

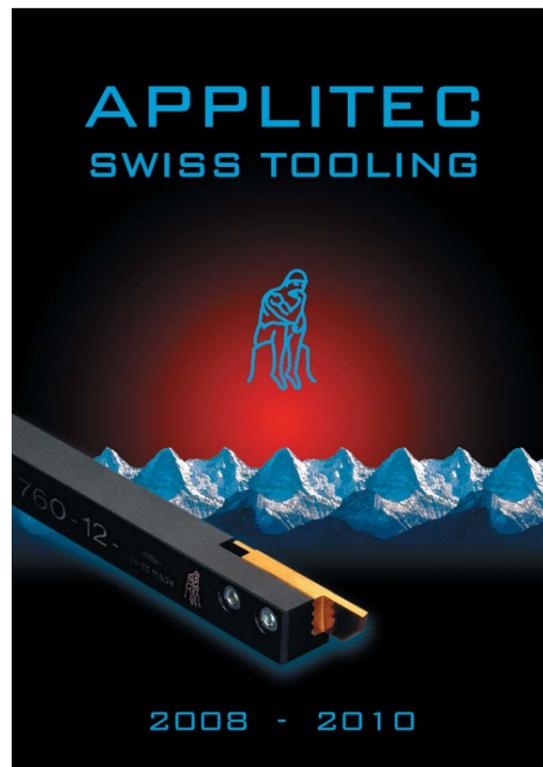
# APPLITEC PRODUCT LINES



Outils de hautes performances  
pour le décolletage

Hochleistungs-Werkzeuge  
für Drehautomaten

High performance tooling  
for automatic lathes



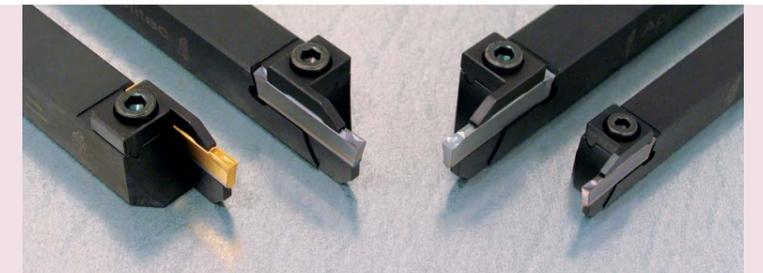
[WWW.APPLITEC-TOOLS.COM](http://WWW.APPLITEC-TOOLS.COM)

TOP-LINE



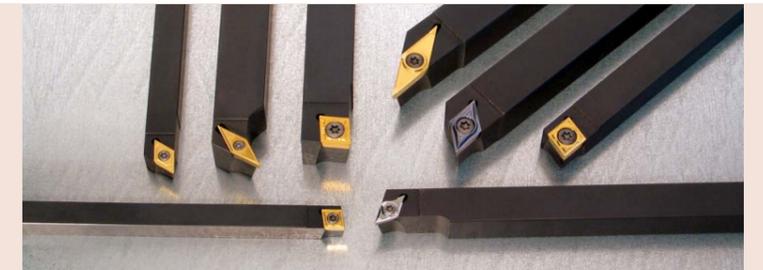
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CUT-LINE



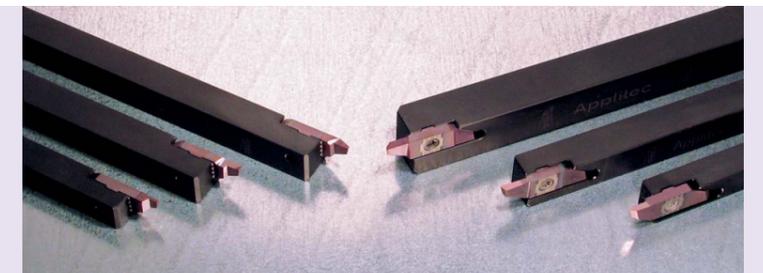
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ISO-LINE



3

ECO-LINE



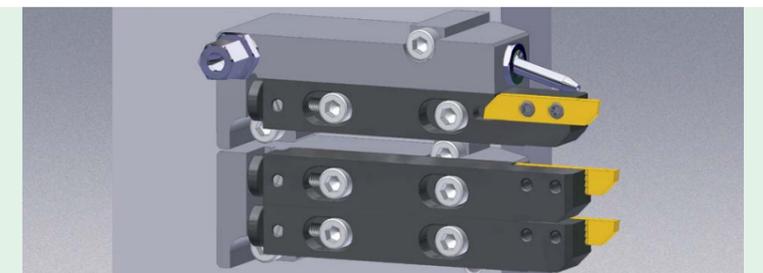
4

TOOLING-LINE



5

MODU-LINE



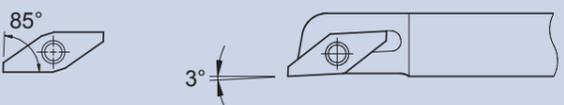
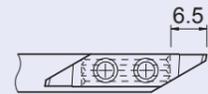
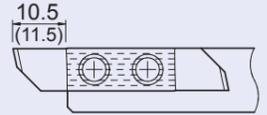
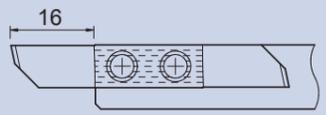
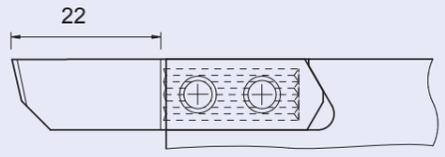
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# TOP-LINE



|  | SERIES       |      | page<br>Seite<br>page |
|--|--------------|------|-----------------------|
|  | L            | R    |                       |
|   | 310          | 320  | 1.08 - 1.11           |
|   | 330          | 340  | 1.12 - 1.15           |
| pour machines à cames<br>für kurvengesteuerte Maschinen<br>for cam driven machines  | 710          | 720  | 1.16 - 1.21           |
|   | 730          | 740  | 1.22 - 1.35           |
|   | 750          | 760  | 1.36 - 1.57           |
|   | 770          | 780  | 1.58 - 1.61           |
|   | 7050         | 7060 | 1.62 - 1.65           |
| Burin avec plaquette large (max. 6 mm)<br>Werkzeug mit breiter Wendeplatte (bis 6 mm)<br>Tool with large insert (up to 6 mm)   | W750         | W760 | 1.66 - 167            |
| Porte-outils spéciaux pour machines Tornos<br>Sonderhalter für Tornos Maschinen<br>Special holders for Tornos machines   | DECO / MICRO |      | 1.68 - 1.73           |
| Porte-outils spéciaux pour usinage déporté<br>Sonderhalter für versetzte Bearbeitung<br>Special holders for shifted machining  | 740Z / 760Z  |      | 1.74                  |
| Pièces de rechange<br>Ersatzteile<br>Spare parts   | SPARE PARTS  |      | 1.75                  |
| paramètres et nuances<br>Schnittwerte und Sorten<br>Data and Grades  | INFO         |      | 1.02 - 1.07           |

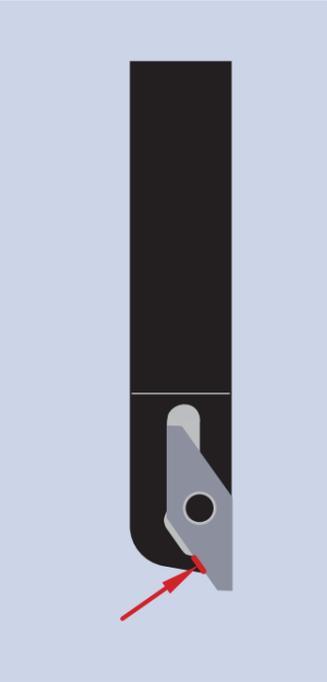
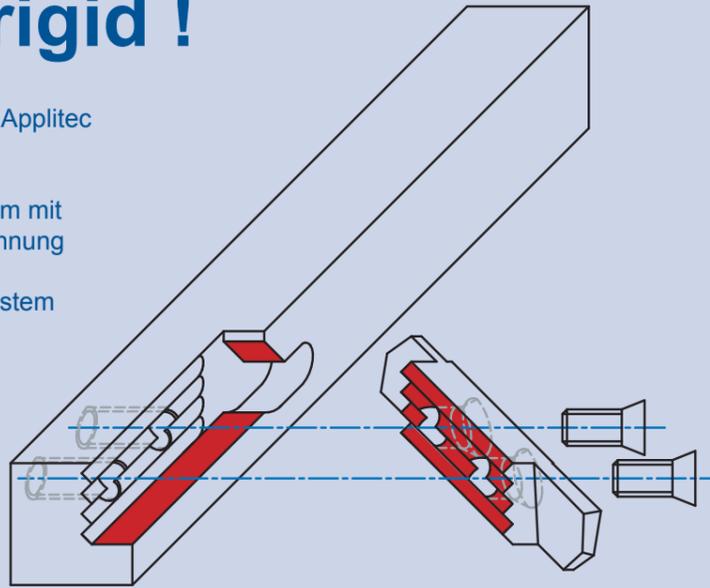
# 100% rigid !

Système de serrage Applitec à denture décalée

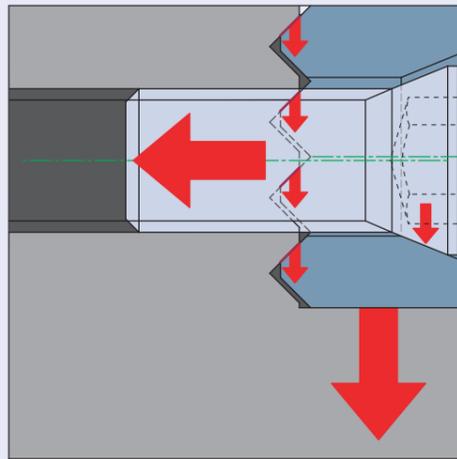
Applitec-Spannsystem mit verschobener Verzahnung

Applitec clamping system with shifted teeth

*patented*



Serrage standard (A)  
Standard Spannsystem (A)  
Standard clamping system (A)



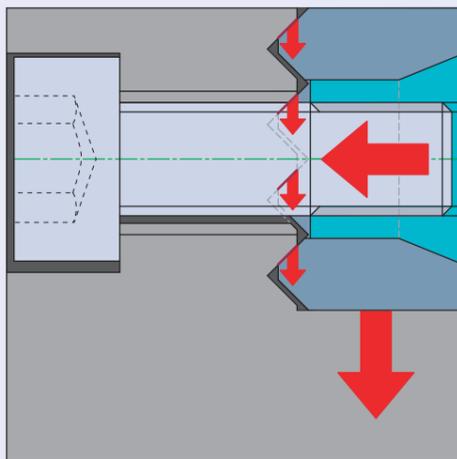
Serrage type B  
Spannsystem Typ B  
Clamping system type B

Changement de la plaquette possible dans la machine, sans démontage du porte-outil

WSP-Austauschmöglichkeit in der Maschine, ohne Halter Ausbau

The insert can be changed in the machine, without removing the tool holder

ajouter -B après le numéro d'article  
-B nach der Artikelreferenz hinzufügen  
add -B after the article number



## Nuances micro-grain universelles tenaces Universal zähe Feinkorn-Sorten Universal tough micro-grain grades

| N (μK20)<br>non revêtu<br>unbeschichtet<br>uncoated  | TiN<br>μK20 + revêtement PVD<br>μK20 + PVD Beschichtung<br>μK20 + PVD coating   | TiAlN<br>μK20 + revêtement PVD<br>μK20 + PVD Beschichtung<br>μK20 + PVD coating  |
|--|---|--|
| nuance micro-grain tenace<br>1er choix comme base pour un revêtement<br>supporte les coupes interrompues et autres conditions d'usinage défavorables | nuance pour l'usinage des matières peu résistantes qui créent des arêtes rapportées<br>très faible coefficient de frottement<br>à éviter pour l'usinage du titane       | excellente nuance universelle<br>1er choix pour l'usinage des aciers, aciers inoxydables et alliages de titane<br>très bonne résistance à la température |
| zähe Feinkorn-Sorte<br>beste Basis für eine Beschichtung<br>geeignet für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen        | Sorte für die Bearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden<br>sehr geringer Reibwert<br>für die Bearbeitung von Titan nicht geeignet | beste Universal-Sorte<br>bestens geeignet für die Bearbeitung von Stahl, rostfreiem Stahl und Titan Legierungen<br>sehr gute Warmfestigkeit              |
| tough micro-grain grade<br>first choice as base for coating<br>suitable for interrupted cut and other unfavourable machining conditions              | grade for the machining of low resistance materials which causes edge build-up<br>very low friction ratio<br>not suitable for titanium machining                        | best universal grade<br>first choice for steel, stainless steel and titanium alloys machining<br>very good heat resistance                               |

## Nuances micro-grain à dureté élevée Erschleissfeste Feinkorn-Sorten Wear resistant micro-grain grades

| HN (μK10)<br>non revêtu<br>unbeschichtet<br>uncoated   | HTiN<br>μK10 + revêtement PVD<br>μK10 + PVD Beschichtung<br>μK10 + PVD coating  | HTiAlN<br>μK10 + revêtement PVD<br>μK10 + PVD Beschichtung<br>μK10 + PVD coating   |
|--|---|--|
| nuance micro-grain très résistante à l'usure<br>recommandé pour l'usinage du titane faiblement allié<br>déconseillé en cas de coupe interrompue et autres conditions d'usinage défavorables  | nuance pour l'usinage en finition des matières peu résistantes qui créent des arêtes rapportées<br>très faible coefficient de frottement<br>à éviter pour l'usinage du titane | nuance très résistante à l'usure<br>pour l'usinage en finition dans des conditions favorables des aciers, aciers inoxydables et alliages de titane |
| verschleissfeste Feinkorn-Sorte<br>empfehlenswert für die Bearbeitung von niedrig legiertem Titan<br>nicht geeignet für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen | Sorte für die Feinbearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden<br>sehr geringer Reibwert<br>für die Bearbeitung von Titan nicht geeignet   | sehr verschleissfeste Sorte<br>für die Feinbearbeitung von Stahl, rostfreiem Stahl und Titan Legierungen bei guten Bearbeitungsbedingungen         |
| wear resistant micro-grain grade<br>suitable for the machining of low alloyed titanium<br>not suitable for interrupted cut and other unfavourable machining conditions                       | grade for light machining of low resistance materials which causes edge build-up<br>very low friction ratio<br>not suitable for titanium machining                            | very wear resistant grade<br>for light machining of steel, stainless steel and titanium alloys under favourable machining conditions               |

Géométries de coupe : conseils d'utilisation  
Spanformgeometrien : Anwendungs-Empfehlungen  
Cutting geometries : application recommendations

Series 300

| Géométries de coupe<br>Spanformgeometrien<br>Cutting geometries | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | Acier<br>Stahl<br>Steel | Acier inoxydable<br>Rostfreistahl<br>Stainless steel | Aluminium | Titane<br>Titan<br>Titanium | Laiton, bronze<br>Messing, Bronze<br>Brass, bronze | Cuivre<br>Kupfer<br>Copper | 1er choix<br>1er Wahl<br>1st choice | recommandé (voir remarques ci-dessous)<br>empfohlen (siehe weitere Bemerkungen)<br>recommended (see remarks here under) | ∅<br>pour pièces fragiles de très petits diamètres<br>für empfindliche und sehr kleine Werkstücke<br>for fragile and very small workpieces | Description   |
|---|--|-------------------------|--|-----------|-----------------------------|--|----------------------------|-------------------------------------|---|--|---|
|   |  |                         |  |           |                             |  |                            |                                     |   |  |   |
| 3_7   |  |                         |  |           |                             |  |                            |                                     |   |  | géométrie universelle, très bonne maîtrise du copeau<br>allgemeine Geometrie, sehr gute Spankontrolle<br>all-round insert with efficient chip control                     |
| 3_8   | ∅  | ∅                       | ∅  |           |                             |  |                            |                                     |   |  | géométrie plate classique<br>Standard Flach-Geometrie<br>standard flat geometry   |
| 3_8 vs  |  |                         |  | ∅         | ∅                           |  |                            |                                     |   | ∅  | brise-copeau pour usinage léger en finition<br>Spanbrecher für leichte Schlichtbearbeitung<br>chip-breaker for light finishing operation                                  |
| 3_8 vx  |  |                         |  |           |                             |  |                            |                                     |   |  | très bonne maîtrise du copeau<br>sehr gute Spankontrolle<br>very efficient chip control   |
| 3_8 x   |  |                         |  |           |                             |  |                            |                                     |   |  | coupe positive traditionnelle<br>Standard positive Geometrie<br>standard positive geometry  |
| 3_9   |  |                         |  |           |                             |  |                            |                                     |   |  | témoin plat sur la coupe pour réduire les vibrations<br>Vibrations-Reduzierung durch Flachfase<br>auf Schneidkante<br>vibration reduction through flat ended cutting edge |
| 3_7 EN  |  |                         |  |           |                             |  |                            |                                     |   |  | arête renforcée (augmente l'effort de coupe)<br>verstärkte Schneidkante (Schneidkraft-Erhöhung)<br>reinforced cutting edge (increases cutting force)                      |

Géométries de coupe : conseils d'utilisation  
Spanformgeometrien : Anwendungs-Empfehlungen  
Cutting geometries : application recommendations

