DRY = do obróbki na sucho lub przy użyciu minimalnej ilości środka smarnego (MMS)

CavTap

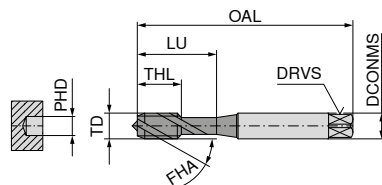
M

UNI  
DRYC  
2-3ISO 2  
6H

TiN

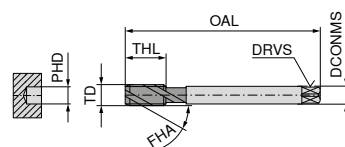
HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

22 449 ...

EUR  
U0

DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M5       | 0,80     | 70        | 6            | 4,9        | 4,2       | 8         | 25       | 3     |
| M6       | 1,00     | 80        | 6            | 4,9        | 5,0       | 10        | 30       | 3     |
| M8       | 1,25     | 90        | 8            | 6,2        | 6,8       | 14        | 35       | 3     |
| M10      | 1,50     | 100       | 10           | 8,0        | 8,5       | 16        | 39       | 3     |

83,28 050  
96,95 060  
106,96 080  
129,95 100

DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 18        | 4     |
| M16      | 2,00     | 110       | 12           | 9          | 14,0      | 22        | 4     |
| M20      | 2,50     | 140       | 16           | 12         | 17,5      | 25        | 4     |

22 450 ...

EUR  
U0141,87 120  
200,40 160  
327,95 200

|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

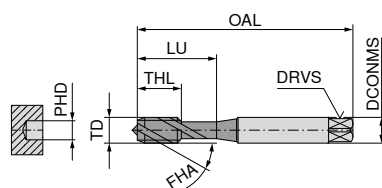
# Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ CNC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości

▲ TS = do obróbki z dużą prędkością, tj. nawet do 100 m/min.

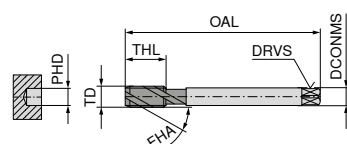
CavTap  
SL

M



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 6         | 18       | 2     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 11        | 18       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 7         | 21       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 13        | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 8         | 25       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 15        | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 10        | 30       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 17        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 14        | 35       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 20        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 16        | 39       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 22        | 39       | 3     |
| M12      | 1,75     | 110       | 12,0         | 9,0        | 10,2      | 24        | 44       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 18        | 3     |
| M16      | 2,00     | 110       | 12           | 9          | 14,0      | 22        | 3     |
| M20      | 2,50     | 140       | 16           | 12         | 17,5      | 25        | 3     |

ST  
TSISO 2X  
6HX

TiN

HSS-E  
FHA 15°  
≤ 1050 N/mm²  
≤ 2xD

22 406 ...

EUR  
U0

57,26

030

ST  
CNCISO 2X  
6HX

TiN

HSS-E  
FHA 15°  
≤ 1100 N/mm²  
≤ 2xD

22 328 ...

EUR  
U0

52,17

030

HR

ISO 2  
6H

AlTiNHD

HSS-PM  
FHA 25°  
≤ 1400 N/mm²  
≤ 2xD

22 469 ...

EUR  
U0

46,36

03000

ST  
CNCISO 2X  
6HX

TiN

HSS-E  
FHA 15°  
≤ 1100 N/mm²  
≤ 2xD

22 443 ...

EUR  
U0

83,28

050

|   |    |    |    |    |
|---|----|----|----|----|
| P | 65 | 12 | 8  | 12 |
| M |    | 8  | 8  | 8  |
| K | 65 | 20 |    | 20 |
| N | 22 | 22 | 10 | 22 |
| S |    |    | 4  |    |
| H |    |    |    |    |
| O |    |    |    |    |

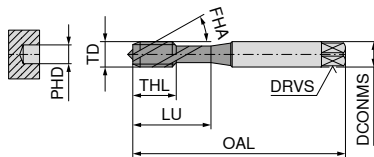
Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy

▲ LH = do gwintów lewoskrętnych

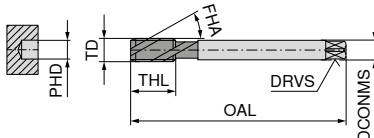
CavTap

M



DIN 371 ze wzmocnionym chwytem

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL  | LU | Rowki |
|------|------|-----|--------|------|------|------|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm   | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 4,0  | 12 | 2     |
| M2,3 | 0,40 | 45  | 2,8    | 2,1  | 1,90 | 4,5  | 12 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 5,0  | 15 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 6,0  | 18 | 3     |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 2,90 | 7,0  | 20 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 7,0  | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8,0  | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10,0 | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14,0 | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16,0 | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M3  | 0,50 | 56  | 2,2    |      | 2,5  | 6   | 3     |
| M4  | 0,70 | 63  | 2,8    | 2,1  | 3,3  | 7   | 3     |
| M5  | 0,80 | 70  | 3,5    | 2,7  | 4,2  | 8   | 3     |
| M6  | 1,00 | 80  | 4,5    | 3,4  | 5,0  | 10  | 3     |
| M8  | 1,25 | 90  | 6,0    | 4,9  | 6,8  | 14  | 3     |
| M10 | 1,50 | 100 | 7,0    | 5,5  | 8,5  | 16  | 3     |
| M12 | 1,75 | 110 | 9,0    | 7,0  | 10,2 | 18  | 3     |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 20  | 3     |
| M16 | 2,00 | 110 | 12,0   | 9,0  | 14,0 | 22  | 3     |
| M18 | 2,50 | 125 | 14,0   | 11,0 | 15,5 | 25  | 3     |
| M20 | 2,50 | 140 | 16,0   | 12,0 | 17,5 | 25  | 3     |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 15 | 12 |
| M |    |    |    |
| K | 12 | 15 | 12 |
| N | 12 | 15 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

| ST                                       | ST                                       | ST LH                                    |
|------------------------------------------|------------------------------------------|------------------------------------------|
| C                                        | C                                        | C                                        |
| 2-3                                      | 2-3                                      | 2-3                                      |
| ISO 2 6H                                 | ISO 2 6H                                 | ISO 2 6H                                 |
|                                          | TiN                                      |                                          |
|                                          |                                          |                                          |
| HSS-E<br>FHA 42°<br>≤ 750 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 750 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 750 N/mm²<br>≤ 3xD |
| 22 082 ...                               | 22 084 ...                               | 22 138 ...                               |
| EUR U0                                   | EUR U0                                   | EUR U0                                   |
| 38,63 020                                | 49,71 020                                |                                          |
| 42,95 023                                |                                          |                                          |
| 37,47 025                                |                                          |                                          |
| 32,67 030                                | 40,59 030                                | 56,47 030                                |
| 36,05 035                                |                                          |                                          |
| 32,54 040                                | 41,52 040                                | 50,86 040                                |
| 33,06 050                                | 41,78 050                                | 54,91 050                                |
| 33,83 060                                | 52,44 060                                | 52,82 060                                |
| 40,59 080                                | 58,82 080                                | 63,63 080                                |
| 47,89 100                                | 79,39 100                                | 73,26 100                                |

| 22 083 ... | 22 085 ... | 22 139 ... |
|------------|------------|------------|
| EUR U0     | EUR U0     | EUR U0     |
| 38,00 030  |            |            |
| 38,25 040  |            |            |
| 38,63 050  |            |            |
| 46,32 060  |            |            |
| 42,95 080  |            |            |
|            | 89,14 100  |            |
| 61,93 120  | 93,96 120  | 104,10 120 |
| 78,59 140  |            |            |
| 85,87 160  | 121,00 160 | 149,73 160 |
| 125,53 180 |            |            |
| 127,68 200 | 203,13 200 | 221,14 200 |

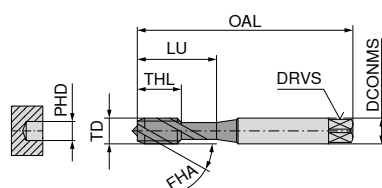


## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ TS = do obróbki z dużą prędkością, tj. nawet do 100 m/min.

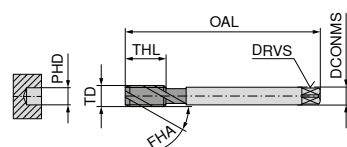
CavTap

M



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,5       | 6         | 18       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,3       | 7         | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,2       | 8         | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,0       | 10        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,8       | 14        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,5       | 16        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 18        | 4     |
| M16      | 2,00     | 110       | 12           | 9          | 14,0      | 22        | 4     |

22 045 ...

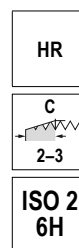
EUR  
U0

120

163,91

160

|   |   |    |    |    |
|---|---|----|----|----|
| P | 6 | 8  | 65 | 65 |
| M | 6 | 8  |    |    |
| K |   |    | 65 | 65 |
| N | 8 | 12 | 75 | 75 |
| S |   |    |    |    |
| H |   |    |    |    |
| O |   |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-PM  
FHA 42°  
≤ 1400 N/mm²  
≤ 3xDHSS-PM  
FHA 42°  
≤ 1400 N/mm²  
≤ 3xDHSS-E  
FHA 40°  
≤ 1100 N/mm²  
≤ 2xDHSS-E  
FHA 40°  
≤ 1100 N/mm²  
≤ 2xD

22 498 ...

EUR  
U0

38,25

030

36,05

040

38,00

050

37,47

060

45,40

080

54,91

100

22 499 ...

EUR  
U0

48,55

030

48,55

040

51,66

050

53,35

060

67,67

080

76,39

100

22 046 ...

EUR  
U0

100,32

050

130,18

060

135,31

080

183,59

100

22 044 ...

EUR  
U0

59,20

040

63,63

050

67,67

060

76,39

080

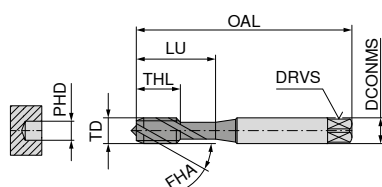
94,88

100

## Otwór nieprzelotowy – gwintownik maszynowy prawy

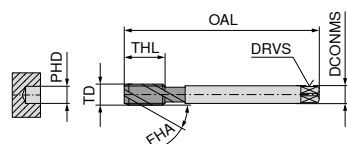
CavTap

M



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M1,6     | 0,35     | 40        | 2,5          | 2,1        | 1,25      | 4         | 11       | 2     |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 4         | 12       | 2     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 5         | 15       | 2     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 5         | 15       | 3     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 6         | 18       | 3     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 7         | 21       | 3     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 8         | 25       | 3     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 10        | 30       | 3     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 14        | 35       | 3     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 16        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7,0        | 10,2      | 18        | 4     |
| M14      | 2,00     | 110       | 11           | 9,0        | 12,0      | 20        | 4     |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 22        | 4     |
| M20      | 2,50     | 140       | 16           | 12,0       | 17,5      | 25        | 4     |
| M22      | 2,50     | 140       | 18           | 14,5       | 19,5      | 27        | 5     |
| M24      | 3,00     | 160       | 18           | 14,5       | 21,0      | 30        | 5     |
| M30      | 3,50     | 180       | 22           | 18,0       | 26,5      | 35        | 5     |

|   |   |    |    |
|---|---|----|----|
| P | 8 | 10 | 10 |
| M | 6 | 8  | 8  |
| K |   |    |    |
| N |   |    |    |
| S |   |    |    |
| H |   |    |    |
| O |   |    |    |

Prędkość skrawania  $v_c$  (m/min.)

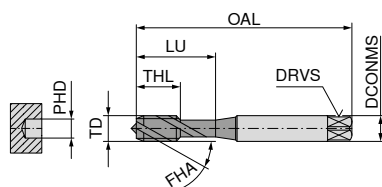
| VA                                       | VA                                       | VA                                       |
|------------------------------------------|------------------------------------------|------------------------------------------|
| C<br>2-3                                 | E<br>1,5-2                               | C<br>2-3                                 |
| ISO 2<br>6H                              | ISO 2<br>6H                              | ISO 2<br>6H                              |
| vap.                                     | TiN GS                                   | TiN GS                                   |
|                                          |                                          |                                          |
| HSS-E<br>FHA 42°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 900 N/mm²<br>≤ 3xD |
| 22 090 ...                               | 22 042 ...                               | 22 040 ...                               |
| EUR<br>U0                                | EUR<br>U0                                | EUR<br>U0                                |
| 62,47 020                                |                                          | 99,53 016                                |
| 49,44 025                                |                                          | 56,10 020                                |
|                                          |                                          | 53,35 025                                |
| 36,96 030                                |                                          | 54,91 030                                |
| 38,00 040                                |                                          | 55,56 040                                |
| 38,63 050                                | 81,99 050                                | 58,16 050                                |
| 38,91 060                                | 82,90 060                                | 59,61 060                                |
| 45,40 080                                | 105,94 080                               | 74,69 080                                |
| 54,91 100                                | 121,83 100                               | 86,67 100                                |

| 22 091 ... | 22 041 ... |
|------------|------------|
| EUR<br>U0  | EUR<br>U0  |
| 68,33 120  | 116,33 120 |
| 100,32 140 | 140,55 140 |
| 96,15 160  | 153,54 160 |
| 148,42 200 | 223,87 200 |
| 248,55 220 |            |
| 188,71 240 |            |
| 387,91 300 |            |

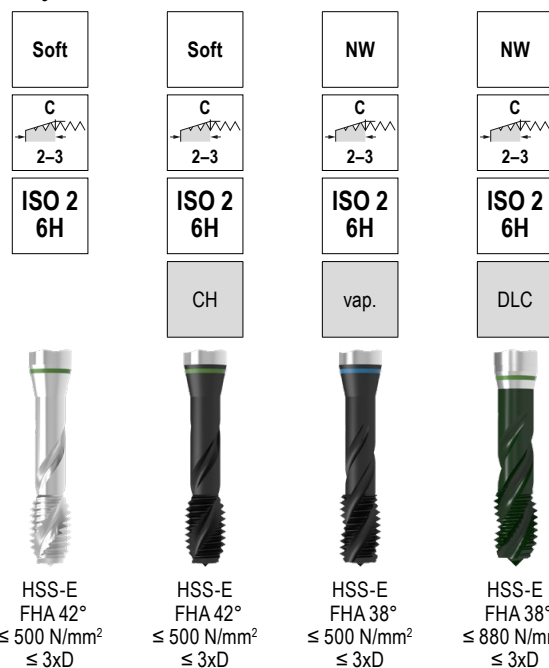
## Otwór nieprzelotowy – gwintownik maszynowy prawy

CavTap

M



DIN 371 ze wzmocnionym chwytem



22 326 ...

EUR

U0

50,75

47,49

38,91

38,91

40,21

40,21

48,15

56,60

020

025

030

040

050

060

080

100

22 324 ...

EUR

U0

68,58

66,63

57,78

62,32

64,28

89,27

96,95

121,83

020

025

030

040

050

060

080

100

22 086 ...

EUR

U0

43,72

40,59

34,09

34,09

35,40

35,40

40,87

50,09

020

025

030

040

050

060

080

100

22 460 ...

EUR

U0

56,55

56,55

45,92

47,25

47,25

48,61

54,86

62,56

02000

02500

03000

04000

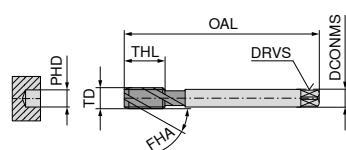
05000

06000

08000

10000

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 4   | 12 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 5   | 15 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 5   | 14 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 6   | 18 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 6   | 18 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 7   | 21 | 2     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 7   | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8   | 25 | 2     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8   | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10  | 30 | 2     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10  | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14  | 35 | 2     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14  | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16  | 39 | 2     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16  | 39 | 3     |



DIN 376 ze zwężonym chwytem

22 461 ...

EUR

U0

79,07

113,56

110,29

158,19

12000

14000

16000

20000

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M12 | 1,75 | 110 | 9      | 7    | 10,2 | 18  | 3     |
| M14 | 2,00 | 110 | 11     | 9    | 12,0 | 20  | 3     |
| M16 | 2,00 | 110 | 12     | 9    | 14,0 | 22  | 3     |
| M20 | 2,50 | 140 | 16     | 12   | 17,5 | 25  | 3     |

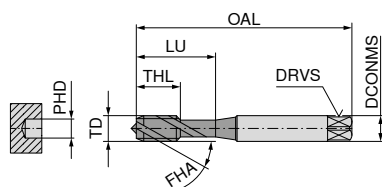
|   |    |    |
|---|----|----|
| P | 15 | 15 |
| M |    |    |
| K |    |    |
| N | 22 | 22 |
| S |    | 15 |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

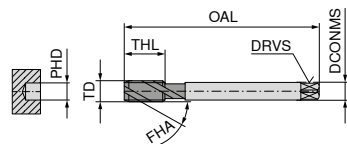
CavTap  
SL

M



DIN 371 ze wzmocnionym chwytem

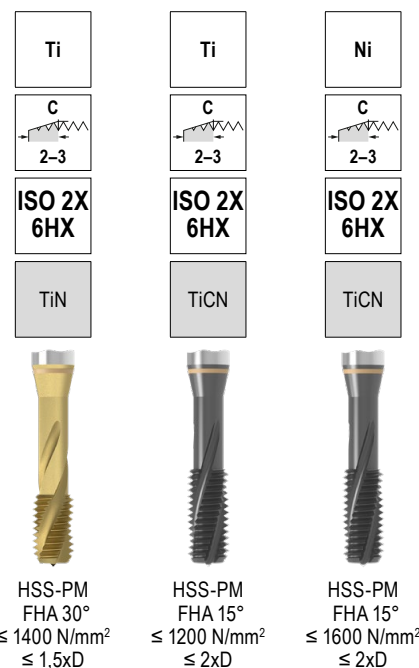
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,5  | 11  | 18 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,5  | 6   | 18 | 3     |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 2,9  | 12  | 20 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,3  | 7   | 21 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,3  | 13  | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,2  | 8   | 25 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,2  | 15  | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,0  | 10  | 30 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,0  | 17  | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,8  | 14  | 35 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,8  | 20  | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,5  | 16  | 39 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,5  | 22  | 39 | 3     |
| M12  | 1,75 | 110 | 12,0   | 9,0  | 10,2 | 18  | 44 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M12 | 1,75 | 110 | 9      | 7,0  | 10,2 | 24  | 3     |
| M14 | 2,00 | 110 | 11     | 9,0  | 12,0 | 26  | 3     |
| M16 | 2,00 | 110 | 12     | 9,0  | 14,0 | 27  | 3     |
| M20 | 2,50 | 140 | 16     | 12,0 | 17,5 | 32  | 3     |
| M24 | 3,00 | 160 | 18     | 14,5 | 21,0 | 34  | 3     |

|   |    |    |
|---|----|----|
| P | 7  | 7  |
| M | 7  | 7  |
| K |    |    |
| N | 22 | 22 |
| S | 5  | 5  |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

22 076 ...

EUR

U0

53,35

030

22 163 ...

EUR

U0

55,30

030

22 424 ...

EUR

U0

70,66

030

54,91

040

59,47

035

60,75

040

73,65

040

55,19

050

61,41

050

76,39

050

60,38

060

81,84

060

96,04

060

63,63

080

89,27

080

105,40

080

92,14

100

109,81

100

131,38

100

105,28

120

22 164 ...

EUR

U0

124,34

120

22 425 ...

EUR

U0

153,54

120

225,19

140

174,52

160

210,88

160

301,97

200

365,61

200

344,76

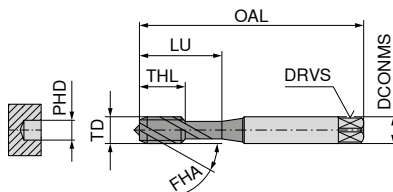
240

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ ES = ekstrakrótki

UNI  
ESISO 2  
6H

vap.



DIN 352 ze wzmocnionym chwytem

HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

22 500 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki | EUR<br>U0 |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|-----------|-----|
| M3       | 0,50     | 40        | 3,5          | 2,7        | 2,5       | 6         | 18       | 3     | 30,97     | 030 |
| M4       | 0,70     | 45        | 4,5          | 3,4        | 3,3       | 7         | 22       | 3     | 31,90     | 040 |
| M5       | 0,80     | 50        | 6,0          | 4,9        | 4,2       | 9         | 25       | 3     | 32,67     | 050 |
| M6       | 1,00     | 56        | 6,0          | 4,9        | 5,0       | 10        | 28       | 3     | 33,83     | 060 |
| M8       | 1,25     | 63        | 6,0          | 4,9        | 6,8       | 14        |          | 3     | 38,91     | 080 |
| M10      | 1,50     | 70        | 7,0          | 5,5        | 8,5       | 16        |          | 3     | 46,32     | 100 |
| M12      | 1,75     | 75        | 9,0          | 7,0        | 10,2      | 18        |          | 4     | 60,38     | 120 |
| M16      | 2,00     | 80        | 12,0         | 9,0        | 14,0      | 22        |          | 4     | 95,49     | 160 |
| P        |          |           |              |            |           |           |          |       |           | 12  |
| M        |          |           |              |            |           |           |          |       |           | 7   |
| K        |          |           |              |            |           |           |          |       |           | 12  |
| N        |          |           |              |            |           |           |          |       |           |     |
| S        |          |           |              |            |           |           |          |       |           |     |
| H        |          |           |              |            |           |           |          |       |           |     |
| O        |          |           |              |            |           |           |          |       |           |     |

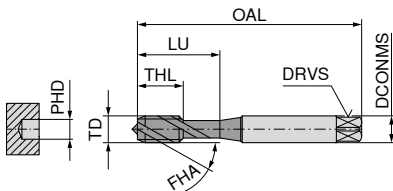
Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ ES = ekstrakrótki

CavTap  
SL

M

ST  
ESC  
2-3ISO 2  
6H

DIN 352 ze wzmocnionym chwytem

HSS-E  
FHA 15°  
≤ 750 N/mm²  
≤ 2xD

22 016 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 40        | 3,5          | 2,7        | 2,5       | 10        | 18       | 2     |
| M4       | 0,70     | 45        | 4,5          | 3,4        | 3,3       | 12        | 22       | 3     |
| M5       | 0,80     | 50        | 6,0          | 4,9        | 4,2       | 14        | 25       | 3     |
| M6       | 1,00     | 56        | 6,0          | 4,9        | 5,0       | 16        | 28       | 3     |
| M8       | 1,25     | 63        | 6,0          | 4,9        | 6,8       | 20        |          | 3     |
| M10      | 1,50     | 70        | 7,0          | 5,5        | 8,5       | 22        |          | 3     |
| M12      | 1,75     | 75        | 9,0          | 7,0        | 10,2      | 24        |          | 3     |

EUR  
U0

030

27,85

040

27,98

28,75

050

29,66

060

33,83

080

42,95

100

55,19

120

|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 12 |
| S |    |
| H |    |
| O |    |

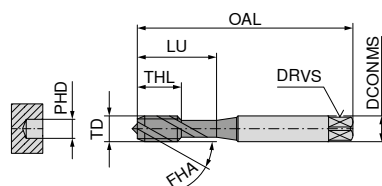
Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ EL = ekstradługi, tzn. o podwójnej długości całkowitej

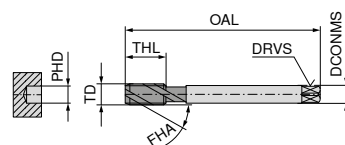
CavTap

M



DIN 371 ze wzmocnionym chwytem

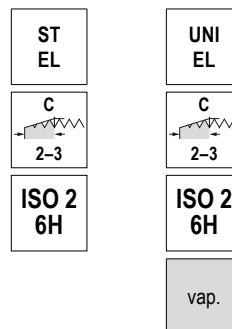
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 100       | 3,5          | 2,7        | 2,5       | 6         | 18       | 3     |
| M4       | 0,70     | 125       | 4,5          | 3,4        | 3,3       | 7         | 21       | 3     |
| M5       | 0,80     | 140       | 6,0          | 4,9        | 4,2       | 8         | 25       | 3     |
| M6       | 1,00     | 160       | 6,0          | 4,9        | 5,0       | 10        | 30       | 3     |
| M8       | 1,25     | 180       | 8,0          | 6,2        | 6,8       | 14        | 35       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M6       | 1,00     | 160       | 4,5          | 3,4        | 5,0       | 10        | 3     |
| M8       | 1,25     | 180       | 6,0          | 4,9        | 6,8       | 14        | 3     |
| M10      | 1,50     | 200       | 7,0          | 5,5        | 8,5       | 16        | 3     |
| M12      | 1,75     | 224       | 9,0          | 7,0        | 10,2      | 18        | 3     |
| M14      | 2,00     | 224       | 11,0         | 9,0        | 12,0      | 20        | 3     |
| M16      | 2,00     | 224       | 12,0         | 9,0        | 14,0      | 22        | 3     |
| M18      | 2,50     | 250       | 14,0         | 11,0       | 15,5      | 25        | 3     |
| M20      | 2,50     | 280       | 16,0         | 12,0       | 17,5      | 25        | 3     |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M |    | 7  |
| K | 12 | 12 |
| N | 22 |    |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 42°  
≤ 750 N/mm²  
≤ 3xDHSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

22 422 ...

EUR  
U0

74,82

73,26

81,84

85,23

102,54

030

040

050

060

080

22 538 ...

EUR  
U0

64,28

64,28

72,09

75,87

90,69

030

040

050

060

080

22 539 ...

EUR  
U0

81,99

99,53

100,32

128,15

188,71

180,84

290,16

248,55

060

080

100

120

140

160

180

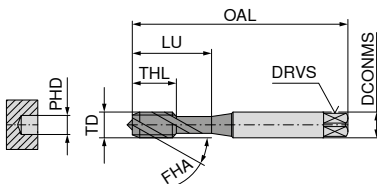
200

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ EL = ekstradługi, tzn. o podwójnej długości całkowitej

CavTap  
SL

M

ST  
ELISO 2  
6H

DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 15°  
≤ 750 N/mm²  
≤ 2xD

22 078 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 100       | 3,5          | 2,7        | 2,5       | 11        | 18       | 2     |
| M4       | 0,70     | 125       | 4,5          | 3,4        | 3,3       | 13        | 21       | 3     |
| M5       | 0,80     | 140       | 6,0          | 4,9        | 4,2       | 15        | 25       | 3     |
| M6       | 1,00     | 160       | 6,0          | 4,9        | 5,0       | 17        | 30       | 3     |
| M8       | 1,25     | 180       | 8,0          | 6,2        | 6,8       | 20        | 35       | 3     |

EUR

U0

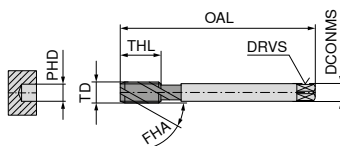
61,81 030

61,41 040

69,61 050

72,48 060

87,46 080



DIN 376 ze zwężonym chwytem

22 080 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M6       | 1,00     | 160       | 4,5          | 3,4        | 5,0       | 17        | 3     |
| M8       | 1,25     | 180       | 6,0          | 4,9        | 6,8       | 20        | 3     |
| M10      | 1,50     | 200       | 7,0          | 5,5        | 8,5       | 22        | 3     |
| M12      | 1,75     | 224       | 9,0          | 7,0        | 10,2      | 24        | 3     |
| M14      | 2,00     | 224       | 11,0         | 9,0        | 12,0      | 26        | 3     |
| M16      | 2,00     | 224       | 12,0         | 9,0        | 14,0      | 27        | 3     |
| M20      | 2,50     | 280       | 16,0         | 12,0       | 17,5      | 32        | 3     |

EUR

U0

75,47 060

89,78 080

95,49 100

121,83 120

178,35 140

175,72 160

243,44 200

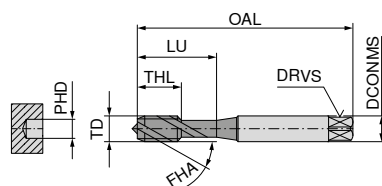
|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 12 |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)



## Otwór nieprzelotowy – gwintownik maszynowy prawy

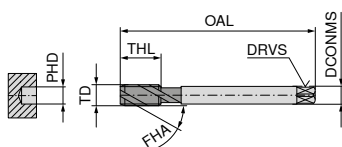
▲ NC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości



DIN 371 ze wzmocnionym chwytem

| UNI                                         | UNI                                         | UNI                                          | UNI                                       | UNI NC                                    |
|---------------------------------------------|---------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|
| C<br>2-3                                    | C<br>2-3                                    | C<br>2-3                                     | C<br>2-3                                  | C<br>2-3                                  |
| ISO 2<br>6H                                 | ISO 2<br>6H                                 | ISO 2<br>6H                                  | ISO 2<br>6H                               | ISO 2<br>6H                               |
| vap.                                        | TiN                                         | TiN                                          | TiCN                                      | TiN GS                                    |
|                                             |                                             |                                              |                                           |                                           |
| HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-PM<br>FHA 50°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 45°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 1000 N/mm²<br>≤ 3xD |

|      |      |     |        |      |      |     |    |       | 23 118 ... | 23 120 ... | 23 026 ... | 23 122 ... | 23 124 ... |
|------|------|-----|--------|------|------|-----|----|-------|------------|------------|------------|------------|------------|
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki | EUR<br>T9  | EUR<br>T9  | EUR<br>T9  | EUR<br>T9  | EUR<br>T9  |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 4   | 12 | 2     | 15,30      | 13,33      |            |            |            |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 5   | 14 | 2     | 15,04      | 20,10      |            |            |            |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 6   | 18 | 3     | 10,33      | 15,30      | 17,01      | 22,32      | 23,54      |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 7   | 21 | 3     | 10,33      | 16,39      | 17,01      | 23,54      | 24,90      |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8   | 25 | 3     | 10,85      | 16,66      | 18,26      | 24,53      | 26,26      |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10  | 30 | 3     | 11,22      | 20,72      | 21,20      | 31,69      | 35,51      |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14  | 35 | 3     | 13,19      | 22,32      | 25,16      | 34,03      | 38,10      |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16  | 39 | 3     | 15,17      | 28,60      | 31,69      | 43,02      | 48,45      |



DIN 376 ze zwężonym chwytem

|     |      |     |        |      |      |     |       |  | 23 119 ... | 23 121 ... | 23 027 ... | 23 123 ... | 23 125 ... |
|-----|------|-----|--------|------|------|-----|-------|--|------------|------------|------------|------------|------------|
| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |  | EUR<br>T9  | EUR<br>T9  | EUR<br>T9  | EUR<br>T9  | EUR<br>T9  |
| M3  | 0,50 | 56  | 2,2    | 2,1  | 2,5  | 6   | 3     |  | 12,32      |            |            |            |            |
| M4  | 0,70 | 63  | 2,8    | 2,1  | 3,3  | 7   | 3     |  | 11,11      |            |            |            |            |
| M5  | 0,80 | 70  | 3,5    | 2,7  | 4,2  | 8   | 3     |  | 10,95      |            |            |            |            |
| M6  | 1,00 | 80  | 4,5    | 3,4  | 5,0  | 10  | 3     |  | 10,77      |            |            |            |            |
| M8  | 1,25 | 90  | 6,0    | 4,9  | 6,8  | 14  | 3     |  | 11,28      |            |            |            |            |
| M10 | 1,50 | 100 | 7,0    | 5,5  | 8,5  | 16  | 3     |  | 15,30      |            |            |            |            |
| M12 | 1,75 | 110 | 9,0    | 7,0  | 10,2 | 18  | 3     |  | 17,26      | 34,28      |            |            |            |
| M12 | 1,75 | 110 | 9,0    | 7,0  | 10,2 | 18  | 4     |  |            |            | 37,36      | 51,05      | 56,23      |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 20  | 3     |  |            | 52,12      |            |            |            |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 20  | 4     |  |            |            | 53,88      |            |            |
| M16 | 2,00 | 110 | 12,0   | 9,0  | 14,0 | 22  | 3     |  | 25,40      | 47,72      |            |            |            |
| M16 | 2,00 | 110 | 12,0   | 9,0  | 14,0 | 22  | 4     |  |            |            | 53,88      | 68,07      | 74,97      |
| M18 | 2,50 | 125 | 14,0   | 11,0 | 15,5 | 25  | 3     |  |            | 82,44      |            |            |            |
| M20 | 2,50 | 140 | 16,0   | 12,0 | 17,5 | 25  | 3     |  | 38,22      | 70,66      |            |            |            |
| M20 | 2,50 | 140 | 16,0   | 12,0 | 17,5 | 25  | 4     |  |            |            | 61,64      | 123,26     | 136,85     |
| M22 | 2,50 | 140 | 18,0   | 14,5 | 19,5 | 27  | 4     |  |            | 120,88     |            |            |            |
| M24 | 3,00 | 160 | 18,0   | 14,5 | 21,0 | 34  | 4     |  |            | 99,64      |            |            |            |
| M27 | 3,00 | 160 | 20,0   | 16,0 | 24,0 | 30  | 4     |  |            | 151,16     |            |            |            |
| M30 | 3,50 | 180 | 22,0   | 18,0 | 26,5 | 35  | 4     |  |            | 167,85     |            |            |            |
| M33 | 3,50 | 180 | 25,0   | 20,0 | 29,5 | 35  | 4     |  |            | 242,01     |            |            |            |
| M36 | 4,00 | 200 | 28,0   | 22,0 | 32,0 | 40  | 4     |  |            | 262,98     |            |            |            |
| P   |      |     |        |      |      |     |       |  | 12         | 15         | 15         | 15         | 15         |
| M   |      |     |        |      |      |     |       |  | 7          | 9          | 9          | 9          | 9          |
| K   |      |     |        |      |      |     |       |  | 12         | 18         | 18         | 18         | 18         |
| N   |      |     |        |      |      |     |       |  |            | 12         | 12         | 12         | 12         |
| S   |      |     |        |      |      |     |       |  |            |            |            |            |            |
| H   |      |     |        |      |      |     |       |  |            |            |            |            |            |
| O   |      |     |        |      |      |     |       |  |            |            |            |            |            |

Prędkość skrawania  $v_c$  (m/min.)