Series 700

tronçonnage - abstechen - parting off

| Géométries de coupe<br>Spanformgeometrien<br>Cutting geometries | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | Acier<br>Stahl<br>Steel | Acier inoxydable<br>Rostfreistahl<br>Stainless steel | Aluminium | Titane<br>Titan<br>Titanium | Laiton, bronze<br>Messing, Bronze<br>Brass, bronze | Cuivre<br>Kupfer<br>Copper | 1er choix<br>1er Wahl<br>1st choice | recommandé (voir remarques ci-dessous)<br>empfohlen (siehe weitere Bemerkungen)<br>recommended (see remarks here under) | ∅<br>pour pièces fragiles de très petits diamètres<br>für empfindliche und sehr kleine Werkstücke<br>for fragile and very small workpieces | Description  |
|---|--|-------------------------|--|-----------|-----------------------------|--|----------------------------|-------------------------------------|---|--|--|
|   |  |                         |  |           |                             |  |                            |                                     |   |  |  |
| 7_1   |  |                         |  |           |                             |  |                            |                                     |   |  |  |
| 0°  |  |                         |  |           |                             |  |                            |                                     |   |  | permet un réaffûtage aisé<br>erlaubt einfaches Nachschleifen<br>allows easy regrinding   |
| x4°   |  |                         |  |           |                             |  |                            |                                     |   |  | réduit l'effort de coupe, réaffûtable<br>reduziert Schneidkräfte, nachschleifbar<br>decreases cutting force, allows regrinding             |
| xf  |  |                         |  |           |                             |  |                            |                                     |   |  | pour matières difficiles (pointe renforcée)<br>für schwierige Werkstoffe (verstärkte Spitze)<br>for difficult materials (reinforced point) |
| x12°  |  |                         |  |           |                             |  |                            |                                     |   |  | très bonne maîtrise du copeau<br>sehr gute Spankontrolle<br>very efficient chip control  |
| x25°  |  |                         |  |           |                             |  |                            |                                     |   |  | pour matières collantes faisant de très longs copeaux<br>für weiche Werkstoffe mit sehr lange Späne<br>for long chipping sticky materials  |
| u   |  |                         |  |           |                             |  |                            |                                     |   |  | pour resserrer le copeau, réaffûtage aisé<br>für Span-Verschmälerung, einfaches Nachschleifen<br>to narrow the chips, easy regrinding      |

Series 700

tournage - Drehen - turning

| Géométries de coupe<br>Spanformgeometrien<br>Cutting geometries | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | Acier<br>Stahl<br>Steel | Acier inoxydable<br>Rostfreistahl<br>Stainless steel | Aluminium | Titane<br>Titan<br>Titanium | Laiton, bronze<br>Messing, Bronze<br>Brass, bronze | Cuivre<br>Kupfer<br>Copper | 1er choix<br>1er Wahl<br>1st choice | recommandé (voir remarques ci-dessous)<br>empfohlen (siehe weitere Bemerkungen)<br>recommended (see remarks here under) | ∅<br>pour pièces fragiles de très petits diamètres<br>für empfindliche und sehr kleine Werkstücke<br>for fragile and very small workpieces | Description  |
|---|--|-------------------------|--|-----------|-----------------------------|--|----------------------------|-------------------------------------|---|--|--|
|   |  |                         |  |           |                             |  |                            |                                     |   |  |  |
| 7_2 / 7_3 / 7_4   |  |                         |  |           |                             |  |                            |                                     |   |  |  |
| 0°  |  |                         |  |           |                             |  |                            |                                     |   |  | permet un réaffûtage aisé<br>erlaubt einfaches Nachschleifen<br>allows easy regrinding   |
| x   |  |                         |  |           |                             |  |                            |                                     |   |  | coupe positive traditionnelle<br>Standard positive Geometrie<br>standard positive geometry   |
| vx8°  |  |                         |  |           |                             |  |                            |                                     |   |  | très bonne maîtrise du copeau<br>sehr gute Spankontrolle<br>very efficient chip control  |
| vx15°   |  |                         |  |           |                             |  |                            |                                     |   |  | très bonne maîtrise du copeau<br>sehr gute Spankontrolle<br>very efficient chip control  |
| vs  |  |                         |  |           |                             |  |                            |                                     |   |  | brise-copeau pour usinage léger en finition<br>Spanbrecher für leichte Schlichtbearbeitung<br>chip-breaker for light finishing operation |

Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

| Matière<br>Werkstoff<br>Material   | Tournage<br>Drehen<br>Turning |  |                                      | Tronçonnage<br>Abstechen<br>Cut off |  |                                      |
|--|-------------------------------|--|--------------------------------------|-------------------------------------|--|--------------------------------------|
|  | Vc<br>(mm/min)                | Prof. de passe<br>Schnitttiefe<br>Depth of cut<br>(mm) | Avance<br>Vorschub<br>Feed<br>(mm/U) | Vc<br>(mm/min)                      | Largeur de coupe<br>Abstechbreite<br>Cutting width<br>(mm) | Avance<br>Vorschub<br>Feed<br>(mm/U) |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 120-200                       | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.15<br>0.05-0.25               | 80- 150                             | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.08<br>0.03-0.15               |
| Acier<br>Stahl<br>Steel < 600 N/mm²  | 80-160                        | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.15<br>0.05-0.25               | 70-120                              | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.06<br>0.03-0.12               |
| Acier<br>Stahl<br>Steel < 800 N/mm²  | 60-120                        | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.10<br>0.05-0.20               | 60-100                              | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.05<br>0.03-0.10               |
| Acier<br>Stahl<br>Steel > 800 N/mm²  | 50-100                        | 0.05-1.0<br>1.0-3.0                                    | 0.01-0.08<br>0.05-0.15               | 40-80                               | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.04<br>0.03-0.08               |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 60-120                        | 0.05-1.0<br>1.0-3.0                                    | 0.01-0.08<br>0.05-0.15               | 60-100                              | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.04<br>0.03-0.08               |
| Aluminium Si < 12%   | 200-1000                      | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.20<br>0.05-0.40               | 180-400                             | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.10<br>0.03-0.20               |
| Aluminium Si > 12%   | 180-800                       | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.20<br>0.05-0.40               | 150-300                             | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.10<br>0.03-0.20               |
| Titane<br>Titan<br>Titanium  | 30-70                         | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.08<br>0.05-0.15               | 30-50                               | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.03<br>0.03-0.06               |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100-500                       | 0.05-1.0<br>1.0-4.0                                    | 0.01-0.20<br>0.05-0.35               | 100-300                             | 0.50-1.50<br>1.50-3.50                                     | 0.01-0.10<br>0.03-0.20               |

Indications pour premiers réglages  
Hinweise für die erste Einrichtung  
Indications for first setting

| ébauche<br>schruppen<br>roughing                           | finition<br>schlichten<br>finishing               |
|--|---|
| vitesse de coupe moyenne<br>avance élevée                  | vitesse de coupe élevée<br>avance faible          |
| durchschnittliche Schnittgeschwindigkeit<br>hoher Vorschub | hohe Schnittgeschwindigkeit<br>niedriger Vorschub |
| average cutting speed<br>high cutting feed                 | high cutting speed<br>low cutting feed            |

Remarque importante  
Wichtige Bemerkung  
Important remark

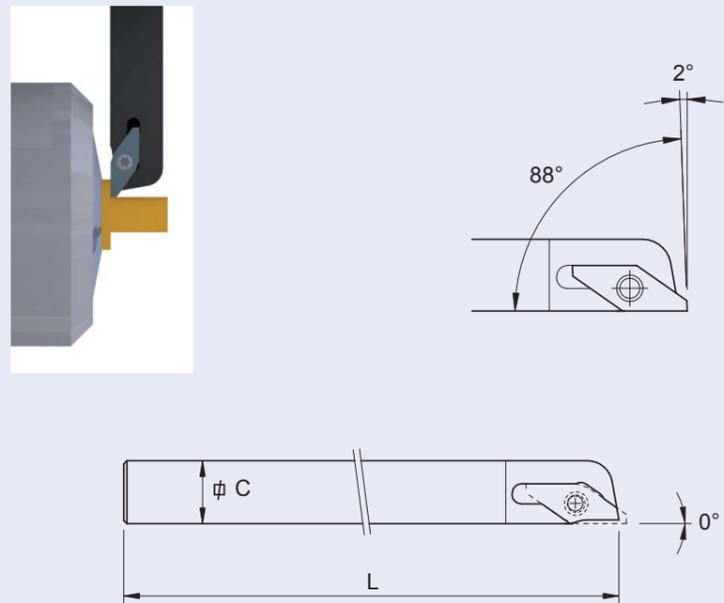
Souvent, il n'est pas possible d'atteindre les vitesses de coupe préconisées, à cause des limites de la machine.  
Les outils Applitec sont spécialement développés pour permettre de hautes performances, même dans des conditions de coupe défavorables.  
Des applications non préconisés dans le tableau ci-contre peuvent également s'avérer efficaces.

Wegen begrenzter Maschinenleistung ist es oft nicht möglich, die vorgeschlagenen Schnittgeschwindigkeit zu erreichen.  
Applitec Werkzeuge sind besonders entwickelt, um sogar bei ungünstigen Schnittdaten leistungsfähig zu sein.  
Die in nebenstehender Tabelle nicht erwähnten Anwendungsfälle können sich auch effizient erweisen.

In many cases, it is impossible to reach the recommended cutting speed, due to the machine limits.  
Applitec tools are especially designed to be efficient even in bad cutting conditions.  
Applications not mentioned in the opposite table can also be efficient.

porte-outils  
Halter  
holders

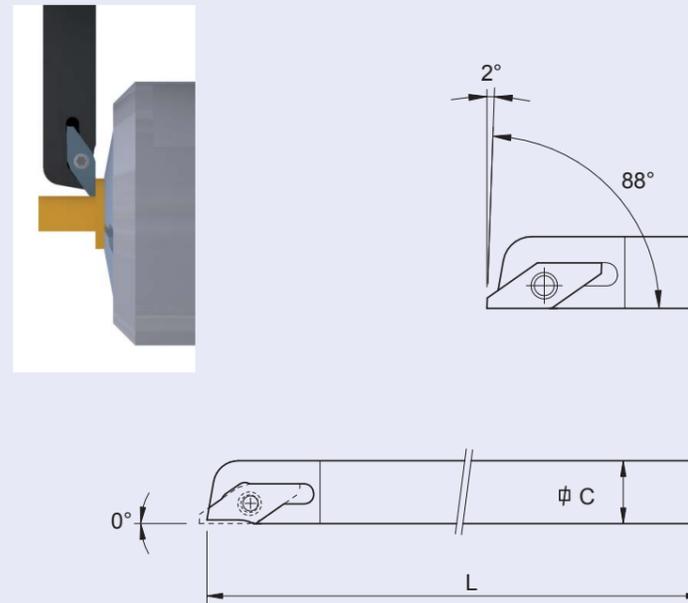
type 310



| C       | L   | Art. N° |
|---------|-----|---------|
| 7 X 7   | 115 | 311     |
| 8 X 8   | 115 | 312     |
| 10 X 10 | 115 | 313     |
| 12 X 12 | 115 | 314     |
| 12 X 12 | 90  | 314-90  |
| 12 X 12 | 140 | 314-140 |
| 13 X 13 | 140 | 314-13  |
| 16 X 16 | 100 | 315     |
| 16 X 16 | 140 | 315-140 |
| 20 X 20 | 120 | 316     |

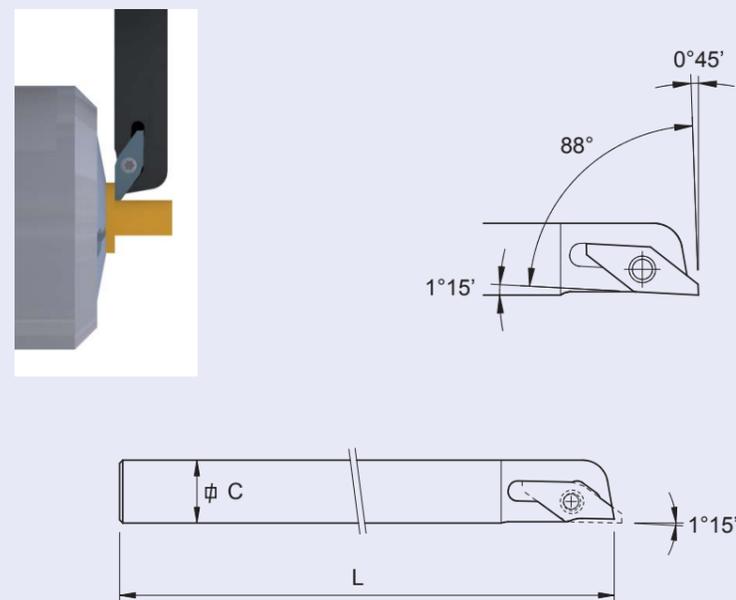
porte-outils  
Halter  
holders

type 320



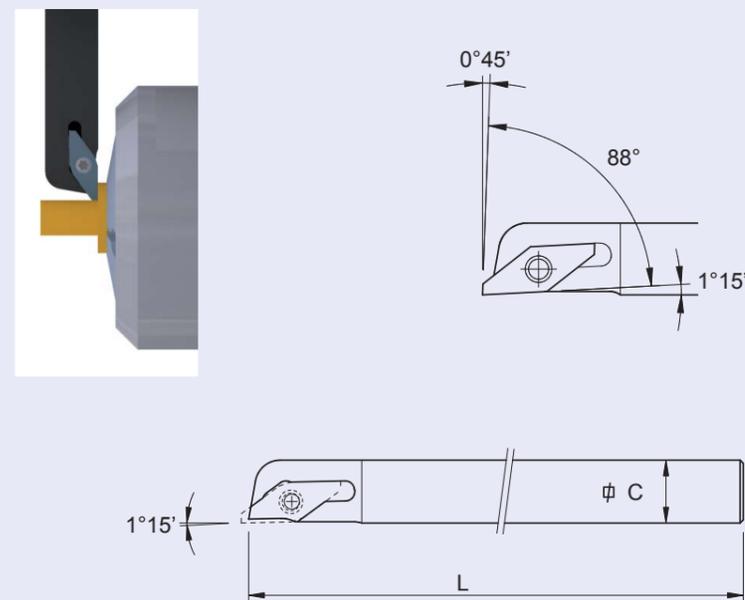
| C       | L   | Art. N° |
|---------|-----|---------|
| 7 X 7   | 115 | 321     |
| 8 X 8   | 115 | 322     |
| 10 X 10 | 115 | 323     |
| 10 X 10 | 140 | 323-1   |
| 12 X 12 | 115 | 324     |
| 12 X 12 | 90  | 324-1   |
| 12 X 12 | 140 | 324-140 |
| 13 X 13 | 140 | 324-13  |
| 16 X 16 | 100 | 325     |
| 16 X 16 | 140 | 325-140 |
| 20 X 20 | 120 | 326     |

type 310-BC



| C       | L   | Art. N°    |
|---------|-----|------------|
| 7 X 7   | 115 | 311-BC     |
| 8 X 8   | 115 | 312-BC     |
| 10 X 10 | 115 | 313-BC     |
| 12 X 12 | 115 | 314-BC     |
| 12 X 12 | 90  | 314-90-BC  |
| 12 X 12 | 140 | 314-140-BC |
| 13 X 13 | 140 | 314-13-BC  |
| 16 X 16 | 100 | 315-BC     |
| 16 X 16 | 140 | 315-140-BC |
| 20 X 20 | 120 | 316-BC     |

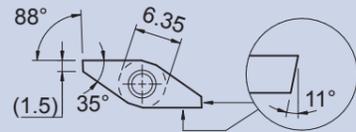
type 320-BC



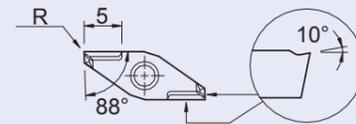
| C       | L   | Art. N°    |
|---------|-----|------------|
| 7 X 7   | 115 | 321-BC     |
| 8 X 8   | 115 | 322-BC     |
| 10 X 10 | 115 | 323-BC     |
| 10 X 10 | 140 | 323-1-BC   |
| 12 X 12 | 115 | 324-BC     |
| 12 X 12 | 90  | 324-1-BC   |
| 12 X 12 | 140 | 324-140-BC |
| 13 X 13 | 140 | 324-13-BC  |
| 16 X 16 | 100 | 325-BC     |
| 16 X 16 | 140 | 325-140-BC |
| 20 X 20 | 120 | 326-BC     |

tourneur avant  
vorwärts drehen  
front turning

88°

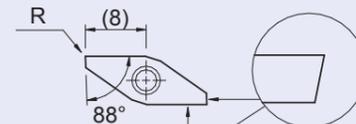


317



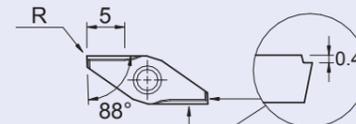
| R    | Art. N° | TIN<br>TIALN<br>N (μK20) | HTIN<br>HTIALN<br>HN (μK10) |
|------|---------|--------------------------|-----------------------------|
| 0    | 317     | ■ ■ ■                    | ■ ■ ■                       |
| 0.03 | 317-R03 | ■ ■ ■                    | ■ ■ ■                       |
| 0.08 | 317-R08 | ■ ■ ■                    | ■ ■ ■                       |
| 0.1  | 317-R10 | ■ ■ ■                    | ■ ■ ■                       |
| 0.2  | 317-R20 | ■ ■ ■                    | ■ ■ ■                       |

318



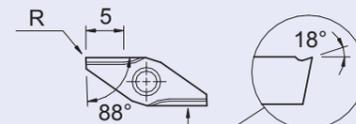
| R   | Art. N° | TIN<br>TIALN<br>N (μK10) |
|-----|---------|--------------------------|
| 0   | 318     | ■* ■* ■*                 |
| 0.1 | 318-R10 | ■* ■* ■*                 |
| 0.2 | 318-R20 | ■* ■* ■*                 |
| 0.4 | 318-R40 | ■* ■* ■*                 |

318VS



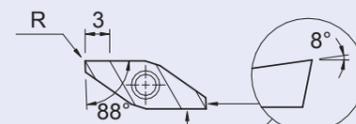
|     |           |          |
|-----|-----------|----------|
| 0   | 318VS     | ■* ■* ■* |
| 0.1 | 318VS-R10 | ■* ■* ■* |

318VX



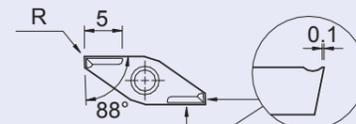
|      |           |          |
|------|-----------|----------|
| 0    | 318VX     | ■* ■* ■* |
| 0.05 | 318VX-R05 | ■* ■* ■* |

318X



|     |          |          |
|-----|----------|----------|
| 0   | 318X     | ■* ■* ■* |
| 0.1 | 318X-R10 | ■* ■* ■* |

319



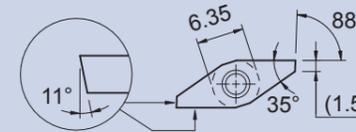
|     |         |          |
|-----|---------|----------|
| 0   | 319     | ■* ■* ■* |
| 0.1 | 319-R10 | ■* ■* ■* |
| 0.2 | 319-R20 | ■* ■* ■* |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