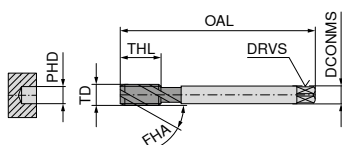
# Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ NCW = z chwytem typu Weldon do obróbki synchronicznej CNC bez użycia uchwytu z kompensacją długości



DIN 371 ze wzmocnionym chwytem

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 4   | 12 | 2     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 5   | 14 | 2     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 6   | 18 | 3     |
| M3   | 0,50 | 70  | 6,0    | 4,9  | 2,50 | 6   | 18 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 7   | 21 | 3     |
| M4   | 0,70 | 70  | 6,0    | 4,9  | 3,30 | 7   | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 8   | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 10  | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 14  | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 16  | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M12 | 1,75 | 110 | 10     | 8,0  | 10,2 | 18  | 3     |
| M12 | 1,75 | 110 | 9      | 7,0  | 10,2 | 18  | 3     |
| M14 | 2,00 | 110 | 11     | 9,0  | 12,0 | 20  | 3     |
| M16 | 2,00 | 110 | 12     | 9,0  | 14,0 | 22  | 3     |
| M20 | 2,50 | 140 | 16     | 12,0 | 17,5 | 25  | 3     |
| M24 | 3,00 | 160 | 18     | 14,5 | 21,0 | 30  | 4     |

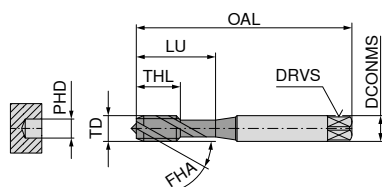
| P | 15 | 12 | 15 | 8  |
|---|----|----|----|----|
| M | 8  |    |    | 6  |
| K | 15 | 12 | 15 |    |
| N | 22 | 22 | 24 | 22 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

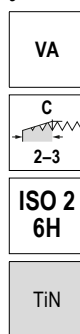
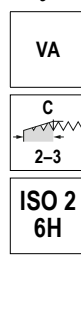
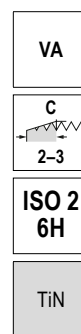
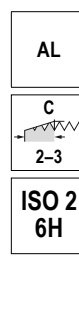
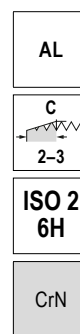
| UNI<br>NCW                                   | FE                                         | FE-HF                                       | VA                                          |
|----------------------------------------------|--------------------------------------------|---------------------------------------------|---------------------------------------------|
| C<br>2-3                                     | C<br>2-3                                   | C<br>2-3                                    | C<br>2-3                                    |
| ISO 2<br>6H                                  | ISO 2<br>6H                                | ISO 2<br>6H                                 | ISO 2<br>6H                                 |
| TiCN                                         |                                            | TiCN                                        |                                             |
| HSS-PM<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 850 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1100 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1200 N/mm²<br>≤ 2,5xD |
| 23 126 ...                                   | 23 216 ...                                 | 23 312 ...                                  | 23 414 ...                                  |
| EUR<br>T9                                    | EUR<br>T9                                  | EUR<br>T9                                   | EUR<br>T9                                   |
| 13,92 020                                    | 13,92 020                                  | 13,92 020                                   | 13,92 020                                   |
| 25,53 025                                    | 25,53 025                                  | 25,53 025                                   | 25,53 025                                   |
| 13,68 030                                    | 13,68 030                                  | 20,47 030                                   | 15,42 030                                   |
| 25,28 030                                    | 13,68 040                                  | 22,32 040                                   | 15,42 040                                   |
| 28,86 040                                    | 14,19 050                                  | 22,56 050                                   | 15,92 050                                   |
| 29,34 050                                    | 14,19 060                                  | 31,21 060                                   | 15,92 060                                   |
| 29,34 060                                    | 18,37 080                                  | 34,03 080                                   | 20,60 080                                   |
| 37,11 080                                    | 21,94 100                                  | 42,42 100                                   | 25,05 100                                   |
| 44,74 100                                    |                                            |                                             |                                             |

## Otwór nieprzelotowy – gwintownik maszynowy prawy

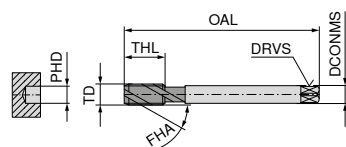
M



DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 45°  
≤ 1200 N/mm²  
≤ 3xDHSS-PM  
FHA 40°  
≤ 1200 N/mm²  
≤ 2,5xDHSS-PM  
FHA 40°  
≤ 1200 N/mm²  
≤ 2,5xDHSS-E  
FHA 35°  
≤ 500 N/mm²  
≤ 2,5xDHSS-E  
FHA 35°  
≤ 500 N/mm²  
≤ 2,5xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki | 23 416 ... |     | 23 426 ... |     | 23 456 ... |     | 23 616 ... |     | 23 614 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |          |       | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     |
| M2       | 0,40     | 45        | 2,8          | 2,1        | 1,60      | 4         | 12       | 2     | 25,65      | 020 |            |     |            |     |            |     |            |     |
| M2,5     | 0,45     | 50        | 2,8          | 2,1        | 2,05      | 5         | 14       | 2     | 24,53      | 025 |            |     |            |     |            |     |            |     |
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,50      | 6         | 18       | 3     | 20,84      | 030 | 15,17      | 030 | 17,01      | 030 | 13,68      | 030 | 18,01      | 030 |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,30      | 7         | 21       | 3     | 21,83      | 040 | 15,42      | 040 | 18,50      | 040 | 13,68      | 040 | 18,01      | 040 |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,20      | 8         | 25       | 3     | 22,32      | 050 | 15,78      | 050 | 18,85      | 050 | 14,19      | 050 | 18,62      | 050 |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 10        | 30       | 3     | 27,99      | 060 | 16,03      | 060 | 24,28      | 060 | 14,19      | 060 | 18,62      | 060 |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 14        | 35       | 3     | 30,83      | 080 | 18,85      | 080 | 26,01      | 080 | 18,37      | 080 | 21,58      | 080 |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 16        | 39       | 3     | 38,96      | 100 | 22,70      | 100 | 35,87      | 100 | 21,94      | 100 | 26,38      | 100 |



DIN 376 ze zwężonym chwytem

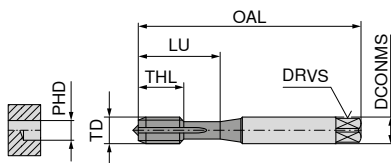
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 23 417 ... |     | 23 427 ... |     | 23 457 ... |     | 23 615 ... |     |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|------------|-----|------------|-----|------------|-----|------------|-----|
|          |          |           |              |            |           |           |       | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     | EUR<br>T9  |     |
| M12      | 1,75     | 110       | 9            | 7,0        | 10,2      | 18        | 3     |            |     | 37,47      | 120 | 51,30      | 120 | 32,68      | 120 |
| M12      | 1,75     | 110       | 9            | 7,0        | 10,2      | 18        | 4     | 46,11      | 120 |            |     |            |     |            |     |
| M14      | 2,00     | 110       | 11           | 9,0        | 12,0      | 20        | 4     |            |     | 49,32      | 140 |            |     |            |     |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 22        | 3     |            |     | 53,63      | 160 | 64,62      | 160 |            |     |
| M16      | 2,00     | 110       | 12           | 9,0        | 14,0      | 22        | 4     | 62,89      | 160 |            |     |            |     |            |     |
| M20      | 2,50     | 140       | 16           | 12,0       | 17,5      | 25        | 3     |            |     | 79,90      | 200 | 128,28     | 200 |            |     |
| M20      | 2,50     | 140       | 16           | 12,0       | 17,5      | 25        | 4     | 108,37     | 200 |            |     |            |     |            |     |
| M24      | 3,00     | 160       | 18           | 14,5       | 21,0      | 30        | 4     |            |     | 101,10     | 240 |            |     |            |     |
| P        |          |           |              |            |           |           |       | 10         |     | 8          |     | 10         |     |            |     |
| M        |          |           |              |            |           |           |       | 8          |     | 6          |     | 8          |     |            |     |
| K        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |
| N        |          |           |              |            |           |           |       | 24         |     | 22         |     | 24         | 15  | 20         |     |
| S        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |
| H        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |
| O        |          |           |              |            |           |           |       |            |     |            |     |            |     |            |     |

Prędkość skrawania  $v_c$  (m/min.)

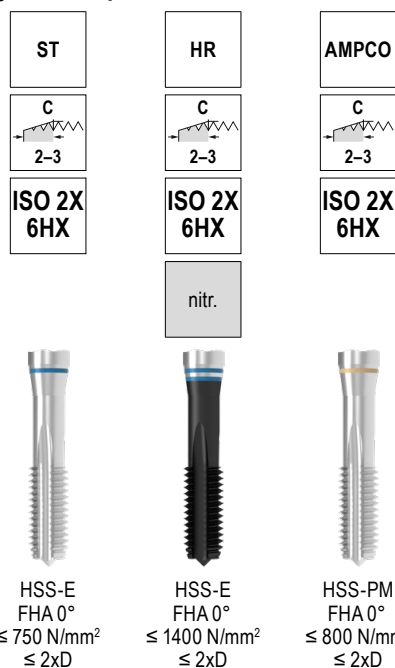
## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

DuoTap

M



DIN 371 ze wzmocnionym chwytem



| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki | 22 028 ... | 22 006 ...        | 22 030 ... |
|------|------|-----|--------|------|------|-----|----|-------|------------|-------------------|------------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       | EUR U0     | EUR U0            | EUR U0     |
| M1,2 | 0,25 | 40  | 2,5    | 2,1  | 0,95 | 5   | 5  | 2     | 54,13      | 012 <sup>1)</sup> |            |
| M1,4 | 0,30 | 40  | 2,5    | 2,1  | 1,10 | 6   | 6  | 2     | 43,72      | 014 <sup>1)</sup> |            |
| M1,6 | 0,35 | 40  | 2,5    | 2,1  | 1,25 | 6   | 11 | 2     | 39,29      | 016               |            |
| M1,7 | 0,35 | 40  | 2,5    | 2,1  | 1,35 | 6   | 11 | 2     | 42,95      | 017               |            |
| M1,8 | 0,35 | 40  | 2,5    | 2,1  | 1,45 | 6   | 11 | 2     | 39,81      | 018               |            |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 7   | 12 | 3     | 33,45      | 020               |            |
| M2,2 | 0,45 | 45  | 2,8    | 2,1  | 1,75 | 7   | 12 | 3     | 35,40      | 022               |            |
| M2,3 | 0,40 | 45  | 2,8    | 2,1  | 1,90 | 7   | 12 | 3     | 38,25      | 023               |            |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 9   | 14 | 3     | 32,67      | 025               |            |
| M2,6 | 0,45 | 50  | 2,8    | 2,1  | 2,15 | 9   | 14 | 3     | 35,13      | 026               |            |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 11  | 18 | 3     | 27,20      | 030               | 36,96 030  |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 2,90 | 12  | 20 | 3     | 27,85      | 035               |            |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 13  | 21 | 3     | 27,57      | 040               | 38,25 040  |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 15  | 25 | 3     | 27,85      | 050               | 39,81 050  |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 17  | 30 | 3     | 27,98      | 060               | 40,10 060  |
| M7   | 1,00 | 80  | 7,0    | 5,5  | 6,00 | 17  | 30 | 3     | 39,81      | 070               |            |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 20  | 35 | 3     | 31,90      | 080               | 44,50 080  |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 22  | 39 | 3     | 40,10      | 100               | 55,19 100  |
| P    |      |     |        |      |      |     |    |       | 12         | 6                 |            |
| M    |      |     |        |      |      |     |    |       |            |                   |            |
| K    |      |     |        |      |      |     |    |       | 12         | 16                |            |
| N    |      |     |        |      |      |     |    |       |            | 12                | 8          |
| S    |      |     |        |      |      |     |    |       |            |                   |            |
| H    |      |     |        |      |      |     |    |       |            |                   |            |
| O    |      |     |        |      |      |     |    |       |            |                   |            |

1) Tol. 4H/5H ≤ M1,4

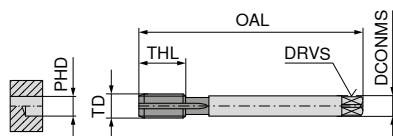
Prędkość skrawania  $v_c$  (m/min.)

DIN 376 znajduje się na następnej stronie.

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

DuoTap

M



DIN 376 ze zwężonym chwytem

ST

ISO 2X  
6HXHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xD

HR

ISO 2X  
6HX

nitr.

HSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xD

AMPCO

ISO 2X  
6HXHSS-PM  
FHA 0°  
≤ 800 N/mm²  
≤ 2xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M4       | 0,70     | 63        | 2,8          | 2,1        | 3,3       | 13        | 3     |
| M5       | 0,80     | 70        | 3,5          | 2,7        | 4,2       | 15        | 3     |
| M6       | 1,00     | 80        | 4,5          | 3,4        | 5,0       | 17        | 3     |
| M8       | 1,25     | 90        | 6,0          | 4,9        | 6,8       | 20        | 3     |
| M10      | 1,50     | 100       | 7,0          | 5,5        | 8,5       | 22        | 3     |
| M12      | 1,75     | 110       | 9,0          | 7,0        | 10,2      | 24        | 3     |
| M12      | 1,75     | 110       | 9,0          | 7,0        | 10,2      | 24        | 4     |
| M14      | 2,00     | 110       | 11,0         | 9,0        | 12,0      | 26        | 3     |
| M16      | 2,00     | 110       | 12,0         | 9,0        | 14,0      | 27        | 3     |
| M16      | 2,00     | 110       | 12,0         | 9,0        | 14,0      | 27        | 4     |
| M18      | 2,50     | 125       | 14,0         | 11,0       | 15,5      | 30        | 4     |
| M20      | 2,50     | 140       | 16,0         | 12,0       | 17,5      | 32        | 4     |
| M22      | 2,50     | 140       | 18,0         | 14,5       | 19,5      | 32        | 4     |
| M24      | 3,00     | 160       | 18,0         | 14,5       | 21,0      | 34        | 4     |
| M33      | 3,50     | 180       | 25,0         | 20,0       | 29,5      | 40        | 4     |

22 029 ...

EUR

U0

34,62

35,40

35,40

44,74

50,09

51,66

71,18

75,87

112,82

114,64

162,72

154,97

305,89

040

050

060

080

100

120

140

160

180

200

220

240

330

22 007 ...

EUR

U0

70,27

99,53

120

160

180

200

220

240

330

120

160

180

200

240

330

120

160

180

200

240

330

22 031 ...

EUR

U0

100,32

150,92

191,34

234,13

120

160

180

200

220

240

330

120

160

180

200

240

330

120

160

180

200

240

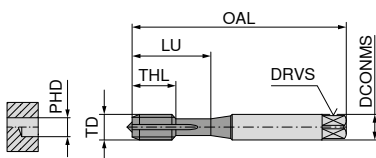
330

Prędkość skrawania  $v_c$  (m/min.)

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

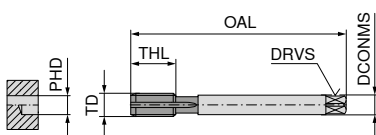
DuoTap

M



DIN 371 ze wzmocnionym chwytem

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,60 | 7   | 12 | 3     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,05 | 9   | 14 | 3     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,50 | 11  | 18 | 3     |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 2,90 | 12  | 20 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,30 | 13  | 21 | 3     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,20 | 15  | 25 | 3     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,00 | 17  | 30 | 3     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 6,80 | 20  | 35 | 3     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 8,50 | 22  | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|-----|------|-----|--------|------|------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M6  | 1,00 | 80  | 4,5    | 3,4  | 5,0  | 17  | 3     |
| M8  | 1,25 | 90  | 6,0    | 4,9  | 6,8  | 20  | 3     |
| M10 | 1,50 | 100 | 7,0    | 5,5  | 8,5  | 22  | 3     |
| M12 | 1,75 | 110 | 9,0    | 7,0  | 10,2 | 24  | 3     |
| M14 | 2,00 | 110 | 11,0   | 9,0  | 12,0 | 26  | 3     |
| M16 | 2,00 | 110 | 12,0   | 9,0  | 14,0 | 27  | 3     |
| M18 | 2,50 | 125 | 14,0   | 11,0 | 15,5 | 30  | 4     |
| M20 | 2,50 | 140 | 16,0   | 12,0 | 17,5 | 32  | 4     |
| M22 | 2,50 | 140 | 18,0   | 14,5 | 19,5 | 32  | 4     |
| M24 | 3,00 | 160 | 18,0   | 14,5 | 21,0 | 34  | 4     |

P  
M  
K  
N  
S  
H  
O

GG

ISO 2X  
6HX

nitr.

HSS-E  
FHA 0°  
≤ 1050 N/mm²  
≤ 2xD22 036 ...  
EUR  
U0

GG

ISO 2X  
6HX

nitr.

HSS-E  
FHA 0°  
≤ 1050 N/mm²  
≤ 2xD22 032 ...  
EUR  
U0

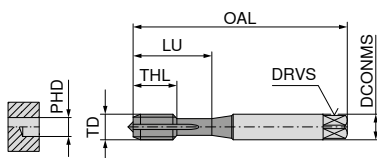
|       |     |
|-------|-----|
| 35,40 | 020 |
| 35,40 | 025 |
| 29,81 | 030 |
| 32,67 | 035 |
| 30,59 | 040 |
| 32,54 | 050 |
| 32,54 | 060 |
| 38,12 | 080 |
| 44,74 | 100 |

22 033 ...

|        |     |
|--------|-----|
| EUR    |     |
| U0     |     |
| 38,91  | 060 |
| 41,52  | 080 |
| 47,63  | 100 |
| 56,74  | 120 |
| 75,07  | 140 |
| 81,84  | 160 |
| 121,12 | 180 |
| 121,12 | 200 |
| 183,59 | 220 |
| 159,99 | 240 |

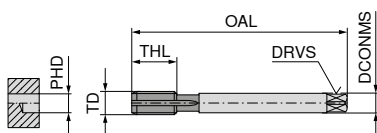
Prędkość skrawania  $v_c$  (m/min.)

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe



DIN 371 ze wzmocnionym chwytem

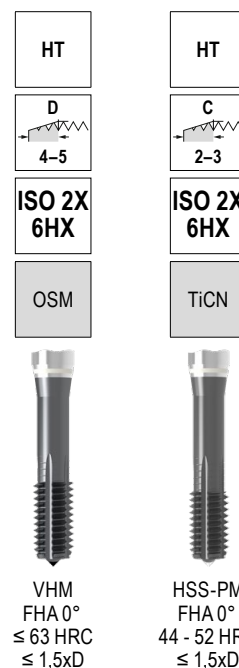
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 63        | 4,5          | 3,4        | 2,55      | 6         | 18       | 4     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,40      | 8         | 20       | 4     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,30      | 10        | 26       | 4     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,00      | 10        | 30       | 4     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,10      | 12        | 28       | 4     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,80      | 14        | 35       | 5     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 6,90      | 15        | 35       | 5     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 18        | 38       | 5     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 8,50      | 16        | 39       | 5     |
| M12      | 1,75     | 110       | 12,0         | 9,0        | 10,40     | 21        | 41       | 5     |
| M16      | 2,00     | 110       | 16,0         | 12,0       | 14,20     | 24        | 44       | 6     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,4      | 18        | 5     |
| M16      | 2,00     | 110       | 12           | 9          | 14,2      | 22        | 6     |

|   |   |    |
|---|---|----|
| P |   |    |
| M |   |    |
| K |   |    |
| N |   | 22 |
| S |   |    |
| H | 2 | 2  |
| O |   |    |

Prędkość skrawania  $v_c$  (m/min.)

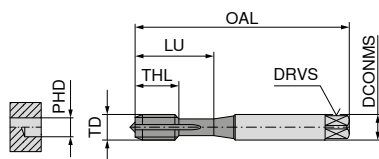
| 22 806 ... | 22 227 ... |
|------------|------------|
| EUR U0     | EUR U0     |
| 242,83 030 |            |
| 242,83 040 |            |
| 274,54 050 |            |
| 287,06 060 | 158,79 060 |
| 320,09 080 | 170,48 080 |
| 396,03 100 |            |
| 608,45 120 | 213,40 100 |
| 858,21 160 |            |

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

▲ EL = ekstradługi, tzn. o podwójnej długości całkowitej

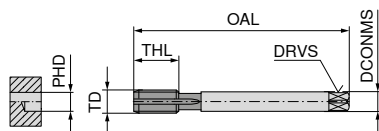
DuoTap

M



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 100       | 3,5          | 2,7        | 2,5       | 11        | 18       | 3     |
| M4       | 0,70     | 125       | 4,5          | 3,4        | 3,3       | 13        | 21       | 3     |
| M5       | 0,80     | 140       | 6,0          | 4,9        | 4,2       | 15        | 25       | 3     |
| M6       | 1,00     | 160       | 6,0          | 4,9        | 5,0       | 17        | 30       | 3     |
| M8       | 1,25     | 180       | 8,0          | 6,2        | 6,8       | 20        | 35       | 3     |



DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M10      | 1,50     | 200       | 7            | 5,5        | 8,5       | 22        | 3     |
| M12      | 1,75     | 224       | 9            | 7,0        | 10,2      | 24        | 3     |
| M16      | 2,00     | 224       | 12           | 9,0        | 14,0      | 27        | 3     |
| M20      | 2,50     | 280       | 16           | 12,0       | 17,5      | 32        | 4     |

|   |    |
|---|----|
| P | 6  |
| M |    |
| K | 16 |
| N | 22 |
| S |    |
| H |    |
| O |    |

HR  
ELC  
2-3ISO 2X  
6HX

nitr.

HSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xD

22 122 ...

EUR  
U067,92 030  
67,92 040  
71,84 050  
75,07 060  
89,14 080

22 123 ...

EUR  
U099,53 100  
119,33 120  
187,40 160  
255,00 200Prędkość skrawania  $v_c$  (m/min.)



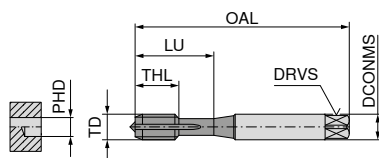
## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

M

GG

C  
2-3ISO 2X  
6HX

TiCN

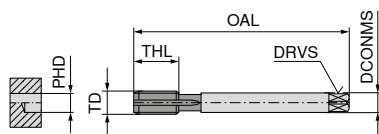


DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 900 N/mm²  
≤ 2xD

23 512 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M5       | 0,80     | 70        | 6            | 4,9        | 4,2       | 15        | 25       | 3     |
| M6       | 1,00     | 80        | 6            | 4,9        | 5,0       | 17        | 30       | 3     |
| M8       | 1,25     | 90        | 8            | 6,2        | 6,8       | 20        | 35       | 3     |
| M10      | 1,50     | 100       | 10           | 8,0        | 8,5       | 22        | 39       | 3     |

EUR  
T920,60 050  
28,48 060  
29,95 080  
38,10 100

DIN 376 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 10,2      | 24        | 3     |

23 513 ...

EUR  
T9

44,15 120

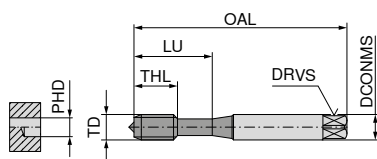
|   |    |
|---|----|
| P |    |
| M |    |
| K | 20 |
| N | 24 |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

6

## Gwintownik maszynowy – wygniatak prawy

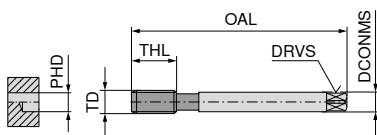
▲ HML = z wlutowanymi listwami z węgla spiekanego dla wyższej prędkości skrawania



DIN 2174 ze wzmocnionym chwytem

| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU   |
|------|------|-----|--------|------|------|-----|------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm   |
| M1   | 0,25 | 40  | 2,5    | 2,1  | 0,90 | 5   | 6,5  |
| M1,2 | 0,25 | 40  | 2,5    | 2,1  | 1,10 | 5   | 6,5  |
| M1,4 | 0,30 | 40  | 2,5    | 2,1  | 1,28 | 6   | 9,0  |
| M1,6 | 0,35 | 40  | 2,5    | 2,1  | 1,47 | 6   | 9,0  |
| M1,7 | 0,35 | 40  | 2,5    | 2,1  | 1,57 | 6   | 9,0  |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,85 | 7   | 10,0 |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,33 | 9   | 14,0 |
| M2,6 | 0,45 | 50  | 2,8    | 2,1  | 2,43 | 9   | 14,0 |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,80 | 11  | 18,0 |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 3,25 | 12  | 20,0 |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,70 | 13  | 21,0 |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,65 | 15  | 25,0 |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,60 | 17  | 30,0 |
| M6   | 1,00 | 80  | 6,0    | 5,0  | 5,60 | 18  | 30,0 |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 7,40 | 20  | 35,0 |
| M8   | 1,25 | 90  | 8,0    | 6,0  | 7,45 | 18  | 35,0 |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 7,45 | 20  | 35,0 |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 9,35 | 22  | 39,0 |

1) Tol. ISO 1X 4HX ≤ M1,4



DIN 2174 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD   | THL |
|-----|------|-----|--------|------|-------|-----|
| mm  | mm   | mm  | mm     | mm   | mm    | mm  |
| M12 | 1,75 | 110 | 9      | 7    | 11,25 | 24  |
| M16 | 2,00 | 110 | 12     | 9    | 15,10 | 27  |

|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 30 | 18 |
| S |    | 22 |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

NEW

NW  
HMLISO 2X  
6HX

HCr

HSS-E / HM  
≤ 880 N/mm<sup>2</sup>  
≤ 3xD22 473 ...  
EUR  
U0

EC

ISO 2X  
6HX

TiN

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 1,5xD22 128 ...  
EUR  
U0

EC

ISO 2X  
6HX

TiN

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 1,5xD22 100 ...  
EUR  
U0

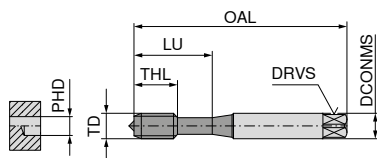
|       |     |               |
|-------|-----|---------------|
| 95,77 | 010 | <sup>1)</sup> |
| 90,69 | 012 | <sup>1)</sup> |
| 81,07 | 014 | <sup>1)</sup> |
| 78,21 | 016 |               |
| 85,87 | 017 |               |
| 56,10 | 020 |               |
| 54,38 | 025 |               |
| 60,51 | 026 |               |
| 52,05 | 030 |               |
| 45,80 | 035 |               |
| 53,22 | 040 |               |
| 55,56 | 050 |               |
| 63,50 | 060 |               |
| 69,74 | 080 |               |
| 60,13 | 080 |               |
| 78,59 | 100 |               |
| 88,48 | 100 |               |

22 101 ...

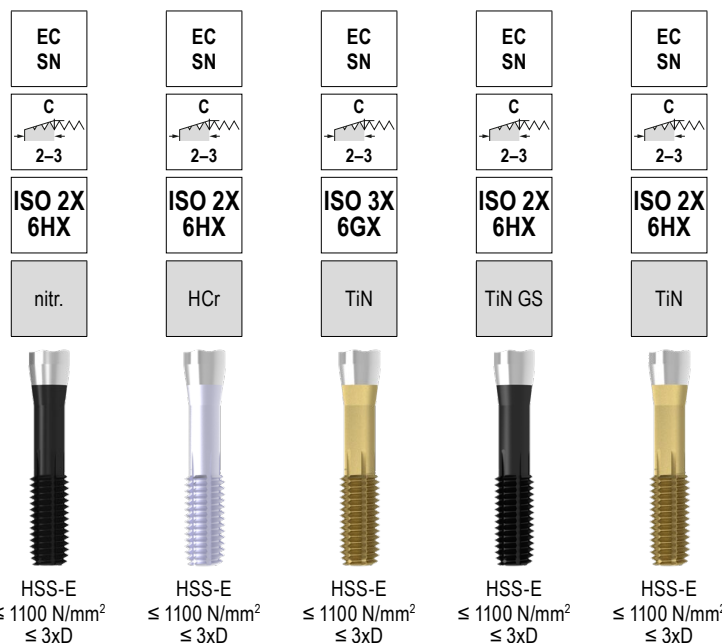
| EUR    |     |
|--------|-----|
| U0     |     |
| 97,18  | 120 |
| 163,91 | 160 |

## Gwintownik maszynowy – wygniatak prawy

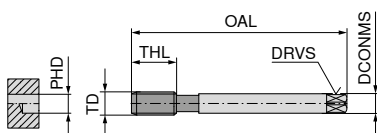
▲ SN = gwintownik wygniatający z rowkami smarowymi



DIN 2174 ze wzmocnionym chwytem



|      |      |     |        |      |      |     |    |       | 22 104 ... | 22 107 ... | 22 108 ... | 22 154 ... | 22 105 ... |
|------|------|-----|--------|------|------|-----|----|-------|------------|------------|------------|------------|------------|
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki | EUR U0     | EUR U0     | EUR U0     | EUR U0     | EUR U0     |
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |            |            |            |            |            |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,85 | 7   | 10 | 3     |            |            |            |            | 64,41 020  |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,33 | 9   | 14 | 3     |            |            |            |            | 58,82 025  |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,80 | 11  | 18 | 3     | 40,10      | 55,56      | 54,01      | 74,44      | 56,74 030  |
| M3,5 | 0,60 | 56  | 4,0    | 3,0  | 3,25 | 12  | 20 | 3     |            |            |            |            | 56,10 035  |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,70 | 13  | 21 | 4     | 41,52      | 56,74      | 56,10      | 76,53      | 58,82 040  |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,65 | 15  | 25 | 4     | 43,85      | 59,61      | 58,82      | 79,25      |            |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,65 | 15  | 25 | 5     |            |            |            |            | 61,16 050  |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,60 | 17  | 30 | 4     | 44,50      | 59,61      | 68,70      | 87,58      | 69,35 060  |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 7,45 | 20  | 35 | 5     | 53,60      | 68,33      | 78,21      | 95,25      | 76,53 080  |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 9,35 | 22  | 39 | 6     | 68,70      | 90,04      | 99,03      | 115,82     | 95,77 100  |



DIN 2174 ze zwężonym chwytem

|     |      |     |        |      |       |     |       | 22 106 ... |
|-----|------|-----|--------|------|-------|-----|-------|------------|
| TD  | TP   | OAL | DCONMS | DRVS | PHD   | THL | Rowki | EUR U0     |
| mm  | mm   | mm  | mm     | mm   | mm    | mm  |       |            |
| M12 | 1,75 | 110 | 9      | 7    | 11,25 | 24  | 6     | 119,45 120 |
| M14 | 2,00 | 110 | 11     | 9    | 13,10 | 26  | 5     | 230,32 140 |
| M16 | 2,00 | 110 | 12     | 9    | 15,10 | 27  | 7     | 184,78 160 |

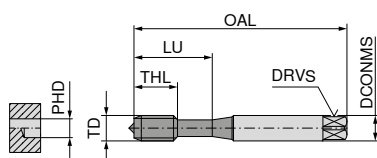
  

|   |    |    |    |    |    |
|---|----|----|----|----|----|
| P | 12 | 18 | 18 | 18 | 18 |
| M |    | 10 | 10 | 10 | 10 |
| K | 8  | 10 | 10 | 10 | 10 |
| N | 12 | 18 | 22 | 22 | 22 |
| S |    |    |    |    |    |
| H |    |    |    |    |    |
| O |    |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

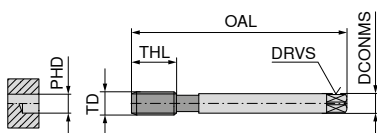
## Gwintownik maszynowy – wygniatak prawy

▲ SN = gwintownik wygniatający z rowkami smarowymi



DIN 2174 ze wzmocnionym chwytem

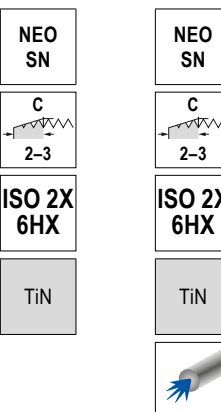
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3       | 0,50     | 56        | 3,5          | 2,7        | 2,80      | 11        | 18       | 4     |
| M4       | 0,70     | 63        | 4,5          | 3,4        | 3,70      | 13        | 21       | 4     |
| M5       | 0,80     | 70        | 6,0          | 4,9        | 4,65      | 15        | 25       | 4     |
| M6       | 1,00     | 80        | 6,0          | 4,9        | 5,60      | 17        | 30       | 5     |
| M8       | 1,25     | 90        | 8,0          | 6,2        | 7,45      | 20        | 35       | 5     |
| M10      | 1,50     | 100       | 10,0         | 8,0        | 9,35      | 22        | 39       | 5     |



DIN 2174 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12      | 1,75     | 110       | 9            | 7          | 11,25     | 24        | 6     |
| M16      | 2,00     | 110       | 12           | 9          | 15,10     | 27        | 6     |

|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |



HSS-PM  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

HSS-PM  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 452 ...