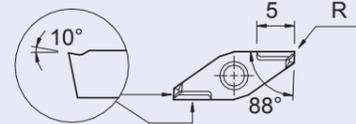
■\* = Correspond aux nuances :  
Entspricht den Sorten :  
Equivalent to grade :  
HTIN  
HTIALN  
HN (μK10)

tourneur avant  
vorwärts drehen  
front turning

88°

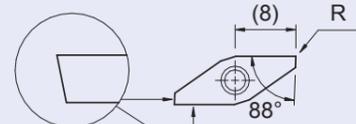


327



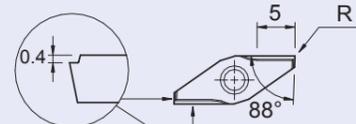
| R    | Art. N° | TIN<br>TIALN<br>N (μK20) | HTIN<br>HTIALN<br>HN (μK10) |
|------|---------|--------------------------|-----------------------------|
| 0    | 327     | ■ ■ ■                    | ■ ■ ■                       |
| 0.03 | 327-R03 | ■ ■ ■                    | ■ ■ ■                       |
| 0.08 | 327-R08 | ■ ■ ■                    | ■ ■ ■                       |
| 0.1  | 327-R10 | ■ ■ ■                    | ■ ■ ■                       |
| 0.2  | 327-R20 | ■ ■ ■                    | ■ ■ ■                       |

328



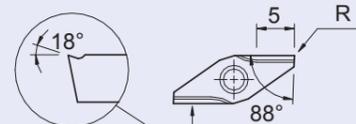
| R   | Art. N° | TIN<br>TIALN<br>N (μK10) |
|-----|---------|--------------------------|
| 0   | 328     | ■* ■* ■*                 |
| 0.1 | 328-R10 | ■* ■* ■*                 |
| 0.2 | 328-R20 | ■* ■* ■*                 |
| 0.4 | 328-R40 | ■* ■* ■*                 |

328VS



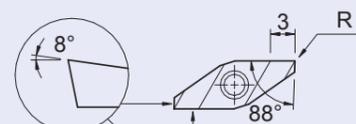
|     |           |          |
|-----|-----------|----------|
| 0   | 328VS     | ■* ■* ■* |
| 0.1 | 328VS-R10 | ■* ■* ■* |

328VX



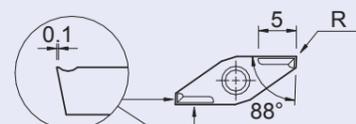
|      |           |          |
|------|-----------|----------|
| 0    | 328VX     | ■* ■* ■* |
| 0.05 | 328VX-R05 | ■* ■* ■* |

328X



|     |          |          |
|-----|----------|----------|
| 0   | 328X     | ■* ■* ■* |
| 0.1 | 328X-R10 | ■* ■* ■* |

329



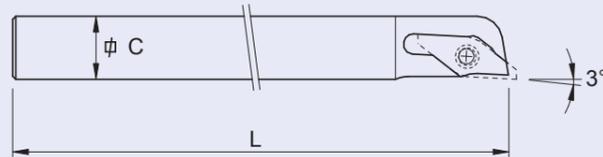
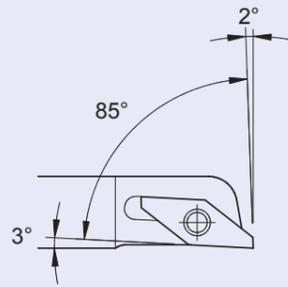
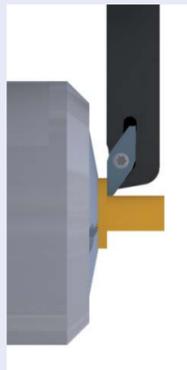
|     |         |          |
|-----|---------|----------|
| 0   | 329     | ■* ■* ■* |
| 0.1 | 329-R10 | ■* ■* ■* |
| 0.2 | 329-R20 | ■* ■* ■* |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

■\* = Correspond aux nuances :  
Entspricht den Sorten :  
Equivalent to grade :  
HTIN  
HTIALN  
HN (μK10)

porte-outils  
Halter  
holders

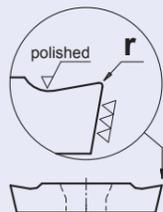
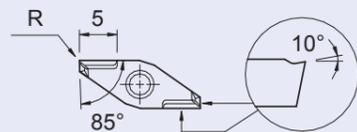
type 330



| C       | L   | Art. N° |
|---------|-----|---------|
| 8 X 8   | 115 | 332     |
| 10 X 10 | 115 | 333     |
| 12 X 12 | 115 | 334     |
| 12 X 12 | 90  | 334-90  |
| 12 X 12 | 140 | 334-140 |
| 13 X 13 | 140 | 334-13  |
| 16 X 16 | 100 | 335     |
| 16 X 16 | 140 | 335-140 |
| 20 X 20 | 120 | 336     |

Plaquette avec arête de coupe renforcée par polissage  
WSP mit verstärkter und polierter Schneidkante  
Insert with reinforced and polished cutting edge

337-EN

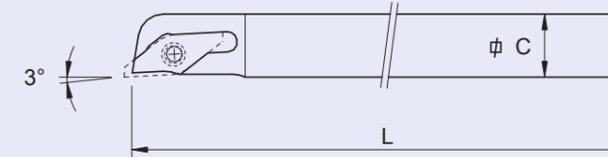
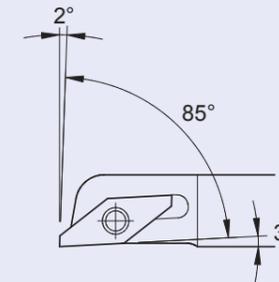


| R    | Art. N°    | TIN | TIALN | N ( $\mu K20$ ) |
|------|------------|-----|-------|-----------------|
| 0    | 337-EN     | ■   | ■     | ■               |
| 0.08 | 337-EN-R08 | ■   | ■     | ■               |
| 0.1  | 337-EN-R10 | ■   | ■     | ■               |
| 0.2  | 337-EN-R20 | ■   | ■     | ■               |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

porte-outils  
Halter  
holders

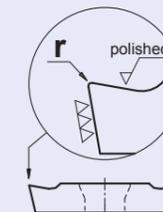
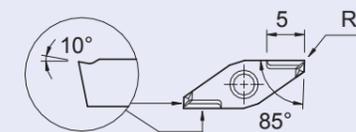
type 340



| C       | L   | Art. N° |
|---------|-----|---------|
| 8 X 8   | 115 | 342     |
| 10 X 10 | 115 | 343     |
| 10 X 10 | 140 | 343-1   |
| 12 X 12 | 115 | 344     |
| 12 X 12 | 90  | 344-90  |
| 12 X 12 | 140 | 344-140 |
| 13 X 13 | 140 | 344-13  |
| 16 X 16 | 100 | 345     |
| 16 X 16 | 140 | 345-140 |
| 20 X 20 | 120 | 346     |

Plaquette avec arête de coupe renforcée par polissage  
WSP mit verstärkter und polierter Schneidkante  
Insert with reinforced and polished cutting edge

347-EN

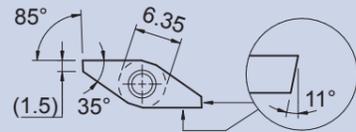


| R    | Art. N°    | TIN | TIALN | N ( $\mu K20$ ) |
|------|------------|-----|-------|-----------------|
| 0    | 347-EN     | ■   | ■     | ■               |
| 0.08 | 347-EN-R08 | ■   | ■     | ■               |
| 0.1  | 347-EN-R10 | ■   | ■     | ■               |
| 0.2  | 347-EN-R20 | ■   | ■     | ■               |

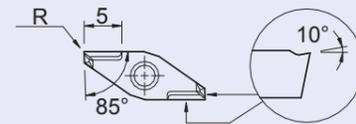
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

tourneur avant  
vorwärts drehen  
front turning

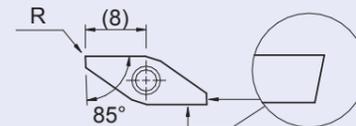
85°



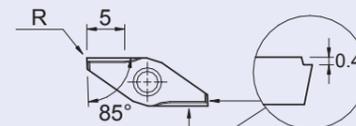
337



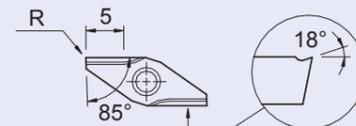
338



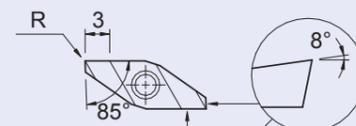
338VS



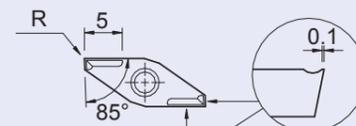
338VX



338X



339



| R    | Art. N° | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|------|---------|-----|-------|----------|------|--------|-----------|
| 0    | 337     | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.03 | 337-R03 | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.08 | 337-R08 | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.1  | 337-R10 | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.2  | 337-R20 | ■   | ■     | ■        | ■    | ■      | ■         |

| R   | Art. N° | TIN | TIALN | N (μK20) |
|-----|---------|-----|-------|----------|
| 0   | 338     | ■   | ■     | ■        |
| 0.1 | 338-R10 | ■   | ■     | ■        |
| 0.2 | 338-R20 | ■   | ■     | ■        |
| 0.4 | 338-R40 | ■   | ■     | ■        |

|     |           |   |   |   |
|-----|-----------|---|---|---|
| 0   | 338VS     | ■ | ■ | ■ |
| 0.1 | 338VS-R10 | ■ | ■ | ■ |

|      |           |   |   |   |
|------|-----------|---|---|---|
| 0    | 338VX     | ■ | ■ | ■ |
| 0.05 | 338VX-R05 | ■ | ■ | ■ |

|     |          |   |   |   |
|-----|----------|---|---|---|
| 0   | 338X     | ■ | ■ | ■ |
| 0.1 | 338X-R10 | ■ | ■ | ■ |

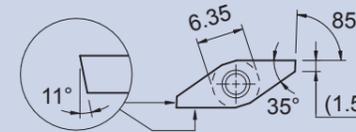
|     |         |   |   |   |
|-----|---------|---|---|---|
| 0   | 339     | ■ | ■ | ■ |
| 0.1 | 339-R10 | ■ | ■ | ■ |
| 0.2 | 339-R20 | ■ | ■ | ■ |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

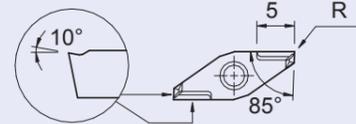
■\* = Correspond aux nuances :  
Entspricht den Sorten :  
Equivalent to grade :  
HTIN  
HTIALN  
HN (μK10)

tourneur avant  
vorwärts drehen  
front turning

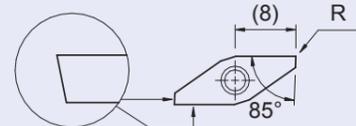
85°



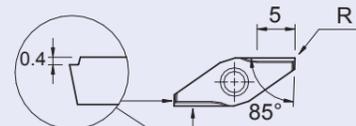
347



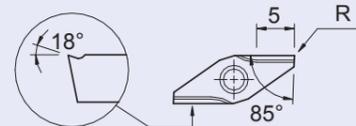
348



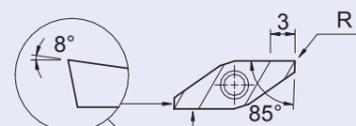
348VS



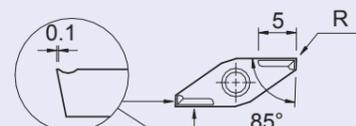
348VX



348X



349



| R    | Art. N° | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|------|---------|-----|-------|----------|------|--------|-----------|
| 0    | 347     | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.03 | 347-R03 | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.08 | 347-R08 | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.1  | 347-R10 | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.2  | 347-R20 | ■   | ■     | ■        | ■    | ■      | ■         |

| R   | Art. N° | TIN | TIALN | N (μK20) |
|-----|---------|-----|-------|----------|
| 0   | 348     | ■   | ■     | ■        |
| 0.1 | 348-R10 | ■   | ■     | ■        |
| 0.2 | 348-R20 | ■   | ■     | ■        |
| 0.4 | 348-R40 | ■   | ■     | ■        |

|     |           |   |   |   |
|-----|-----------|---|---|---|
| 0   | 348VS     | ■ | ■ | ■ |
| 0.1 | 348VS-R10 | ■ | ■ | ■ |

|      |           |   |   |   |
|------|-----------|---|---|---|
| 0    | 348VX     | ■ | ■ | ■ |
| 0.05 | 348VX-R05 | ■ | ■ | ■ |

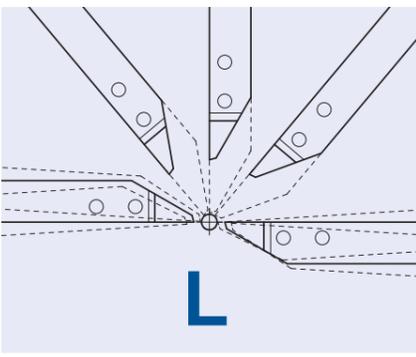
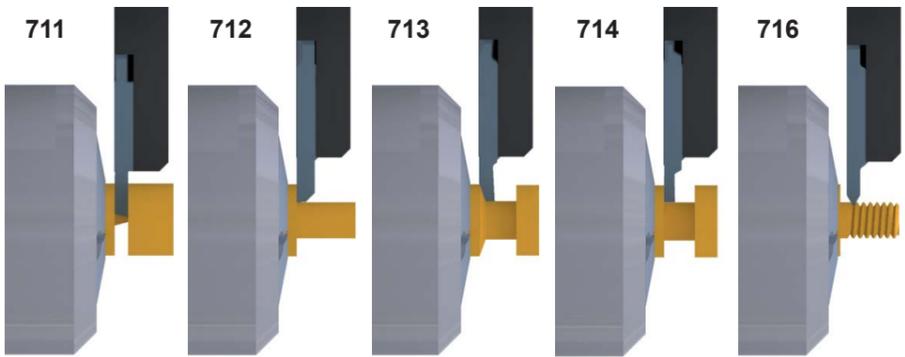
|     |          |   |   |   |
|-----|----------|---|---|---|
| 0   | 348X     | ■ | ■ | ■ |
| 0.1 | 348X-R10 | ■ | ■ | ■ |

|     |         |   |   |   |
|-----|---------|---|---|---|
| 0   | 349     | ■ | ■ | ■ |
| 0.1 | 349-R10 | ■ | ■ | ■ |
| 0.2 | 349-R20 | ■ | ■ | ■ |

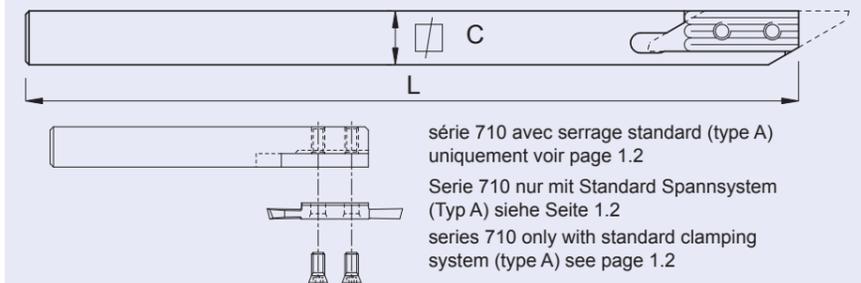
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

■\* = Correspond aux nuances :  
Entspricht den Sorten :  
Equivalent to grade :  
HTIN  
HTIALN  
HN (μK10)

Série spéciale pour machines à cames à gauche  
 Sonder-Serie für linksdrehende kurvengesteuerte Maschinen  
 Special series for left hand turning cam driven machines



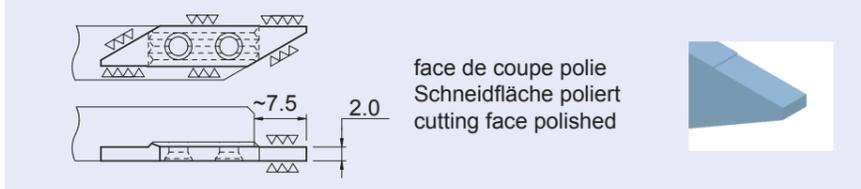
porte-outils  
 Halter  
 holders



série 710 avec serrage standard (type A)  
 uniquement voir page 1.2  
 Serie 710 nur mit Standard Spannsystem  
 (Typ A) siehe Seite 1.2  
 series 710 only with standard clamping  
 system (type A) see page 1.2

| C       | L   | Art. N° |
|---------|-----|---------|
| 6 X 6   | 115 | 710-6   |
| 7 X 7   | 115 | 710-7   |
| 8 X 8   | 115 | 710-8   |
| 10 X 10 | 115 | 710-10  |
| 12 X 12 | 130 | 710-12  |

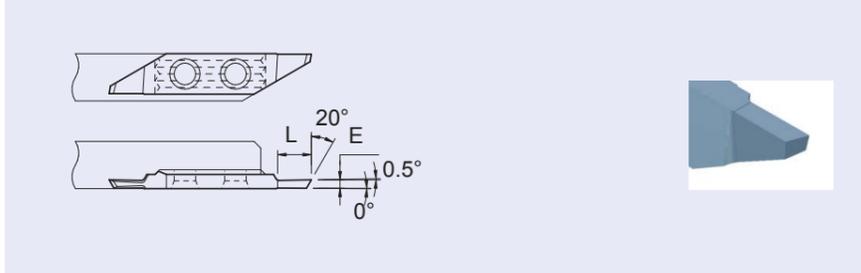
plaquette ébauche  
 VHM-Rohling  
 blank insert



face de coupe polie  
 Schneidfläche poliert  
 cutting face polished

| Art. N° | N (µK20) | HN (µK10) |
|---------|----------|-----------|
| 711-EP  | ■        | ■         |