EUR  
U0

74,44 030

76,53 040

81,46 050

102,67 060

115,03 080

149,73 100

22 453 ...

EUR  
U0

101,77 050

124,10 060

140,55 080

178,35 100

22 452 ...

EUR  
U0

172,98 120

281,10 160

22 454 ...

EUR  
U0

208,14 120

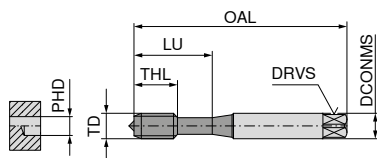
318,89 160

Prędkość skrawania v<sub>c</sub> (m/min.)

## Gwintownik maszynowy – wygniatak prawy

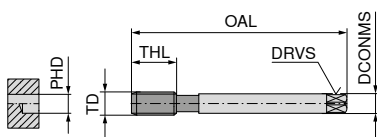
▲ SN = gwintownik wygniatający z rowkami smarowymi

M



DIN 2174 ze wzmocnionym chwytem

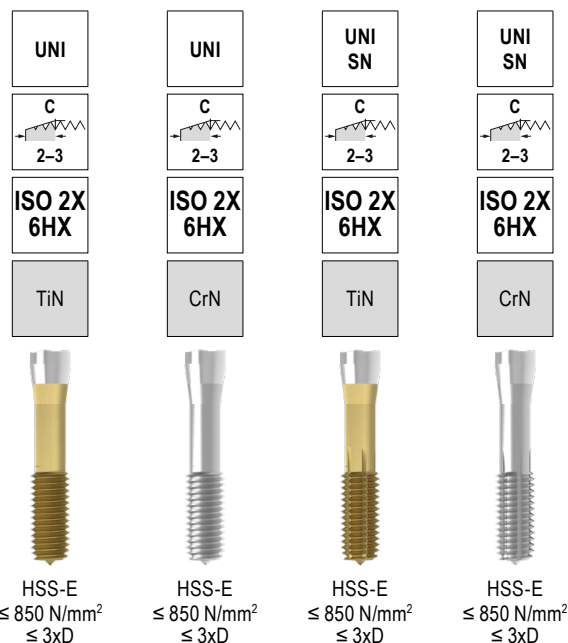
| TD   | TP   | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|------|------|-----|--------|------|------|-----|----|-------|
| mm   | mm   | mm  | mm     | mm   | mm   | mm  | mm |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,85 | 7   | 12 |       |
| M2   | 0,40 | 45  | 2,8    | 2,1  | 1,85 | 7   | 12 | 3     |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,33 | 9   | 14 |       |
| M2,5 | 0,45 | 50  | 2,8    | 2,1  | 2,33 | 9   | 14 | 3     |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,80 | 11  | 18 |       |
| M3   | 0,50 | 56  | 3,5    | 2,7  | 2,80 | 11  | 18 | 3     |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,70 | 13  | 21 |       |
| M4   | 0,70 | 63  | 4,5    | 3,4  | 3,70 | 13  | 21 | 4     |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,65 | 15  | 25 |       |
| M5   | 0,80 | 70  | 6,0    | 4,9  | 4,65 | 15  | 25 | 4     |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,60 | 17  | 30 |       |
| M6   | 1,00 | 80  | 6,0    | 4,9  | 5,60 | 17  | 30 | 4     |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 7,45 | 20  | 35 |       |
| M8   | 1,25 | 90  | 8,0    | 6,2  | 7,45 | 20  | 35 | 5     |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 9,35 | 22  | 39 |       |
| M10  | 1,50 | 100 | 10,0   | 8,0  | 9,35 | 22  | 39 | 5     |



DIN 2174 ze zwężonym chwytem

| TD  | TP   | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|-----|------|-----|--------|------|-------|-----|-------|
| mm  | mm   | mm  | mm     | mm   | mm    | mm  |       |
| M12 | 1,75 | 110 | 9      | 7,0  | 11,25 | 24  |       |
| M12 | 1,75 | 110 | 9      | 7,0  | 11,25 | 24  | 5     |
| M16 | 2,00 | 110 | 12     | 9,0  | 15,10 | 27  |       |
| M16 | 2,00 | 110 | 12     | 9,0  | 15,10 | 27  | 6     |
| M18 | 2,50 | 125 | 14     | 11,0 | 16,80 | 30  | 6     |
| M20 | 2,50 | 140 | 16     | 12,0 | 18,80 | 32  | 6     |
| M24 | 3,00 | 160 | 18     | 14,5 | 22,60 | 34  | 6     |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 18 | 18 | 18 | 18 |
| M | 10 | 10 | 10 | 10 |
| K | 10 |    | 10 |    |
| N | 22 | 18 | 22 | 18 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

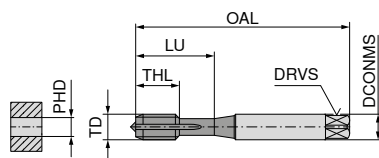
| 23 810 ... | 23 812 ... | 23 814 ... | 23 816 ... |
|------------|------------|------------|------------|
| EUR T9     | EUR T9     | EUR T9     | EUR T9     |
| 30,34 020  | 29,71 020  | 34,40 020  | 33,91 020  |
| 27,00 025  | 25,78 025  | 31,21 025  | 29,71 025  |
| 19,60 030  | 18,62 030  | 22,32 030  | 21,58 030  |
| 20,35 040  | 19,11 040  | 23,19 040  | 21,58 040  |
| 21,58 050  | 19,98 050  | 24,53 050  | 22,81 050  |
| 25,65 060  | 19,98 060  | 28,36 060  | 22,81 060  |
| 28,60 080  | 23,07 080  | 32,05 080  | 26,87 080  |
| 38,10 100  | 29,71 100  | 41,56 100  | 34,40 100  |

| 23 811 ... | 23 813 ... | 23 815 ...   | 23 817 ... |
|------------|------------|--------------|------------|
| EUR T9     | EUR T9     | EUR T9       | EUR T9     |
| 43,52 120  | 36,38 120  | 48,70 120    | 41,80 120  |
| 82,00 160  | 72,74 160  | 91,12 160    | 83,60 160  |
|            |            | 168,09 18000 |            |
|            |            | 156,29 20000 |            |
|            |            | 208,86 24000 |            |

## Otwór przelotowy – gwintownik maszynowy do gwintu z wkładką z drutu prawy



UNI

B  
4-56H  
modnitr. +  
vap.

DIN 40435 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

22 662 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| EG-M2,5  | 0,45     | 56        | 3,5          | 2,7        | 2,65      | 11        | 18       | 3     |
| EG-M3    | 0,50     | 63        | 4,5          | 3,4        | 3,15      | 10        | 21       | 3     |
| EG-M4    | 0,70     | 70        | 6,0          | 4,9        | 4,20      | 12        | 25       | 3     |
| EG-M5    | 0,80     | 80        | 6,0          | 4,9        | 5,25      | 13        | 30       | 3     |
| EG-M6    | 1,00     | 90        | 8,0          | 6,2        | 6,30      | 17        | 35       | 3     |
| EG-M8    | 1,25     | 100       | 10,0         | 8,0        | 8,40      | 18        | 39       | 3     |

EUR

U0

025

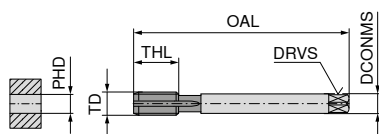
030

040

050

060

080



DIN 40435 ze zwężonym chwytem

22 663 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| EG-M10   | 1,50     | 100       | 9            | 7,0        | 10,50     | 22        | 3     |
| EG-M12   | 1,75     | 110       | 11           | 9,0        | 12,50     | 26        | 3     |
| EG-M16   | 2,00     | 125       | 14           | 11,0       | 16,50     | 27        | 3     |
| EG-M20   | 2,50     | 160       | 18           | 14,5       | 20,75     | 34        | 3     |

EUR

U0

100

120

160

200

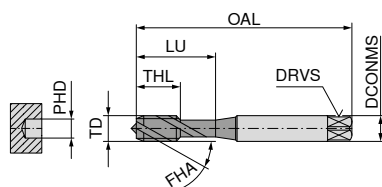
|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

## Gwintownik maszynowy do gwintu z wkładką z drutu

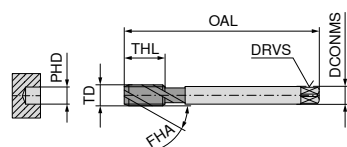
CavTap

EG M



DIN 40435 ze wzmocnionym chwytem

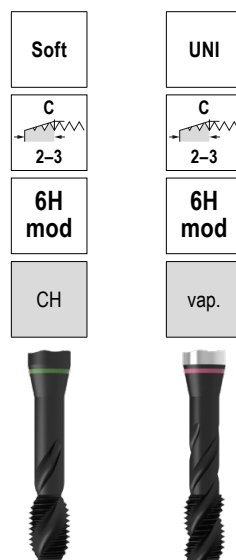
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| EG-M2,5  | 0,45     | 56        | 3,5          | 2,7        | 2,65      | 5         | 18       | 2     |
| EG-M2,5  | 0,45     | 56        | 3,5          | 2,7        | 2,65      | 5         | 18       | 3     |
| EG-M3    | 0,50     | 63        | 4,5          | 3,4        | 3,15      | 5         | 21       | 2     |
| EG-M3    | 0,50     | 63        | 4,5          | 3,4        | 3,15      | 5         | 21       | 3     |
| EG-M4    | 0,70     | 70        | 6,0          | 4,9        | 4,20      | 8         | 25       | 2     |
| EG-M4    | 0,70     | 70        | 6,0          | 4,9        | 4,20      | 8         | 25       | 3     |
| EG-M5    | 0,80     | 80        | 6,0          | 4,9        | 5,25      | 8         | 30       | 2     |
| EG-M5    | 0,80     | 80        | 6,0          | 4,9        | 5,25      | 8         | 30       | 3     |
| EG-M6    | 1,00     | 90        | 8,0          | 6,2        | 6,30      | 10        | 35       | 2     |
| EG-M6    | 1,00     | 90        | 8,0          | 6,2        | 6,30      | 10        | 35       | 3     |
| EG-M8    | 1,25     | 100       | 10,0         | 8,0        | 8,40      | 16        | 39       | 2     |
| EG-M8    | 1,25     | 100       | 10,0         | 8,0        | 8,40      | 16        | 39       | 3     |



DIN 40435 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| EG-M10   | 1,50     | 100       | 9            | 7,0        | 10,50     | 15        | 5     |
| EG-M12   | 1,75     | 110       | 11           | 9,0        | 12,50     | 20        | 4     |
| EG-M16   | 2,00     | 125       | 14           | 11,0       | 16,50     | 20        | 5     |
| EG-M20   | 2,50     | 160       | 18           | 14,5       | 20,75     | 30        | 4     |

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 42°  
≤ 500 N/mm²  
≤ 3xDHSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xD

22 280 ...

EUR

U0

72,36

025

22 664 ...

EUR

U0

57,26

025

69,88

030

52,17

030

69,88

040

52,17

040

95,25

050

48,15

050

96,95

060

52,17

060

121,83

080

58,44

080

22 665 ...

EUR

U0

74,69

100

91,50

120

137,93

160

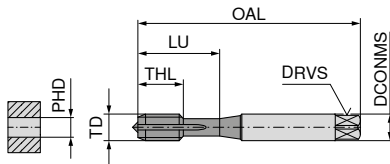
187,40

200

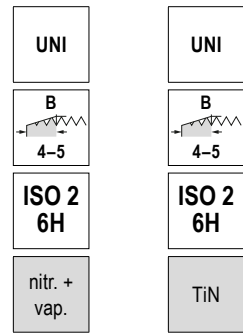
## Otwór przelotowy – gwintowniki maszynowe prawe

TruTap

MF



DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M5x0,5   | 0,50     | 70        | 6            | 4,9        | 4,5       | 11        | 25       | 3     |
| M6x0,5   | 0,50     | 80        | 6            | 4,9        | 5,5       | 13        | 30       | 3     |
| M6x0,75  | 0,75     | 80        | 6            | 4,9        | 5,2       | 13        | 30       | 3     |
| M8x1     | 1,00     | 90        | 8            | 6,2        | 7,0       | 17        | 35       | 3     |
| M10x1    | 1,00     | 90        | 10           | 8,0        | 9,0       | 18        | 35       | 4     |

22 590 ...

EUR  
U0

60,38

050

63,63

060

63,63

062

62,07

084

63,63

102

22 550 ...

EUR  
U0

69,88

050

87,46

060

87,46

062

83,54

080

94,88

100

|   |    |    |
|---|----|----|
| P | 12 | 15 |
| M | 7  | 9  |
| K | 12 | 18 |
| N |    | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

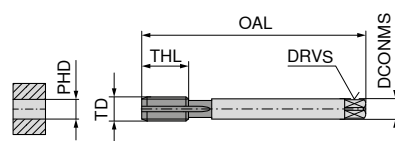
DIN 374 na następnej stronie.



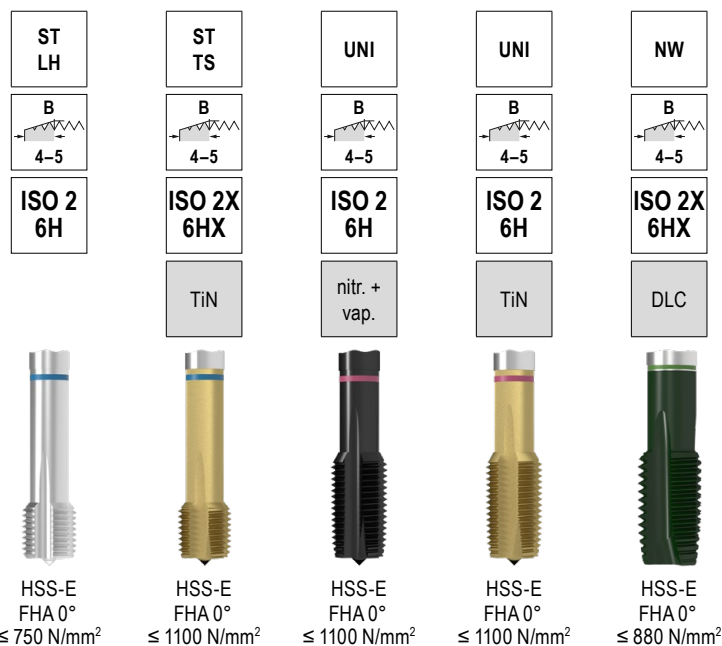
## Otwór przelotowy – gwintowniki maszynowe prawe

▲ TS = do obróbki z dużą prędkością, tj. nawet do 100 m/min.

▲ LH = do gwintów lewoskrętnych



DIN 374 ze zwężonym chwytem



| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki | 22 210 ... | 22 193 ... | 22 551 ... | 22 552 ... | 22 466 ... |
|----------|------|-----|--------|------|------|-----|-------|------------|------------|------------|------------|------------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |       | EUR U0     | EUR U0     | EUR U0     | EUR U0     | EUR U0     |
| M8x0,75  | 0,75 | 80  | 6      | 4,9  | 7,2  | 14  | 3     |            |            | 59,20      | 082        |            |
| M8x1     | 1,00 | 90  | 6      | 4,9  | 7,0  | 10  | 4     |            | 94,88      | 080        |            |            |
| M8x1     | 1,00 | 90  | 6      | 4,9  | 7,0  | 17  | 3     | 78,98      |            | 54,13      | 084        | 83,54      |
| M10x0,75 | 0,75 | 90  | 7      | 5,5  | 9,2  | 18  | 4     |            |            | 79,39      | 100        | 66,66      |
| M10x1    | 1,00 | 90  | 7      | 5,5  | 9,0  | 10  | 4     |            | 101,77     |            |            |            |
| M10x1    | 1,00 | 90  | 7      | 5,5  | 9,0  | 18  | 4     | 81,99      |            | 55,19      | 102        | 91,50      |
| M10x1,25 | 1,25 | 100 | 7      | 5,5  | 8,8  | 22  | 3     |            |            | 118,42     | 104        | 69,24      |
| M12x1    | 1,00 | 100 | 9      | 7,0  | 11,0 | 18  | 4     | 105,94     |            | 64,54      | 120        | 87,24      |
| M12x1,25 | 1,25 | 100 | 9      | 7,0  | 10,8 | 22  | 3     |            |            | 89,78      | 121        | 79,85      |
| M12x1,5  | 1,50 | 100 | 9      | 7,0  | 10,5 | 15  | 4     |            | 97,73      |            |            | 89,71      |
| M12x1,5  | 1,50 | 100 | 9      | 7,0  | 10,5 | 22  | 3     | 112,82     |            | 61,16      | 124        | 77,24      |
| M14x1    | 1,00 | 100 | 11     | 9,0  | 13,0 | 18  | 4     |            |            | 166,53     | 140        | 107,74     |
| M14x1,25 | 1,25 | 100 | 11     | 9,0  | 12,8 | 22  | 3     |            | 123,26     |            |            | 102,22     |
| M14x1,5  | 1,50 | 100 | 11     | 9,0  | 12,5 | 15  | 4     |            |            | 81,99      | 144        | 102,22     |
| M14x1,5  | 1,50 | 100 | 11     | 9,0  | 12,5 | 22  | 3     | 144,37     |            | 124,10     | 140        | 117,17     |
| M16x1    | 1,00 | 100 | 12     | 9,0  | 15,0 | 18  | 4     |            |            |            |            |            |
| M16x1,5  | 1,50 | 100 | 12     | 9,0  | 14,5 | 15  | 4     |            | 163,91     |            |            |            |
| M16x1,5  | 1,50 | 100 | 12     | 9,0  | 14,5 | 22  | 3     | 144,37     |            | 97,73      | 162        | 128,15     |
| M18x1    | 1,00 | 110 | 14     | 11,0 | 17,0 | 20  | 5     |            |            | 272,04     | 180        |            |
| M18x1,5  | 1,50 | 110 | 14     | 11,0 | 16,5 | 17  | 4     |            | 203,13     |            |            |            |
| M18x1,5  | 1,50 | 110 | 14     | 11,0 | 16,5 | 25  | 4     | 163,91     |            | 113,73     | 182        |            |
| M18x2    | 2,00 | 125 | 14     | 11,0 | 16,0 | 26  | 3     |            |            | 223,87     | 184        |            |
| M20x1    | 1,00 | 125 | 16     | 12,0 | 19,0 | 20  | 5     |            |            | 294,09     | 200        |            |
| M20x1,5  | 1,50 | 125 | 16     | 12,0 | 18,5 | 17  | 4     |            | 255,00     |            |            |            |
| M20x1,5  | 1,50 | 125 | 16     | 12,0 | 18,5 | 25  | 4     | 190,02     |            | 128,15     | 202        | 201,70     |
| M22x1,5  | 1,50 | 125 | 18     | 14,5 | 20,5 | 25  | 4     |            |            | 140,55     | 222        | 244,74     |
| M24x1,5  | 1,50 | 140 | 18     | 14,5 | 22,5 | 27  | 4     |            |            | 158,79     | 242        |            |
| M24x2    | 2,00 | 140 | 18     | 14,5 | 22,0 | 27  | 4     |            |            | 287,53     | 244        |            |
| M25x1,5  | 1,50 | 140 | 18     | 14,5 | 23,5 | 28  | 4     |            |            | 473,63     | 250        |            |
| M26x1,5  | 1,50 | 140 | 18     | 14,5 | 24,5 | 28  | 4     |            |            | 196,57     | 260        |            |
| M27x2    | 2,00 | 140 | 20     | 16,0 | 25,0 | 28  | 4     |            |            | 499,73     | 272        |            |
| M28x1,5  | 1,50 | 140 | 20     | 16,0 | 26,5 | 28  | 5     |            |            | 230,32     | 280        |            |
| M30x1,5  | 1,50 | 150 | 22     | 18,0 | 28,5 | 28  | 5     |            |            | 247,13     | 302        |            |
| P        |      |     |        |      |      |     |       | 12         | 65         | 12         | 15         |            |
| M        |      |     |        |      |      |     |       |            |            | 7          | 9          |            |
| K        |      |     |        |      |      |     |       | 12         | 65         | 12         | 18         |            |
| N        |      |     |        |      |      |     |       | 22         | 22         |            | 12         | 15         |
| S        |      |     |        |      |      |     |       |            |            |            |            |            |
| H        |      |     |        |      |      |     |       |            |            |            |            |            |
| O        |      |     |        |      |      |     |       |            |            |            |            |            |

Prędkość skrawania  $v_c$  (m/min.)

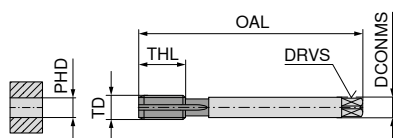
## Otwór przelotowy – gwintowniki maszynowe prawe

MF

UNI

B  
4-5ISO 2  
6H

TiN



DIN 374 ze zwężonym chwytem

HSS-PM  
FHA 0°  
≤ 1000 N/mm²  
≤ 3xD

23 041 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M8x1     | 1,00     | 90        | 6            | 4,9        | 7,0       | 17        | 3     |
| M10x1    | 1,00     | 90        | 7            | 5,5        | 9,0       | 18        | 4     |
| M10x1,25 | 1,25     | 100       | 7            | 5,5        | 8,8       | 22        | 3     |
| M12x1    | 1,00     | 100       | 9            | 7,0        | 11,0      | 18        | 4     |
| M12x1,25 | 1,25     | 100       | 9            | 7,0        | 10,8      | 22        | 3     |
| M12x1,5  | 1,50     | 100       | 9            | 7,0        | 10,5      | 22        | 3     |
| M14x1,25 | 1,25     | 100       | 11           | 9,0        | 12,8      | 22        | 3     |
| M14x1,5  | 1,50     | 100       | 11           | 9,0        | 12,5      | 22        | 3     |
| M16x1,5  | 1,50     | 100       | 12           | 9,0        | 14,5      | 22        | 3     |
| M18x1,5  | 1,50     | 110       | 14           | 11,0       | 16,5      | 17        | 4     |
| M20x1,5  | 1,50     | 125       | 16           | 12,0       | 18,5      | 17        | 4     |
| M22x1,5  | 1,50     | 125       | 18           | 14,5       | 20,5      | 25        | 4     |
| M24x1,5  | 1,50     | 140       | 18           | 14,5       | 22,5      | 27        | 4     |
| M24x2    | 2,00     | 140       | 18           | 14,5       | 22,0      | 27        | 4     |

EUR

T9

26,52

081

30,34

102

32,54

104

37,36

120

39,08

122

34,77

121

45,14

142

42,91

144

48,59

162

64,24

182

86,81

202

81,63

222

93,70

242

106,77

244

P

15

M

9

K

18

N

12

S

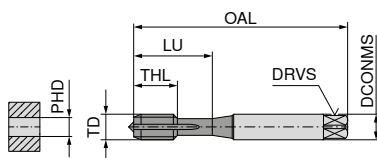
H

O

Prędkość skrawania  $v_c$  (m/min.)

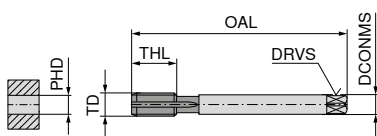
## Otwór przelotowy – gwintowniki maszynowe prawe

MF



DIN 371 ze wzmocnionym chwytem

| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|---------|------|-----|--------|------|-----|-----|----|-------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |       |
| M4x0,5  | 0,50 | 63  | 4,5    | 3,4  | 3,5 | 10  | 21 | 3     |
| M5x0,5  | 0,50 | 70  | 6,0    | 4,9  | 4,5 | 11  | 25 | 3     |
| M6x0,75 | 0,75 | 80  | 6,0    | 4,9  | 5,2 | 13  | 30 | 3     |
| M6x0,5  | 0,50 | 80  | 6,0    | 4,9  | 5,5 | 13  | 30 | 3     |



DIN 374 ze zwężonym chwytem

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|----------|------|-----|--------|------|------|-----|-------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M8x0,5   | 0,50 | 80  | 6      | 4,9  | 7,5  | 14  | 3     |
| M8x0,75  | 0,75 | 80  | 6      | 4,9  | 7,2  | 14  | 3     |
| M8x1     | 1,00 | 90  | 6      | 4,9  | 7,0  | 17  | 3     |
| M8x1     | 1,00 | 90  | 6      | 4,9  | 7,0  | 17  | 4     |
| M10x0,75 | 0,75 | 90  | 7      | 5,5  | 9,2  | 18  | 4     |
| M10x1    | 1,00 | 90  | 7      | 5,5  | 9,0  | 18  | 4     |
| M10x1,25 | 1,25 | 100 | 7      | 5,5  | 8,8  | 22  | 3     |
| M12x1    | 1,00 | 100 | 9      | 7,0  | 11,0 | 18  | 4     |
| M12x1,25 | 1,25 | 100 | 9      | 7,0  | 10,8 | 22  | 3     |
| M12x1,5  | 1,50 | 100 | 9      | 7,0  | 10,5 | 22  | 3     |
| M14x1    | 1,00 | 100 | 11     | 9,0  | 13,0 | 18  | 4     |
| M14x1,5  | 1,50 | 100 | 11     | 9,0  | 12,5 | 22  | 3     |
| M16x1    | 1,00 | 100 | 12     | 9,0  | 15,0 | 18  | 4     |
| M16x1,5  | 1,50 | 100 | 12     | 9,0  | 14,5 | 22  | 3     |
| M18x1    | 1,00 | 110 | 14     | 11,0 | 17,0 | 20  | 5     |
| M18x1,5  | 1,50 | 110 | 14     | 11,0 | 16,5 | 25  | 4     |
| M20x1    | 1,00 | 125 | 16     | 12,0 | 19,0 | 20  | 5     |
| M20x1,5  | 1,50 | 125 | 16     | 12,0 | 18,5 | 25  | 4     |
| M22x1,5  | 1,50 | 125 | 18     | 14,5 | 20,5 | 25  | 4     |
| M24x1,5  | 1,50 | 140 | 18     | 14,5 | 22,5 | 27  | 4     |
| M26x1,5  | 1,50 | 140 | 18     | 14,5 | 24,5 | 28  | 4     |
| M28x1,5  | 1,50 | 140 | 20     | 16,0 | 26,5 | 28  | 5     |
| M30x1,5  | 1,50 | 150 | 22     | 18,0 | 28,5 | 28  | 5     |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 12 | 10 |
| M | 7  | 9  |    | 8  |
| K | 12 | 18 | 12 |    |
| N |    | 12 | 12 | 24 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

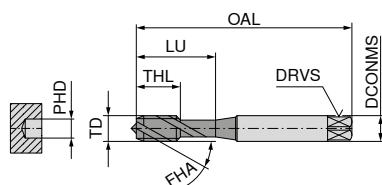
Prędkość skrawania  $v_c$  (m/min.)

| UNI                                              | UNI                                              | FE                                      | VA                                       |
|--------------------------------------------------|--------------------------------------------------|-----------------------------------------|------------------------------------------|
| B<br>4-5                                         | B<br>4-5                                         | B<br>4-5                                | B<br>4-5                                 |
| ISO 2<br>6H                                      | ISO 2<br>6H                                      | ISO 2<br>6H                             | ISO 2<br>6H                              |
| nitr. +<br>vap.                                  | TiN                                              |                                         | TiN                                      |
|                                                  |                                                  |                                         |                                          |
| HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD         | HSS-E<br>FHA 0°<br>≤ 1000 N/mm²<br>≤ 3xD         | HSS-E<br>FHA 0°<br>≤ 850 N/mm²<br>≤ 3xD | HSS-E<br>FHA 0°<br>≤ 1200 N/mm²<br>≤ 4xD |
| 23 140 ...                                       | 23 142 ...                                       |                                         | 23 440 ...                               |
| EUR<br>T9                                        | EUR<br>T9                                        |                                         | EUR<br>T9                                |
| 18,74 040<br>18,74 050<br>18,74 062<br>19,98 060 | 25,28 040<br>25,53 050<br>31,44 062<br>31,44 060 |                                         | 31,07 050<br>37,99 062                   |

## Otwór nieprzelotowy – gwintownik maszynowy prawy

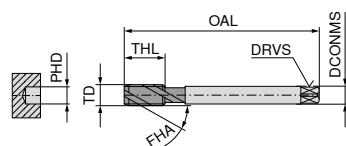
CavTap

MF



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M4x0,5   | 0,50     | 63        | 4,5          | 3,4        | 3,50      | 5         | 21       | 3     |
| M6x0,75  | 0,75     | 80        | 6,0          | 4,9        | 5,25      | 8         | 30       | 3     |
| M5x0,5   | 0,50     | 70        | 6,0          | 4,9        | 4,50      | 5         | 25       | 3     |



DIN 374 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M8x1     | 1,0      | 90        | 6            | 4,9        | 7,0       | 10        | 3     |
| M10x1    | 1,0      | 90        | 7            | 5,5        | 9,0       | 10        | 4     |
| M12x1,5  | 1,5      | 100       | 9            | 7,0        | 10,5      | 15        | 5     |
| M14x1,5  | 1,5      | 100       | 11           | 9,0        | 12,5      | 15        | 5     |
| M16x1,5  | 1,5      | 100       | 12           | 9,0        | 14,5      | 15        | 5     |
| M18x1,5  | 1,5      | 110       | 14           | 11,0       | 16,5      | 17        | 5     |
| M20x1,5  | 1,5      | 125       | 16           | 12,0       | 18,5      | 17        | 5     |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 15 | 12 |
| M | 7  | 9  | 7  |
| K | 12 | 18 | 12 |
| N |    | 12 |    |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

|                                           |                                           |                                           |
|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| UNI                                       | UNI                                       | UNI                                       |
| E<br>1,5-2                                | E<br>1,5-2                                | E<br>1,5-2                                |
| ISO 2<br>6H                               | ISO 2<br>6H                               | ISO 3<br>6G                               |
| vap.                                      | TiN                                       | vap.                                      |
|                                           |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |

22 441 ...

EUR  
U0

|       |     |
|-------|-----|
| 65,18 | 040 |
| 65,18 | 062 |
| 65,18 | 050 |

22 555 ...

EUR  
U0

|        |     |
|--------|-----|
| 59,61  | 080 |
| 64,28  | 100 |
| 73,52  | 120 |
| 94,88  | 140 |
| 112,82 | 160 |

22 556 ...

EUR  
U0

|        |     |
|--------|-----|
| 76,39  | 080 |
| 97,73  | 100 |
| 112,05 | 120 |
| 143,17 | 140 |
| 150,92 | 160 |

22 490 ...

EUR  
U0

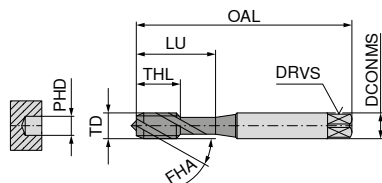
|        |     |
|--------|-----|
| 65,18  | 080 |
| 71,84  | 100 |
| 78,98  | 120 |
| 104,10 | 140 |
| 124,10 | 160 |
| 143,17 | 180 |
| 163,91 | 200 |

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ CNC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości

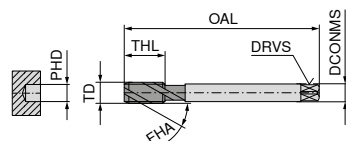
CavTap

MF



DIN 371 ze wzmocnionym chwytem

| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|---------|------|-----|--------|------|-----|-----|----|-------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |       |
| M4x0,5  | 0,50 | 63  | 4,5    | 3,4  | 3,5 | 5   | 21 | 3     |
| M5x0,5  | 0,50 | 70  | 6,0    | 4,9  | 4,5 | 5   | 25 | 3     |
| M6x0,5  | 0,50 | 80  | 6,0    | 4,9  | 5,5 | 5   | 30 | 3     |
| M6x0,75 | 0,75 | 80  | 6,0    | 4,9  | 5,2 | 8   | 30 | 3     |



DIN 374 ze zwężonym chwytem

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|----------|------|-----|--------|------|------|-----|-------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M6x0,75  | 0,75 | 80  | 4,5    | 3,4  | 5,2  | 8   | 3     |
| M8x0,75  | 0,75 | 80  | 6,0    | 4,9  | 7,2  | 8   | 3     |
| M8x1     | 1,00 | 90  | 6,0    | 4,9  | 7,0  | 10  | 3     |
| M10x0,75 | 0,75 | 90  | 7,0    | 5,5  | 9,2  | 10  | 4     |
| M10x1    | 1,00 | 90  | 7,0    | 5,5  | 9,0  | 10  | 3     |
| M10x1    | 1,00 | 90  | 7,0    | 5,5  | 9,0  | 10  | 4     |
| M10x1,25 | 1,25 | 100 | 7,0    | 5,5  | 8,8  | 16  | 3     |
| M12x1    | 1,00 | 100 | 9,0    | 7,0  | 11,0 | 11  | 4     |
| M12x1,25 | 1,25 | 100 | 9,0    | 7,0  | 10,8 | 15  | 4     |
| M12x1,5  | 1,50 | 100 | 9,0    | 7,0  | 10,5 | 15  | 4     |
| M12x1,5  | 1,50 | 100 | 9,0    | 7,0  | 10,5 | 15  | 5     |
| M14x1,5  | 1,50 | 100 | 11,0   | 9,0  | 12,5 | 15  | 4     |
| M14x1,5  | 1,50 | 100 | 11,0   | 9,0  | 12,5 | 15  | 5     |
| M16x1,5  | 1,50 | 100 | 12,0   | 9,0  | 14,5 | 15  | 4     |
| M16x1,5  | 1,50 | 100 | 12,0   | 9,0  | 14,5 | 15  | 5     |
| M18x1,5  | 1,50 | 110 | 14,0   | 11,0 | 16,5 | 17  | 4     |
| M18x1,5  | 1,50 | 110 | 14,0   | 11,0 | 16,5 | 17  | 5     |
| M20x1,5  | 1,50 | 125 | 16,0   | 12,0 | 18,5 | 17  | 4     |
| M20x1,5  | 1,50 | 125 | 16,0   | 12,0 | 18,5 | 17  | 5     |
| M22x1,5  | 1,50 | 125 | 18,0   | 14,5 | 20,5 | 17  | 4     |
| M24x1,5  | 1,50 | 140 | 18,0   | 14,5 | 22,5 | 20  | 5     |
| M26x1,5  | 1,50 | 140 | 18,0   | 14,5 | 24,5 | 20  | 5     |
| M28x1,5  | 1,50 | 140 | 20,0   | 16,0 | 26,5 | 20  | 5     |
| M30x1,5  | 1,50 | 150 | 22,0   | 18,0 | 28,5 | 22  | 6     |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 15 | 15 |
| M | 7  | 9  | 9  | 9  |
| K | 12 | 18 | 18 | 18 |
| N |    | 12 | 12 | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

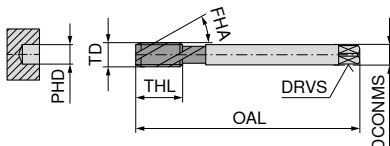
| UNI                                       | UNI                                       | UNI CNC                                   | UNI CNC                                   |
|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| C<br>2-3                                  | C<br>2-3                                  | E<br>1,5-2                                | E<br>1,5-2                                |
| ISO 2<br>6H                               | ISO 2<br>6H                               | 7G                                        | ISO 2<br>6H                               |
| vap.                                      | TiN                                       | TiN GS                                    | TiN GS                                    |
|                                           |                                           |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 45°<br>≤ 1100 N/mm²<br>≤ 3xD |
| 22 202 ...                                |                                           |                                           | 22 548 ...                                |
| EUR<br>U0                                 |                                           |                                           | EUR<br>U0                                 |
| 65,18 040                                 |                                           |                                           | 75,47 050                                 |
| 59,61 050                                 |                                           |                                           | 75,47 060                                 |
| 65,18 060                                 |                                           |                                           | 75,47 062                                 |
| 65,18 062                                 |                                           |                                           |                                           |

## Otwór nieprzelotowy – gwintownik maszynowy

▲ LH = do gwintów lewoskrętnych

CavTap

MF

ST  
LHC  
2-3ISO 2  
6H

DIN 374 ze zwężonym chwytem

HSS-E  
FHA 42°  
≤ 750 N/mm²  
≤ 3xD

22 601 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M8x1     | 1,0      | 90        | 6            | 4,9        | 7,0       | 10        | 3     |
| M10x1    | 1,0      | 90        | 7            | 5,5        | 9,0       | 10        | 3     |
| M12x1    | 1,0      | 100       | 9            | 7,0        | 11,0      | 11        | 4     |
| M14x1,5  | 1,5      | 100       | 11           | 9,0        | 12,5      | 15        | 4     |
| M16x1,5  | 1,5      | 100       | 12           | 9,0        | 14,5      | 15        | 4     |
| M18x1,5  | 1,5      | 110       | 14           | 11,0       | 16,5      | 17        | 4     |
| M20x1,5  | 1,5      | 125       | 16           | 12,0       | 18,5      | 17        | 4     |

EUR  
U0

082

94,88

100

97,73

119,33

120

128,99

140

153,54

160

178,35

180

208,14

200

|   |    |
|---|----|
| P | 12 |
| M |    |
| K | 12 |
| N | 12 |
| S |    |
| H |    |
| O |    |

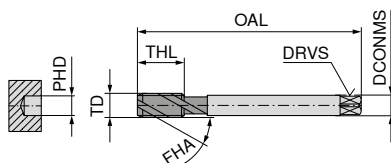
Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

CavTap  
SL

MF

ST

C  
2-3ISO 2  
6H

DIN 374 ze zwężonym chwytem

HSS-E  
FHA 15°  
≤ 750 N/mm²  
≤ 2xD

22 182 ...

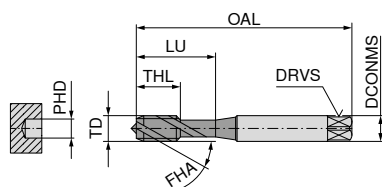
| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki | EUR    |     |
|----------|------|-----|--------|------|------|-----|-------|--------|-----|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |       | U0     |     |
| M6x0,75  | 0,75 | 80  | 4,5    | 3,4  | 5,2  | 13  | 3     | 59,85  | 062 |
| M8x0,75  | 0,75 | 80  | 6,0    | 4,9  | 7,2  | 14  | 3     | 60,38  | 082 |
| M8x1     | 1,00 | 90  | 6,0    | 4,9  | 7,0  | 17  | 3     | 55,19  | 084 |
| M9x1     | 1,00 | 90  | 7,0    | 5,5  | 8,0  | 17  | 3     | 81,99  | 090 |
| M10x0,75 | 0,75 | 90  | 7,0    | 5,5  | 9,2  | 18  | 3     | 96,15  | 100 |
| M10x1    | 1,00 | 90  | 7,0    | 5,5  | 9,0  | 18  | 3     | 58,16  | 102 |
| M10x1,25 | 1,25 | 100 | 7,0    | 5,5  | 8,8  | 22  | 3     | 82,90  | 104 |
| M11x1    | 1,00 | 90  | 8,0    | 6,2  | 10,0 | 18  | 3     | 92,14  | 110 |
| M12x1    | 1,00 | 100 | 9,0    | 7,0  | 11,0 | 18  | 3     | 71,18  | 120 |
| M12x1,25 | 1,25 | 100 | 9,0    | 7,0  | 10,8 | 22  | 3     | 92,14  | 122 |
| M12x1,5  | 1,50 | 100 | 9,0    | 7,0  | 10,5 | 22  | 3     | 67,92  | 124 |
| M14x1    | 1,00 | 100 | 11,0   | 9,0  | 13,0 | 18  | 4     | 93,96  | 140 |
| M14x1,5  | 1,50 | 100 | 11,0   | 9,0  | 12,5 | 22  | 3     | 91,50  | 144 |
| M15x1    | 1,00 | 100 | 12,0   | 9,0  | 14,0 | 18  | 4     | 123,26 | 150 |
| M16x1    | 1,00 | 100 | 12,0   | 9,0  | 15,0 | 18  | 4     | 110,74 | 160 |
| M16x1,5  | 1,50 | 100 | 12,0   | 9,0  | 14,5 | 22  | 3     | 108,00 | 162 |
| M18x1    | 1,00 | 110 | 14,0   | 11,0 | 17,0 | 20  | 4     | 152,24 | 180 |
| M18x1,5  | 1,50 | 110 | 14,0   | 11,0 | 16,5 | 25  | 4     | 140,55 | 182 |
| M18x2    | 2,00 | 125 | 14,0   | 11,0 | 16,0 | 26  | 3     | 222,56 | 184 |
| M20x1    | 1,00 | 125 | 16,0   | 12,0 | 19,0 | 20  | 4     | 154,97 | 200 |
| M20x1,5  | 1,50 | 125 | 16,0   | 12,0 | 18,5 | 25  | 4     | 139,24 | 202 |
| M20x2    | 2,00 | 140 | 16,0   | 12,0 | 18,0 | 27  | 3     | 190,02 | 204 |
| M22x1    | 1,00 | 125 | 18,0   | 14,5 | 21,0 | 20  | 4     | 203,13 | 220 |
| M22x1,5  | 1,50 | 125 | 18,0   | 14,5 | 20,5 | 25  | 4     | 157,48 | 222 |
| M22x2    | 2,00 | 140 | 18,0   | 14,5 | 20,0 | 27  | 4     | 193,84 | 224 |
| M24x1    | 1,00 | 140 | 18,0   | 14,5 | 23,0 | 20  | 5     | 212,08 | 240 |
| M24x1,5  | 1,50 | 140 | 18,0   | 14,5 | 22,5 | 27  | 4     | 171,78 | 242 |
| M24x2    | 2,00 | 140 | 18,0   | 14,5 | 22,0 | 27  | 4     | 200,40 | 244 |
| M25x1,5  | 1,50 | 140 | 18,0   | 14,5 | 23,5 | 28  | 4     | 286,35 | 252 |
| M27x1,5  | 1,50 | 140 | 20,0   | 16,0 | 25,5 | 28  | 4     | 248,55 | 270 |
| M27x2    | 2,00 | 140 | 20,0   | 16,0 | 25,0 | 28  | 4     | 281,10 | 272 |
| M28x2    | 2,00 | 140 | 20,0   | 16,0 | 26,0 | 28  | 4     | 327,95 | 282 |
| M30x1,5  | 1,50 | 150 | 22,0   | 18,0 | 28,5 | 28  | 5     | 285,04 | 302 |
| M30x2    | 2,00 | 150 | 22,0   | 18,0 | 28,0 | 28  | 4     | 301,97 | 304 |
| M32x1,5  | 1,50 | 150 | 22,0   | 18,0 | 30,5 | 28  | 6     | 327,95 | 320 |
| M33x2    | 2,00 | 160 | 25,0   | 20,0 | 31,0 | 30  | 4     | 396,85 | 332 |
| M34x1,5  | 1,50 | 170 | 28,0   | 22,0 | 32,5 | 30  | 6     | 400,91 | 340 |
| M36x2    | 2,00 | 170 | 28,0   | 22,0 | 34,0 | 30  | 5     | 504,86 | 362 |
| M36x3    | 3,00 | 200 | 28,0   | 22,0 | 33,0 | 42  | 4     | 473,63 | 364 |
| M40x1,5  | 1,50 | 170 | 32,0   | 24,0 | 38,5 | 30  | 6     | 497,23 | 400 |
| M42x2    | 2,00 | 170 | 32,0   | 24,0 | 40,0 | 30  | 6     | 601,19 | 422 |
| M42x3    | 3,00 | 200 | 32,0   | 24,0 | 39,0 | 45  | 4     | 636,35 | 424 |
| M45x1,5  | 1,50 | 180 | 36,0   | 29,0 | 43,5 | 32  | 6     | 588,19 | 450 |
| M48x2    | 2,00 | 190 | 36,0   | 29,0 | 46,0 | 32  | 6     | 829,00 | 482 |
| M48x3    | 3,00 | 225 | 36,0   | 29,0 | 45,0 | 50  | 5     | 841,99 | 484 |
| P        |      |     |        |      |      |     |       |        | 12  |
| M        |      |     |        |      |      |     |       |        |     |
| K        |      |     |        |      |      |     |       |        | 12  |
| N        |      |     |        |      |      |     |       |        | 22  |
| S        |      |     |        |      |      |     |       |        |     |
| H        |      |     |        |      |      |     |       |        |     |
| O        |      |     |        |      |      |     |       |        |     |

Prędkość skrawania  $v_c$  (m/min.)

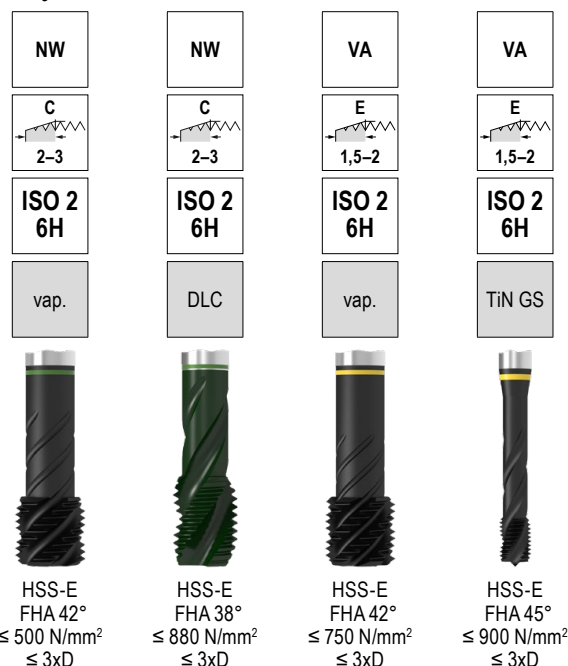
## Otwór nieprzelotowy – gwintownik maszynowy prawy

CavTap

MF



DIN 371 ze wzmocnionym chwytem



22 176 ...

| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|---------|------|-----|--------|------|-----|-----|----|-------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |       |
| M4x0,5  | 0,50 | 63  | 4,5    | 3,4  | 3,5 | 5   | 21 | 3     |
| M5x0,5  | 0,50 | 70  | 6,0    | 4,9  | 4,5 | 5   | 25 | 3     |
| M6x0,5  | 0,50 | 80  | 6,0    | 4,9  | 5,5 | 5   | 30 | 3     |
| M6x0,75 | 0,75 | 80  | 6,0    | 4,9  | 5,2 | 8   | 30 | 3     |

EUR

U0

99,53

76,39

76,39

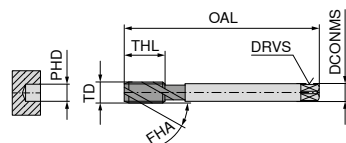
76,39

040

050

060

062



DIN 374 ze zwężonym chwytem

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|----------|------|-----|--------|------|------|-----|-------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M8x0,75  | 0,75 | 80  | 6      | 4,9  | 7,2  | 8   | 3     |
| M8x1     | 1,00 | 90  | 6      | 4,9  | 7,0  | 10  | 3     |
| M10x1    | 1,00 | 90  | 7      | 5,5  | 9,0  | 10  | 3     |
| M10x1    | 1,00 | 90  | 7      | 5,5  | 9,0  | 10  | 4     |
| M10x1,25 | 1,25 | 100 | 7      | 5,5  | 8,8  | 16  | 3     |
| M12x1    | 1,00 | 100 | 9      | 7,0  | 11,0 | 11  | 4     |
| M12x1,25 | 1,25 | 100 | 9      | 7,0  | 10,8 | 15  | 4     |
| M12x1,5  | 1,50 | 100 | 9      | 7,0  | 10,5 | 15  | 4     |
| M12x1,5  | 1,50 | 100 | 9      | 7,0  | 10,5 | 15  | 5     |
| M14x1    | 1,00 | 100 | 11     | 9,0  | 13,0 | 11  | 4     |
| M14x1,25 | 1,25 | 100 | 11     | 9,0  | 12,8 | 15  | 4     |
| M14x1,5  | 1,50 | 100 | 11     | 9,0  | 12,5 | 15  | 4     |
| M14x1,5  | 1,50 | 100 | 11     | 9,0  | 12,5 | 15  | 5     |
| M16x1    | 1,00 | 100 | 12     | 9,0  | 15,0 | 12  | 4     |
| M16x1,5  | 1,50 | 100 | 12     | 9,0  | 14,5 | 15  | 4     |
| M16x1,5  | 1,50 | 100 | 12     | 9,0  | 14,5 | 15  | 5     |
| M18x1,5  | 1,50 | 110 | 14     | 11,0 | 16,5 | 17  | 4     |
| M18x1,5  | 1,50 | 110 | 14     | 11,0 | 16,5 | 17  | 5     |
| M20x1,5  | 1,50 | 125 | 16     | 12,0 | 18,5 | 17  | 4     |
| M20x1,5  | 1,50 | 125 | 16     | 12,0 | 18,5 | 17  | 5     |
| M26x1,5  | 1,50 | 140 | 18     | 14,5 | 24,5 | 20  | 6     |
| M28x1,5  | 1,50 | 140 | 20     | 16,0 | 26,5 | 20  | 6     |
| M30x1,5  | 1,50 | 150 | 22     | 18,0 | 28,5 | 22  | 6     |

22 188 ...

EUR

U0

59,61

62,07

75,87

68,33

97,73

107,23

150,92

140,55

1081

100

120

122

140

160

180

200

22 462 ...

EUR

U0

70,89

76,55

101,99

91,86

113,56

90,64

117,43

118,63

116,10

135,31

133,99

14000

14200

16000

16200

108000

10200

12000

12200

12400

14000

14200

16000

16200

22 189 ...

EUR

U0

59,61

69,22

101,99

78,32

110,74

123,26

148,88

114,64

158,79

308,40

360,50

356,56

082

100

120

124

140

160

200

260

280

300

22 177 ...

EUR

U0

80,29

97,07

110,74

128,15

123,26

157,48

183,59

223,87

277,29

082

084

102

120

124

144

162

182

202

|   |    |    |    |
|---|----|----|----|
| P | 15 | 8  | 10 |
| M |    | 6  | 8  |
| K |    |    |    |
| N | 22 | 15 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)



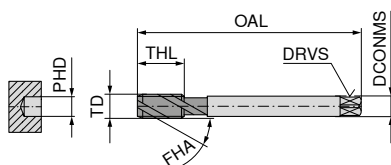
## Otwór nieprzelotowy – gwintownik maszynowy prawy

MF

UNI

C  
2-3ISO 2  
6H

TiN



DIN 374 ze zwężonym chwytem

HSS-PM  
FHA 40°  
≤ 1000 N/mm²  
≤ 2,5xD

23 047 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M8x1     | 1,00     | 90        | 6            | 4,9        | 7,0       | 10        | 35       | 3     |
| M10x1    | 1,00     | 90        | 7            | 5,5        | 9,0       | 10        | 35       | 4     |
| M10x1,25 | 1,25     | 100       | 7            | 5,5        | 8,8       | 16        | 39       | 4     |
| M12x1    | 1,00     | 100       | 9            | 7,0        | 11,0      | 11        | 40       | 4     |
| M12x1,25 | 1,25     | 100       | 9            | 7,0        | 10,8      | 15        | 40       | 5     |
| M12x1,5  | 1,50     | 100       | 9            | 7,0        | 10,5      | 15        | 40       | 5     |
| M14x1    | 1,00     | 100       | 11           | 9,0        | 12,8      | 11        | 40       | 4     |
| M14x1,5  | 1,50     | 100       | 11           | 9,0        | 12,5      | 15        | 40       | 5     |
| M16x1,5  | 1,50     | 100       | 12           | 9,0        | 14,5      | 15        | 44       | 5     |
| M18x1,5  | 1,50     | 110       | 14           | 11,0       | 16,5      | 17        | 44       | 5     |
| M20x1,5  | 1,50     | 125       | 16           | 12,0       | 18,5      | 17        | 44       | 5     |
| M22x1,5  | 1,50     | 125       | 18           | 14,5       | 20,5      | 17        | 44       | 5     |
| M24x1,5  | 1,50     | 140       | 18           | 14,5       | 22,5      | 20        | 48       | 5     |
| M24x2    | 2,00     | 140       | 18           | 14,5       | 22,0      | 20        | 48       | 5     |

EUR

T9

26,01

081

33,91

102

33,05

104

38,58

120

42,04

122

37,36

121

45,14

140

44,26

144

57,33

162

74,59

182

85,07

202

93,70

222

95,43

242

111,10

244

P

15

M

9

K

18

N

12

S

H

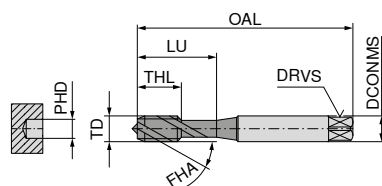
O

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ NC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości

MF

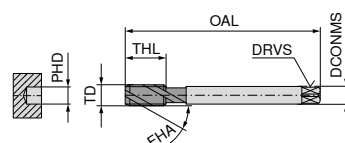


DIN 371 ze wzmocnionym chwytem

| FE                                         | UNI NC                                    | UNI                                         | UNI                                         |
|--------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|
|                                            |                                           |                                             |                                             |
| ISO 2 6H                                   | ISO 2 6H                                  | ISO 2 6H                                    | ISO 2 6H                                    |
|                                            | TiN GS                                    | vap.                                        | TiN                                         |
|                                            |                                           |                                             |                                             |
| HSS-E<br>FHA 35°<br>≤ 850 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 45°<br>≤ 1000 N/mm²<br>≤ 3xD | HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD | HSS-E<br>FHA 35°<br>≤ 1000 N/mm²<br>≤ 2,5xD |

| TD      | TP   | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|---------|------|-----|--------|------|-----|-----|----|-------|
| mm      | mm   | mm  | mm     | mm   | mm  | mm  | mm |       |
| M4x0,5  | 0,50 | 63  | 4,5    | 3,4  | 3,5 | 5   | 21 | 3     |
| M5x0,5  | 0,50 | 70  | 6,0    | 4,9  | 4,5 | 5   | 25 | 3     |
| M6x0,5  | 0,50 | 80  | 6,0    | 4,9  | 5,5 | 5   | 30 | 3     |
| M6x0,75 | 0,75 | 80  | 6,0    | 4,9  | 5,2 | 8   | 30 | 3     |

| 23 144 ... | 23 146 ... |
|------------|------------|
| EUR T9     | EUR T9     |
| 18,74 040  | 27,25 040  |
| 18,74 050  | 27,25 050  |
| 20,47 060  | 31,69 060  |
| 19,98 062  | 31,69 062  |



DIN 374 ze zwężonym chwytem

| TD       | TP   | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|----------|------|-----|--------|------|------|-----|-------|
| mm       | mm   | mm  | mm     | mm   | mm   | mm  |       |
| M4x0,5   | 0,50 | 63  | 2,8    | 2,1  | 3,5  | 5   | 3     |
| M5x0,5   | 0,50 | 70  | 3,5    | 2,7  | 4,5  | 5   | 3     |
| M6x0,75  | 0,75 | 80  | 4,5    | 3,4  | 5,2  | 8   | 3     |
| M8x0,5   | 0,50 | 80  | 6,0    | 8,0  | 7,5  | 6   | 3     |
| M8x0,75  | 0,75 | 80  | 6,0    | 4,9  | 7,2  | 8   | 3     |
| M8x1     | 1,00 | 90  | 6,0    | 4,9  | 7,0  | 10  | 3     |
| M10x0,75 | 0,75 | 90  | 7,0    | 5,5  | 9,2  | 10  | 4     |
| M10x1    | 1,00 | 90  | 7,0    | 5,5  | 9,0  | 10  | 3     |
| M10x1    | 1,00 | 90  | 7,0    | 5,5  | 9,0  | 10  | 4     |
| M10x1,25 | 1,25 | 100 | 7,0    | 5,5  | 8,8  | 16  | 3     |
| M12x1    | 1,00 | 100 | 9,0    | 7,0  | 11,0 | 11  | 4     |
| M12x1,25 | 1,25 | 100 | 9,0    | 7,0  | 10,8 | 15  | 4     |
| M12x1,5  | 1,50 | 100 | 9,0    | 7,0  | 10,5 | 15  | 4     |
| M12x1,5  | 1,50 | 100 | 9,0    | 7,0  | 10,5 | 15  | 5     |
| M14x1    | 1,00 | 100 | 11,0   | 9,0  | 13,0 | 11  | 4     |
| M14x1,5  | 1,50 | 100 | 11,0   | 9,0  | 12,5 | 15  | 4     |
| M14x1,5  | 1,50 | 100 | 11,0   | 9,0  | 12,5 | 15  | 5     |
| M16x1    | 1,00 | 100 | 12,0   | 9,0  | 15,0 | 12  | 4     |
| M16x1,5  | 1,50 | 100 | 12,0   | 9,0  | 14,5 | 15  | 4     |
| M16x1,5  | 1,50 | 100 | 12,0   | 9,0  | 14,5 | 15  | 5     |
| M18x1,5  | 1,50 | 110 | 14,0   | 11,0 | 16,5 | 17  | 4     |
| M18x1,5  | 1,50 | 110 | 14,0   | 11,0 | 16,5 | 17  | 5     |
| M20x1,5  | 1,50 | 125 | 16,0   | 12,0 | 18,5 | 17  | 4     |
| M20x1,5  | 1,50 | 125 | 16,0   | 12,0 | 18,5 | 17  | 5     |
| M22x1,5  | 1,50 | 125 | 18,0   | 14,5 | 20,5 | 17  | 4     |
| M24x1,5  | 1,50 | 140 | 18,0   | 14,5 | 22,5 | 20  | 5     |

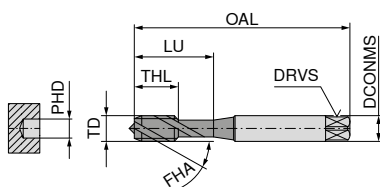
| 23 243 ... | 23 149 ... | 23 145 ... | 23 147 ... |
|------------|------------|------------|------------|
| EUR T9     | EUR T9     | EUR T9     | EUR T9     |
|            |            | 18,26 040  |            |
|            |            | 18,26 050  |            |
|            |            | 19,48 062  |            |
| 54,01 080  |            |            |            |
| 28,12 082  | 49,43 082  | 22,07 082  | 33,79 082  |
| 26,38 084  | 46,35 084  | 16,15 084  | 31,69 084  |
| 59,18 100  |            | 35,51 100  | 51,53 100  |
| 30,95 102  |            | 16,90 102  | 35,51 102  |
|            | 54,50 102  |            |            |
| 51,17 104  |            | 18,74 104  | 44,89 104  |
| 35,64 120  | 62,03 120  | 22,70 120  | 41,67 120  |
| 57,46 122  |            | 26,76 122  | 50,55 122  |
| 34,28 124  |            | 19,98 124  | 40,20 124  |
|            | 58,82 124  |            |            |
| 57,46 140  |            | 29,84 140  | 54,37 140  |
| 42,16 144  |            | 27,13 144  | 50,55 144  |
|            | 75,59 144  |            |            |
| 67,56 160  |            | 32,05 160  | 59,68 160  |
| 53,77 162  |            | 31,07 162  | 59,68 162  |
|            | 84,21 162  |            |            |
|            | 106,77 182 | 43,02 182  | 69,54 182  |
|            |            | 39,57 202  | 88,53 202  |
|            | 139,36 202 |            |            |
| 89,88 222  |            | 58,82 222  | 98,40 222  |
| 104,82 242 |            | 64,11 242  | 105,05 242 |

|   |    |    |    |    |
|---|----|----|----|----|
| P | 12 | 15 | 12 | 15 |
| M |    | 9  | 7  | 9  |
| K | 12 | 18 | 12 | 18 |
| N | 22 | 12 |    | 12 |
| S |    |    |    |    |
| H |    |    |    |    |
| O |    |    |    |    |

Prędkość skrawania v<sub>c</sub> (m/min.)

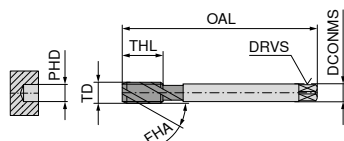
## Otwór nieprzelotowy – gwintownik maszynowy prawy

MF



DIN 371 ze wzmocnionym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M5x0,5   | 0,50     | 70        | 6            | 4,9        | 4,5       | 5         | 25       | 3     |
| M6x0,75  | 0,75     | 80        | 6            | 4,9        | 5,2       | 8         | 30       | 3     |



DIN 374 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M8x0,75  | 0,75     | 80        | 6            | 4,9        | 7,2       | 8         | 3     |
| M8x1     | 1,00     | 90        | 6            | 4,9        | 7,0       | 10        | 3     |
| M10x1    | 1,00     | 90        | 7            | 5,5        | 9,0       | 10        | 4     |
| M12x1    | 1,00     | 100       | 9            | 7,0        | 11,0      | 11        | 4     |
| M12x1,5  | 1,50     | 100       | 9            | 7,0        | 10,5      | 15        | 5     |
| M14x1,5  | 1,50     | 100       | 11           | 9,0        | 12,5      | 15        | 5     |
| M16x1,5  | 1,50     | 100       | 12           | 9,0        | 14,5      | 15        | 5     |

|   |    |
|---|----|
| P | 10 |
| M | 8  |
| K |    |
| N | 24 |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

VA

E  
1,5-2ISO 2  
6H

TiN

HSS-E  
FHA 45°  
≤ 1200 N/mm²  
≤ 3xD

23 442 ...

EUR  
T9

32,93

050

38,73

062

23 443 ...