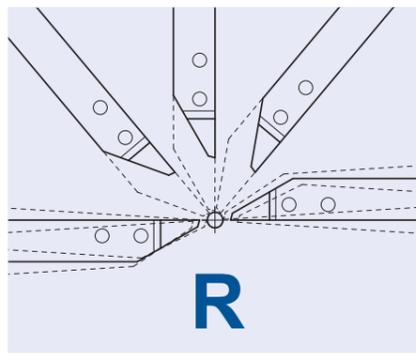
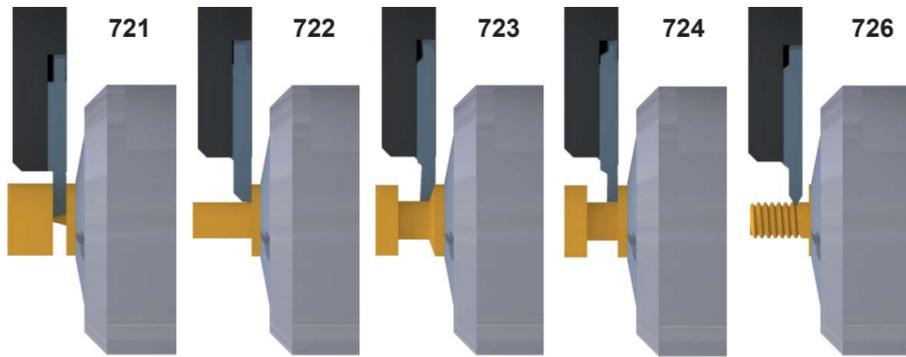
tronçonnage  
 abstechen  
 parting off



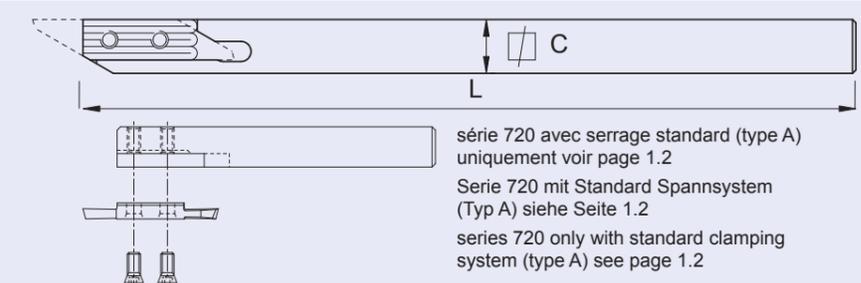
| E   | L   | Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---------|-----|-------|----------|------|--------|-----------|
| 0.5 | 2   | 711-0.5 | ■   | ■     | ■        |      |        |           |
| 0.8 | 3   | 711-0.8 | ■   | ■     | ■        | □    | ■      |           |
| 0.9 | 3   | 711-0.9 | ■   | ■     | ■        |      |        |           |
| 1.0 | 4   | 711-1.0 | ■   | ■     | ■        | ■    | ■      |           |
| 1.1 | 4   | 711-1.1 | ■   | ■     | ■        |      |        |           |
| 1.2 | 5   | 711-1.2 | ■   | ■     | ■        | ■    | ■      |           |
| 1.3 | 5   | 711-1.3 | ■   | ■     | ■        |      |        |           |
| 1.4 | 5   | 711-1.4 | ■   | ■     | ■        |      |        |           |
| 1.5 | 6.5 | 711-1.5 | ■   | ■     | ■        | ■    | ■      |           |
| 1.8 | 6.5 | 711-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 6.5 | 711-2.0 | ■   | ■     | ■        |      |        |           |

■ = Standard  
 □ = Sur demande / Auf Anfrage / On request

Série spéciale pour machines à cames à droite  
 Sonder-Serie für rechtsdrehende kurvengesteuerte Maschinen  
 Special series for right hand turning cam driven machines



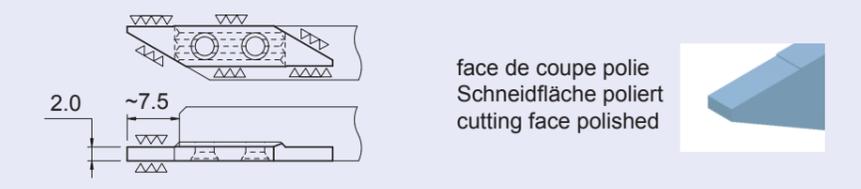
porte-outils  
 Halter  
 holders



série 720 avec serrage standard (type A)  
 uniquement voir page 1.2  
 Serie 720 mit Standard Spannsystem  
 (Typ A) siehe Seite 1.2  
 series 720 only with standard clamping  
 system (type A) see page 1.2

| C       | L   | Art. N° |
|---------|-----|---------|
| 7 X 7   | 115 | 720-7   |
| 8 X 8   | 115 | 720-8   |
| 10 X 10 | 115 | 720-10  |
| 12 X 12 | 130 | 720-12  |

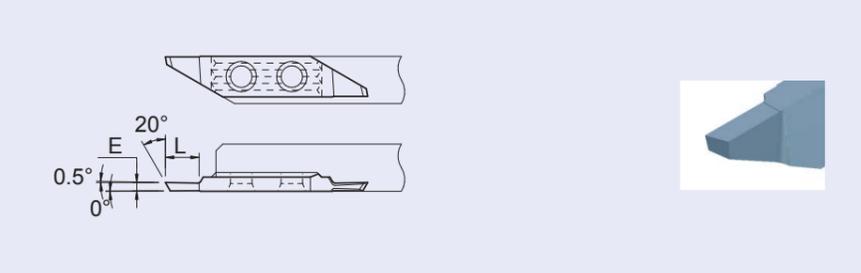
plaquette ébauche  
 VHM-Rohling  
 blank insert



face de coupe polie  
 Schneidfläche poliert  
 cutting face polished

| Art. N° | N (µK20) | HN (µK10) |
|---------|----------|-----------|
| 721-EP  | ■        | ■         |

tronçonnage  
 abstechen  
 parting off

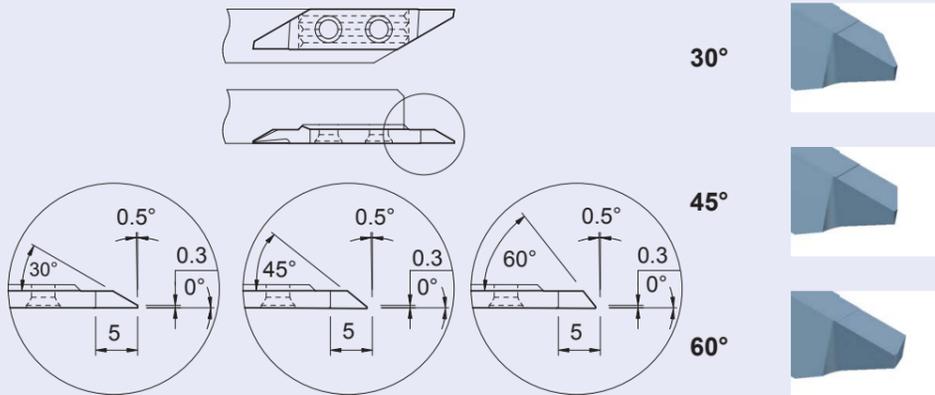


| E   | L   | Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---------|-----|-------|----------|------|--------|-----------|
| 0.8 | 3   | 721-0.8 | ■   | ■     | ■        |      |        |           |
| 1.0 | 4   | 721-1.0 | ■   | ■     | ■        | □    | ■      |           |
| 1.2 | 5   | 721-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 6.5 | 721-1.5 | ■   | ■     | ■        | □    | □      |           |
| 1.8 | 6.5 | 721-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 6.5 | 721-2.0 | ■   | ■     | ■        |      |        |           |

■ = Standard  
 □ = Sur demande / Auf Anfrage / On request



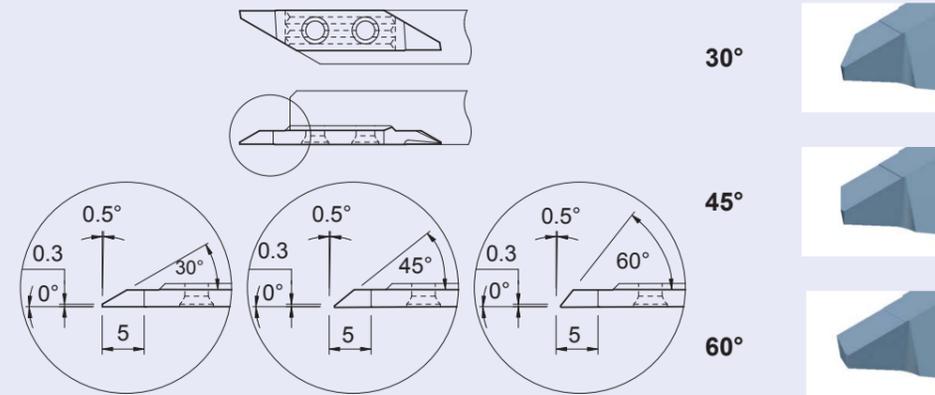
tourneur avant  
vorwärts drehen  
front turning



| Art. N° | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|---------|-----|-------|----------|------|--------|-----------|
| 712-30  | ■   | ■     | ■        | □    | ■      | ■         |
| 712-45  | ■   | ■     | ■        | ■    | ■      | ■         |
| 712-60  | ■   | ■     | ■        | □    | ■      | ■         |



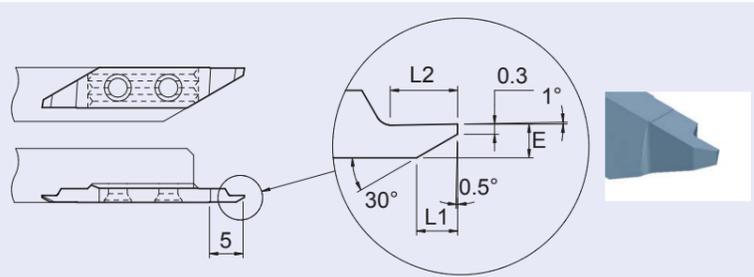
tourneur avant  
vorwärts drehen  
front turning



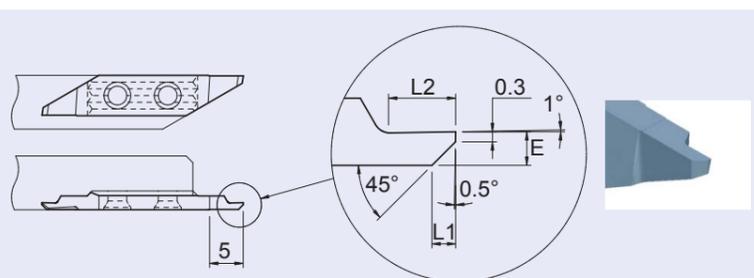
| Art. N° | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|---------|-----|-------|----------|------|--------|-----------|
| 722-30  | ■   | ■     | ■        | ■    | ■      | ■         |
| 722-45  | ■   | ■     | ■        | ■    | ■      | ■         |
| 722-60  | ■   | ■     | ■        | ■    | ■      | ■         |



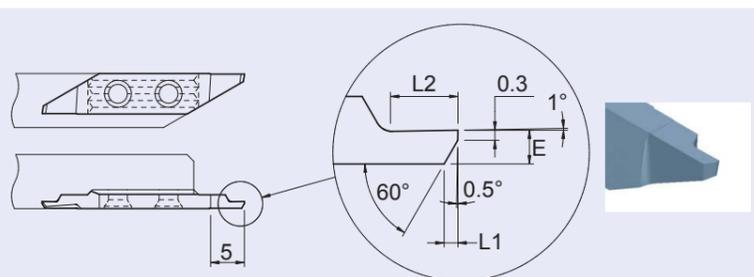
tourneur arrière  
rückwärts drehen  
back turning



| E   | ~L1  | L2  | Art. N°    | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|-----|------|-----|------------|-----|-------|----------|------|--------|-----------|
| 0.8 | 0.85 | 1.6 | 713-30-0.8 | ■   | ■     | ■        |      |        |           |
| 0.9 | 1.05 | 1.6 | 713-30-0.9 | ■   | ■     | ■        |      |        |           |
| 1.0 | 1.2  | 2.0 | 713-30-1.0 | ■   | ■     | ■        |      |        |           |
| 1.1 | 1.4  | 2.0 | 713-30-1.1 | ■   | ■     | ■        |      |        |           |
| 1.2 | 1.55 | 2.5 | 713-30-1.2 | ■   | ■     | ■        |      |        |           |
| 1.3 | 1.7  | 2.5 | 713-30-1.3 | ■   | ■     | ■        |      |        |           |
| 1.4 | 1.9  | 3.0 | 713-30-1.4 | ■   | ■     | ■        |      |        |           |
| 1.5 | 2.1  | 3.0 | 713-30-1.5 | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.8 | 2.6  | 4.0 | 713-30-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 3.0  | 4.0 | 713-30-2.0 | ■   | ■     | ■        |      |        |           |



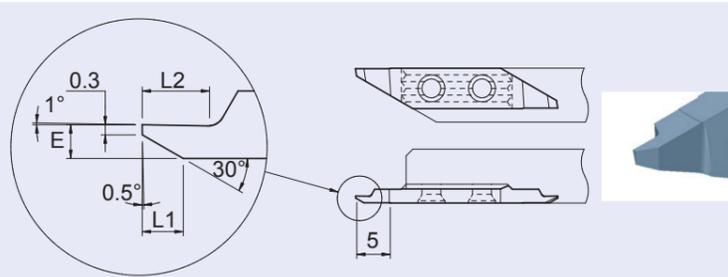
|     |     |     |            |   |   |   |   |   |   |
|-----|-----|-----|------------|---|---|---|---|---|---|
| 0.8 | 0.5 | 1.6 | 713-45-0.8 | ■ | ■ | ■ |   |   |   |
| 0.9 | 0.6 | 1.6 | 713-45-0.9 | ■ | ■ | ■ |   |   |   |
| 1.0 | 0.7 | 2.0 | 713-45-1.0 | ■ | ■ | ■ | □ | ■ | ■ |
| 1.1 | 0.8 | 2.0 | 713-45-1.1 | ■ | ■ | ■ |   |   |   |
| 1.2 | 0.9 | 2.5 | 713-45-1.2 | ■ | ■ | ■ |   |   |   |
| 1.3 | 1.0 | 2.5 | 713-45-1.3 | ■ | ■ | ■ |   |   |   |
| 1.4 | 1.1 | 3.0 | 713-45-1.4 | ■ | ■ | ■ |   |   |   |
| 1.5 | 1.2 | 3.0 | 713-45-1.5 | ■ | ■ | ■ | ■ | ■ | ■ |
| 1.8 | 1.5 | 4.0 | 713-45-1.8 | ■ | ■ | ■ |   |   |   |
| 2.0 | 1.7 | 4.0 | 713-45-2.0 | ■ | ■ | ■ |   |   |   |



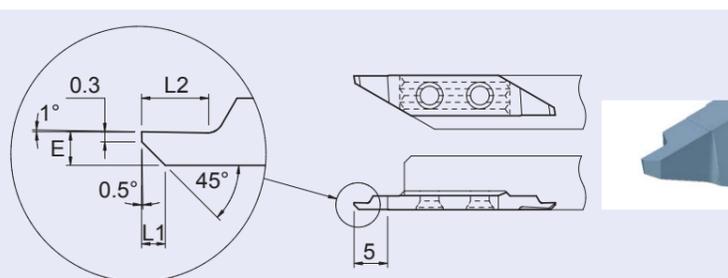
|     |      |     |            |   |   |   |  |  |  |
|-----|------|-----|------------|---|---|---|--|--|--|
| 0.8 | 0.3  | 1.6 | 713-60-0.8 | ■ | ■ | ■ |  |  |  |
| 0.9 | 0.35 | 1.6 | 713-60-0.9 | ■ | ■ | ■ |  |  |  |
| 1.0 | 0.4  | 2.0 | 713-60-1.0 | ■ | ■ | ■ |  |  |  |
| 1.1 | 0.45 | 2.0 | 713-60-1.1 | ■ | ■ | ■ |  |  |  |
| 1.2 | 0.5  | 2.5 | 713-60-1.2 | ■ | ■ | ■ |  |  |  |
| 1.3 | 0.6  | 2.5 | 713-60-1.3 | ■ | ■ | ■ |  |  |  |
| 1.4 | 0.65 | 3.0 | 713-60-1.4 | ■ | ■ | ■ |  |  |  |
| 1.5 | 0.7  | 3.0 | 713-60-1.5 | ■ | ■ | ■ |  |  |  |
| 1.8 | 0.85 | 4.0 | 713-60-1.8 | ■ | ■ | ■ |  |  |  |
| 2.0 | 1.0  | 4.0 | 713-60-2.0 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

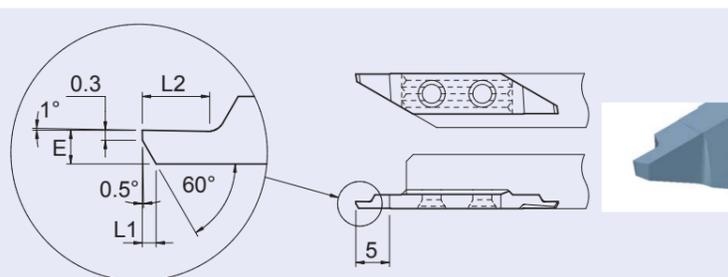
tourneur arrière  
rückwärts drehen  
back turning



| E   | ~L1  | L2  | Art. N°    | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|-----|------|-----|------------|-----|-------|----------|------|--------|-----------|
| 0.8 | 0.85 | 1.6 | 723-30-0.8 | ■   | ■     | ■        |      |        |           |
| 1.0 | 1.2  | 2.0 | 723-30-1.0 | ■   | ■     | ■        |      |        |           |
| 1.2 | 1.55 | 2.5 | 723-30-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 2.1  | 3.0 | 723-30-1.5 | ■   | ■     | ■        |      |        |           |
| 1.8 | 2.6  | 4.0 | 723-30-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 3.0  | 4.0 | 723-30-2.0 | ■   | ■     | ■        |      |        |           |



|     |     |     |            |   |   |   |  |  |  |
|-----|-----|-----|------------|---|---|---|--|--|--|
| 0.8 | 0.5 | 1.6 | 723-45-0.8 | ■ | ■ | ■ |  |  |  |
| 1.0 | 0.7 | 2.0 | 723-45-1.0 | ■ | ■ | ■ |  |  |  |
| 1.2 | 0.9 | 2.5 | 723-45-1.2 | ■ | ■ | ■ |  |  |  |
| 1.5 | 1.2 | 3.0 | 723-45-1.5 | ■ | ■ | ■ |  |  |  |
| 1.8 | 1.5 | 4.0 | 723-45-1.8 | ■ | ■ | ■ |  |  |  |
| 2.0 | 1.7 | 4.0 | 723-45-2.0 | ■ | ■ | ■ |  |  |  |

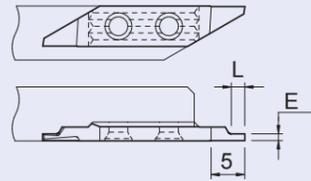


|     |      |     |            |   |   |   |  |  |  |
|-----|------|-----|------------|---|---|---|--|--|--|
| 0.8 | 0.3  | 1.6 | 723-60-0.8 | ■ | ■ | ■ |  |  |  |
| 1.0 | 0.4  | 2.0 | 723-60-1.0 | ■ | ■ | ■ |  |  |  |
| 1.2 | 0.5  | 2.5 | 723-60-1.2 | ■ | ■ | ■ |  |  |  |
| 1.5 | 0.7  | 3.0 | 723-60-1.5 | ■ | ■ | ■ |  |  |  |
| 1.8 | 0.85 | 4.0 | 723-60-1.8 | ■ | ■ | ■ |  |  |  |
| 2.0 | 1.0  | 4.0 | 723-60-2.0 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



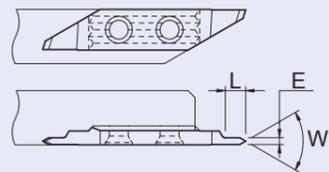
foncer tourner  
einstechen und drehen  
grooving and turning



| E   | L   | Art. N° | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---------|--------------------------|-----------------------------|
| 0.5 | 1.0 | 714-0.5 | ■ ■ ■                    |                             |
| 0.6 | 1.0 | 714-0.6 | ■ ■ ■                    |                             |
| 0.7 | 1.5 | 714-0.7 | ■ ■ ■                    |                             |
| 0.8 | 1.5 | 714-0.8 | ■ ■ ■                    |                             |
| 0.9 | 2.0 | 714-0.9 | ■ ■ ■                    |                             |
| 1.0 | 2.0 | 714-1.0 | ■ ■ ■                    | □ ■ ■                       |
| 1.1 | 2.0 | 714-1.1 | ■ ■ ■                    |                             |
| 1.2 | 2.5 | 714-1.2 | ■ ■ ■                    |                             |
| 1.3 | 2.5 | 714-1.3 | ■ ■ ■                    |                             |
| 1.4 | 3.0 | 714-1.4 | ■ ■ ■                    |                             |
| 1.5 | 3.0 | 714-1.5 | ■ ■ ■                    | ■ ■ ■                       |



fileter  
Gewinde drehen  
threading

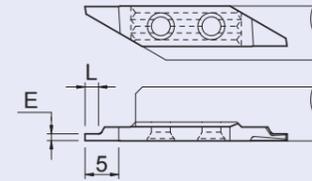


| W   | E   | L | Art. N°    | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---|------------|--------------------------|-----------------------------|
| 60° | 1.0 | 3 | 716-60-1.0 | ■ ■ ■                    |                             |
| 60° | 1.5 | 4 | 716-60-1.5 | ■ ■ ■                    |                             |
| 55° | 1.0 | 3 | 716-55-1.0 | ■ ■ ■                    |                             |
| 55° | 1.5 | 4 | 716-55-1.5 | ■ ■ ■                    |                             |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



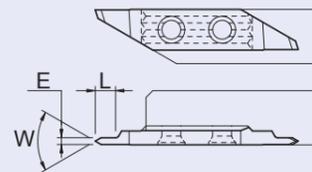
foncer tourner  
einstechen und drehen  
grooving and turning



| E   | L   | Art. N° | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---------|--------------------------|-----------------------------|
| 0.5 | 1.0 | 724-0.5 | ■ ■ ■                    |                             |
| 0.6 | 1.0 | 724-0.6 | ■ ■ ■                    |                             |
| 0.7 | 1.5 | 724-0.7 | ■ ■ ■                    |                             |
| 0.8 | 1.5 | 724-0.8 | ■ ■ ■                    |                             |
| 0.9 | 2.0 | 724-0.9 | ■ ■ ■                    |                             |
| 1.0 | 2.0 | 724-1.0 | ■ ■ ■                    |                             |
| 1.1 | 2.0 | 724-1.1 | ■ ■ ■                    |                             |
| 1.2 | 2.5 | 724-1.2 | ■ ■ ■                    |                             |
| 1.3 | 2.5 | 724-1.3 | ■ ■ ■                    |                             |
| 1.4 | 3.0 | 724-1.4 | ■ ■ ■                    |                             |
| 1.5 | 3.0 | 724-1.5 | ■ ■ ■                    |                             |

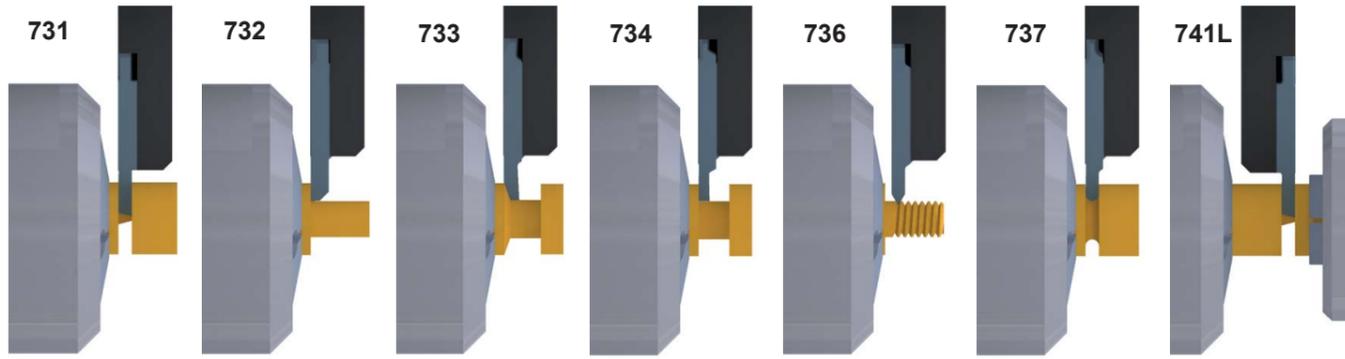


fileter  
Gewinde drehen  
threading



| W   | E   | L | Art. N°    | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---|------------|--------------------------|-----------------------------|
| 60° | 1.0 | 3 | 726-60-1.0 | ■ ■ ■                    |                             |
| 60° | 1.5 | 4 | 726-60-1.5 | ■ ■ ■                    |                             |
| 55° | 1.0 | 3 | 726-55-1.0 | ■ ■ ■                    |                             |
| 55° | 1.5 | 4 | 726-55-1.5 | ■ ■ ■                    |                             |

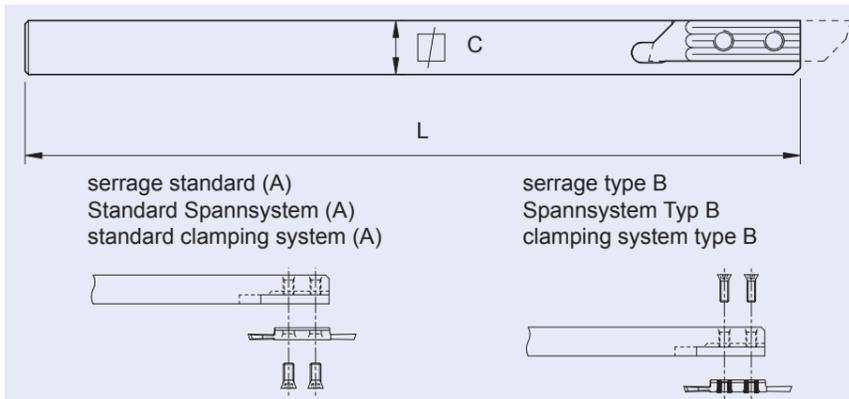
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



voir page :  
siehe Seite :  
see page :

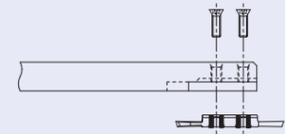
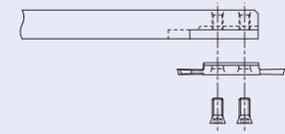
|              |      |              |      |      |      |      |
|--------------|------|--------------|------|------|------|------|
| 1.24<br>1.26 | 1.30 | 1.30<br>1.32 | 1.32 | 1.34 | 1.34 | 1.28 |
|--------------|------|--------------|------|------|------|------|

### porte-outils Halter holders



serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)

serrage type B  
Spannsystem Typ B  
clamping system type B



Chaque porte-outil est livré avec 2 paires de vis pour les 2 types de serrage  
Halter werden mit 2 Paar Schrauben für beide Spannsysteme geliefert  
2 pairs of screws for both clamping systems are included with each tool holder

| C       | L   | Art. N°   |
|---------|-----|-----------|
| 7 X 7   | 115 | 730-7 *   |
| 8 X 8   | 115 | 730-8     |
| 10 X 10 | 115 | 730-10    |
| 10 X 10 | 50  | 730-10-50 |
| 12 X 12 | 130 | 730-12    |
| 12 X 12 | 90  | 730-12-90 |
| 13 X 13 | 130 | 730-13    |
| 16 X 16 | 130 | 730-16    |
| 16 X 16 | 75  | 730-16-75 |
| 20 X 20 | 120 | 730-20    |

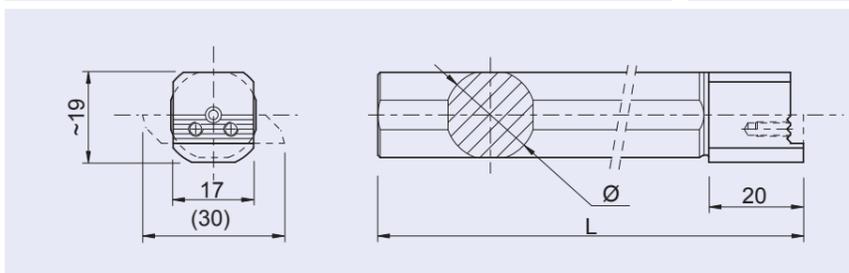
\*730-7 : serrage A uniquement  
\*730-7 : nur mit A-Spannsystem  
\*730-7 : clamping A only

**L** coupe à gauche  
Linksschneiden  
left hand cut

utiliser des plaquettes série 730  
Wendeplatten Serie 730 verwenden  
use inserts series 730

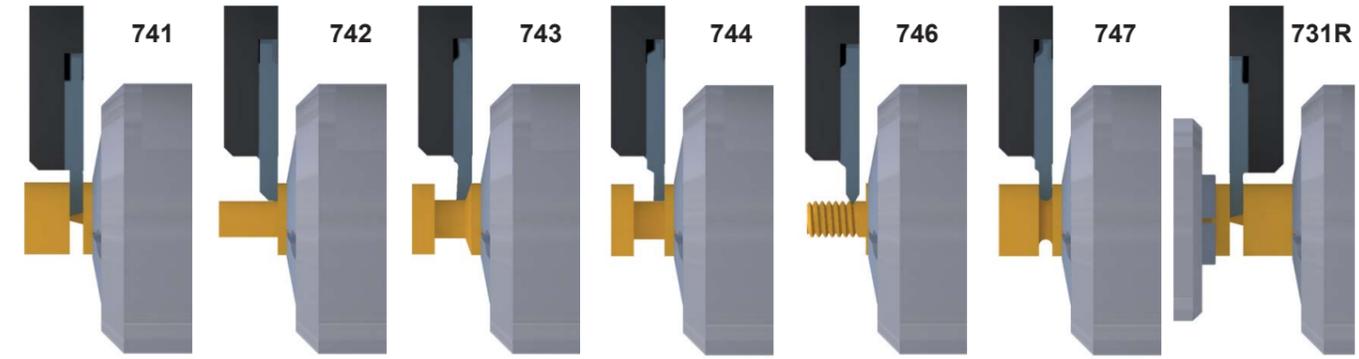
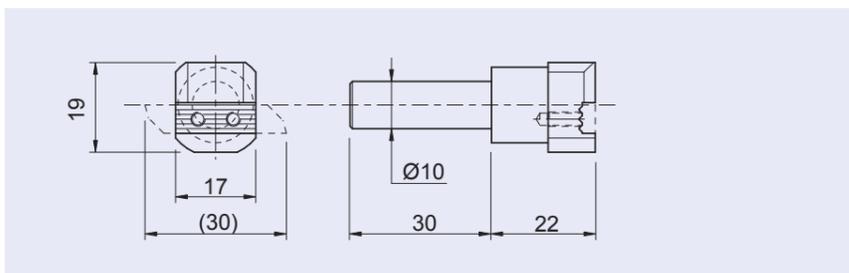
**R** coupe à droite  
Rechtsschneiden  
right hand cut

utiliser des plaquettes série 740  
Wendeplatten Serie 740 verwenden  
use inserts series 740



| C     | L   | Art. N°          |
|-------|-----|------------------|
| 19.05 | 160 | 740/730-D19.05   |
| 19.05 | 110 | 740/730-D19.05-S |
| 20    | 160 | 740/730-D20      |
| 25    | 200 | 740/730-D25      |
| 25.4  | 200 | 740/730-D25.4    |

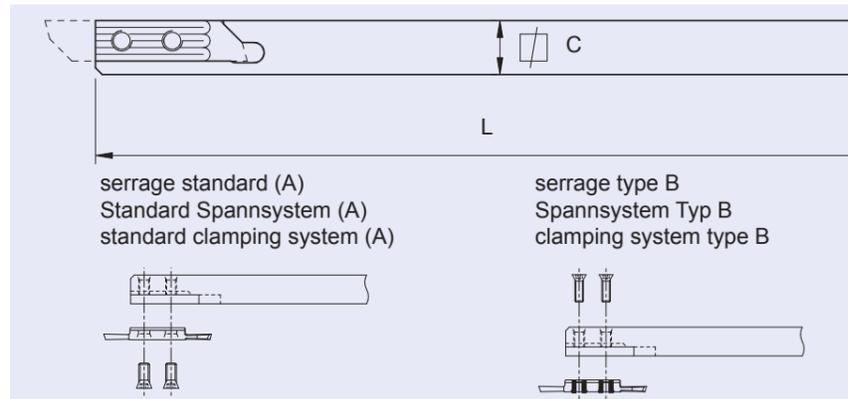
740/730-D10



voir page :  
siehe Seite :  
see page :

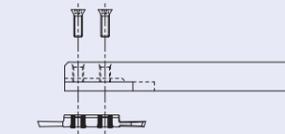
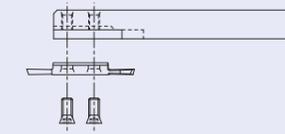
|              |      |              |      |      |      |      |
|--------------|------|--------------|------|------|------|------|
| 1.25<br>1.27 | 1.31 | 1.31<br>1.33 | 1.33 | 1.35 | 1.35 | 1.29 |
|--------------|------|--------------|------|------|------|------|

### porte-outils Halter holders



serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)

serrage type B  
Spannsystem Typ B  
clamping system type B



Chaque porte-outil est livré avec 2 paires de vis pour les 2 types de serrage  
Halter werden mit 2 Paar Schrauben für beide Spannsysteme geliefert  
2 pairs of screws for both clamping systems are included with each tool holder

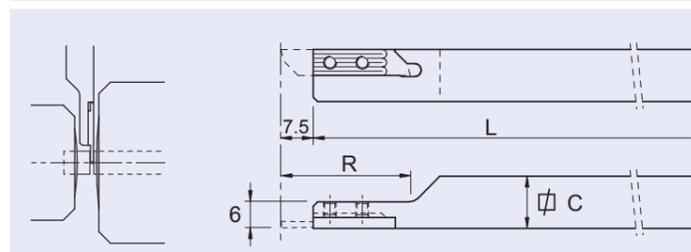
| C       | L   | Art. N°   |
|---------|-----|-----------|
| 7 X 7   | 115 | 740-7 *   |
| 8 X 8   | 115 | 740-8     |
| 10 X 10 | 115 | 740-10    |
| 10 X 10 | 50  | 740-10-50 |
| 12 X 12 | 130 | 740-12    |
| 12 X 12 | 90  | 740-12-90 |
| 13 X 13 | 130 | 740-13    |
| 16 X 16 | 130 | 740-16    |
| 16 X 16 | 75  | 740-16-75 |
| 20 X 20 | 120 | 740-20    |

\*740-7 : serrage A uniquement  
\*740-7 : nur mit A-Spannsystem  
\*740-7 : clamping A only

### Pour le tronçonnage de petites pièces

### Zum Abstechen von kleinen Werkstücken

### For small parts parting off

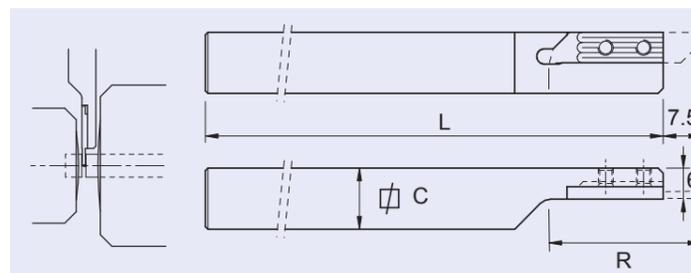


| C       | L   | R  | Art. N°  |
|---------|-----|----|----------|
| 10 X 10 | 115 | 24 | 740-C-10 |
| 12 X 12 | 130 | 30 | 740-C-12 |
| 16 X 16 | 130 | 40 | 740-C-16 |

utiliser des plaquettes type 741  
Wendeplatten Typ 741 verwenden  
use inserts type 741

voir page :  
siehe Seite :  
see page :