EUR  
T9

41,31

082

38,73

084

43,52

102

51,05

120

49,08

124

62,27

144

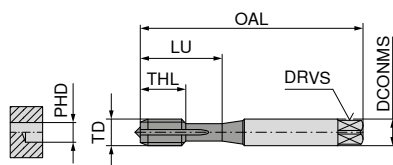
71,51

162

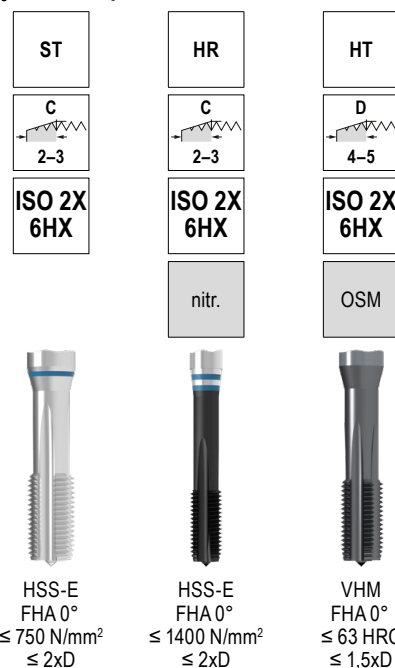
## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

DuoTap

MF



DIN 371 ze wzmocnionym chwytem

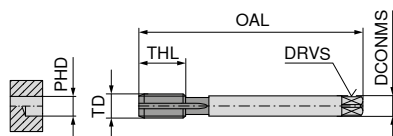


| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki | 22 144 ...<br>EUR<br>U0 | 22 146 ...<br>EUR<br>U0 | 22 817 ...<br>EUR<br>U0 |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|-------------------------|-------------------------|-------------------------|
| M4x0,5   | 0,50     | 63        | 4,5          | 3,4        | 3,5       | 10        | 21       | 3     | 50,86                   | 040                     |                         |
| M5x0,5   | 0,50     | 70        | 6,0          | 4,9        | 4,5       | 11        | 25       | 3     | 50,86                   | 050                     |                         |
| M6x0,5   | 0,50     | 80        | 6,0          | 4,9        | 5,5       | 13        | 30       | 3     | 50,86                   | 060                     |                         |
| M6x0,75  | 0,75     | 80        | 6,0          | 4,9        | 5,2       | 13        | 30       | 3     | 50,86                   | 062                     |                         |
| M8x1     | 1,00     | 90        | 8,0          | 6,2        | 7,0       | 17        | 35       | 3     | 50,86                   | 084                     |                         |
| M8x1     | 1,00     | 90        | 8,0          | 6,2        | 7,1       | 15        | 35       | 5     |                         |                         | 429,04                  |
| M10x1    | 1,00     | 90        | 10,0         | 8,0        | 9,0       | 18        | 35       | 4     | 50,86                   | 104                     |                         |
| M10x1    | 1,00     | 100       | 10,0         | 8,0        | 9,1       | 18        | 38       | 5     |                         |                         | 547,66                  |
| M12x1,5  | 1,50     | 110       | 12,0         | 9,0        | 10,6      | 21        | 41       | 5     |                         |                         | 634,68                  |
| M14x1,5  | 1,50     | 110       | 14,0         | 11,0       | 12,6      | 24        | 44       | 6     |                         |                         | 745,08                  |
| M16x1,5  | 1,50     | 110       | 16,0         | 12,0       | 14,6      | 24        | 44       | 6     |                         |                         | 847,00                  |
| P        |          |           |              |            |           |           |          |       | 12                      | 6                       |                         |
| M        |          |           |              |            |           |           |          |       |                         |                         |                         |
| K        |          |           |              |            |           |           |          |       | 12                      | 16                      |                         |
| N        |          |           |              |            |           |           |          |       | 22                      | 22                      |                         |
| S        |          |           |              |            |           |           |          |       |                         |                         |                         |
| H        |          |           |              |            |           |           |          |       |                         |                         | 2                       |
| O        |          |           |              |            |           |           |          |       |                         |                         |                         |

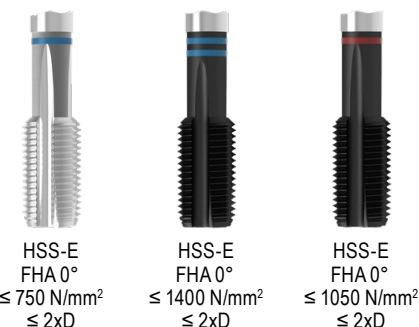
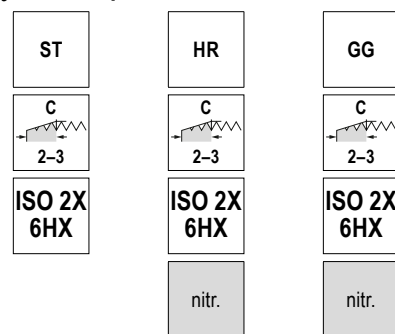
Prędkość skrawania  $v_c$  (m/min.)

DIN 374 na następnej stronie.

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe



DIN 374 ze zwężonym chwytem



| 22 171 ... | 22 209 ... | 22 173 ... |
|------------|------------|------------|
| EUR U0     | EUR U0     | EUR U0     |
| 46,32 042  |            |            |
| 55,56 050  |            | 51,66 050  |
| 51,66 060  |            | 63,89 060  |
| 50,09 062  |            | 56,47 062  |
| 56,87 082  |            | 99,53 080  |
| 45,68 084  | 56,47 082  | 99,53 082  |
| 73,52 102  |            |            |
| 47,36 104  | 56,47 100  | 55,56 100  |
| 56,47 106  |            |            |
| 83,54 110  |            |            |
| 55,19 122  |            | 63,89 120  |
| 67,92 124  |            |            |
| 55,19 126  | 67,92 120  | 61,41 124  |
| 83,54 140  |            | 94,88 140  |
| 76,39 142  |            |            |
| 78,98 144  | 87,46 140  | 86,67 142  |
| 86,67 160  |            |            |
| 77,67 162  | 94,88 160  | 89,78 160  |
| 112,05 180 |            |            |
| 104,10 182 | 112,82 180 | 120,29 180 |
| 124,94 184 |            |            |
| 124,94 200 |            |            |
| 113,73 202 | 143,17 200 | 125,76 200 |
| 156,17 204 |            |            |
| 175,72 220 |            |            |
| 121,83 222 |            | 135,31 220 |
| 172,98 224 |            |            |
| 192,52 240 |            |            |
| 136,61 242 |            | 153,54 240 |
| 153,54 244 |            |            |
| 248,55 250 |            |            |
| 193,84 260 |            | 190,02 260 |
| 225,19 272 |            |            |
| 212,08 274 |            |            |
|            |            | 225,19 280 |
| 217,33 300 |            | 244,74 300 |
| 260,36 302 |            |            |

|   |    |    |    |
|---|----|----|----|
| P | 12 | 6  |    |
| M |    |    |    |
| K | 12 | 16 | 16 |
| N | 22 | 22 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

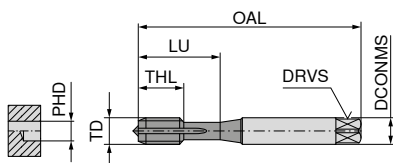
## Otwór przelotowy/ nieprzelotowy – gwintownik maszynowy

▲ ES = ekstrakrótki

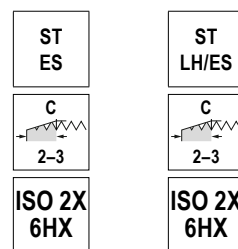
▲ LH = do gwintów lewoskrętnych; ES = ekstrakrótki

DuoTap

MF



DIN 2181 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xDHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xD

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M3x0,35  | 0,35     | 40        | 3,5          | 2,7        | 2,65      | 8         | 18       | 3     |
| M4x0,35  | 0,35     | 45        | 4,5          | 3,4        | 3,65      | 9         | 22       | 3     |
| M4x0,5   | 0,50     | 45        | 4,5          | 3,4        | 3,50      | 9         | 22       | 3     |
| M4,5x0,5 | 0,50     | 50        | 6,0          | 4,9        | 4,00      | 10        | 24       | 3     |
| M5x0,5   | 0,50     | 50        | 6,0          | 4,9        | 4,50      | 11        | 25       | 3     |
| M6x0,5   | 0,50     | 56        | 6,0          | 4,9        | 5,50      | 12        | 27       | 3     |
| M6x0,75  | 0,75     | 56        | 6,0          | 4,9        | 5,20      | 12        | 27       | 3     |
| M7x0,75  | 0,75     | 56        | 6,0          | 4,9        | 6,20      | 14        |          | 3     |
| M8x0,5   | 0,50     | 56        | 6,0          | 4,9        | 7,50      | 14        |          | 4     |
| M8x0,75  | 0,75     | 56        | 6,0          | 4,9        | 7,20      | 14        |          | 3     |
| M8x1     | 1,00     | 63        | 6,0          | 4,9        | 7,00      | 17        |          | 3     |
| M9x1     | 1,00     | 63        | 7,0          | 5,5        | 8,00      | 17        |          | 4     |
| M10x0,75 | 0,75     | 63        | 7,0          | 5,5        | 9,20      | 18        |          | 4     |
| M10x1    | 1,00     | 63        | 7,0          | 5,5        | 9,00      | 18        |          | 4     |
| M10x1,25 | 1,25     | 70        | 7,0          | 5,5        | 8,80      | 22        |          | 3     |
| M11x1    | 1,00     | 63        | 8,0          | 6,2        | 10,00     | 18        |          | 4     |
| M12x1    | 1,00     | 70        | 9,0          | 7,0        | 11,00     | 18        |          | 4     |
| M12x1,25 | 1,25     | 70        | 9,0          | 7,0        | 10,80     | 20        |          | 4     |
| M12x1,5  | 1,50     | 70        | 9,0          | 7,0        | 10,50     | 20        |          | 4     |
| M13x1    | 1,00     | 70        | 11,0         | 9,0        | 12,00     | 18        |          | 4     |
| M14x1    | 1,00     | 70        | 11,0         | 9,0        | 13,00     | 18        |          | 4     |
| M14x1,25 | 1,25     | 70        | 11,0         | 9,0        | 12,80     | 20        |          | 4     |
| M14x1,5  | 1,50     | 70        | 11,0         | 9,0        | 12,50     | 20        |          | 4     |
| M15x1    | 1,00     | 70        | 12,0         | 9,0        | 14,00     | 18        |          | 5     |
| M16x1    | 1,00     | 70        | 12,0         | 9,0        | 15,00     | 18        |          | 5     |
| M16x1,5  | 1,50     | 70        | 12,0         | 9,0        | 14,50     | 20        |          | 4     |
| M18x1    | 1,00     | 80        | 14,0         | 11,0       | 17,00     | 18        |          | 5     |
| M18x1,5  | 1,50     | 80        | 14,0         | 11,0       | 16,50     | 22        |          | 4     |
| M18x2    | 2,00     | 80        | 14,0         | 11,0       | 16,00     | 22        |          | 4     |
| M20x1,5  | 1,50     | 80        | 16,0         | 12,0       | 18,50     | 22        |          | 4     |
| M20x2    | 2,00     | 80        | 16,0         | 12,0       | 18,00     | 22        |          | 4     |

|   |    |    |
|---|----|----|
| P | 12 | 12 |
| M |    |    |
| K | 12 | 12 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

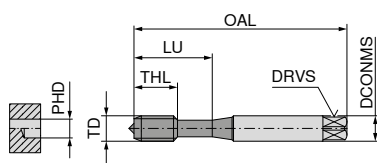
## Gwintownik maszynowy – wygniatak prawy

▲ SN = gwintownik wygniatający z rowkami smarowymi

▲ HML = z wlotowanymi listwami z węgla spiekanego dla wyższej prędkości skrawania

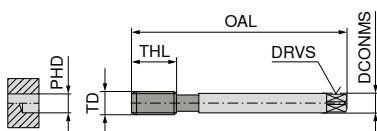
DuoForm

MF



DIN 2174 ze wzmocnionym chwytem

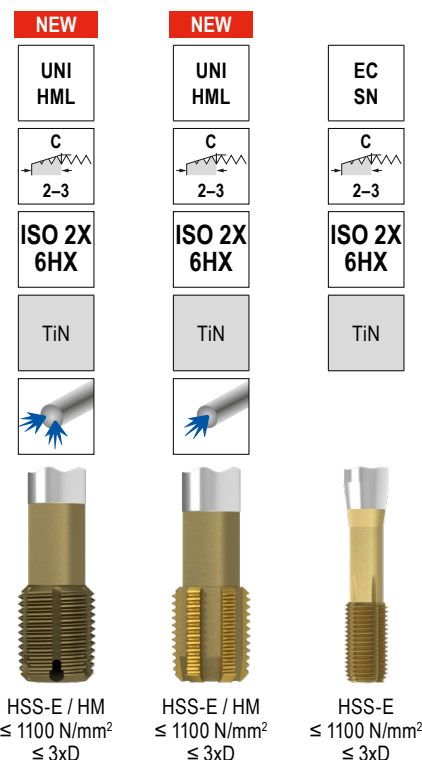
| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M4x0,5   | 0,50     | 63        | 4,5          | 3,4        | 3,8       | 10        | 21       | 4     |
| M5x0,5   | 0,50     | 70        | 6,0          | 4,9        | 4,8       | 11        | 25       | 4     |
| M6x0,5   | 0,50     | 80        | 6,0          | 4,9        | 5,8       | 13        | 30       | 5     |
| M6x0,75  | 0,75     | 80        | 6,0          | 4,9        | 5,7       | 13        | 30       | 4     |
| M8x0,75  | 0,75     | 80        | 8,0          | 6,2        | 7,7       | 14        | 30       | 5     |
| M8x1     | 1,00     | 90        | 8,0          | 6,2        | 7,6       | 17        | 35       | 5     |
| M10x1    | 1,00     | 90        | 10,0         | 8,0        | 9,6       | 18        | 35       | 5     |



DIN 2174 ze zwężonym chwytem

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12x1    | 1,0      | 100       | 9            | 7          | 11,60     | 18        | 6     |
| M12x1,5  | 1,5      | 100       | 9            | 7          | 11,35     | 13        |       |
| M12x1,5  | 1,5      | 100       | 9            | 7          | 11,35     | 22        | 6     |
| M14x1,5  | 1,5      | 100       | 11           | 9          | 13,35     | 22        | 6     |
| M16x1,5  | 1,5      | 100       | 12           | 9          | 15,35     | 18        |       |
| M16x1,5  | 1,5      | 100       | 12           | 9          | 15,35     | 22        | 6     |
| M20x1,5  | 1,5      | 125       | 16           | 12         | 19,35     | 25        | 6     |

| P | 30 | 30 | 18 |
|---|----|----|----|
| M | 20 | 20 | 10 |
| K | 30 | 30 | 10 |
| N | 40 | 40 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

22 205 ...

EUR  
U0040  
050  
060  
062  
080  
082  
100

| 22 474 ... | 22 474 ... | 22 197 ... |
|------------|------------|------------|
| EUR<br>U0  | EUR<br>U0  | EUR<br>U0  |
| 12000      | 12000      | 120        |
| 124        | 124        | 124        |
| 140        | 140        | 140        |
| 160        | 160        | 160        |
| 200        | 200        | 200        |

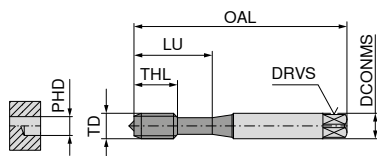
## Gwintownik maszynowy – wygniatak prawy

▲ SN = gwintownik wygniatający z rowkami smarowymi

MF

UNI  
SNC  
2-3ISO 2X  
6HX

TiN



DIN 2174 ze wzmocnionym chwytem

HSS-E  
≤ 850 N/mm<sup>2</sup>  
≤ 3xD

23 842 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| M4x0,5   | 0,50     | 63        | 4,5          | 3,4        | 3,80      | 10        | 21       | 4     |
| M5x0,5   | 0,50     | 70        | 6,0          | 4,9        | 4,80      | 11        | 25       | 4     |
| M6x0,5   | 0,50     | 80        | 6,0          | 4,9        | 5,80      | 13        | 30       | 5     |
| M8x1     | 1,00     | 90        | 8,0          | 6,2        | 7,60      | 17        | 35       | 5     |
| M10x1    | 1,00     | 90        | 10,0         | 8,0        | 9,60      | 18        | 35       | 5     |
| M10x1,25 | 1,25     | 100       | 10,0         | 8,0        | 9,45      | 18        | 39       | 5     |

EUR  
T9

040

53,14

050

47,83

060

53,38

084

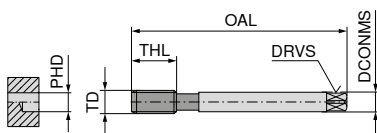
50,79

102

56,23

104

68,68



DIN 2174 ze zwężonym chwytem

23 843 ...

| TD<br>mm | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| M12x1,25 | 1,25     | 100       | 9            | 7          | 11,45     | 22        | 6     |
| M12x1,5  | 1,50     | 100       | 9            | 7          | 11,35     | 22        | 6     |
| M14x1,5  | 1,50     | 100       | 11           | 9          | 13,35     | 22        | 6     |
| M16x1,5  | 1,50     | 100       | 12           | 9          | 15,35     | 22        | 6     |

EUR  
T9

122

74,97

124

66,96

144

83,11

162

96,91

P

18

M

10

K

10

N

22

S

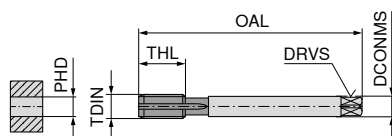
H

O

Prędkość skrawania v<sub>c</sub> (m/min.)



## Otwór przelotowy – gwintowniki maszynowe prawe



DIN 5156 ze zwężonym chwytem

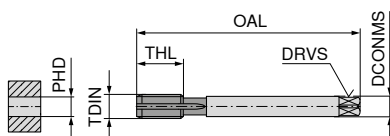
| UNI                                      | UNI                                      | ST                                      | NW                                      | VA                                      |
|------------------------------------------|------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
|                                          |                                          |                                         |                                         |                                         |
| ISO 228                                  | ISO 228                                  | ISO 228                                 | ISO 228                                 | ISO 228                                 |
| nitr. + vap.                             | TiN                                      |                                         | DLC                                     | nitr.                                   |
|                                          |                                          |                                         |                                         |                                         |
| HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 750 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 880 N/mm²<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 900 N/mm²<br>≤ 4xD |

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 22 632 ... |     | 22 630 ... |     | 22 346 ... |     | 22 467 ... |       | 22 352 ... |     |
|--------|----------|-----------|--------------|------------|-----------|-----------|-------|------------|-----|------------|-----|------------|-----|------------|-------|------------|-----|
|        |          |           |              |            |           |           |       | EUR<br>U0  |     | EUR<br>U0  |     | EUR<br>U0  |     | EUR<br>U0  |       | EUR<br>U0  |     |
| 1/8-28 | 0,907    | 90        | 7            | 5,5        | 8,80      | 18        | 3     | 72,48      | 012 | 97,73      | 012 | 54,91      | 012 | 72,26      | 01200 | 69,88      | 012 |
| 1/4-19 | 1,337    | 100       | 11           | 9,0        | 11,80     | 22        | 3     | 97,07      | 025 | 128,99     | 025 | 74,30      | 025 | 96,61      | 02500 | 91,50      | 025 |
| 3/8-19 | 1,337    | 100       | 12           | 9,0        | 15,25     | 22        | 3     | 121,00     | 037 | 150,92     | 037 | 89,14      | 037 | 123,98     | 03700 | 113,73     | 037 |
| 1/2-14 | 1,814    | 125       | 16           | 12,0       | 19,00     | 25        | 4     | 156,17     | 050 | 231,74     | 050 | 121,83     | 050 | 164,99     | 05000 | 150,92     | 050 |
| 3/4-14 | 1,814    | 140       | 20           | 16,0       | 24,50     | 28        | 4     | 248,55     | 075 |            |     | 195,27     | 075 | 261,43     | 07500 | 223,87     | 075 |
| 1-11   | 2,309    | 160       | 25           | 20,0       | 30,75     | 30        | 4     | 385,18     | 100 |            |     | 279,78     | 100 | 384,82     | 10000 | 342,26     | 100 |
| P      |          |           |              |            |           |           |       | 12         |     | 15         |     | 12         |     |            |       | 8          |     |
| M      |          |           |              |            |           |           |       | 7          |     | 9          |     |            |     |            |       | 6          |     |
| K      |          |           |              |            |           |           |       | 12         |     | 18         |     | 12         |     |            |       |            |     |
| N      |          |           |              |            |           |           |       |            |     | 12         |     | 22         |     | 15         |       | 22         |     |
| S      |          |           |              |            |           |           |       |            |     |            |     |            |     |            |       |            |     |
| H      |          |           |              |            |           |           |       |            |     |            |     |            |     |            |       |            |     |
| O      |          |           |              |            |           |           |       |            |     |            |     |            |     |            |       |            |     |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór przełotowy – gwintowniki maszynowe prawe

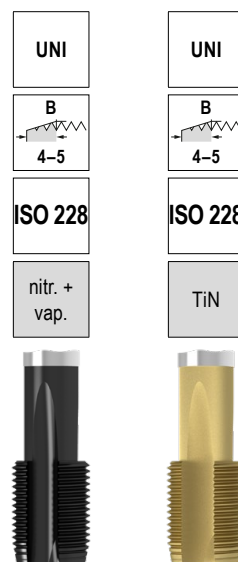
G



DIN 5156 ze zwężonym chwytem

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|--------|-------|-----|--------|------|-------|-----|-------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 1/8-28 | 0,907 | 90  | 7      | 5,5  | 8,80  | 18  | 3     |
| 1/4-19 | 1,337 | 100 | 11     | 9,0  | 11,80 | 22  | 3     |
| 3/8-19 | 1,337 | 100 | 12     | 9,0  | 15,25 | 22  | 3     |
| 1/2-14 | 1,814 | 125 | 16     | 12,0 | 19,00 | 25  | 4     |
| 3/4-14 | 1,814 | 140 | 20     | 16,0 | 24,50 | 28  | 4     |
| 1-11   | 2,309 | 160 | 25     | 20,0 | 30,75 | 30  | 4     |

|   |    |    |
|---|----|----|
| P | 12 | 15 |
| M | 7  | 9  |
| K | 12 | 18 |
| N |    | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 3xD

23 161 ...

EUR  
T919,11 012  
25,78 025  
31,57 037  
43,65 050  
85,46 075  
94,32 100

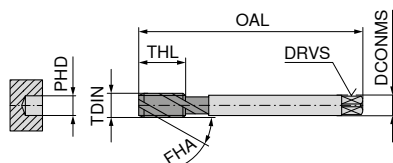
23 160 ...

EUR  
T935,27 012  
46,61 025  
54,87 037  
84,21 050  
110,24 075  
203,37 100

## Otwór nieprzelotowy – gwintownik maszynowy prawy

CavTap

G



DIN 5156 ze zwężonym chwytem

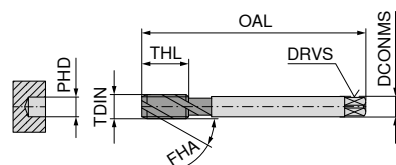
| UNI                                       | UNI                                       | UNI                                       | UNI                                       | UNI                                       |
|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                           |                                           |                                           |                                           |                                           |
| ISO 228                                   | ISO 228                                   | ISO 228                                   | ISO 228                                   | ISO 228 +0,05                             |
| vap.                                      | TiN                                       | vap.                                      | TiN                                       | vap.                                      |
|                                           |                                           |                                           |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |

| TDIN     | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki | 22 633 ... | 22 634 ... | 22 635 ... | 22 636 ... | 22 639 ... |
|----------|-------|-----|--------|------|-------|-----|-------|------------|------------|------------|------------|------------|
|          |       |     |        |      |       |     |       | EUR<br>U0  | EUR<br>U0  | EUR<br>U0  | EUR<br>U0  | EUR<br>U0  |
| 1/8-28   | 0,907 | 90  | 7      | 5,5  | 8,80  | 10  | 3     | 72,48      | 101,77     | 74,30      | 101,77     | 97,73      |
| 1/8-28   | 0,907 | 90  | 7      | 5,5  | 8,80  | 10  | 4     |            |            |            |            |            |
| 1/4-19   | 1,337 | 100 | 11     | 9,0  | 11,80 | 15  | 4     | 101,77     | 127,43     | 98,51      | 127,43     | 128,99     |
| 1/4-19   | 1,337 | 100 | 11     | 9,0  | 11,80 | 15  | 5     |            |            |            |            |            |
| 3/8-19   | 1,337 | 100 | 12     | 9,0  | 15,25 | 15  | 4     | 124,94     | 179,53     | 121,83     | 179,53     | 159,99     |
| 3/8-19   | 1,337 | 100 | 12     | 9,0  | 15,25 | 15  | 5     |            |            |            |            |            |
| 1/2-14   | 1,814 | 125 | 16     | 12,0 | 19,00 | 17  | 4     | 165,23     | 257,73     | 158,79     | 249,87     | 205,51     |
| 1/2-14   | 1,814 | 125 | 16     | 12,0 | 19,00 | 17  | 5     |            |            |            |            |            |
| 5/8-14   | 1,814 | 125 | 18     | 14,5 | 21,00 | 17  | 4     | 203,13     |            |            |            |            |
| 3/4-14   | 1,814 | 140 | 20     | 16,0 | 24,50 | 20  | 4     | 255,00     |            |            |            | 312,34     |
| 3/4-14   | 1,814 | 140 | 20     | 16,0 | 24,50 | 20  | 5     |            |            |            |            |            |
| 7/8-14   | 1,814 | 150 | 22     | 18,0 | 28,25 | 22  | 5     | 351,32     |            |            |            |            |
| 1-11     | 2,309 | 160 | 25     | 20,0 | 30,75 | 24  | 5     | 387,91     |            |            |            |            |
| 1-11     | 2,309 | 160 | 25     | 20,0 | 30,75 | 24  | 6     |            |            |            |            | 476,25     |
| 1 1/4-11 | 2,309 | 170 | 32     | 24,0 | 39,50 | 25  | 6     | 624,66     |            |            |            |            |
| 1 1/2-11 | 2,309 | 190 | 36     | 29,0 | 45,25 | 27  | 6     | 891,35     |            |            |            |            |
| P        |       |     |        |      |       |     |       | 12         | 15         | 12         | 15         | 12         |
| M        |       |     |        |      |       |     |       | 7          | 9          | 7          | 9          | 7          |
| K        |       |     |        |      |       |     |       | 12         | 18         | 12         | 18         | 12         |
| N        |       |     |        |      |       |     |       |            | 12         |            | 12         |            |
| S        |       |     |        |      |       |     |       |            |            |            |            |            |
| H        |       |     |        |      |       |     |       |            |            |            |            |            |
| O        |       |     |        |      |       |     |       |            |            |            |            |            |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

▲ CNC = do obróbki synchronicznej CNC przy użyciu uchwytu z kompensacją minimalnej długości



DIN 5156 ze zwężonym chwytem

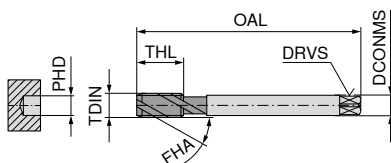
| UNI<br>CNC                                                                        | ST                                                                                | NW                                                                                  | VA                                                                                  | VA                                                                                  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| ISO 228                                                                           | ISO 228                                                                           | ISO 228                                                                             | ISO 228                                                                             | ISO 228                                                                             |
| TiN GS                                                                            |                                                                                   | DLC                                                                                 | vap.                                                                                | TiN GS                                                                              |
|  |  |  |  |  |
| HSS-E<br>FHA 45°<br>≤ 1100 N/mm²<br>≤ 3xD                                         | HSS-E<br>FHA 42°<br>≤ 750 N/mm²<br>≤ 3xD                                          | HSS-E<br>FHA 36°<br>≤ 880 N/mm²<br>≤ 2,5xD                                          | HSS-E<br>FHA 42°<br>≤ 900 N/mm²<br>≤ 3xD                                            | HSS-E<br>FHA 45°<br>≤ 900 N/mm²<br>≤ 3xD                                            |

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki | 22 624 ... |     | 22 354 ... |     | 22 463 ... |       | 22 355 ... |     | 22 358 ... |     |
|--------|----------|-----------|--------------|------------|-----------|-----------|-------|------------|-----|------------|-----|------------|-------|------------|-----|------------|-----|
|        |          |           |              |            |           |           |       | EUR<br>U0  |     | EUR<br>U0  |     | EUR<br>U0  |       | EUR<br>U0  |     | EUR<br>U0  |     |
| 1/8-28 | 0,907    | 90        | 7            | 5,5        | 8,80      | 10        | 3     |            |     | 62,07      | 012 | 80,40      | 01200 | 74,30      | 012 | 118,42     | 012 |
| 1/8-28 | 0,907    | 90        | 7            | 5,5        | 8,80      | 10        | 4     | 116,33     | 012 | 86,67      | 025 | 116,10     | 02500 | 98,51      | 025 | 153,54     | 025 |
| 1/4-19 | 1,337    | 100       | 11           | 9,0        | 11,80     | 15        | 4     | 152,24     | 025 | 105,94     | 037 | 138,40     | 03700 | 121,83     | 037 | 183,59     | 037 |
| 1/4-19 | 1,337    | 100       | 12           | 9,0        | 15,25     | 15        | 4     |            |     | 136,61     | 050 | 176,79     | 05000 | 154,97     | 050 | 277,29     | 050 |
| 3/8-19 | 1,337    | 100       | 12           | 9,0        | 15,25     | 15        | 5     | 180,84     | 037 | 217,33     | 075 | 281,81     | 07500 | 203,13     | 062 |            |     |
| 1/2-14 | 1,814    | 125       | 16           | 12,0       | 19,00     | 17        | 4     |            |     | 330,57     | 100 | 451,45     | 10000 | 260,36     | 075 |            |     |
| 1/2-14 | 1,814    | 125       | 16           | 12,0       | 19,00     | 17        | 5     | 273,36     | 050 |            |     |            |       | 382,67     | 100 |            |     |
| 5/8-14 | 1,814    | 125       | 18           | 14,5       | 21,00     | 17        | 5     |            |     |            |     |            |       |            |     |            |     |
| 3/4-14 | 1,814    | 140       | 20           | 16,0       | 24,50     | 20        | 4     |            |     |            |     |            |       |            |     |            |     |
| 3/4-14 | 1,814    | 140       | 20           | 16,0       | 24,50     | 20        | 5     |            |     |            |     |            |       |            |     |            |     |
| 1-11   | 2,309    | 160       | 25           | 20,0       | 30,75     | 24        | 5     |            |     |            |     |            |       |            |     |            |     |
| 1-11   | 2,309    | 160       | 25           | 20,0       | 30,75     | 24        | 6     |            |     |            |     |            |       |            |     |            |     |
| P      |          |           |              |            |           |           |       | 15         |     | 12         |     |            |       | 8          |     | 10         |     |
| M      |          |           |              |            |           |           |       | 9          |     |            |     |            |       | 6          |     | 8          |     |
| K      |          |           |              |            |           |           |       | 18         |     | 12         |     |            |       |            |     |            |     |
| N      |          |           |              |            |           |           |       | 12         |     | 22         |     | 15         |       | 22         |     | 22         |     |
| S      |          |           |              |            |           |           |       |            |     |            |     |            |       |            |     |            |     |
| H      |          |           |              |            |           |           |       |            |     |            |     |            |       |            |     |            |     |
| O      |          |           |              |            |           |           |       |            |     |            |     |            |       |            |     |            |     |

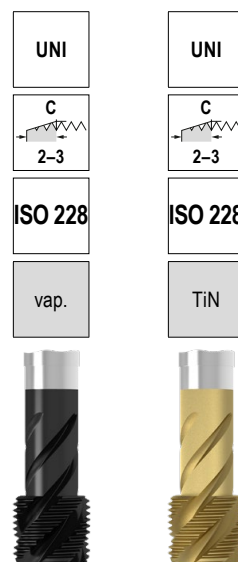
Prędkość skrawania v<sub>c</sub> (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

G



DIN 5156 ze zwężonym chwytem

HSS-E  
FHA 35°  
≤ 1100 N/mm²  
≤ 2,5xDHSS-E  
FHA 35°  
≤ 1100 N/mm²  
≤ 2,5xD

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|--------|-------|-----|--------|------|-------|-----|-------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 1/8-28 | 0,907 | 90  | 7      | 5,5  | 8,80  | 10  | 3     |
| 1/4-19 | 1,337 | 100 | 11     | 9,0  | 11,80 | 15  | 4     |
| 3/8-19 | 1,337 | 100 | 12     | 9,0  | 15,25 | 15  | 4     |
| 1/2-14 | 1,814 | 125 | 16     | 12,0 | 19,00 | 17  | 4     |
| 3/4-14 | 1,814 | 140 | 20     | 16,0 | 24,50 | 20  | 4     |
| 1-11   | 2,309 | 160 | 25     | 20,0 | 30,75 | 24  | 5     |

23 163 ...