1.25  
-  
1.27



| C       | L   | R  | Art. N°  |
|---------|-----|----|----------|
| 10 X 10 | 115 | 24 | 730RC-10 |
| 12 X 12 | 130 | 30 | 730RC-12 |
| 16 X 16 | 130 | 40 | 730RC-16 |

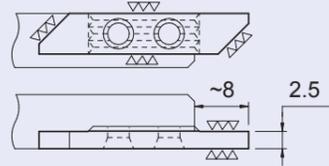
utiliser des plaquettes type 731 R  
Wendeplatten Typ 731 R verwenden  
use inserts type 731 R

voir page :  
siehe Seite :  
see page :

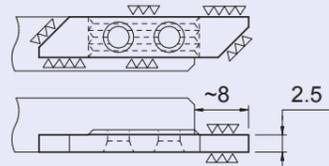
1.29



plaquette ébauche  
VHM-Rohling  
blank insert



| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 731-E   | ■        | ■         |



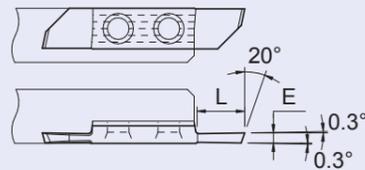
face de coupe polie  
Schneidfläche poliert  
cutting face polished



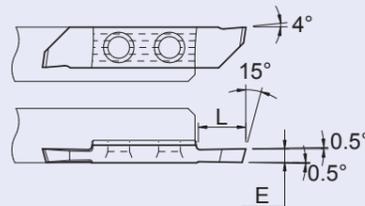
| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 731-EP  | ■        | ■         |



tronçonnage  
abstechen  
parting off



| E   | L | Art. N° | TIN<br>TIALN<br>N (μK20) | HTIN<br>HTIALN<br>HN (μK10) |
|-----|---|---------|--------------------------|-----------------------------|
| 0.8 | 5 | 731-0.8 | ■ ■ ■                    |                             |
| 1.0 | 5 | 731-1.0 | ■ ■ ■                    |                             |
| 1.2 | 5 | 731-1.2 | ■ ■ ■                    |                             |
| 1.5 | 7 | 731-1.5 | ■ ■ ■                    | ■ ■ ■                       |
| 1.8 | 7 | 731-1.8 | ■ ■ ■                    |                             |
| 2.0 | 7 | 731-2.0 | ■ ■ ■                    |                             |
| 2.5 | 7 | 731-2.5 | ■ ■ ■                    |                             |



| E   | L | Art. N°   | TIN<br>TIALN<br>N (μK20) | HTIN<br>HTIALN<br>HN (μK10) |
|-----|---|-----------|--------------------------|-----------------------------|
| 1.0 | 5 | 731x4-1.0 | ■ ■ ■                    |                             |
| 1.5 | 7 | 731x4-1.5 | ■ ■ ■                    |                             |
| 2.0 | 7 | 731x4-2.0 | ■ ■ ■                    |                             |

7XX-XX-B

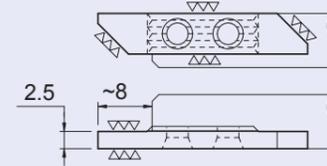


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

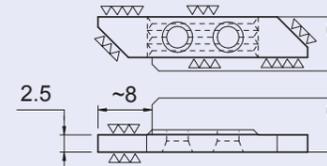
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



plaquette ébauche  
VHM-Rohling  
blank insert



| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 741-E   | ■        | ■         |

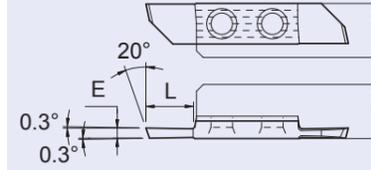


face de coupe polie  
Schneidfläche poliert  
cutting face polished

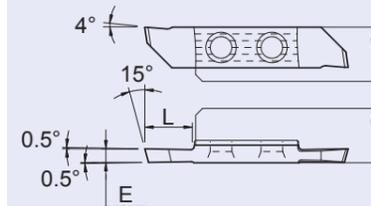


| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 741-EP  | ■        | ■         |

tronçonnage  
abstechen  
parting off



| E   | L | Art. N° | TIN<br>TIALN<br>N (μK20) | HTIN<br>HTIALN<br>HN (μK10) |
|-----|---|---------|--------------------------|-----------------------------|
| 0.8 | 5 | 741-0.8 | ■ ■ ■                    | ■ ■ ■                       |
| 1.0 | 5 | 741-1.0 | ■ ■ ■                    | □ ■ ■                       |
| 1.2 | 5 | 741-1.2 | ■ ■ ■                    | □ ■ ■                       |
| 1.5 | 7 | 741-1.5 | ■ ■ ■                    | ■ ■ ■                       |
| 1.8 | 7 | 741-1.8 | ■ ■ ■                    |                             |
| 2.0 | 7 | 741-2.0 | ■ ■ ■                    | ■ ■ ■                       |
| 2.5 | 7 | 741-2.5 | ■ ■ ■                    |                             |



| E   | L | Art. N°   | TIN<br>TIALN<br>N (μK20) | HTIN<br>HTIALN<br>HN (μK10) |
|-----|---|-----------|--------------------------|-----------------------------|
| 1.0 | 5 | 741x4-1.0 | ■ ■ ■                    |                             |
| 1.5 | 7 | 741x4-1.5 | ■ ■ ■                    |                             |
| 2.0 | 7 | 741x4-2.0 | ■ ■ ■                    |                             |

7XX-XX-B

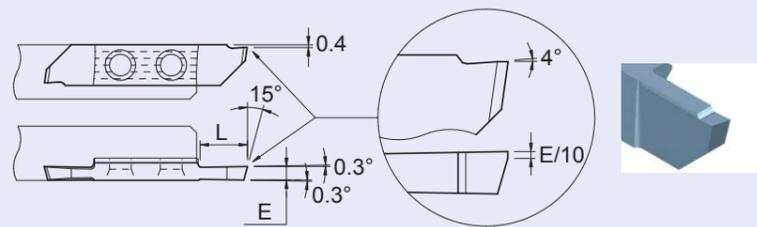


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

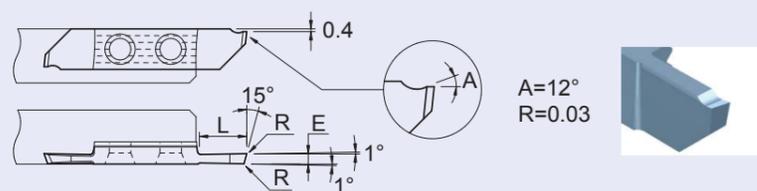
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



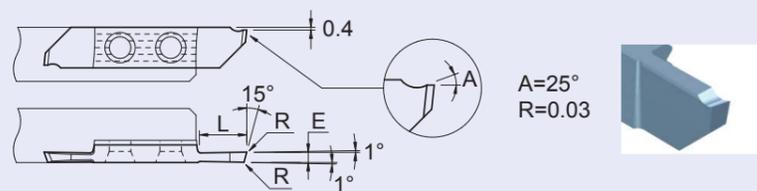
tronçonnage  
abstechen  
parting off



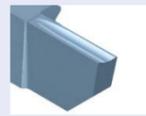
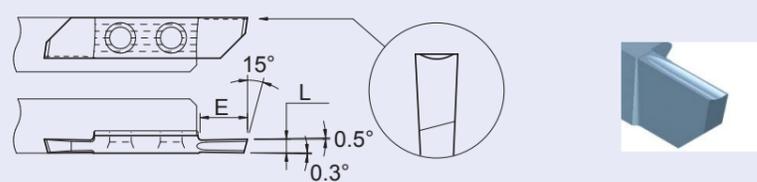
| E   | L | Art. N°   | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|---|-----------|--------------------------|-----------------------------|
| 1.5 | 7 | 731xf-1.5 | ■ ■ ■                    | ■ ■ ■                       |
| 2.0 | 7 | 731xf-2.0 | ■ ■ ■                    |                             |
| 2.5 | 7 | 731xf-2.5 | ■ ■ ■                    |                             |



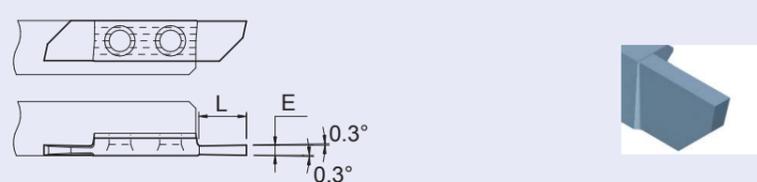
|     |   |            |       |       |
|-----|---|------------|-------|-------|
| 1.0 | 5 | 731x12-1.0 | ■ ■ ■ |       |
| 1.5 | 7 | 731x12-1.5 | ■ ■ ■ | ■ ■ ■ |
| 2.0 | 7 | 731x12-2.0 | ■ ■ ■ |       |



|     |   |            |       |  |
|-----|---|------------|-------|--|
| 1.0 | 5 | 731x25-1.0 | ■ ■ ■ |  |
| 1.5 | 7 | 731x25-1.5 | ■ ■ ■ |  |
| 2.0 | 7 | 731x25-2.0 | ■ ■ ■ |  |



|     |   |          |       |  |
|-----|---|----------|-------|--|
| 1.5 | 7 | 731u-1.5 | ■ ■ ■ |  |
| 2.0 | 7 | 731u-2.0 | ■ ■ ■ |  |



|     |   |          |       |  |
|-----|---|----------|-------|--|
| 1.0 | 5 | 731n-1.0 | ■ ■ ■ |  |
| 1.5 | 7 | 731n-1.5 | ■ ■ ■ |  |

7XX-XX-B

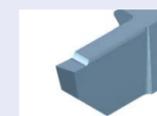
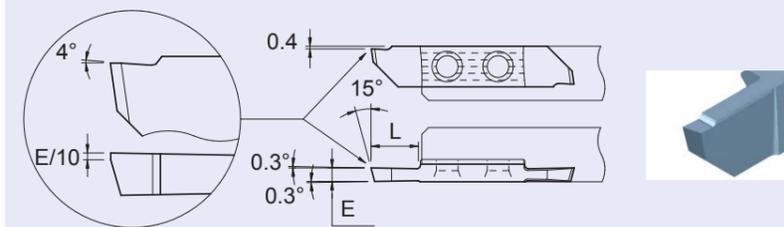


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

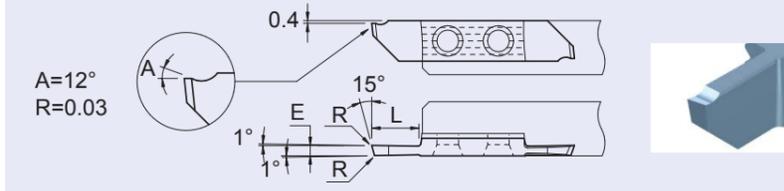
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



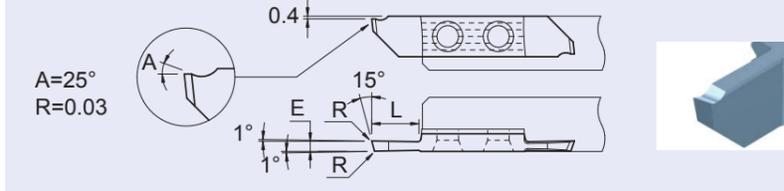
tronçonnage  
abstechen  
parting off



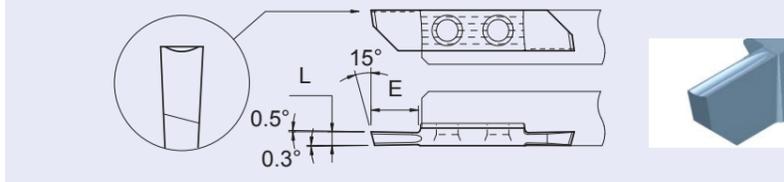
| E   | L | Art. N°   | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|---|-----------|--------------------------|-----------------------------|
| 1.5 | 7 | 741xf-1.5 | ■ ■ ■                    | ■ ■ ■                       |
| 2.0 | 7 | 741xf-2.0 | ■ ■ ■                    | ■ ■ ■                       |
| 2.5 | 7 | 741xf-2.5 | ■ ■ ■                    |                             |



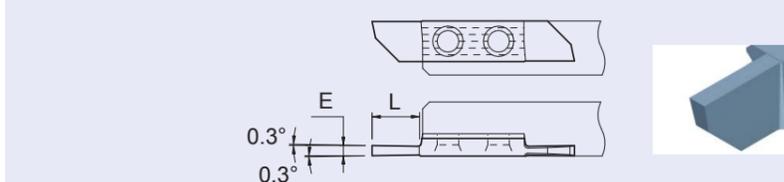
|     |   |            |       |       |
|-----|---|------------|-------|-------|
| 1.0 | 5 | 741x12-1.0 | ■ ■ ■ |       |
| 1.5 | 7 | 741x12-1.5 | ■ ■ ■ | ■ ■ ■ |
| 2.0 | 7 | 741x12-2.0 | ■ ■ ■ |       |



|     |   |            |       |  |
|-----|---|------------|-------|--|
| 1.0 | 5 | 741x25-1.0 | ■ ■ ■ |  |
| 1.5 | 7 | 741x25-1.5 | ■ ■ ■ |  |
| 2.0 | 7 | 741x25-2.0 | ■ ■ ■ |  |



|     |   |          |       |  |
|-----|---|----------|-------|--|
| 1.5 | 7 | 741u-1.5 | ■ ■ ■ |  |
| 2.0 | 7 | 741u-2.0 | ■ ■ ■ |  |



|     |   |          |       |  |
|-----|---|----------|-------|--|
| 1.0 | 5 | 741n-1.0 | ■ ■ ■ |  |
| 1.5 | 7 | 741n-1.5 | ■ ■ ■ |  |

7XX-XX-B

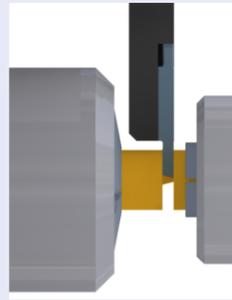


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

coupe à gauche déportée  
versetztes Linksschneiden  
left cut off line

broche principale  
Hauptspindel  
Mainspindle

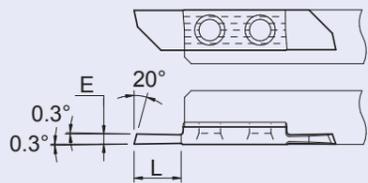


contre-broche  
Gegenspindel  
subspindle

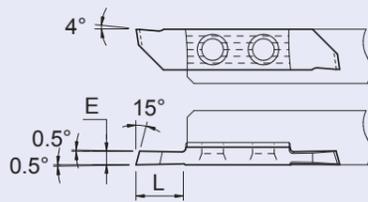
Utiliser des porte-outils série 740 voir page 1.23  
Halter Serie 740 verwenden, siehe Seite 1.23  
Use 740 series holders see page 1.23



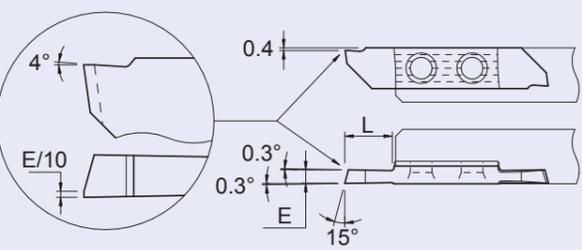
tronçonnage  
abstechen  
parting off



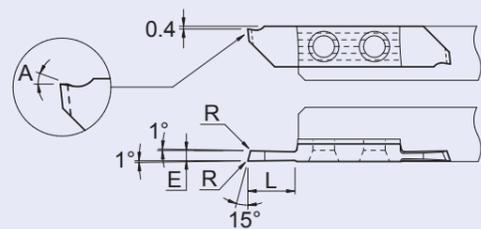
| E   | L | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|---|----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5 | 741L-1.0 | ■   | ■     | ■        |      |        |           |
| 1.2 | 5 | 741L-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 7 | 741L-1.5 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.0 | 7 | 741L-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 7 | 741L-2.5 | ■   | ■     | ■        |      |        |           |



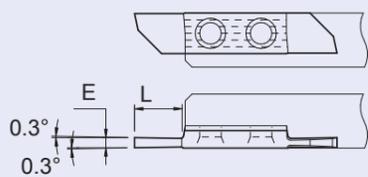
|     |   |            |   |   |   |  |  |  |
|-----|---|------------|---|---|---|--|--|--|
| 1.5 | 7 | 741Lx4-1.5 | ■ | ■ | ■ |  |  |  |
|-----|---|------------|---|---|---|--|--|--|



|     |   |            |   |   |   |  |  |  |
|-----|---|------------|---|---|---|--|--|--|
| 1.5 | 7 | 741Lxf-1.5 | ■ | ■ | ■ |  |  |  |
| 2.0 | 7 | 741Lxf-2.0 | ■ | ■ | ■ |  |  |  |
| 2.5 | 7 | 741Lxf-2.5 | ■ | ■ | ■ |  |  |  |



| A   | R    | E   | L | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|------|-----|---|-------------|-----|-------|----------|------|--------|-----------|
| 12° | 0.03 | 1.5 | 7 | 741Lx12-1.5 | ■   | ■     | ■        |      |        |           |
| 25° | 0.03 | 1.5 | 7 | 741Lx25-1.5 | ■   | ■     | ■        |      |        |           |

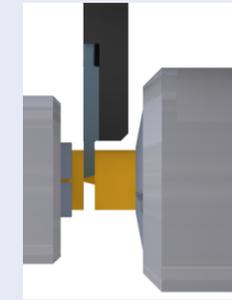


|     |   |          |   |   |   |  |  |  |
|-----|---|----------|---|---|---|--|--|--|
| 1.0 | 5 | 741n-1.0 | ■ | ■ | ■ |  |  |  |
| 1.5 | 7 | 741n-1.5 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

coupe à droite déportée  
versetztes Rechtsschneiden  
right cut off line

contre-broche  
Gegenspindel  
subspindle

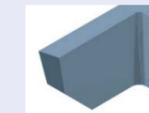
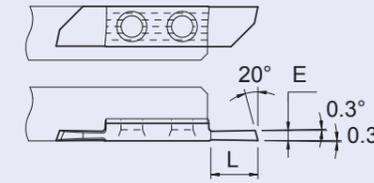


broche principale  
Hauptspindel  
Mainspindle

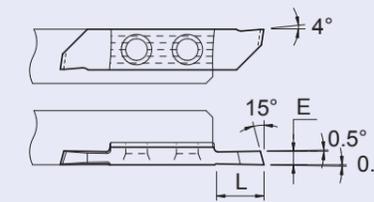
Utiliser des porte-outils série 730 voir page 1.22  
Halter Serie 730 verwenden, siehe Seite 1.22  
Use 730 series holders, see page 1.22



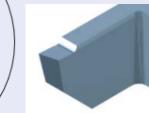
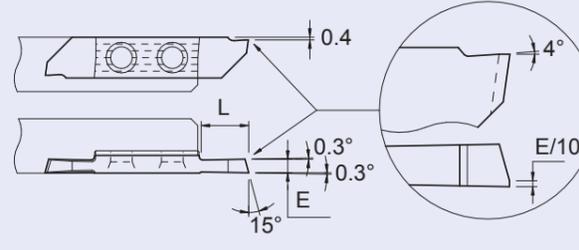
tronçonnage  
abstechen  
parting off



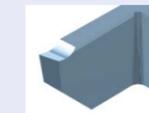
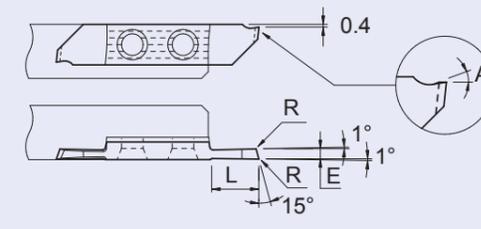
| E   | L | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|---|----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5 | 731R-1.0 | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.2 | 5 | 731R-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 7 | 731R-1.5 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.0 | 7 | 731R-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 7 | 731R-2.5 | ■   | ■     | ■        |      |        |           |



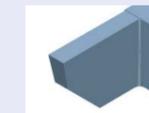
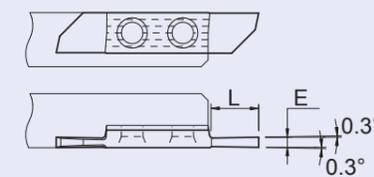
|     |   |            |   |   |   |  |  |  |
|-----|---|------------|---|---|---|--|--|--|
| 1.5 | 7 | 731Rx4-1.5 | ■ | ■ | ■ |  |  |  |
|-----|---|------------|---|---|---|--|--|--|



|     |   |            |   |   |   |   |   |   |
|-----|---|------------|---|---|---|---|---|---|
| 1.5 | 7 | 731Rxf-1.5 | ■ | ■ | ■ | ■ | ■ | ■ |
| 2.0 | 7 | 731Rxf-2.0 | ■ | ■ | ■ |   |   |   |
| 2.5 | 7 | 731Rxf-2.5 | ■ | ■ | ■ |   |   |   |



| A   | R    | E   | L | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|------|-----|---|-------------|-----|-------|----------|------|--------|-----------|
| 12° | 0.03 | 1.5 | 7 | 731Rx12-1.5 | ■   | ■     | ■        |      |        |           |
| 25° | 0.03 | 1.5 | 7 | 731Rx25-1.5 | ■   | ■     | ■        |      |        |           |

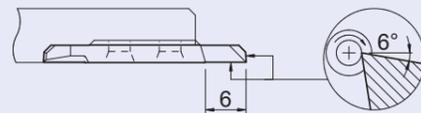
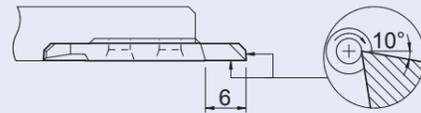
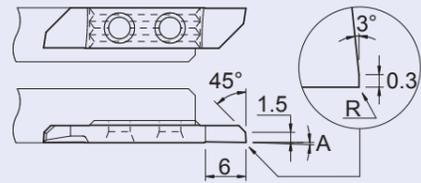


|     |   |          |   |   |   |  |  |  |
|-----|---|----------|---|---|---|--|--|--|
| 1.0 | 5 | 731n-1.0 | ■ | ■ | ■ |  |  |  |
| 1.5 | 7 | 731n-1.5 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



tourneur avant  
vorwärts drehen  
front turning



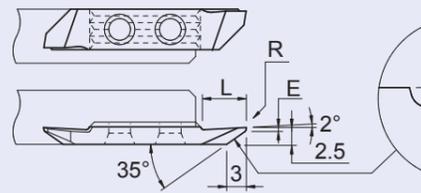
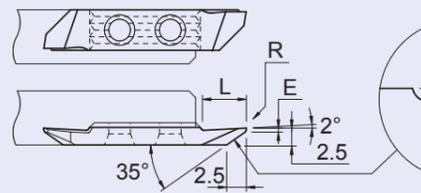
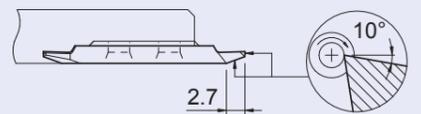
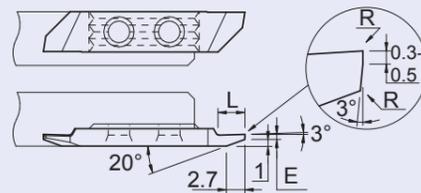
| A  | R | Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|----|---|---------|-----|-------|----------|------|--------|-----------|
| 0° | 0 | 732     | ■   | ■     | ■        | ■    | ■      | ■         |
| 2° | 0 | 732-2°  | ■   | ■     | ■        |      |        |           |

|    |   |      |   |   |   |   |   |   |
|----|---|------|---|---|---|---|---|---|
| 0° | 0 | 732x | ■ | ■ | ■ | □ | ■ | ■ |
|----|---|------|---|---|---|---|---|---|

|    |   |       |   |   |   |  |  |  |
|----|---|-------|---|---|---|--|--|--|
| 0° | 0 | 732Px | ■ | ■ | ■ |  |  |  |
|----|---|-------|---|---|---|--|--|--|



tourneur arrière  
rückwärts drehen  
back turning



| E   | L | R    | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|---|------|-------------|-----|-------|----------|------|--------|-----------|
| 0.5 | 3 | 0    | 733-0.5     | ■   | ■     | ■        | □    | □      | ■         |
| 0.5 | 3 | 0.08 | 733-0.5-R08 | ■   | ■     | ■        |      |        |           |
| 0.8 | 4 | 0    | 733-0.8     | ■   | ■     | ■        |      |        |           |
| 1.0 | 4 | 0    | 733-1.0     | ■   | ■     | ■        |      |        |           |
| 1.2 | 5 | 0    | 733-1.2     | ■   | ■     | ■        |      |        |           |
| 1.5 | 6 | 0    | 733-1.5     | ■   | ■     | ■        |      |        |           |

|     |   |      |              |   |   |   |  |  |  |
|-----|---|------|--------------|---|---|---|--|--|--|
| 0.5 | 3 | 0    | 733x-0.5     | ■ | ■ | ■ |  |  |  |
| 0.5 | 3 | 0.08 | 733x-0.5-R08 | ■ | ■ | ■ |  |  |  |
| 0.8 | 4 | 0    | 733x-0.8     | ■ | ■ | ■ |  |  |  |
| 1.0 | 4 | 0    | 733x-1.0     | ■ | ■ | ■ |  |  |  |
| 1.2 | 5 | 0    | 733x-1.2     | ■ | ■ | ■ |  |  |  |
| 1.5 | 6 | 0    | 733x-1.5     | ■ | ■ | ■ |  |  |  |

|      |     |      |              |   |   |   |   |   |  |
|------|-----|------|--------------|---|---|---|---|---|--|
| ~1.0 | 6.5 | 0    | 733vx-8°     | ■ | ■ | ■ | ■ | ■ |  |
| ~1.0 | 6.5 | 0.08 | 733vx-8°-R08 | ■ | ■ | ■ |   |   |  |

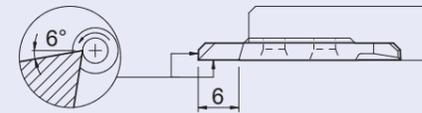
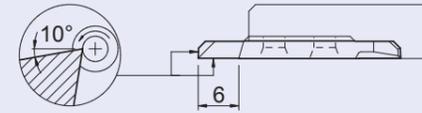
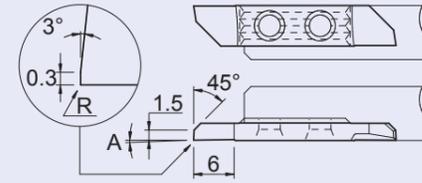
|     |     |      |               |   |   |   |   |   |   |
|-----|-----|------|---------------|---|---|---|---|---|---|
| 0.5 | 6.5 | 0    | 733vx-15°     | ■ | ■ | ■ | □ | ■ | ■ |
| 0.5 | 6.5 | 0.08 | 733vx-15°-R08 | ■ | ■ | ■ |   |   |   |

7XX-XX-B Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



tourneur avant  
vorwärts drehen  
front turning

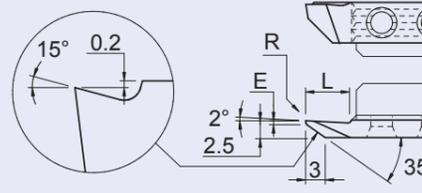
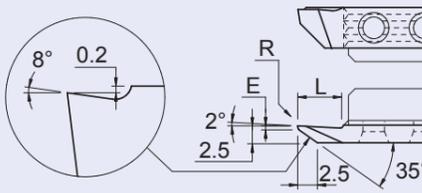
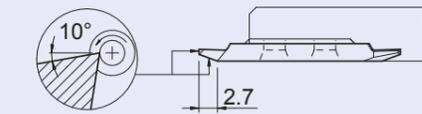
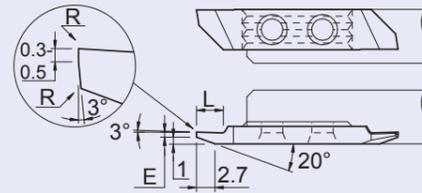


| A  | R | Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|----|---|---------|-----|-------|----------|------|--------|-----------|
| 0° | 0 | 742     | ■   | ■     | ■        | □    | ■      | ■         |
| 2° | 0 | 742-2°  | ■   | ■     | ■        |      |        |           |

|    |   |      |   |   |   |   |   |   |
|----|---|------|---|---|---|---|---|---|
| 0° | 0 | 742x | ■ | ■ | ■ | ■ | ■ | ■ |
|----|---|------|---|---|---|---|---|---|

|    |   |       |   |   |   |  |  |  |
|----|---|-------|---|---|---|--|--|--|
| 0° | 0 | 742Px | ■ | ■ | ■ |  |  |  |
|----|---|-------|---|---|---|--|--|--|

tourneur arrière  
rückwärts drehen  
back turning



| E   | L | R    | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|---|------|-------------|-----|-------|----------|------|--------|-----------|
| 0.5 | 3 | 0    | 743-0.5     | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.5 | 3 | 0.08 | 743-0.5-R08 | ■   | ■     | ■        |      |        |           |
| 0.8 | 4 | 0    | 743-0.8     | ■   | ■     | ■        | □    | ■      | ■         |
| 1.0 | 4 | 0    | 743-1.0     | ■   | ■     | ■        |      |        |           |
| 1.2 | 5 | 0    | 743-1.2     | ■   | ■     | ■        |      |        |           |
| 1.5 | 6 | 0    | 743-1.5     | ■   | ■     | ■        |      |        |           |

|     |   |      |              |   |   |   |   |   |   |
|-----|---|------|--------------|---|---|---|---|---|---|
| 0.5 | 3 | 0    | 743x-0.5     | ■ | ■ | ■ | □ | ■ | ■ |
| 0.5 | 3 | 0.08 | 743x-0.5-R08 | ■ | ■ | ■ |   |   |   |
| 0.8 | 4 | 0    | 743x-0.8     | ■ | ■ | ■ | □ | ■ | ■ |
| 1.0 | 4 | 0    | 743x-1.0     | ■ | ■ | ■ |   |   |   |
| 1.2 | 5 | 0    | 743x-1.2     | ■ | ■ | ■ |   |   |   |
| 1.5 | 6 | 0    | 743x-1.5     | ■ | ■ | ■ |   |   |   |

|      |     |      |              |   |   |   |   |   |   |
|------|-----|------|--------------|---|---|---|---|---|---|
| ~1.0 | 6.5 | 0    | 743vx-8°     | ■ | ■ | ■ | □ | ■ | ■ |
| ~1.0 | 6.5 | 0.08 | 743vx-8°-R08 | ■ | ■ | ■ |   |   |   |

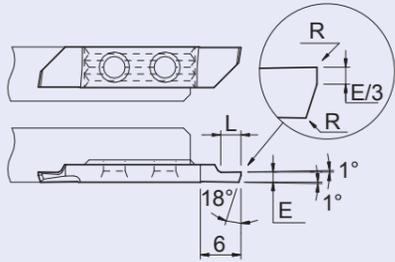
|     |     |      |               |   |   |   |   |   |   |
|-----|-----|------|---------------|---|---|---|---|---|---|
| 0.5 | 6.5 | 0    | 743vx-15°     | ■ | ■ | ■ | □ | ■ | ■ |
| 0.5 | 6.5 | 0.08 | 743vx-15°-R08 | ■ | ■ | ■ |   |   |   |

7XX-XX-B Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

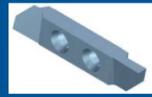
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



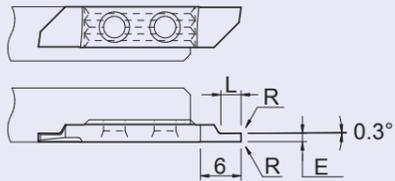
tourneur arrière / pré-coupe  
rückwärts drehen / vorstechen  
back turning / pre-parting off



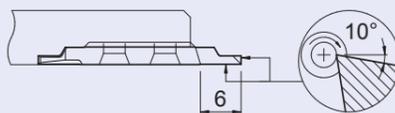
| E   | L   | R | Art. N°  | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---|----------|--------------------------|-----------------------------|
| 0.8 | 2   | 0 | 733P-0.8 | ■ ■ ■                    |                             |
| 1.0 | 2   | 0 | 733P-1.0 | ■ ■ ■                    |                             |
| 1.2 | 2.5 | 0 | 733P-1.2 | ■ ■ ■                    |                             |
| 1.5 | 3   | 0 | 733P-1.5 | ■ ■ ■                    |                             |



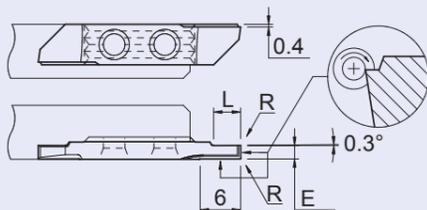
foncer tourner  
einstechen und drehen  
grooving and turning



| E    | L   | R    | Art. N°     | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|------|-----|------|-------------|--------------------------|-----------------------------|
| 0.5  | 1.5 | 0    | 734-0.5     | ■ ■ ■                    |                             |
| 0.6  | 1.8 | 0    | 734-0.6     | ■ ■ ■                    |                             |
| 0.75 | 2   | 0    | 734-0.75    | ■ ■ ■                    |                             |
| 0.8  | 2   | 0    | 734-0.8     | ■ ■ ■                    |                             |
| 0.95 | 3   | 0    | 734-0.95    | ■ ■ ■                    |                             |
| 1.0  | 2.5 | 0    | 734-1.0     | ■ ■ ■                    | ■ ■ ■                       |
| 1.0  | 2.5 | 0.08 | 734-1.0-R08 | ■ ■ ■                    |                             |
| 1.2  | 3   | 0    | 734-1.2     | ■ ■ ■                    |                             |
| 1.5  | 3   | 0    | 734-1.5     | ■ ■ ■                    | ■ ■ ■                       |
| 1.5  | 3   | 0.08 | 734-1.5-R08 | ■ ■ ■                    |                             |
| 1.8  | 4   | 0    | 734-1.8     | ■ ■ ■                    |                             |
| 2.0  | 4   | 0    | 734-2.0     | ■ ■ ■                    |                             |
| 2.0  | 4   | 0.08 | 734-2.0-R08 | ■ ■ ■                    |                             |
| 2.5  | 6   | 0    | 734-2.5     | ■ ■ ■                    |                             |



|     |     |      |              |       |       |
|-----|-----|------|--------------|-------|-------|
| 0.8 | 2   | 0    | 734x-0.8     | ■ ■ ■ |       |
| 1.0 | 2.5 | 0    | 734x-1.0     | ■ ■ ■ |       |
| 1.0 | 2.5 | 0.08 | 734x-1.0-R08 | ■ ■ ■ |       |
| 1.2 | 3   | 0    | 734x-1.2     | ■ ■ ■ |       |
| 1.5 | 3   | 0    | 734x-1.5     | ■ ■ ■ | ■ ■ ■ |
| 1.5 | 3   | 0.08 | 734x-1.5-R08 | ■ ■ ■ |       |
| 1.8 | 4   | 0    | 734x-1.8     | ■ ■ ■ |       |
| 2.0 | 4   | 0    | 734x-2.0     | ■ ■ ■ |       |
| 2.0 | 4   | 0.08 | 734x-2.0-R08 | ■ ■ ■ |       |
| 2.5 | 6   | 0    | 734x-2.5     | ■ ■ ■ |       |



|     |     |   |           |       |  |
|-----|-----|---|-----------|-------|--|
| 1.0 | 2   | 0 | 734vs-1.0 | ■ ■ ■ |  |
| 1.2 | 2.5 | 0 | 734vs-1.2 | ■ ■ ■ |  |
| 1.5 | 3   | 0 | 734vs-1.5 | ■ ■ ■ |  |
| 1.8 | 4   | 0 | 734vs-1.8 | ■ ■ ■ |  |
| 2.0 | 4   | 0 | 734vs-2.0 | ■ ■ ■ |  |
| 2.5 | 6   | 0 | 734vs-2.5 | ■ ■ ■ |  |