EUR  
T919,98 012  
28,48 025  
41,43 037  
53,38 050  
81,86 075  
113,93 100

23 162 ...

EUR  
T936,75 012  
50,55 025  
59,68 037  
89,88 050  
115,41 075  
219,47 100

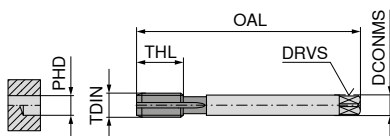
|   |    |    |
|---|----|----|
| P | 12 | 15 |
| M | 7  | 9  |
| K | 12 | 18 |
| N |    | 12 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

DuoTap

G



DIN 5156 ze zwężonym chwytem

ST

ISO 228  
XHSS-E  
FHA 0°  
≤ 750 N/mm²  
≤ 2xD

HR

ISO 228  
X

nitr.

HSS-E  
FHA 0°  
≤ 1400 N/mm²  
≤ 2xD

22 347 ...

EUR

U0

64,28

006

22 339 ...

EUR

U0

60,38

012

| TDIN     | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| 1/16-28  | 0,907    | 90        | 6            | 4,9        | 6,80      | 17        | 3     |
| 1/8-28   | 0,907    | 90        | 7            | 5,5        | 8,80      | 18        | 4     |
| 1/4-19   | 1,337    | 100       | 11           | 9,0        | 11,80     | 22        | 4     |
| 3/8-19   | 1,337    | 100       | 12           | 9,0        | 15,25     | 22        | 4     |
| 1/2-14   | 1,814    | 125       | 16           | 12,0       | 19,00     | 25        | 4     |
| 3/4-14   | 1,814    | 140       | 20           | 16,0       | 24,50     | 28        | 4     |
| 1-11     | 2,309    | 160       | 25           | 20,0       | 30,75     | 30        | 5     |
| 1 1/8-11 | 2,309    | 170       | 28           | 22,0       | 35,50     | 30        | 5     |
| 1 1/4-11 | 2,309    | 170       | 32           | 24,0       | 39,50     | 30        | 6     |
| 1 3/8-11 | 2,309    | 180       | 36           | 29,0       | 41,75     | 32        | 6     |
| 1 1/2-11 | 2,309    | 190       | 36           | 29,0       | 45,25     | 32        | 6     |
| 1 3/4-11 | 2,309    | 190       | 40           | 32,0       | 51,00     | 32        | 6     |

|   |    |    |
|---|----|----|
| P | 12 | 6  |
| M |    |    |
| K | 12 | 16 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

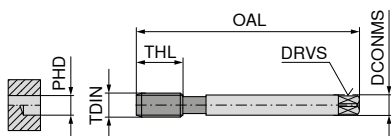
Prędkość skrawania  $v_c$  (m/min.)

## Gwintownik maszynowy – wygniatak prawy

▲ SN = gwintownik wygniatający z rowkami smarowymi

DuoForm

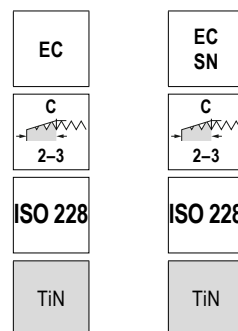
G



DIN 2189 ze zwężonym chwytem

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|--------|-------|-----|--------|------|-------|-----|-------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 1/8-28 | 0,907 | 90  | 7      | 5,5  | 9,25  | 18  |       |
| 1/8-28 | 0,907 | 90  | 7      | 5,5  | 9,25  | 18  | 5     |
| 1/4-19 | 1,337 | 100 | 11     | 9,0  | 12,55 | 22  |       |
| 1/4-19 | 1,337 | 100 | 11     | 9,0  | 12,55 | 22  | 6     |
| 3/8-19 | 1,337 | 100 | 12     | 9,0  | 16,05 | 22  |       |
| 3/8-19 | 1,337 | 100 | 12     | 9,0  | 16,05 | 22  | 6     |
| 1/2-14 | 1,814 | 125 | 16     | 12,0 | 20,10 | 25  |       |
| 1/2-14 | 1,814 | 125 | 16     | 12,0 | 20,10 | 25  | 6     |

|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
 $\leq 1100 \text{ N/mm}^2$   
 $\leq 1,5 \times D$ HSS-E  
 $\leq 1100 \text{ N/mm}^2$   
 $\leq 3 \times D$ 

22 360 ...

EUR  
U0

116,46

012

22 359 ...

EUR  
U0

131,38

012

149,73

025

165,23

025

201,70

037

226,39

037

269,31

050

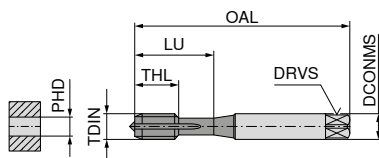
303,16

050

## Otwór przelotowy – gwintowniki maszynowe prawe

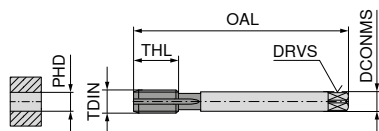
TruTap

UNC



DIN 371 ze wzmocnionym chwytem

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|-----------|-------|-----|--------|------|------|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |       |
| Nr. 2-56  | 0,454 | 45  | 2,8    | 2,1  | 1,85 | 7   | 12 | 2     |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,35 | 11  | 18 | 2     |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,35 | 11  | 18 | 3     |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 2,85 | 12  | 20 | 3     |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,50 | 13  | 21 | 3     |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 3,90 | 15  | 25 | 3     |
| Nr. 12-24 | 1,058 | 80  | 6,0    | 4,9  | 4,50 | 16  | 30 | 3     |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,10 | 17  | 30 | 3     |
| 5/16-18   | 1,411 | 90  | 8,0    | 6,2  | 6,60 | 20  | 35 | 3     |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,00 | 22  | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TDIN   | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|--------|-------|-----|--------|------|-------|-----|-------|
| mm     | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 1/2-13 | 1,954 | 110 | 9      | 7,0  | 10,80 | 25  | 3     |
| 5/8-11 | 2,309 | 110 | 12     | 9,0  | 13,50 | 27  | 3     |
| 3/4-10 | 2,540 | 125 | 14     | 11,0 | 16,50 | 30  | 3     |
| 7/8-9  | 2,822 | 140 | 18     | 14,5 | 19,50 | 32  | 3     |
| 1-8    | 3,175 | 160 | 18     | 14,5 | 22,25 | 36  | 3     |

|   |    |   |    |
|---|----|---|----|
| P | 8  | 7 | 12 |
| M | 6  | 7 | 7  |
| K |    |   | 12 |
| N | 22 |   |    |
| S |    | 5 |    |
| H |    |   |    |
| O |    |   |    |

Prędkość skrawania  $v_c$  (m/min.)

| VA                                      | Ti                                    | UNI                                      |
|-----------------------------------------|---------------------------------------|------------------------------------------|
| B<br>4-5                                | B<br>4-5                              | B<br>4-5                                 |
| 2B                                      | 2BX                                   | 2B                                       |
| nitr.                                   | TiN                                   | nitr. + vap.                             |
|                                         |                                       |                                          |
| HSS-E<br>FHA 0°<br>≤ 900 N/mm²<br>≤ 4xD | HSS-PM<br>FHA 0°<br>≤ 44 HRC<br>≤ 4xD | HSS-E<br>FHA 0°<br>≤ 1100 N/mm²<br>≤ 4xD |

22 250 ...

EUR  
U0

22 269 ...

EUR  
U0

22 572 ...

EUR  
U094,88 002  
52,17 004

44,50 006

43,72 008

43,72 010

55,56 025

56,10 031

56,87 037

83,54 004

73,52 006

75,07 008

75,87 010

80,29 025

89,14 031

104,10 037

46,59 006

44,12 008

49,71 010

59,61 012

53,74 025

61,81 031

68,70 037

22 573 ...

EUR  
U0

81,99 050

114,64 062

141,87 075

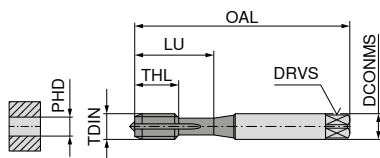
180,84 087

230,32 100



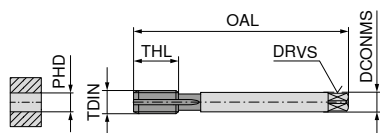
## Otwór przelotowy – gwintowniki maszynowe prawe

UNC



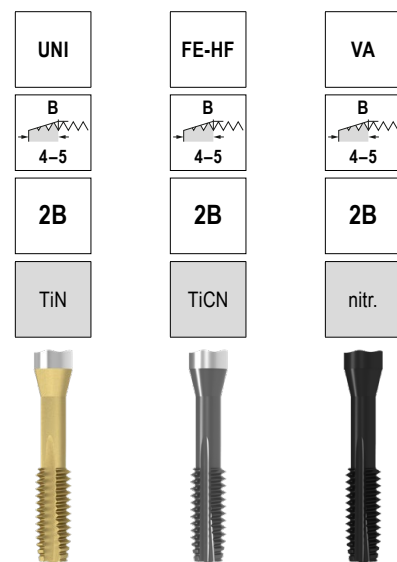
DIN 371 ze wzmocnionym chwytem

| TDIN      | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|-----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| Nr. 4-40  | 0,635    | 56        | 3,5          | 2,7        | 2,30      | 11        | 18       | 2     |
| Nr. 6-32  | 0,794    | 56        | 4,0          | 3,0        | 2,85      | 12        | 20       | 3     |
| Nr. 8-32  | 0,794    | 63        | 4,5          | 3,4        | 3,50      | 13        | 21       | 3     |
| Nr. 10-24 | 1,058    | 70        | 6,0          | 4,9        | 3,90      | 15        | 25       | 3     |
| 1/4-20    | 1,270    | 80        | 7,0          | 5,5        | 5,20      | 17        | 30       | 3     |
| 5/16-18   | 1,411    | 90        | 8,0          | 6,2        | 6,60      | 20        | 35       | 3     |
| 3/8-16    | 1,588    | 100       | 10,0         | 8,0        | 8,00      | 22        | 39       | 3     |



DIN 376 ze zwężonym chwytem

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|---------|----------|-----------|--------------|------------|-----------|-----------|-------|
| 7/16-14 | 1,814    | 100       | 8            | 6,2        | 9,40      | 22        | 3     |
| 1/2-13  | 1,954    | 110       | 9            | 7,0        | 10,75     | 25        | 3     |
| 5/8-11  | 2,309    | 110       | 12           | 9,0        | 13,50     | 27        | 3     |
| 3/4-10  | 2,540    | 125       | 14           | 11,0       | 16,50     | 30        | 3     |

HSS-E  
FHA 0°  
≤ 1000 N/mm²  
≤ 3xDHSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 0°  
≤ 1000 N/mm²  
≤ 3xD

23 170 ...

EUR

T9

23,07

004

22,19

006

22,19

008

23,07

010

30,34

025

33,16

031

39,46

037

23 370 ...

EUR

T9

32,68

004

31,69

006

31,69

008

32,93

010

45,74

025

49,82

031

58,82

037

23 470 ...

EUR

T9

19,11

004

17,75

006

17,26

008

19,11

010

20,47

025

23,30

031

26,38

037

23 171 ...

EUR

T9

45,87

043

51,30

050

63,99

062

96,91

075

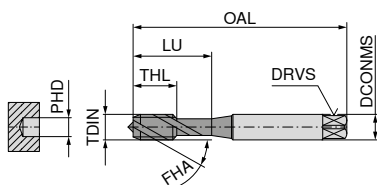
|   |    |    |    |
|---|----|----|----|
| P | 15 | 15 | 8  |
| M | 9  |    | 6  |
| K | 18 | 15 |    |
| N | 12 | 15 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

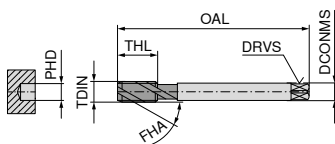
CavTap

UNC



DIN 371 ze wzmocnionym chwytem

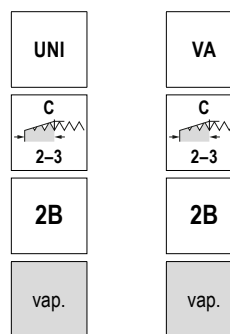
| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL  | LU | Rowki |
|-----------|-------|-----|--------|------|------|------|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm   | mm |       |
| Nr. 2-56  | 0,454 | 45  | 2,8    | 2,1  | 1,85 | 4,5  | 12 | 2     |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,35 | 6,0  | 18 | 2     |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 2,85 | 7,0  | 20 | 3     |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,50 | 8,0  | 21 | 3     |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 3,90 | 10,0 | 25 | 3     |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,10 | 13,0 | 30 | 3     |
| 5/16-18   | 1,411 | 90  | 8,0    | 6,2  | 6,60 | 14,0 | 35 | 3     |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,00 | 16,0 | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|---------|-------|-----|--------|------|-------|-----|-------|
| mm      | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 7/16-14 | 1,814 | 100 | 8      | 6,2  | 9,40  | 18  | 3     |
| 7/16-14 | 1,814 | 100 | 8      | 6,2  | 9,40  | 18  | 4     |
| 1/2-13  | 1,954 | 110 | 9      | 7,0  | 10,80 | 20  | 3     |
| 1/2-13  | 1,954 | 110 | 9      | 7,0  | 10,80 | 20  | 4     |
| 9/16-12 | 2,117 | 110 | 11     | 9,0  | 12,25 | 20  | 3     |
| 5/8-11  | 2,309 | 110 | 12     | 9,0  | 13,50 | 22  | 3     |
| 5/8-11  | 2,309 | 110 | 12     | 9,0  | 13,50 | 22  | 4     |
| 3/4-10  | 2,540 | 125 | 14     | 11,0 | 16,50 | 25  | 3     |
| 3/4-10  | 2,540 | 125 | 14     | 11,0 | 16,50 | 25  | 4     |
| 7/8-9   | 2,822 | 140 | 18     | 14,5 | 19,50 | 27  | 4     |
| 1-8     | 3,175 | 160 | 18     | 14,5 | 22,25 | 30  | 4     |
| 1-8     | 3,175 | 160 | 18     | 14,5 | 22,25 | 30  | 5     |

|   |    |    |
|---|----|----|
| P | 12 | 8  |
| M | 7  | 6  |
| K | 12 |    |
| N |    | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

HSS-E  
FHA 42°  
≤ 1100 N/mm²  
≤ 3xDHSS-E  
FHA 42°  
≤ 900 N/mm²  
≤ 3xD

22 582 ...

EUR

U0

75,87

002

47,36

004

41,52

006

44,50

008

46,59

010

50,09

025

53,35

031

59,85

037

22 266 ...

EUR

U0

45,40

006

48,55

008

51,66

010

52,82

025

59,85

031

62,07

037

22 583 ...

EUR

U0

81,99

043

81,99

050

116,33

056

108,00

062

139,24

075

166,53

087

226,39

100

22 267 ...

EUR

U0

104,10

043

91,50

050

117,77

062

144,37

075

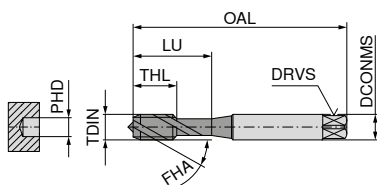
242,01

100

Prędkość skrawania  $v_c$  (m/min.)

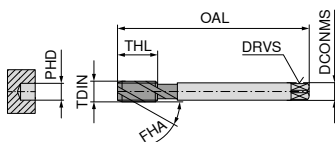
## Otwór nieprzelotowy – gwintownik maszynowy prawy

UNC



DIN 371 ze wzmocnionym chwytem

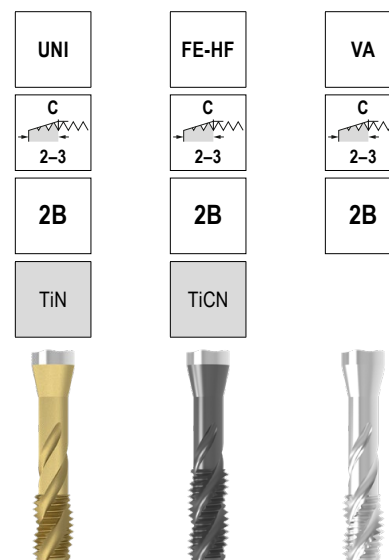
| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|-----------|-------|-----|--------|------|------|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |       |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,30 | 6   | 18 | 2     |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,30 | 11  | 18 | 2     |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 2,85 | 7   | 20 | 3     |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 2,85 | 12  | 20 | 3     |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,50 | 8   | 21 | 3     |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,50 | 13  | 21 | 3     |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 3,90 | 10  | 25 | 3     |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 3,90 | 15  | 25 | 3     |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,20 | 13  | 30 | 3     |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,20 | 17  | 30 | 3     |
| 5/16-18   | 1,411 | 90  | 8,0    | 6,2  | 6,60 | 14  | 35 | 3     |
| 5/16-18   | 1,411 | 90  | 8,0    | 6,2  | 6,60 | 20  | 35 | 3     |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,00 | 16  | 39 | 3     |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,00 | 22  | 39 | 3     |



DIN 376 ze zwężonym chwytem

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|---------|-------|-----|--------|------|-------|-----|-------|
| mm      | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 7/16-14 | 1,814 | 100 | 8      | 6,2  | 9,40  | 18  | 3     |
| 1/2-13  | 1,954 | 110 | 9      | 7,0  | 10,75 | 20  | 3     |
| 5/8-11  | 2,309 | 110 | 12     | 9,0  | 13,50 | 22  | 3     |
| 3/4-10  | 2,540 | 125 | 14     | 11,0 | 16,50 | 25  | 3     |

|   |    |    |    |
|---|----|----|----|
| P | 15 | 15 | 8  |
| M | 9  |    | 6  |
| K | 18 | 15 |    |
| N | 12 | 24 | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 35°  
≤ 1000 N/mm²  
≤ 2,5xDHSS-E  
FHA 35°  
≤ 1100 N/mm²  
≤ 2,5xDHSS-E  
FHA 35°  
≤ 1000 N/mm²  
≤ 2,5xD

23 172 ...

EUR

T9

24,90

004

23 372 ...

EUR

T9

26,13

004

23 472 ...

EUR

T9

31,57

004

22,93

006

24,78

006

29,60

006

24,66

008

26,26

008

30,70

008

25,53

010

27,13

010

31,94

010

32,93

025

36,61

025

35,87

025

32,93

031

38,10

031

37,85

031

40,32

037

45,37

037

42,28

037

23 173 ...

EUR

T9

51,05

043

53,88

050

66,33

062

100,37

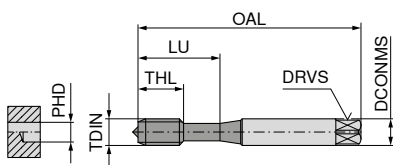
075

## Gwintownik maszynowy – wygniatak prawy

▲ SN = gwintownik wygniatający z rowkami smarowymi

DuoForm

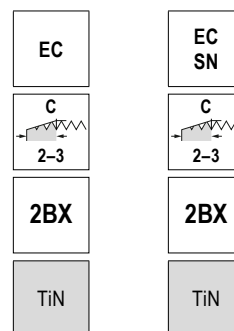
UNC



DIN 2174 ze wzmocnionym chwytem

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|-----------|-------|-----|--------|------|------|-----|----|-------|
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,55 | 11  | 18 |       |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,55 | 11  | 18 | 3     |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 3,15 | 12  | 20 |       |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 3,15 | 12  | 20 | 3     |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,80 | 13  | 21 |       |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,80 | 13  | 21 | 4     |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 4,35 | 15  | 25 |       |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 4,35 | 15  | 25 | 4     |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,75 | 17  | 30 |       |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,75 | 17  | 30 | 4     |
| 5/16-18   | 1,411 | 90  | 8,0    | 6,2  | 7,30 | 20  | 35 |       |
| 5/16-18   | 1,411 | 90  | 8,0    | 6,2  | 7,30 | 20  | 35 | 5     |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,80 | 22  | 39 |       |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,80 | 22  | 39 | 5     |

|   |    |    |
|---|----|----|
| P | 18 | 18 |
| M | 10 | 10 |
| K | 10 | 10 |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |



HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 1,5xD

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 270 ...

EUR  
U0

66,89

004

62,32

006

62,59

008

69,74

010

81,07

025

87,46

031

104,88

037

22 271 ...

EUR  
U0

77,30

004

71,84

006

71,84

008

78,98

010

91,50

025

99,03

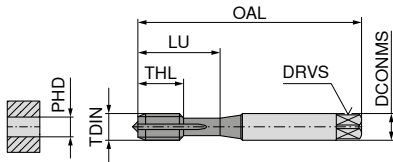
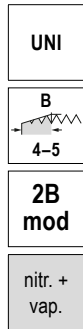
031

115,28

037

Prędkość skrawania  $v_c$  (m/min.)

## Otwór przelotowy – gwintownik maszynowy do gwintu z wkładką z drutu prawy



DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

22 668 ...

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| EG Nr. 4-40  | 0,635    | 63        | 4,5          | 3,4        | 3,1       | 13        | 21       | 3     |
| EG Nr. 6-32  | 0,794    | 70        | 6,0          | 4,9        | 3,8       | 14        | 25       | 3     |
| EG Nr. 8-32  | 0,794    | 80        | 6,0          | 4,9        | 4,4       | 16        | 30       | 3     |
| EG Nr. 10-24 | 1,058    | 80        | 7,0          | 5,5        | 5,2       | 17        | 30       | 3     |

EUR  
U0

|       |     |
|-------|-----|
| 68,70 | 004 |
| 71,18 | 006 |
| 68,33 | 008 |
| 74,30 | 010 |

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

## Gwintownik maszynowy do gwintu z wkładką z drutu

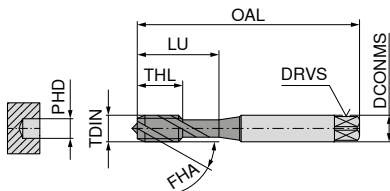
CavTap

EG  
UNC

UNI

E  
1,5-22B  
mod

vap.



DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 672 ...

EUR  
U0

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| EG Nr. 4-40  | 0,635    | 63        | 4,5          | 3,4        | 3,1       | 7         | 21       | 3     |
| EG Nr. 6-32  | 0,794    | 70        | 6,0          | 4,9        | 3,8       | 8         | 25       | 3     |
| EG Nr. 8-32  | 0,794    | 80        | 6,0          | 4,9        | 4,4       | 8         | 30       | 3     |
| EG Nr. 10-24 | 1,058    | 80        | 7,0          | 5,5        | 5,2       | 10        | 30       | 3     |

|       |     |
|-------|-----|
| 69,61 | 004 |
| 65,18 | 006 |
| 69,22 | 008 |
| 72,74 | 010 |

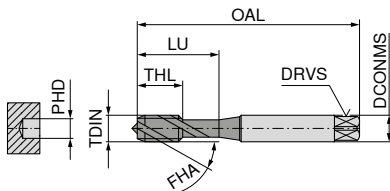
|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

CavTap  
SL

UNJC



DIN 371 ze wzmocnionym chwytem

Ti

C

2-3

3BX

TiCN

HSS-E  
FHA 15°  
≤ 1200 N/mm²  
≤ 2xD

22 166 ...

EUR

U0

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|-----------|-------|-----|--------|------|------|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |       |
| Nr. 4-40  | 0,635 | 56  | 3,5    | 2,7  | 2,30 | 11  | 18 | 2     |
| Nr. 6-32  | 0,794 | 56  | 4,0    | 3,0  | 2,85 | 12  | 20 | 3     |
| Nr. 8-32  | 0,794 | 63  | 4,5    | 3,4  | 3,50 | 13  | 21 | 3     |
| Nr. 10-24 | 1,058 | 70  | 6,0    | 4,9  | 3,90 | 15  | 25 | 3     |
| 1/4-20    | 1,270 | 80  | 7,0    | 5,5  | 5,25 | 17  | 30 | 3     |
| 3/8-16    | 1,588 | 100 | 10,0   | 8,0  | 8,10 | 22  | 39 | 3     |

91,50

004

93,42

006

92,14

008

96,95

010

124,34

025

150,92

037

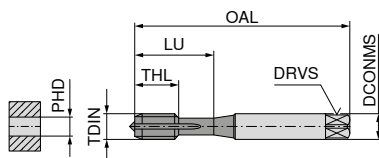
|   |    |
|---|----|
| P | 7  |
| M | 7  |
| K |    |
| N | 22 |
| S | 5  |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór przelotowy – gwintowniki maszynowe prawe

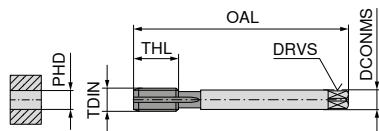
TruTap

UNF



DIN 371 ze wzmocnionym chwytem

| TDIN      | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|-----------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| Nr. 4-48  | 0,529    | 56        | 3,5          | 2,7        | 2,40      | 11        | 18       | 2     |
| Nr. 6-40  | 0,635    | 56        | 4,0          | 3,0        | 2,95      | 12        | 20       | 3     |
| Nr. 8-36  | 0,706    | 63        | 4,5          | 3,4        | 3,50      | 13        | 21       | 3     |
| Nr. 10-32 | 0,794    | 70        | 6,0          | 4,9        | 4,10      | 15        | 25       | 3     |
| 1/4-28    | 0,907    | 80        | 7,0          | 5,5        | 5,50      | 17        | 30       | 3     |
| 5/16-24   | 1,058    | 90        | 8,0          | 6,2        | 6,90      | 17        | 35       | 3     |



DIN 374 ze zwężonym chwytem

| TDIN     | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|----------|----------|-----------|--------------|------------|-----------|-----------|-------|
| 7/16-20  | 1,270    | 100       | 8            | 6,2        | 9,90      | 22        | 3     |
| 1/2-20   | 1,270    | 100       | 9            | 7,0        | 11,50     | 22        | 3     |
| 9/16-18  | 1,411    | 100       | 11           | 9,0        | 12,90     | 22        | 3     |
| 5/8-18   | 1,411    | 100       | 12           | 9,0        | 14,50     | 22        | 3     |
| 3/4-16   | 1,588    | 110       | 14           | 11,0       | 17,50     | 25        | 4     |
| 7/8-14   | 1,814    | 125       | 18           | 14,5       | 20,50     | 25        | 4     |
| 1-12     | 2,117    | 140       | 18           | 14,5       | 23,25     | 28        | 4     |
| 1 1/8-12 | 2,117    | 150       | 22           | 18,0       | 26,50     | 28        | 4     |
| 1 1/4-12 | 2,117    | 150       | 22           | 18,0       | 29,75     | 28        | 4     |
| 1 3/8-12 | 2,117    | 170       | 28           | 22,0       | 33,00     | 30        | 5     |

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

UNI

B  
4-5

2B

nitr. +  
vap.HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

22 602 ...

EUR  
U0

|       |     |
|-------|-----|
| 63,63 | 004 |
| 56,47 | 006 |
| 56,47 | 008 |
| 58,16 | 010 |
| 63,89 | 025 |
| 72,09 | 031 |

22 603 ...

EUR  
U0

|        |     |
|--------|-----|
| 86,02  | 043 |
| 81,99  | 050 |
| 126,37 | 056 |
| 115,28 | 062 |
| 145,79 | 075 |
| 190,02 | 087 |
| 245,93 | 100 |
| 646,72 | 112 |
| 709,19 | 125 |
| 746,98 | 137 |



## Otwór przelotowy – gwintowniki maszynowe prawe

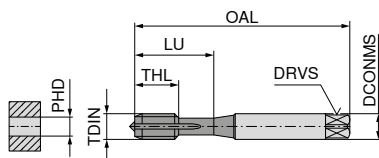
UNF

UNI

B  
4-5

2B

TiN



DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 3xD

23 180 ...

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|-----------|-------|-----|--------|------|-----|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm  | mm  | mm |       |
| Nr. 10-32 | 0,794 | 70  | 6      | 4,9  | 4,1 | 15  | 25 | 3     |
| 1/4-28    | 0,907 | 80  | 7      | 5,5  | 5,5 | 17  | 30 | 3     |
| 5/16-24   | 1,058 | 90  | 8      | 6,2  | 6,9 | 17  | 35 | 3     |
| 3/8-24    | 1,058 | 90  | 10     | 8,0  | 8,5 | 18  | 35 | 4     |

EUR

T9

26,63

010

34,03

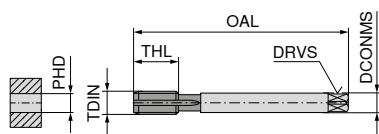
025

37,85

031

41,31

037



DIN 374 ze zwężonym chwytem

23 181 ...

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|---------|-------|-----|--------|------|------|-----|-------|
| mm      | mm    | mm  | mm     | mm   | mm   | mm  |       |
| 7/16-20 | 1,270 | 100 | 8      | 6,2  | 9,9  | 22  | 3     |
| 1/2-20  | 1,270 | 100 | 9      | 7,0  | 11,5 | 22  | 3     |
| 9/16-18 | 1,411 | 100 | 11     | 9,0  | 12,9 | 22  | 3     |
| 5/8-18  | 1,411 | 100 | 12     | 9,0  | 14,5 | 22  | 3     |
| 3/4-16  | 1,588 | 110 | 14     | 11,0 | 17,5 | 25  | 4     |

EUR

T9

49,70

043

51,30

050

69,80

056

64,62

062

98,03

075

P

15

M

9

K

18

N

12

S

H

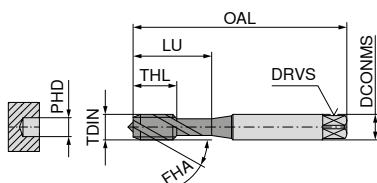
O

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

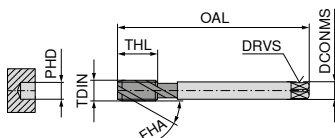
CavTap

UNF



DIN 371 ze wzmocnionym chwytem

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL  | LU | Rowki |
|-----------|-------|-----|--------|------|------|------|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm   | mm |       |
| Nr. 2-64  | 0,397 | 45  | 2,8    | 2,1  | 1,85 | 4,5  | 12 | 2     |
| Nr. 4-48  | 0,529 | 56  | 3,5    | 2,7  | 2,40 | 6,0  | 18 | 2     |
| Nr. 6-40  | 0,635 | 56  | 4,0    | 3,0  | 2,95 | 7,0  | 20 | 3     |
| Nr. 6-40  | 0,635 | 56  | 4,0    | 3,0  | 3,00 | 7,0  | 20 | 3     |
| Nr. 8-36  | 0,706 | 63  | 4,5    | 3,4  | 3,50 | 8,0  | 21 | 3     |
| Nr. 10-32 | 0,794 | 70  | 6,0    | 4,9  | 4,10 | 10,0 | 25 | 3     |
| Nr. 10-32 | 0,794 | 70  | 6,0    | 4,9  | 4,15 | 10,0 | 25 | 3     |
| 1/4-28    | 0,907 | 80  | 7,0    | 5,5  | 5,50 | 10,0 | 30 | 3     |
| 1/4-28    | 0,907 | 80  | 7,0    | 5,5  | 5,55 | 10,0 | 30 | 3     |
| 5/16-24   | 1,058 | 90  | 8,0    | 6,2  | 6,90 | 10,0 | 35 | 3     |
| 5/16-24   | 1,058 | 90  | 8,0    | 6,2  | 6,95 | 10,0 | 35 | 3     |
| 3/8-24    | 1,058 | 90  | 10,0   | 8,0  | 8,50 | 10,0 | 35 | 3     |
| 3/8-24    | 1,058 | 90  | 10,0   | 8,0  | 8,55 | 10,0 | 35 | 3     |



DIN 374 ze zwężonym chwytem

| TDIN     | TP    | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|----------|-------|-----|--------|------|-------|-----|-------|
| mm       | mm    | mm  | mm     | mm   | mm    | mm  |       |
| 7/16-20  | 1,270 | 100 | 8      | 6,2  | 9,90  | 13  | 3     |
| 7/16-20  | 1,270 | 100 | 8      | 6,2  | 9,95  | 13  | 4     |
| 1/2-20   | 1,270 | 100 | 9      | 7,0  | 11,50 | 13  | 4     |
| 1/2-20   | 1,270 | 100 | 9      | 7,0  | 11,55 | 13  | 5     |
| 9/16-18  | 1,411 | 100 | 11     | 9,0  | 12,90 | 15  | 4     |
| 9/16-18  | 1,411 | 100 | 11     | 9,0  | 12,95 | 15  | 5     |
| 5/8-18   | 1,411 | 100 | 12     | 9,0  | 14,50 | 15  | 4     |
| 5/8-18   | 1,411 | 100 | 12     | 9,0  | 14,55 | 15  | 5     |
| 3/4-16   | 1,588 | 110 | 14     | 11,0 | 17,50 | 17  | 4     |
| 3/4-16   | 1,588 | 110 | 14     | 11,0 | 17,55 | 17  | 5     |
| 7/8-14   | 1,814 | 125 | 18     | 14,5 | 20,50 | 17  | 4     |
| 1-12     | 2,117 | 140 | 18     | 14,5 | 23,25 | 20  | 4     |
| 1-12     | 2,117 | 140 | 18     | 14,5 | 23,30 | 20  | 5     |
| 1 1/8-12 | 2,117 | 150 | 22     | 18,0 | 26,50 | 22  | 4     |
| 1 1/4-12 | 2,117 | 150 | 22     | 18,0 | 29,75 | 22  | 5     |
| 1 3/8-12 | 2,117 | 170 | 28     | 22,0 | 33,00 | 24  | 5     |

|   |    |    |    |
|---|----|----|----|
| P | 8  | 12 | 12 |
| M | 6  | 7  | 7  |
| K |    | 12 | 12 |
| N | 22 |    | 22 |
| S |    |    |    |
| H |    |    |    |
| O |    |    |    |

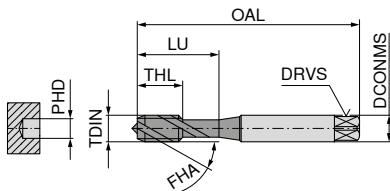
Prędkość skrawania  $v_c$  (m/min.)

| VA                                       | UNI                                       | UNI                                       |
|------------------------------------------|-------------------------------------------|-------------------------------------------|
| E<br>1,5-2                               | C<br>2-3                                  | E<br>1,5-2                                |
| 2B                                       | 2B                                        | 2B<br>+0,05                               |
| vap.                                     | vap.                                      | vap.                                      |
|                                          |                                           |                                           |
| HSS-E<br>FHA 42°<br>≤ 900 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD | HSS-E<br>FHA 42°<br>≤ 1100 N/mm²<br>≤ 3xD |
| 22 308 ...                               | 22 606 ...                                | 22 307 ...                                |
| EUR<br>U0                                | EUR<br>U0                                 | EUR<br>U0                                 |
| 78,08 002                                | 56,47 004                                 |                                           |
| 58,82 004                                | 50,09 006                                 |                                           |
| 56,47 006                                |                                           | 78,98 006                                 |
| 56,47 008                                | 50,09 008                                 |                                           |
| 60,38 010                                | 52,82 010                                 | 83,54 010                                 |
| 62,07 025                                | 57,78 025                                 | 87,46 025                                 |
| 69,22 031                                | 65,18 031                                 | 99,53 031                                 |
| 72,48 037                                |                                           | 99,53 037                                 |

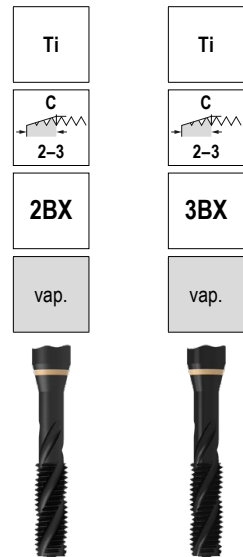
## Otwór nieprzelotowy – gwintownik maszynowy prawy

CavTap  
SL

UNF



DIN 371 ze wzmocnionym chwytem

HSS-PM  
FHA 30°  
≤ 1400 N/mm²  
≤ 1,5xDHSS-PM  
FHA 30°  
≤ 1400 N/mm²  
≤ 1,5xD

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|-----------|-------|-----|--------|------|-----|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm  | mm  | mm |       |
| Nr. 10-32 | 0,794 | 70  | 6      | 4,9  | 4,1 | 10  | 25 | 3     |
| 1/4-28    | 0,907 | 80  | 7      | 5,5  | 5,5 | 10  | 30 | 3     |
| 5/16-24   | 1,058 | 90  | 8      | 6,2  | 6,9 | 10  | 35 | 3     |
| 3/8-24    | 1,058 | 90  | 10     | 8,0  | 8,5 | 10  | 35 | 3     |

22 302 ...

EUR  
U0109,81 010  
119,33 025  
141,87 031  
140,55 037

22 303 ...

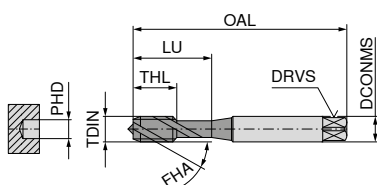
EUR  
U0109,81 010  
119,33 025  
128,99 031  
140,55 037

|   |    |    |
|---|----|----|
| P | 5  | 5  |
| M | 5  | 5  |
| K |    |    |
| N | 22 | 22 |
| S | 3  | 3  |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)

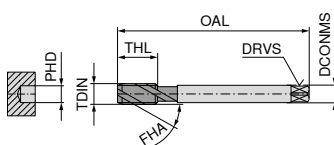
## Otwór nieprzelotowy – gwintownik maszynowy prawy

UNF



DIN 371 ze wzmocnionym chwytem

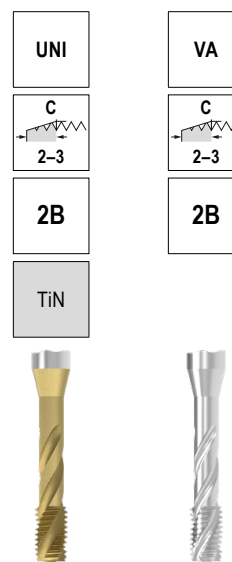
| TDIN      | TP    | OAL | DCONMS | DRVS | PHD | THL | LU | Rowki |
|-----------|-------|-----|--------|------|-----|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm  | mm  | mm |       |
| Nr. 10-32 | 0,794 | 70  | 6      | 4,9  | 4,1 | 10  | 25 | 3     |
| 1/4-28    | 0,907 | 80  | 7      | 5,5  | 5,5 | 10  | 30 | 3     |
| 5/16-24   | 1,058 | 90  | 8      | 6,2  | 6,9 | 10  | 35 | 3     |
| 3/8-24    | 1,058 | 90  | 10     | 8,0  | 8,5 | 10  | 35 | 3     |



DIN 374 ze zwężonym chwytem

| TDIN    | TP    | OAL | DCONMS | DRVS | PHD  | THL | Rowki |
|---------|-------|-----|--------|------|------|-----|-------|
| mm      | mm    | mm  | mm     | mm   | mm   | mm  |       |
| 7/16-20 | 1,270 | 100 | 8      | 6,2  | 9,9  | 13  | 3     |
| 1/2-20  | 1,270 | 100 | 9      | 7,0  | 11,5 | 13  | 4     |
| 9/16-18 | 1,411 | 100 | 11     | 9,0  | 12,9 | 15  | 4     |
| 5/8-18  | 1,411 | 100 | 12     | 9,0  | 14,5 | 15  | 4     |
| 3/4-16  | 1,588 | 110 | 14     | 11,0 | 17,5 | 17  | 4     |

|   |    |    |
|---|----|----|
| P | 15 | 8  |
| M | 9  | 6  |
| K | 18 |    |
| N | 12 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 35°  
 $\leq 1100 \text{ N/mm}^2$   
 $\leq 2,5xD$ HSS-E  
FHA 35°  
 $\leq 1100 \text{ N/mm}^2$   
 $\leq 2,5xD$ 

23 182 ...

EUR  
T928,12 010  
36,00 025  
38,10 031  
42,42 037

23 482 ...

EUR  
T937,47 010  
40,93 025  
43,40 031  
47,09 037

23 183 ...

EUR  
T951,05 043  
53,88 050  
72,74 056  
65,84 062  
104,43 075

23 483 ...

EUR  
T958,57 043  
59,05 050  
82,87 056  
72,74 062  
98,40 075

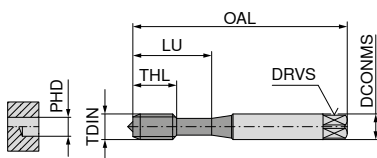
## Gwintownik maszynowy – wygniatak prawy

▲ SN = gwintownik wygniatający z rowkami smarowymi

EC  
SNC  
2-3

2BX

TiN



DIN 2174 ze wzmocnionym chwytem

HSS-E  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 312 ...

| TDIN      | TP    | OAL | DCONMS | DRVS | PHD  | THL | LU | Rowki |
|-----------|-------|-----|--------|------|------|-----|----|-------|
| mm        | mm    | mm  | mm     | mm   | mm   | mm  | mm |       |
| Nr. 4-48  | 0,529 | 56  | 3,5    | 2,7  | 2,62 | 11  | 18 | 3     |
| Nr. 6-40  | 0,635 | 56  | 4,0    | 3,0  | 3,22 | 12  | 20 | 3     |
| Nr. 8-36  | 0,706 | 63  | 4,5    | 3,4  | 3,85 | 13  | 21 | 4     |
| Nr. 10-32 | 0,794 | 70  | 6,0    | 4,9  | 4,45 | 15  | 25 | 4     |
| 1/4-28    | 0,907 | 80  | 7,0    | 5,5  | 5,95 | 17  | 30 | 4     |

EUR

U0

85,87

004

79,76

006

81,84

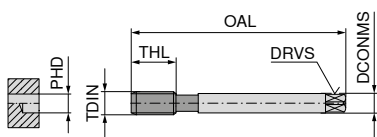
008

88,48

010

103,85

025



DIN 2174 ze zwężonym chwytem

22 313 ...

| TDIN    | TP   | OAL | DCONMS | DRVS | PHD   | THL | Rowki |
|---------|------|-----|--------|------|-------|-----|-------|
| mm      | mm   | mm  | mm     | mm   | mm    | mm  |       |
| 7/16-20 | 1,27 | 100 | 8      | 6,2  | 10,55 | 22  | 6     |
| 1/2-20  | 1,27 | 100 | 9      | 7,0  | 12,15 | 22  | 6     |

EUR

U0

154,97

043

158,79

050

|   |    |
|---|----|
| P | 18 |
| M | 10 |
| K | 10 |
| N | 22 |
| S |    |
| H |    |
| O |    |

Prędkość skrawania v<sub>c</sub> (m/min.)

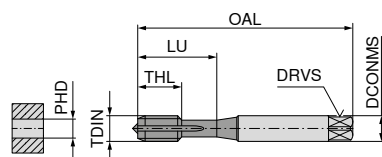
## Otwór przelotowy – gwintownik maszynowy do gwintu z wkładką z drutu prawy



UNI

B  
4-5

2B

nitr. +  
vap.HSS-E  
FHA 0°  
≤ 1100 N/mm²  
≤ 4xD

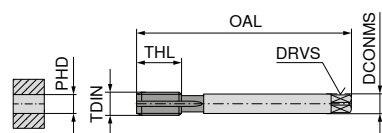
DIN 371 ze wzmocnionym chwytem

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| EG Nr. 4-48  | 0,529    | 56        | 4            | 3,0        | 3,0       | 9         | 20       | 3     |
| EG Nr. 6-40  | 0,635    | 70        | 6            | 4,9        | 3,7       | 11        | 25       | 3     |
| EG Nr. 8-36  | 0,706    | 80        | 6            | 4,9        | 4,4       | 13        | 30       | 3     |
| EG Nr. 10-32 | 0,794    | 80        | 6            | 4,9        | 5,1       | 13        | 30       | 3     |
| EG 1/4-28    | 0,907    | 90        | 8            | 6,2        | 6,6       | 17        | 35       | 3     |

22 676 ...

EUR  
U0

|       |     |
|-------|-----|
| 89,14 | 004 |
| 86,02 | 006 |
| 86,02 | 008 |
| 91,50 | 010 |
| 97,73 | 025 |



DIN 374 ze zwężonym chwytem

| TDIN       | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | Rowki |
|------------|----------|-----------|--------------|------------|-----------|-----------|-------|
| EG 3/8-24  | 1,058    | 90        | 8            | 6,2        | 9,80      | 18        | 4     |
| EG 7/16-20 | 1,270    | 100       | 9            | 7,0        | 11,50     | 22        | 3     |
| EG 1/2-20  | 1,270    | 100       | 11           | 9,0        | 13,10     | 22        | 3     |
| EG 5/8-18  | 1,411    | 110       | 14           | 11,0       | 16,25     | 25        | 4     |
| EG 3/4-16  | 1,588    | 125       | 16           | 12,0       | 19,50     | 25        | 4     |

22 677 ...

EUR  
U0

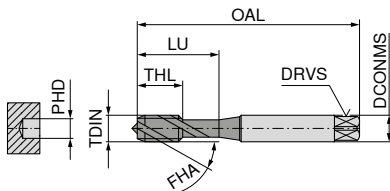
|        |     |
|--------|-----|
| 119,33 | 037 |
| 149,73 | 043 |
| 140,55 | 050 |
| 214,58 | 062 |
| 274,54 | 075 |

|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

## Gwintownik maszynowy do gwintu z wkładką z drutu

CavTap

EG  
UNF

DIN 371 ze wzmocnionym chwytem

UNI

E  
1,5-2

2B

vap.

HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>  
≤ 3xD

22 680 ...

EUR  
U0

| TDIN         | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | PHD<br>mm | THL<br>mm | LU<br>mm | Rowki |
|--------------|----------|-----------|--------------|------------|-----------|-----------|----------|-------|
| EG Nr. 4-48  | 0,529    | 56        | 4            | 3,0        | 3,0       | 7         | 20       | 3     |
| EG Nr. 6-40  | 0,635    | 70        | 6            | 4,9        | 3,7       | 8         | 25       | 3     |
| EG Nr. 8-36  | 0,706    | 80        | 6            | 4,9        | 4,4       | 8         | 30       | 3     |
| EG Nr. 10-32 | 0,794    | 80        | 6            | 4,9        | 5,1       | 8         | 30       | 3     |
| EG 1/4-28    | 0,907    | 90        | 8            | 6,2        | 6,6       | 10        | 35       | 3     |

|        |     |
|--------|-----|
| 83,54  | 004 |
| 82,90  | 006 |
| 86,67  | 008 |
| 91,50  | 010 |
| 100,32 | 025 |

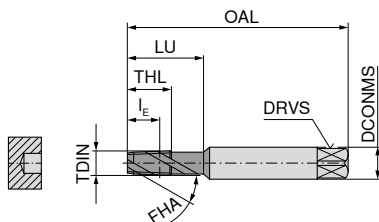
|   |    |
|---|----|
| P | 12 |
| M | 7  |
| K | 12 |
| N |    |
| S |    |
| H |    |
| O |    |

Prędkość skrawania  $v_c$  (m/min.)

## Otwór nieprzelotowy – gwintownik maszynowy prawy

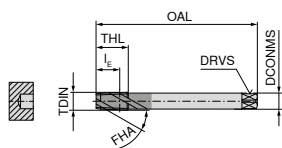
CavTap

NPT



DIN 371 ze wzmocnionym chwytem

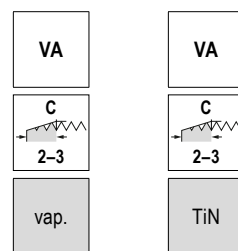
| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | LU<br>mm | Rowki |
|---------|----------|-----------|--------------|------------|----------|-----------|----------|-------|
| 1/16-27 | 0,941    | 90        | 8            | 6,2        | 9,24     | 13,0      | 26,0     | 3     |
| 1/8-27  | 0,941    | 90        | 10           | 8,0        | 9,28     | 13,0      | 26,0     | 3     |
| 1/8-27  | 0,941    | 90        | 10           | 8,0        | 9,28     | 12,0      | 26,0     | 4     |
| 1/4-18  | 1,411    | 100       | 14           | 11,0       | 13,55    | 19,5      | 34,5     | 3     |
| 1/4-18  | 1,411    | 100       | 14           | 11,0       | 13,55    | 18,0      | 34,5     | 4     |



DIN 374 ze zwężonym chwytem

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | Rowki |
|--------|----------|-----------|--------------|------------|----------|-----------|-------|
| 3/8-18 | 1,411    | 110       | 14           | 11         | 13,86    | 18,0      | 5     |
| 3/8-18 | 1,411    | 110       | 14           | 11         | 13,86    | 19,5      | 3     |
| 1/2-14 | 1,814    | 140       | 16           | 12         | 18,11    | 23,0      | 5     |
| 1/2-14 | 1,814    | 140       | 16           | 12         | 18,11    | 25,0      | 5     |
| 3/4-14 | 1,814    | 150       | 20           | 16         | 18,59    | 26,0      | 5     |

|   |    |    |
|---|----|----|
| P | 4  | 5  |
| M | 3  | 4  |
| K |    |    |
| N | 22 | 22 |
| S |    |    |
| H |    |    |
| O |    |    |

Prędkość skrawania  $v_c$  (m/min.)HSS-E  
FHA 35°  
≤ 900 N/mm<sup>2</sup>HSS-E  
FHA 42°  
≤ 1100 N/mm<sup>2</sup>

22 364 ...

EUR  
U0

113,73

131,38

153,54

006

012

025

22 365 ...

EUR  
U0

171,78

175,72

012

025

22 371 ...

EUR  
U0

188,71

274,54

369,55

037

050

075

22 372 ...

EUR  
U0

285,04

403,41

037

050

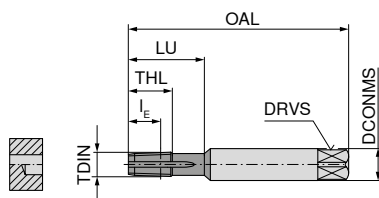


## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

DuoTap

NPT

VG



DIN 371 ze wzmocnionym chwytem

HSS-E  
FHA 0°  
≤ 1100 N/mm²

22 374 ...

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | LU<br>mm | Rowki |
|---------|----------|-----------|--------------|------------|----------|-----------|----------|-------|
| 1/16-27 | 0,941    | 90        | 8            | 6,2        | 9,24     | 13,0      | 26,0     | 3     |
| 1/8-27  | 0,941    | 90        | 10           | 8,0        | 9,28     | 13,0      | 26,0     | 3     |
| 1/4-18  | 1,411    | 100       | 14           | 11,0       | 13,55    | 19,5      | 34,5     | 3     |

EUR

U0

81,99

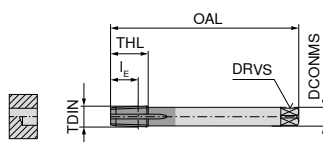
006

106,57

012

112,82

025



DIN 374 ze zwężonym chwytem

22 375 ...

| TDIN   | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | LE<br>mm | THL<br>mm | Rowki |
|--------|----------|-----------|--------------|------------|----------|-----------|-------|
| 3/8-18 | 1,411    | 110       | 14           | 11         | 13,86    | 19,5      | 3     |
| 1/2-14 | 1,814    | 140       | 16           | 12         | 18,11    | 25,0      | 5     |
| 3/4-14 | 1,814    | 150       | 20           | 16         | 18,59    | 26,0      | 5     |
| 1-11,5 | 2,209    | 170       | 25           | 20         | 22,31    | 30,0      | 5     |

EUR

U0

140,55

037

188,71

050

243,44

075

333,08

100

|   |    |
|---|----|
| P | 4  |
| M |    |
| K | 6  |
| N | 22 |
| S |    |
| H |    |
| O |    |

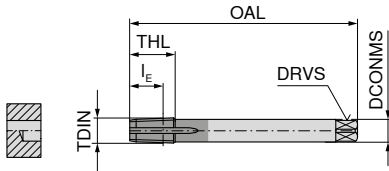
Prędkość skrawania  $v_c$  (m/min.)

## Otwór przelotowy / otwór nieprzelotowy – gwintowniki maszynowe prawe

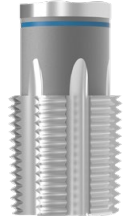
▲ ES = ekstrakrótki

DuoTap

NPT

ST  
ES

DIN 2181 ze zwężonym chwytem

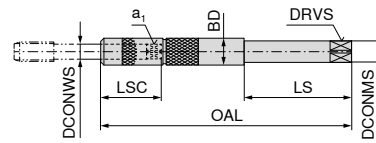
HSS-E  
FHA 0°  
≤ 750 N/mm²

22 361 ...

| TDIN    | TP<br>mm | OAL<br>mm | DCONMS<br>mm | DRVS<br>mm | IE<br>mm | THL<br>mm | Rowki |  |            |
|---------|----------|-----------|--------------|------------|----------|-----------|-------|--|------------|
| 1/16-27 | 0,941    | 63        | 6            | 4,9        | 9,24     | 13,0      | 4     |  | EUR<br>U0  |
| 1/8-27  | 0,941    | 63        | 7            | 5,5        | 9,28     | 13,0      | 5     |  | 69,88 006  |
| 1/4-18  | 1,411    | 63        | 11           | 9,0        | 13,55    | 19,5      | 5     |  | 73,52 012  |
| 3/8-18  | 1,411    | 70        | 12           | 9,0        | 13,86    | 19,5      | 5     |  | 87,46 025  |
| 1/2-14  | 1,814    | 80        | 16           | 12,0       | 18,11    | 23,0      | 5     |  | 109,81 037 |
| 3/4-14  | 1,814    | 100       | 20           | 16,0       | 18,59    | 26,0      | 6     |  | 147,11 050 |
| 1-11,5  | 2,209    | 110       | 25           | 20,0       | 22,31    | 32,0      | 6     |  | 184,78 075 |
|         |          |           |              |            |          |           |       |  | 275,74 100 |
| P       |          |           |              |            |          |           |       |  | 6          |
| M       |          |           |              |            |          |           |       |  |            |
| K       |          |           |              |            |          |           |       |  | 6          |
| N       |          |           |              |            |          |           |       |  | 22         |
| S       |          |           |              |            |          |           |       |  |            |
| H       |          |           |              |            |          |           |       |  |            |
| O       |          |           |              |            |          |           |       |  |            |

Prędkość skrawania  $v_c$  (m/min.)

## Przedłużka chwytu gwintownika

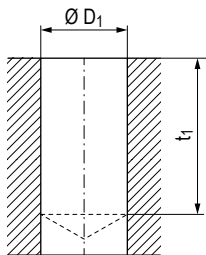


20 450 ...

| DIN 371   | DIN 374 / 376 | DCONWS | a <sub>1</sub> | LSC | BD   | LS | OAL | DRVS | DCONMS | EUR    |     |
|-----------|---------------|--------|----------------|-----|------|----|-----|------|--------|--------|-----|
|           |               | mm     | mm             | mm  | mm   | mm | mm  | mm   | mm     | U0     |     |
| M3        | M4,5 - M5     | 3,5    | 2,7            | 23  | 7,5  | 60 | 130 | 4,9  | 6      | 321,52 | 020 |
| M3,5      | M5,5          | 4,0    | 3,0            | 23  | 8,4  | 60 | 130 | 4,9  | 6      | 380,05 | 030 |
| M4        | M6            | 4,5    | 3,4            | 23  | 8,4  | 60 | 130 | 4,9  | 6      | 380,05 | 040 |
| M4,5 - M6 | M8            | 6,0    | 4,9            | 26  | 12,1 | 60 | 130 | 5,5  | 7      | 383,86 | 050 |
| M7        | M9 - M10      | 7,0    | 5,5            | 26  | 12,1 | 60 | 130 | 5,5  | 7      | 409,85 | 060 |
| M8        | M11           | 8,0    | 6,2            | 30  | 13,0 | 60 | 130 | 6,2  | 8      | 398,17 | 070 |
| M9        | M12           | 9,0    | 7,0            | 31  | 15,0 | 60 | 130 | 7,0  | 9      | 398,17 | 080 |
| M10       |               | 10,0   | 8,0            | 33  | 15,0 | 60 | 130 | 8,0  | 10     | 437,27 | 090 |
|           | M14           | 11,0   | 9,0            | 36  | 18,0 | 90 | 180 | 9,0  | 11     | 584,26 | 100 |
| (M12)     | M16           | 12,0   | 9,0            | 36  | 18,0 | 90 | 180 | 9,0  | 12     | 584,26 | 110 |

## Średnice otworu do gwintów stożkowych ze zbieżnością 1:16

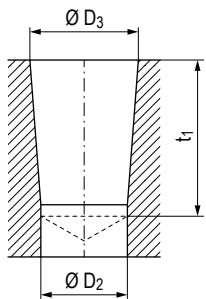
## Wiercenie wstępne otworu cylindrycznego bez użycia rozwiertaka



|      |       | NPT              |                     | NPTF             |                     |      |       | Rc               |                     |
|------|-------|------------------|---------------------|------------------|---------------------|------|-------|------------------|---------------------|
| Ø D  | P     | Ø D <sub>1</sub> | t <sub>1</sub> min. | Ø D <sub>1</sub> | t <sub>1</sub> min. | Ø D  | P     | Ø D <sub>1</sub> | t <sub>1</sub> min. |
| cale | Gg/1" | mm               | mm                  | mm               | mm                  | cale | Gg/1" | mm               | mm                  |
| 1/16 | 27    | 6,15             | 12                  | 6,1              | 12                  | 1/16 | 28    | 6,2              | 11,9                |
| 1/8  | 27    | 8,5              | 12                  | 8,45             | 12                  | 1/8  | 28    | 8,2              | 11,9                |
| 1/4  | 18    | 11               | 17,5                | 10,9             | 17,5                | 1/4  | 19    | 10,85            | 16,3                |
| 3/8  | 18    | 14,5             | 17,6                | 14,3             | 17,6                | 3/8  | 19    | 14,5             | 18,1                |
| 1/2  | 14    | 17,85            | 22,9                | 17,6             | 22,9                | 1/2  | 14    | 18               | 24                  |
| 3/4  | 14    | 23,2             | 23                  | 23               | 23                  | 3/4  | 14    | 23,5             | 25,3                |
| 1    | 11½   | 29,5             | 27,4                | 28,75            | 27,4                | 1    | 11    | 29,5             | 30,6                |
| 1¼   | 11½   | 37,8             | 28,1                | 37,5             | 28,1                |      |       |                  |                     |
| 1½   | 11½   | 44               | 28,4                | 43,75            | 28,4                |      |       |                  |                     |
| 2    | 11½   | 56               | 28,4                | 55,75            | 28,4                |      |       |                  |                     |

P = skok

## Wiercenie wstępne cylindryczne i rozwieranie stożkowe



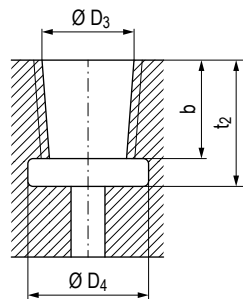
Stożek 1:16

|      |       | NPT              |                  |                     | NPTF             |                  |                     |
|------|-------|------------------|------------------|---------------------|------------------|------------------|---------------------|
| Ø D  | P     | Ø D <sub>2</sub> | Ø D <sub>3</sub> | t <sub>1</sub> min. | Ø D <sub>2</sub> | Ø D <sub>3</sub> | t <sub>1</sub> min. |
| cale | Gg/1" | mm               | mm               | mm                  | mm               | mm               | mm                  |
| 1/16 | 27    | 5,95             | 6,39             | 12                  | 5,95             | 6,41             | 12                  |
| 1/8  | 27    | 8,25             | 8,74             | 12                  | 8,25             | 8,76             | 12                  |
| 1/4  | 18    | 10,75            | 11,36            | 17,5                | 10,75            | 11,4             | 17,5                |
| 3/8  | 18    | 14,1             | 14,8             | 17,6                | 14,1             | 14,84            | 17,6                |
| 1/2  | 14    | 17,5             | 18,32            | 22,9                | 17,5             | 18,33            | 22,9                |
| 3/4  | 14    | 22,7             | 23,67            | 23                  | 22,7             | 23,68            | 23                  |
| 1    | 11½   | 28,6             | 29,69            | 27,4                | 28,6             | 29,72            | 27,4                |
| 1¼   | 11½   | 37,3             | 38,45            | 28,1                | 37,3             | 38,48            | 28,1                |
| 1½   | 11½   | 43,4             | 44,52            | 28,4                | 43,4             | 44,5             | 28,4                |
| 2    | 11½   | 55,5             | 56,56            | 28,4                | 55,5             | 56,59            | 28,4                |

|      |       | Rc               |                  |                     |
|------|-------|------------------|------------------|---------------------|
| Ø D  | P     | Ø D <sub>2</sub> | Ø D <sub>3</sub> | t <sub>1</sub> min. |
| cale | Gg/1" | mm               | mm               | mm                  |
| 1/16 | 28    | 6,1              | 6,56             | 11,9                |
| 1/8  | 28    | 8,1              | 8,57             | 11,9                |
| 1/4  | 19    | 10,75            | 11,45            | 17,7                |
| 3/8  | 19    | 14,25            | 14,95            | 18,1                |
| 1/2  | 14    | 17,75            | 18,63            | 24                  |
| 3/4  | 14    | 23               | 24,12            | 25,3                |
| 1    | 11    | 29               | 30,29            | 30,6                |

P = skok

## Zalecenia dotyczące wykonywania otworów nieprzelotowych pod gwint



Stożek 1:16

|      |       | NPT              |      |                     |                       | NPTF             |      |                     |                       |
|------|-------|------------------|------|---------------------|-----------------------|------------------|------|---------------------|-----------------------|
| Ø D  | P     | Ø D <sub>3</sub> | b    | t <sub>2</sub> min. | Ø D <sub>4</sub> min. | Ø D <sub>3</sub> | b    | t <sub>2</sub> min. | Ø D <sub>4</sub> min. |
| cale | Gg/1" | mm               | mm   | mm                  | mm                    | mm               | mm   | mm                  | mm                    |
| 1/16 | 27    | 6,39             | 7    | 10                  | 7,6                   | 6,41             | 8    | 11                  | 7,4                   |
| 1/8  | 27    | 8,74             | 7    | 10                  | 10                    | 8,76             | 8    | 11                  | 9,8                   |
| 1/4  | 18    | 11,36            | 10,2 | 14,5                | 13,1                  | 11,4             | 11,6 | 15,5                | 12,9                  |
| 3/8  | 18    | 14,8             | 10,6 | 15                  | 16,5                  | 14,84            | 12   | 16                  | 16,3                  |
| 1/2  | 14    | 18,32            | 13,8 | 19                  | 20,5                  | 18,33            | 15,6 | 20,5                | 20,3                  |
| 3/4  | 14    | 23,67            | 14,2 | 20                  | 25,8                  | 23,68            | 16   | 21,5                | 25,6                  |
| 1    | 11½   | 29,69            | 17   | 24                  | 32,2                  | 29,72            | 19,2 | 26                  | 32                    |
| 1¼   | 11½   | 38,45            | 17,5 | 24,5                | 41                    | 38,48            | 19,7 | 26,5                | 40,8                  |
| 1½   | 11½   | 44,52            | 17,5 | 24,5                | 47,2                  | 44,5             | 19,7 | 26,5                | 47                    |
| 2    | 11½   | 56,56            | 18   | 25                  | 59,2                  | 56,59            | 20,2 | 27                  | 59                    |

|      |       | Rc               |      |                     |                       |
|------|-------|------------------|------|---------------------|-----------------------|
| Ø D  | P     | Ø D <sub>3</sub> | b    | t <sub>2</sub> min. | Ø D <sub>4</sub> min. |
| cale | Gg/1" | mm               | mm   | mm                  | mm                    |
| 1/16 | 28    | 6,56             | 5,6  | 9,5                 | 7,6                   |
| 1/8  | 28    | 8,57             | 5,6  | 9,5                 | 9,6                   |
| 1/4  | 19    | 11,45            | 8,4  | 14                  | 13                    |
| 3/8  | 19    | 14,95            | 8,8  | 14,4                | 16,5                  |
| 1/2  | 14    | 18,63            | 11,4 | 19                  | 20,6                  |
| 3/4  | 14    | 24,12            | 12,7 | 20,3                | 26                    |
| 1    | 11    | 30,29            | 14,5 | 24,3                | 32,8                  |

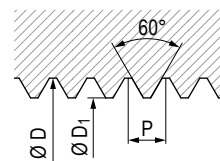
P = skok

## Średnica otworów do gwintowników

M

Metryczny gwint standardowy ISO 6H wg DIN 13 i DIN ISO 965-1 (M1–M1,4 = 5H)

| Średnica nominalna gwintu |      | Ø D <sub>1</sub> |       | Otwór pod gwint | Średnica nominalna gwintu |      | Ø D <sub>1</sub> |        | Otwór pod gwint |
|---------------------------|------|------------------|-------|-----------------|---------------------------|------|------------------|--------|-----------------|
| D                         | P    | min.             | max.  |                 | D                         | P    | min.             | max.   |                 |
| M1                        | 0,25 | 0,729            | 0,785 | 0,75            | M12                       | 1,75 | 10,106           | 10,441 | 10,2            |
| M1,1                      | 0,25 | 0,829            | 0,885 | 0,85            | M14                       | 2    | 11,835           | 12,210 | 12              |
| M1,2                      | 0,25 | 0,929            | 0,985 | 0,95            | M16                       | 2    | 13,835           | 14,210 | 14              |
| M1,4                      | 0,3  | 1,075            | 1,142 | 1,1             | M18                       | 2,5  | 15,294           | 15,744 | 15,5            |
| M1,6                      | 0,35 | 1,221            | 1,321 | 1,25            | M20                       | 2,5  | 17,294           | 17,744 | 17,5            |
| M1,8                      | 0,35 | 1,421            | 1,521 | 1,45            | M22                       | 2,5  | 19,294           | 19,744 | 19,5            |
| M2                        | 0,4  | 1,567            | 1,679 | 1,6             | M24                       | 3    | 20,752           | 21,252 | 21              |
| M2,2                      | 0,45 | 1,713            | 1,838 | 1,75            | M27                       | 3    | 23,752           | 24,252 | 24              |
| M2,5                      | 0,45 | 2,013            | 2,138 | 2,05            | M30                       | 3,5  | 26,211           | 26,771 | 26,5            |
| M3                        | 0,5  | 2,459            | 2,599 | 2,5             | M33                       | 3,5  | 29,211           | 29,771 | 29,5            |
| M3,5                      | 0,6  | 2,850            | 3,01  | 2,9             | M36                       | 4    | 31,67            | 32,270 | 32              |
| M4                        | 0,7  | 3,242            | 3,422 | 3,3             | M39                       | 4    | 34,67            | 35,270 | 35              |
| M4,5                      | 0,75 | 3,688            | 3,878 | 3,7             | M42                       | 4,5  | 37,129           | 37,799 | 37,5            |
| M5                        | 0,8  | 4,134            | 4,334 | 4,2             | M45                       | 4,5  | 40,129           | 40,799 | 40,5            |
| M6                        | 1    | 4,917            | 5,153 | 5               | M48                       | 5    | 42,587           | 43,297 | 43              |
| M7                        | 1    | 5,917            | 6,153 | 6               | M52                       | 5    | 46,587           | 47,297 | 47              |
| M8                        | 1,25 | 6,647            | 6,912 | 6,8             | M56                       | 5,5  | 50,046           | 50,796 | 50,5            |
| M9                        | 1,25 | 7,647            | 7,912 | 7,8             | M60                       | 5,5  | 54,046           | 54,796 | 54,5            |
| M10                       | 1,5  | 8,376            | 8,676 | 8,5             | M64                       | 6    | 57,505           | 58,305 | 58              |
| M11                       | 1,5  | 9,376            | 9,676 | 9,5             | M68                       | 6    | 61,505           | 62,305 | 62              |

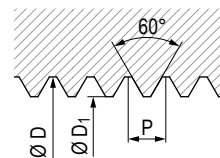


6

MF

Gwint metryczny drobnzwojowy ISO 6H wg DIN 13 i DIN ISO 965-1

| Średnica nominalna gwintu |   |      | Ø D <sub>1</sub> |        | Otwór pod gwint | Średnica nominalna gwintu |   |     | Ø D <sub>1</sub> |         | Otwór pod gwint |
|---------------------------|---|------|------------------|--------|-----------------|---------------------------|---|-----|------------------|---------|-----------------|
| D                         | x | P    | min.             | max.   |                 | D                         | x | P   | min.             | max.    |                 |
| M2                        | x | 0,25 | 1,729            | 1,774  | 1,75            | M20                       | x | 1,0 | 18,917           | 19,153  | 19              |
| M2,2                      | x | 0,25 | 1,929            | 1,974  | 1,95            | M20                       | x | 1,5 | 18,376           | 18,676  | 18,5            |
| M2,5                      | x | 0,35 | 2,121            | 2,221  | 2,15            | M20                       | x | 2,0 | 17,835           | 18,210  | 18              |
| M3                        | x | 0,35 | 2,621            | 2,721  | 2,65            | M24                       | x | 1,5 | 22,376           | 22,676  | 22,5            |
| M3,5                      | x | 0,35 | 3,121            | 3,221  | 3,15            | M30                       | x | 2,0 | 27,835           | 28,210  | 28              |
| M4                        | x | 0,35 | 3,621            | 3,721  | 3,65            | M36                       | x | 1,5 | 34,376           | 34,676  | 34,5            |
| M4                        | x | 0,5  | 3,459            | 3,599  | 3,5             | M36                       | x | 3,0 | 32,752           | 33,252  | 33              |
| M4,5                      | x | 0,5  | 3,959            | 4,099  | 4               | M42                       | x | 2,0 | 39,835           | 40,210  | 40              |
| M5                        | x | 0,5  | 4,459            | 4,599  | 4,5             | M48                       | x | 1,5 | 46,376           | 46,676  | 46,5            |
| M6                        | x | 0,5  | 5,459            | 5,599  | 5,5             | M48                       | x | 3,0 | 44,752           | 45,252  | 45              |
| M6                        | x | 0,75 | 5,188            | 5,378  | 5,2             | M48                       | x | 4,0 | 43,67            | 44,270  | 44              |
| M8                        | x | 0,75 | 7,188            | 7,378  | 7,2             | M56                       | x | 1,5 | 54,376           | 54,676  | 54,5            |
| M8                        | x | 1,0  | 6,917            | 7,153  | 7               | M56                       | x | 2,0 | 53,835           | 54,210  | 54              |
| M10                       | x | 0,75 | 9,188            | 9,378  | 9,2             | M56                       | x | 3,0 | 52,752           | 53,252  | 53              |
| M10                       | x | 1,0  | 8,917            | 9,153  | 9               | M56                       | x | 4,0 | 51,670           | 52,270  | 52              |
| M10                       | x | 1,25 | 8,647            | 8,912  | 8,8             | M64                       | x | 3,0 | 60,752           | 61,252  | 61              |
| M12                       | x | 1,0  | 10,917           | 11,153 | 11              | M64                       | x | 4,0 | 59,670           | 60,270  | 60              |
| M12                       | x | 1,5  | 10,376           | 10,676 | 10,5            | M72                       | x | 4,0 | 67,670           | 68,270  | 68              |
| M14                       | x | 1,25 | 12,647           | 12,912 | 12,8            | M80                       | x | 6,0 | 73,505           | 74,305  | 74              |
| M16                       | x | 1,0  | 14,917           | 15,153 | 15              | M95                       | x | 6,0 | 88,505           | 89,305  | 89              |
| M16                       | x | 1,5  | 14,376           | 14,676 | 14,5            | M110                      | x | 6,0 | 103,505          | 104,305 | 104             |



Miara w mm; P = skok

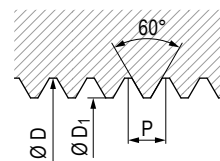
## Średnica otworów dla wygniataków

M

Metryczny gwint standardowy ISO 6H wg DIN 13 i DIN ISO 965-1 (M1–M1,4 = 5H)

| Średnica nominalna gwintu |      | Ø D <sub>1</sub> |      | Otwór pod gwint |
|---------------------------|------|------------------|------|-----------------|
| D                         | P    | min.             | max. |                 |
| M1                        | 0,25 | 0,89             |      | 0,9             |
| M1,2                      | 0,25 | 1,09             |      | 1,1             |
| M1,4                      | 0,3  | 1,26             |      | 1,28            |
| M1,6                      | 0,35 | 1,45             |      | 1,47            |
| M1,8                      | 0,35 | 1,65             |      | 1,67            |
| M2                        | 0,4  | 1,83             | 1,86 | 1,85            |
| M2,2                      | 0,45 | 2                | 2,04 | 2,03            |
| M2,5                      | 0,45 | 2,3              | 2,34 | 2,33            |
| M3                        | 0,5  | 2,77             | 2,82 | 2,8             |
| M3,5                      | 0,6  | 3,23             | 3,28 | 3,25            |
| M4                        | 0,7  | 3,68             | 3,73 | 3,7             |
| M4,5                      | 0,75 | 4,15             | 4,21 | 4,2             |
| M5                        | 0,8  | 4,63             | 4,68 | 4,65            |

| Średnica nominalna gwintu |      | Ø D <sub>1</sub> |       | Otwór pod gwint |
|---------------------------|------|------------------|-------|-----------------|
| D                         | P    | min.             | max.  |                 |
| M6                        | 1    | 5,51             | 5,59  | 5,6             |
| M7                        | 1    | 6,51             | 6,59  | 6,6             |
| M8                        | 1,25 | 7,39             | 7,48  | 7,45            |
| M9                        | 1,25 | 8,39             | 8,48  | 8,45            |
| M10                       | 1,5  | 9,25             | 9,35  | 9,35            |
| M11                       | 1,5  | 10,25            | 10,35 | 10,35           |
| M12                       | 1,75 | 11,12            | 11,25 | 11,25           |
| M14                       | 2    | 13               | 13,15 | 13,1            |
| M16                       | 2    | 15               | 15,15 | 15,1            |
| M18                       | 2,5  | 16,72            | 16,9  | 16,85           |
| M20                       | 2,5  | 18,72            | 18,9  | 18,85           |
| M22                       | 2,5  | 20,72            | 20,9  | 20,85           |
| M24                       | 3    | 22,46            | 22,7  | 22,65           |

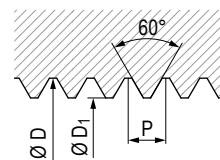


MF

Gwint metryczny drobnzwojowy ISO 6H wg DIN 13 i DIN ISO 965-1

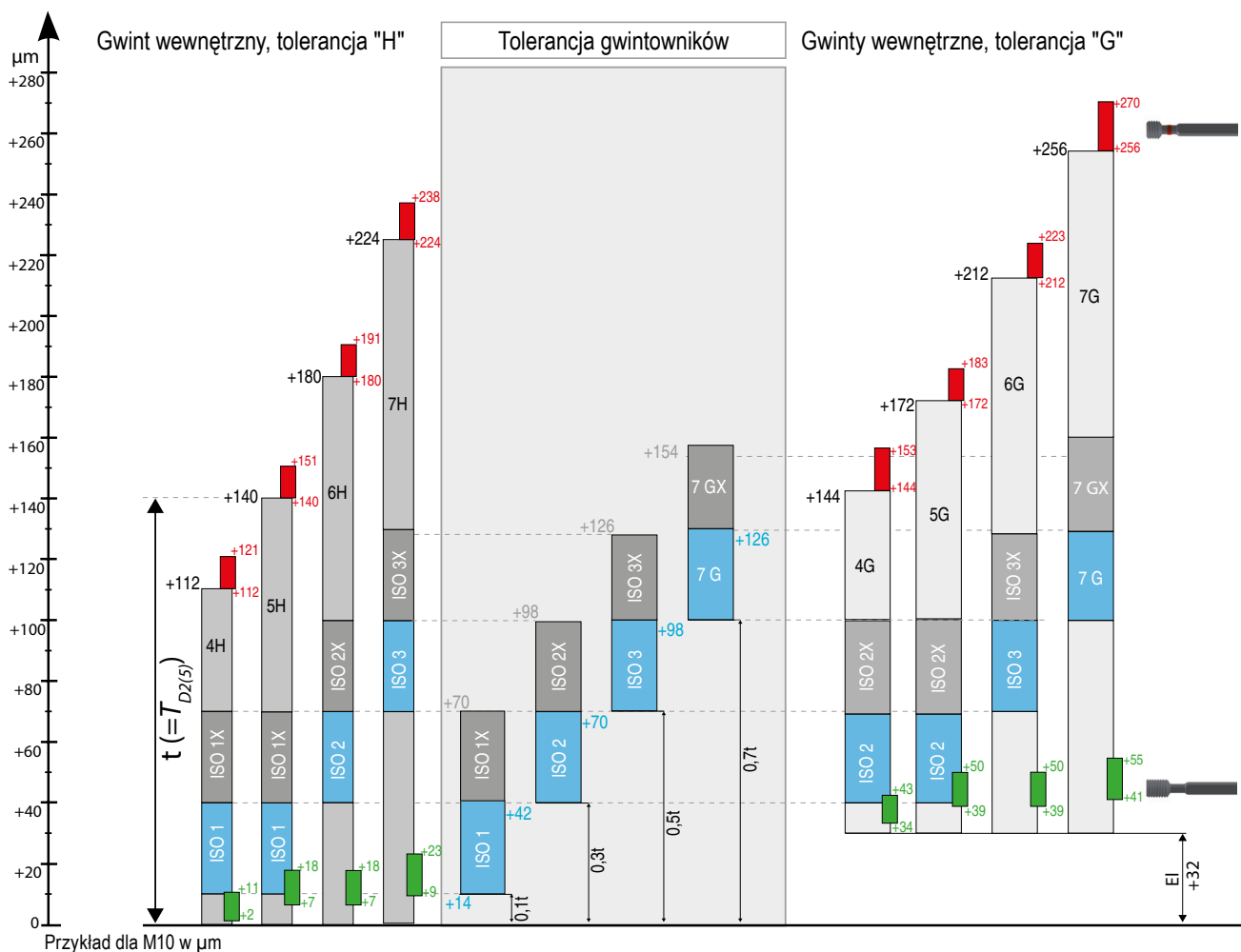
| Średnica nominalna gwintu |   |      | Ø D <sub>1</sub> |       | Otwór pod gwint |
|---------------------------|---|------|------------------|-------|-----------------|
| D                         | x | P    | min.             | max.  |                 |
| M2                        | x | 0,25 | 1,89             |       | 1,9             |
| M2,2                      | x | 0,25 | 2,09             |       | 2,1             |
| M2,5                      | x | 0,25 | 2,39             |       | 2,4             |
| M2,5                      | x | 0,35 | 2,35             |       | 2,37            |
| M3                        | x | 0,25 | 2,89             |       | 2,9             |
| M3                        | x | 0,35 | 2,85             |       | 2,88            |
| M3,5                      | x | 0,35 | 3,35             |       | 3,38            |
| M3,5                      | x | 0,5  | 3,27             | 3,32  | 3,3             |
| M4                        | x | 0,35 | 3,85             |       | 3,88            |
| M4                        | x | 0,5  | 3,77             | 3,82  | 3,8             |
| M4,5                      | x | 0,5  | 4,27             | 4,32  | 4,3             |
| M5                        | x | 0,5  | 4,77             | 4,82  | 4,8             |
| M5                        | x | 0,75 | 4,65             | 4,71  | 4,7             |
| M5,5                      | x | 0,5  | 5,27             | 5,32  | 5,3             |
| M6                        | x | 0,5  | 5,78             | 5,83  | 5,8             |
| M6                        | x | 0,75 | 5,65             | 5,71  | 5,7             |
| M7                        | x | 0,5  | 6,78             | 6,83  | 6,8             |
| M7                        | x | 0,75 | 6,65             | 6,71  | 6,7             |
| M8                        | x | 0,5  | 7,78             | 7,83  | 7,8             |
| M8                        | x | 0,75 | 7,65             | 7,71  | 7,7             |
| M8                        | x | 1,0  | 7,51             | 7,59  | 7,6             |
| M9                        | x | 0,5  | 8,78             | 8,83  | 8,8             |
| M9                        | x | 0,75 | 8,65             | 8,71  | 8,7             |
| M9                        | x | 1,0  | 8,51             | 8,59  | 8,6             |
| M10                       | x | 0,5  | 9,78             | 9,83  | 9,8             |
| M10                       | x | 0,75 | 9,65             | 9,71  | 9,7             |
| M10                       | x | 1,0  | 9,51             | 9,59  | 9,6             |
| M10                       | x | 1,25 | 9,39             | 9,48  | 9,45            |
| M11                       | x | 0,75 | 10,65            | 10,71 | 10,7            |
| M11                       | x | 1,0  | 10,51            | 10,59 | 10,6            |
| M12                       | x | 0,75 | 11,66            | 11,72 | 11,7            |

| Średnica nominalna gwintu |   |      | Ø D <sub>1</sub> |       | Otwór pod gwint |
|---------------------------|---|------|------------------|-------|-----------------|
| D                         | x | P    | min.             | max.  |                 |
| M12                       | x | 1,0  | 11,52            | 11,6  | 11,6            |
| M12                       | x | 1,25 | 11,4             | 11,49 | 11,45           |
| M12                       | x | 1,5  | 11,26            | 11,36 | 11,35           |
| M13                       | x | 0,75 | 12,66            | 12,72 | 12,7            |
| M13                       | x | 1,0  | 12,52            | 12,6  | 12,6            |
| M13                       | x | 1,5  | 12,26            | 12,36 | 12,35           |
| M14                       | x | 0,75 | 13,66            | 13,72 | 13,7            |
| M14                       | x | 1,0  | 13,52            | 13,6  | 13,6            |
| M14                       | x | 1,25 | 13,4             | 13,49 | 13,45           |
| M14                       | x | 1,5  | 13,26            | 13,36 | 13,35           |
| M15                       | x | 0,75 | 14,66            | 14,72 | 14,7            |
| M15                       | x | 1,0  | 14,52            | 14,6  | 14,6            |
| M15                       | x | 1,5  | 14,26            | 14,36 | 14,35           |
| M16                       | x | 0,75 | 15,66            | 15,72 | 15,7            |
| M16                       | x | 1,0  | 15,52            | 15,6  | 15,6            |
| M16                       | x | 1,5  | 15,26            | 15,36 | 15,35           |
| M18                       | x | 1,0  | 17,52            | 17,6  | 17,6            |
| M18                       | x | 1,5  | 17,26            | 17,36 | 17,35           |
| M18                       | x | 2,0  | 17               | 17,15 | 17,1            |
| M20                       | x | 1,0  | 19,52            | 19,6  | 19,6            |
| M20                       | x | 1,5  | 19,26            | 19,36 | 19,35           |
| M20                       | x | 2,0  | 19               | 19,15 | 19,1            |
| M22                       | x | 1,5  | 21,26            | 21,36 | 21,35           |
| M22                       | x | 2,0  | 21               | 21,15 | 21,1            |
| M24                       | x | 1,5  | 23,26            | 23,38 | 23,35           |
| M24                       | x | 2,0  | 23,01            | 23,16 | 23,1            |
| M25                       | x | 1,5  | 24,26            | 24,38 | 24,35           |
| M26                       | x | 1,5  | 25,26            | 25,38 | 25,35           |
| M27                       | x | 2,0  | 26,01            | 26,16 | 26,1            |
| M28                       | x | 1,5  | 27,26            | 27,38 | 27,35           |
| M30                       | x | 1,5  | 29,26            | 29,38 | 29,35           |
| M30                       | x | 2,0  | 29,01            | 29,16 | 29,1            |



Miara w mm; P = skok

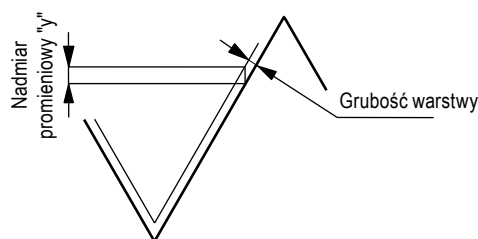
## Tolerancje gwintów i zalecane tolerancje produkcyjne



Materiały obrabiane powlekane wymagają użycia gwintownika z nadmiarem. Nadmiar jest zależny od grubości warstwy i kąta zarysu gwintu.

Przy

|                       |                                   |
|-----------------------|-----------------------------------|
| 60° Kąt zarysu gwintu | Nadmiar = 4 x grubość warstwy     |
| 55° Kąt zarysu gwintu | Nadmiar = 4,331 x grubość warstwy |
| 30° Kąt zarysu gwintu | Nadmiar = 7,727 x grubość warstwy |



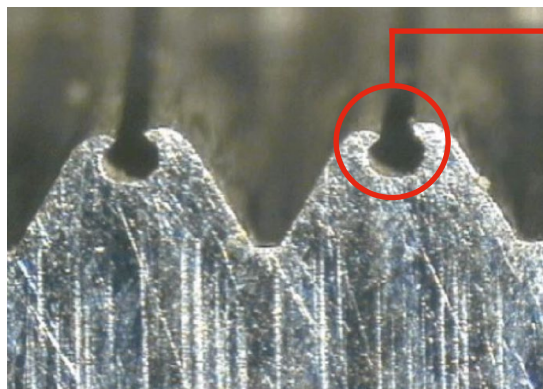
| Klasa zastosowania gwintownika,<br>oznaczenie według |      | Klasy tolerancji nacinanego gwintu wewnętrznego |      |      |    |    |   |
|------------------------------------------------------|------|-------------------------------------------------|------|------|----|----|---|
| DIN                                                  | ISO  |                                                 |      |      |    |    |   |
| 4H                                                   | ISO1 | 4H                                              | 5H   | —    | —  | —  | — |
| 6H                                                   | ISO2 | 4G                                              | 5G   | 6H   | —  | —  | — |
| 6G                                                   | ISO3 | —                                               | (4E) | 6G   | 7H | 8H | — |
| 7G                                                   | —    | —                                               | —    | (6E) | 7G | 8G | — |



Dla specjalnych przypadków obróbki, np. abrazyjnych materiałów żeliwnych lub tworzyw sztucznych, należy wybrać inne wymiary określone na podstawie wartości empirycznych. W takich przypadkach skrót klasy tolerancji ma literę „X”, np. ISO 2X, przy czym przyporządkowanie do pól tolerancji gwintu wewnętrznego musi być ograniczone (6HX dla pola tolerancji 6H i 5G). Należy również pamiętać, że wymiary wykonanego gwintu wewnętrznego zależą nie tylko od wymiarów gwintownika, ale również od materiału obrabianego i od ogólnych warunków obróbki. Dla gwintownika wstępnego i głównego nie ma określonych wymiarów gwintu.

## Gwintowniki bezwiórowe

Bezwiórowy gwintownik wygniatający do materiałów obrabialnych plastycznie na zimno do  $1400 \text{ N/mm}^2$  lub o wydłużeniu zrywającym min. 5 %. Gwint powstaje w wyniku obróbki plastycznej. Dzięki temu gwint jest niezwykle wytrzymały.



### » Ważne

Przed rozpoczęciem wygniatacia należy upewnić się, czy zlecniodawca zgadza się na taki rodzaj gwintu. W niektórych branżach wygniatacie gwintu **nie** jest dopuszczone. W wygniętej koronie może gromadzić się brud i bakterie.

## Stopniowe wygniatacie



← Przedmiot obrabiany

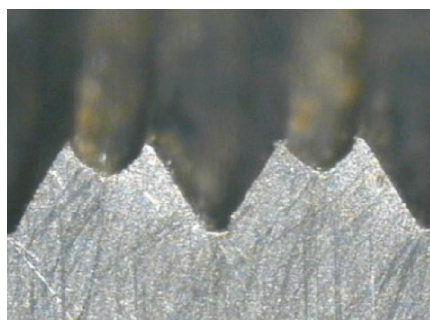
← Gwintowniki bezwiórowe



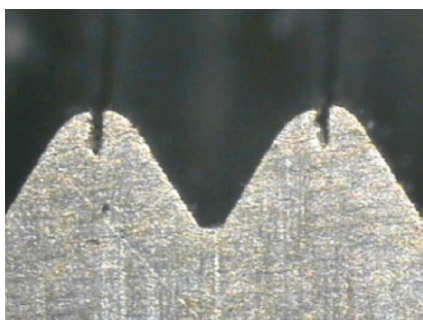
Profil gwintu jest stopniowo wygniatały w materiale, w którym odbija się kształt (nakrój) gwintowanej części gwintownika.

## Właściwości

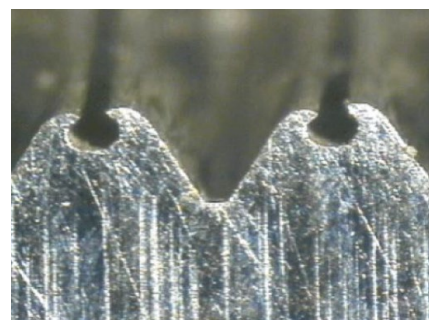
- ▲ Nadaje się do wielu materiałów
- ▲ Do gwintowania otworów przelotowych i ślepych
- ▲ Bardzo dobra jakość powierzchni gwintu
- ▲ Wysoka odporność statyczna i dynamiczna gwintu
- ▲ Pewna obróbka gwintów głębokich lub zlokalizowanych głęboko
- ▲ Krótki czas obróbki
- ▲ Brak problemów z wiórami
- ▲ Brak zacięć
- ▲ Pewność ruchowa
- ▲ Materiał skrawający HSS-E oraz HSS-PM do ok. 33 HRC przy wydłużeniu zrywającym min. 5 %



za słabo wygnięty gwint – zbyt duży otwór pod gwint



za mocno wygnięty (nadgnięty) gwint – zbyt mały otwór pod gwint



perfekcyjnie wygnięty gwint – prawidłowy otwór pod gwint



## Usuwanie problemów

### Niska trwałość

#### Przyczyny

- ▲ Pęknięcia krawędzi skrawających, spowodowane obciążeniem
- ▲ Nieodpowiednia dla danego zadania obróbczego twardość lub materiał
- ▲ Otwór pilotowy za mały lub ze zwiększoną twardością
- ▲ Niedostateczne smarowanie lub niewłaściwe parametry obróbki

#### Środki zaradcze

- ▲ Dłuższy nakrój lub więcej rowków przy zachowaniu tej samej długości nakroju, a tym samym większa liczba zębów nacinających
- ▲ W przypadku narzędzi ostrzonych ich pierwotna twardość może się zmienić, stosować właściwe parametry ostrzenia
- ▲ Częstsza wymiana lub ostrzenie narzędzia
- ▲ Zastosować właściwe parametry gwintowania
- ▲ Dobrać odpowiedni środek smarny i sprawdzać jego stan

### Gwint zacięty osiowo

#### Przyczyny

- ▲ Wybrana geometria nacinania jest nieodpowiednia
- ▲ Obroty wrzeczona są niezgodne z posuwem (błąd synchronizacji)
- ▲ Zastosowano zbyt dużą siłę gwintowania przewidzianą dla gwintowników do otworów ślepych
- ▲ Zastosowano zbyt małą siłę gwintowania przewidzianą dla gwintowników do otworów przelotowych

#### Środki zaradcze

- ▲ Sprawdzić program względnie wzornik lub czujnik synchronizacji
- ▲ Zastosować uchwyt z kompensacją długości
- ▲ Zredukować siłę nacinania
- ▲ Zwiększyć siłę nacinania

### Gwint za duży

#### Przyczyny

- ▲ Tolerancje narzędzia i sprawdzianu gwintowego są niezgodne
- ▲ Obecność zadziorów na ostrzach narzędzia po szlifowaniu
- ▲ Zgrzewy na zimno

#### Środki zaradcze

- ▲ Zastosować prawidłowe tolerancje dla narzędzia i sprawdzianu gwintowego
- ▲ Starannie usunąć zadziory
- ▲ Zastosować właściwą (pozytywną) geometrię
- ▲ Zmniejszyć prędkość skrawania
- ▲ Zastosować inną obróbkę powierzchni lub powłokę
- ▲ Zastosować uchwyt z kompensacją długości
- ▲ Zastosować odpowiednie środki smarne

### Pęknięcie narzędzia

#### Przyczyny

- ▲ Stępione narzędzie
- ▲ Narzędzie dojechało do dna otworu
- ▲ Elementy napawane
- ▲ Za mały otwór pilotowy
- ▲ Nawinięte wióry
- ▲ Nieodpowiednia prędkość skrawania
- ▲ Zator wiórowy w rowku
- ▲ Niedostateczne chłodzenie/smarowanie

#### Środki zaradcze

- ▲ Użyć gwintownika zespołowego
- ▲ Zastosować narzędzie o mniejszej spirali
- ▲ Zastosować narzędzia o krótszym/dłuższym nakroju
- ▲ Kontrola głębokości otworu pilotowego i głębokości gwintu
- ▲ Wywiercić głębszy otwór pilotowy
- ▲ Skorygować prędkość skrawania
- ▲ Inna powłoka lub obróbka powierzchni
- ▲ Zastosować uchwyt z kompensacją długości
- ▲ Użyć odpowiedniego środka smarnego
- ▲ Dobrać odpowiednią średnicę otworu pilotowego
- ▲ Zmienić geometrię i/lub kształt rowków
- ▲ Sprawdzić kształt i powstawanie wiórów

## Powłoki

vap.

- ▲ waporyzowany
- ▲ waporyzacja zapobiega tworzeniu się na narzędziu zatarć i zwiększa twardość powierzchni, a tym samym odporność na zużycie

nitr.

- ▲ azotowany
- ▲ azotowanie podwyższa odporność na ścieranie i oferuje dobre właściwości poślizgowe

vap.  
+  
nitr.

- ▲ waporyzowany i azotowany
- ▲ połączenie podwyższonej twardości powierzchni i nośnika smaru

TiN

- ▲ powłoka TiN
- ▲ maksymalna temperatura zastosowania: 450 °C

TiN  
GS

- ▲ wysoka odporność na ścieranie z dobrymi właściwościami
- ▲ maksymalna temperatura zastosowania: 450 °C

TiCN

- ▲ powłoka TiCN Multilayer
- ▲ maksymalna temperatura zastosowania: 450 °C

DLC

- ▲ Powłoka węglowa diamentopodobna
- ▲ Specjalna do obróbki metali nieżelaznych
- ▲ Maksymalna temperatura zastosowania: 400 °C

Ti200

- ▲ powłoka TiN
- ▲ odpowiedni do wysokich prędkości skrawania podczas formowania gwintu
- ▲ maksymalna temperatura zastosowania: 450 °C

OSM

- ▲ warstwa z materiałów twardych i poślizgowa
- ▲ do obróbki stali o wysokiej wytrzymałości

CH

- ▲ amorficzna powłoka węglowa
- ▲ do zastosowania w przypadku metali kolorowych i aluminium
- ▲ zapobiega adhezji

HCr

- ▲ mocno chromowany
- ▲ do zastosowania w przypadku materiałów kolorowych lub aluminium
- ▲ bardzo znikoma szorstkość powierzchni

CrN

- ▲ powłoka azotek chromu
- ▲ powłoka bardzo odporna na ścieranie
- ▲ specjalna do zastosowania w obróbce aluminium, ale również odpowiednia do obróbki materiałów P, M, S

AlTiN-  
HD

- ▲ Powłoka z węgla spiekanego Nanolayer na bazie AlTiN
- ▲ maksymalna temperatura zastosowania: 500 °C