7XX-XX-B

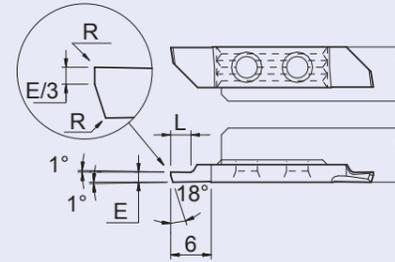


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

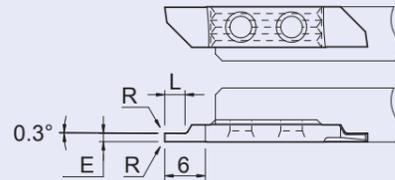


tourneur arrière / pré-coupe  
rückwärts drehen / vorstechen  
back turning / pre-parting off

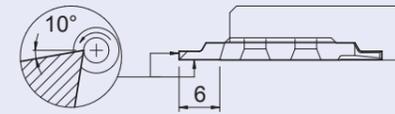


| E   | L   | R | Art. N°  | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---|----------|--------------------------|-----------------------------|
| 0.8 | 2   | 0 | 743P-0.8 | ■ ■ ■                    |                             |
| 1.0 | 2   | 0 | 743P-1.0 | ■ ■ ■                    |                             |
| 1.2 | 2.5 | 0 | 743P-1.2 | ■ ■ ■                    |                             |
| 1.5 | 3   | 0 | 743P-1.5 | ■ ■ ■                    |                             |

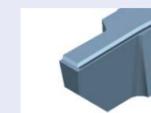
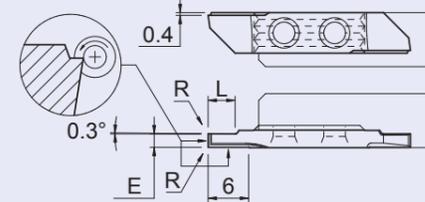
foncer tourner  
einstechen und drehen  
grooving and turning



| E    | L   | R    | Art. N°     | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|------|-----|------|-------------|--------------------------|-----------------------------|
| 0.5  | 1.5 | 0    | 744-0.5     | ■ ■ ■                    | □ ■ ■                       |
| 0.6  | 1.8 | 0    | 744-0.6     | ■ ■ ■                    |                             |
| 0.75 | 2   | 0    | 744-0.75    | ■ ■ ■                    |                             |
| 0.8  | 2   | 0    | 744-0.8     | ■ ■ ■                    | □ ■ ■                       |
| 0.9  | 2.5 | 0    | 744-0.9     | ■ ■ ■                    |                             |
| 0.95 | 3   | 0    | 744-0.95    | ■ ■ ■                    |                             |
| 1.0  | 2.5 | 0    | 744-1.0     | ■ ■ ■                    | □ ■ ■                       |
| 1.0  | 2.5 | 0.08 | 744-1.0-R08 | ■ ■ ■                    |                             |
| 1.2  | 3   | 0    | 744-1.2     | ■ ■ ■                    |                             |
| 1.5  | 3   | 0    | 744-1.5     | ■ ■ ■                    | ■ ■ ■                       |
| 1.5  | 3   | 0.08 | 744-1.5-R08 | ■ ■ ■                    |                             |
| 1.8  | 4   | 0    | 744-1.8     | ■ ■ ■                    |                             |
| 2.0  | 4   | 0    | 744-2.0     | ■ ■ ■                    |                             |
| 2.0  | 4   | 0.08 | 744-2.0-R08 | ■ ■ ■                    |                             |
| 2.5  | 6   | 0    | 744-2.5     | ■ ■ ■                    |                             |



|     |     |      |              |       |       |
|-----|-----|------|--------------|-------|-------|
| 0.8 | 2   | 0    | 744x-0.8     | ■ ■ ■ | ■ ■ ■ |
| 1.0 | 2.5 | 0    | 744x-1.0     | ■ ■ ■ | □ ■ ■ |
| 1.0 | 2.5 | 0.08 | 744x-1.0-R08 | ■ ■ ■ |       |
| 1.2 | 3   | 0    | 744x-1.2     | ■ ■ ■ |       |
| 1.5 | 3   | 0    | 744x-1.5     | ■ ■ ■ | □ ■ ■ |
| 1.5 | 3   | 0.08 | 744x-1.5-R08 | ■ ■ ■ |       |
| 1.8 | 4   | 0    | 744x-1.8     | ■ ■ ■ |       |
| 2.0 | 4   | 0    | 744x-2.0     | ■ ■ ■ | ■ ■ ■ |
| 2.0 | 4   | 0.08 | 744x-2.0-R08 | ■ ■ ■ |       |
| 2.0 | 4   | 0.20 | 744x-2.0-R20 | ■ ■ ■ |       |
| 2.5 | 6   | 0    | 744x-2.5     | ■ ■ ■ |       |



|     |     |   |           |       |  |
|-----|-----|---|-----------|-------|--|
| 1.0 | 2   | 0 | 744vs-1.0 | ■ ■ ■ |  |
| 1.2 | 2.5 | 0 | 744vs-1.2 | ■ ■ ■ |  |
| 1.5 | 3   | 0 | 744vs-1.5 | ■ ■ ■ |  |
| 1.8 | 4   | 0 | 744vs-1.8 | ■ ■ ■ |  |
| 2.0 | 4   | 0 | 744vs-2.0 | ■ ■ ■ |  |
| 2.5 | 6   | 0 | 744vs-2.5 | ■ ■ ■ |  |

7XX-XX-B



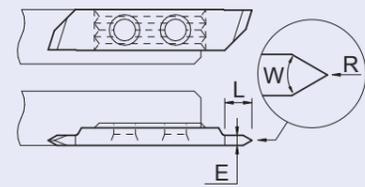
Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



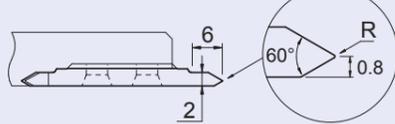
fileter  
Gewinde drehen  
threading

partial profile



| W   | E   | L | R    | Art. N°        | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---|------|----------------|--------------------------|-----------------------------|
| 60° | 1.5 | 4 | 0    | 736-60-1.5     | ■ ■ ■                    |                             |
| 60° | 1.5 | 4 | 0.02 | 736-60-1.5-R02 | ■ ■ ■                    | ■ ■ ■                       |
| 60° | 2.0 | 6 | 0    | 736-60-2       | ■ ■ ■                    |                             |
| 60° | 2.0 | 6 | 0.02 | 736-60-2-R02   | ■ ■ ■                    | ■ ■ ■                       |
| 55° | 1.5 | 4 | 0    | 736-55-1.5     | ■ ■ ■                    |                             |
| 55° | 2.0 | 6 | 0    | 736-55-2       | ■ ■ ■                    |                             |

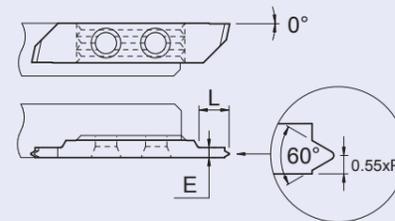
partial profile



| Pas<br>Steigung<br>Pitch<br>P | R    | Art. N°  | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-------------------------------|------|----------|--------------------------|-----------------------------|
| 0.50-1.50                     | 0.06 | 736-A60° | ■ ■ ■                    |                             |

full profile

ISO metric



| Pas<br>Steigung<br>Pitch<br>P | E   | L   | Art. N°    | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-------------------------------|-----|-----|------------|--------------------------|-----------------------------|
| 0.25                          | 1.0 | 3   | 736-M-0.25 | ■ ■ ■                    |                             |
| 0.30                          | 1.0 | 3   | 736-M-0.30 | ■ ■ ■                    |                             |
| 0.35                          | 1.0 | 3   | 736-M-0.35 | ■ ■ ■                    |                             |
| 0.40                          | 1.0 | 3   | 736-M-0.40 | ■ ■ ■                    |                             |
| 0.45                          | 1.0 | 3   | 736-M-0.45 | ■ ■ ■                    |                             |
| 0.50                          | 1.0 | 3   | 736-M-0.50 | ■ ■ ■                    |                             |
| 0.60                          | 1.0 | 3   | 736-M-0.60 | ■ ■ ■                    |                             |
| 0.70                          | 1.0 | 3   | 736-M-0.70 | ■ ■ ■                    |                             |
| 0.75                          | 1.0 | 3   | 736-M-0.75 | ■ ■ ■                    |                             |
| 0.80                          | 1.5 | 4.5 | 736-M-0.80 | ■ ■ ■                    |                             |
| 1.00                          | 1.5 | 4.5 | 736-M-1.00 | ■ ■ ■                    |                             |
| 1.25                          | 1.5 | 4.5 | 736-M-1.25 | ■ ■ ■                    |                             |
| 1.50                          | 2.0 | 6   | 736-M-1.50 | ■ ■ ■                    |                             |
| 1.75                          | 2.0 | 6   | 736-M-1.75 | ■ ■ ■                    |                             |

Pour de plus grands pas,  
voir série 756 à la page 1.56

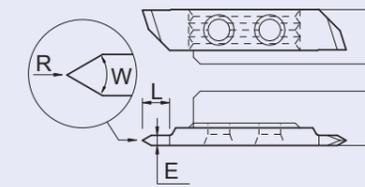
Für grössere Steigung,  
siehe Serie 756 auf Seite 1.56

For bigger pitch,  
see series 756 on page 1.56



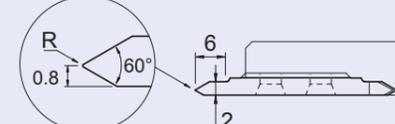
fileter  
Gewinde drehen  
threading

partial profile



| W   | E   | L | R    | Art. N°        | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-----|-----|---|------|----------------|--------------------------|-----------------------------|
| 60° | 1.5 | 4 | 0    | 746-60-1.5     | ■ ■ ■                    |                             |
| 60° | 1.5 | 4 | 0.02 | 746-60-1.5-R02 | ■ ■ ■                    | □ ■ ■                       |
| 60° | 2.0 | 6 | 0    | 746-60-2       | ■ ■ ■                    |                             |
| 60° | 2.0 | 6 | 0.02 | 746-60-2-R02   | ■ ■ ■                    | ■ ■ ■                       |
| 55° | 1.5 | 4 | 0    | 746-55-1.5     | ■ ■ ■                    |                             |
| 55° | 2.0 | 6 | 0    | 746-55-2       | ■ ■ ■                    |                             |

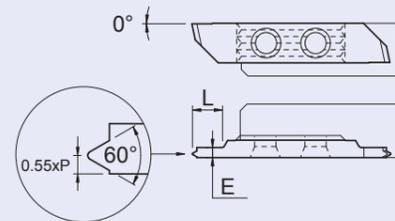
partial profile



| Pas<br>Steigung<br>Pitch<br>P | R    | Art. N°  | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-------------------------------|------|----------|--------------------------|-----------------------------|
| 0.50-1.50                     | 0.06 | 746-A60° | ■ ■ ■                    |                             |

full profile

ISO metric



| Pas<br>Steigung<br>Pitch<br>P | E   | L   | Art. N°    | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|-------------------------------|-----|-----|------------|--------------------------|-----------------------------|
| 0.25                          | 1.0 | 3   | 746-M-0.25 | ■ ■ ■                    |                             |
| 0.30                          | 1.0 | 3   | 746-M-0.30 | ■ ■ ■                    |                             |
| 0.35                          | 1.0 | 3   | 746-M-0.35 | ■ ■ ■                    |                             |
| 0.40                          | 1.0 | 3   | 746-M-0.40 | ■ ■ ■                    |                             |
| 0.45                          | 1.0 | 3   | 746-M-0.45 | ■ ■ ■                    |                             |
| 0.50                          | 1.0 | 3   | 746-M-0.50 | ■ ■ ■                    |                             |
| 0.60                          | 1.0 | 3   | 746-M-0.60 | ■ ■ ■                    |                             |
| 0.70                          | 1.0 | 3   | 746-M-0.70 | ■ ■ ■                    |                             |
| 0.75                          | 1.0 | 3   | 746-M-0.75 | ■ ■ ■                    |                             |
| 0.80                          | 1.5 | 4.5 | 746-M-0.80 | ■ ■ ■                    |                             |
| 1.00                          | 1.5 | 4.5 | 746-M-1.00 | ■ ■ ■                    |                             |
| 1.25                          | 1.5 | 4.5 | 746-M-1.25 | ■ ■ ■                    |                             |
| 1.50                          | 2.0 | 6   | 746-M-1.50 | ■ ■ ■                    |                             |
| 1.75                          | 2.0 | 6   | 746-M-1.75 | ■ ■ ■                    |                             |

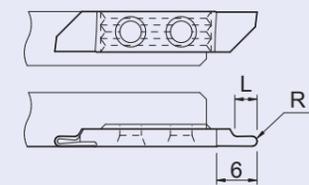
Pour de plus grands pas,  
voir série 766 à la page 1.57

Für grössere Steigung,  
siehe Serie 766 auf Seite 1.57

For bigger pitch,  
see series 766 on page 1.57



plaquette à rayon  
Radius-Wendeplatte  
insert with radius

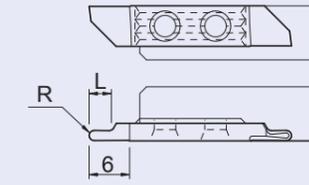


| R    | L   | Art. N°   | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|------|-----|-----------|--------------------------|-----------------------------|
| 0.5  | 2.5 | 737-R0.5  | ■ ■ ■                    |                             |
| 0.6  | 2.5 | 737-R0.6  | ■ ■ ■                    |                             |
| 0.75 | 3   | 737-R0.75 | ■ ■ ■                    |                             |
| 0.8  | 3   | 737-R0.8  | ■ ■ ■                    |                             |
| 1.0  | 4   | 737-R1.0  | ■ ■ ■                    |                             |

7XX-XX-B Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

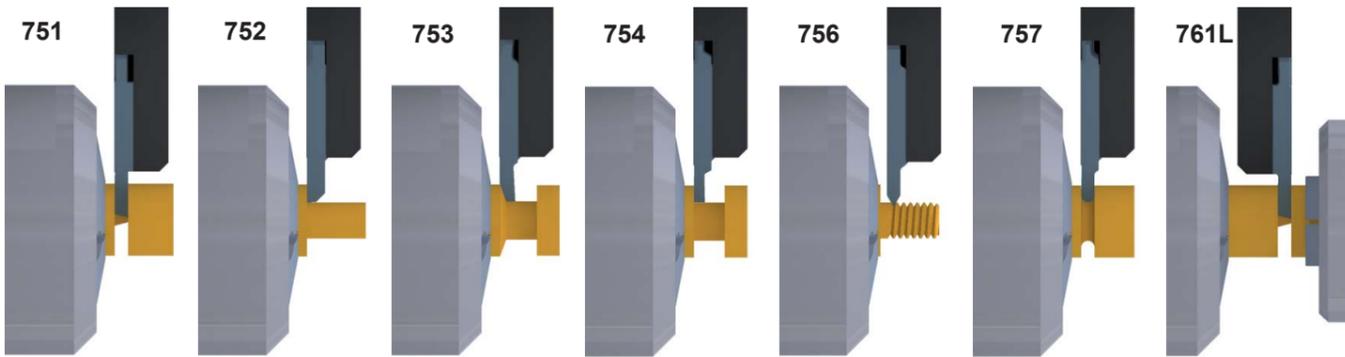
plaquette à rayon  
Radius-Wendeplatte  
insert with radius



| R    | L   | Art. N°   | TIN<br>TIALN<br>N (µK20) | HTIN<br>HTIALN<br>HN (µK10) |
|------|-----|-----------|--------------------------|-----------------------------|
| 0.25 | 1.5 | 747-R0.25 | ■ ■ ■                    |                             |
| 0.5  | 2.5 | 747-R0.5  | ■ ■ ■                    |                             |
| 0.6  | 2.5 | 747-R0.6  | ■ ■ ■                    |                             |
| 0.75 | 3   | 747-R0.75 | ■ ■ ■                    |                             |
| 0.8  | 3   | 747-R0.8  | ■ ■ ■                    |                             |
| 1.0  | 4   | 747-R1.0  | ■ ■ ■                    |                             |

7XX-XX-B Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

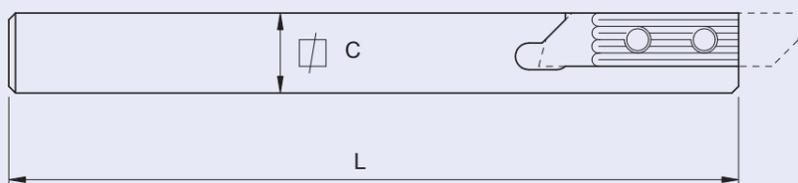
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



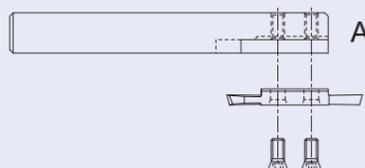
voir page :  
siehe Seite :  
see page :

|              |      |              |              |      |      |                        |
|--------------|------|--------------|--------------|------|------|------------------------|
| 1.40<br>1.42 | 1.48 | 1.50<br>1.52 | 1.52<br>1.54 | 1.56 | 1.56 | 1.44<br>1.46<br>(1.38) |
|--------------|------|--------------|--------------|------|------|------------------------|

porte-outils  
Halter  
holders

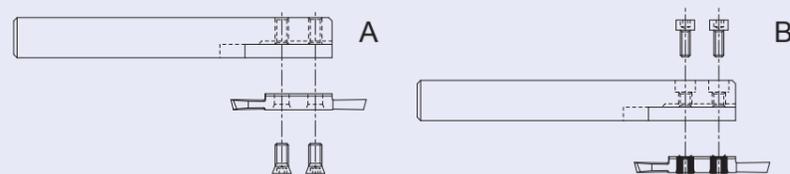


serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)



| C       | L   | Art. N°   |
|---------|-----|-----------|
| 10 X 10 | 115 | 750-10    |
| 10 X 10 | 50  | 750-10-50 |
| 12 X 12 | 130 | 750-12    |
| 12 X 12 | 90  | 750-12-90 |

serrage type A et B  
Spannsystem Typ A und B  
clamping system A and B



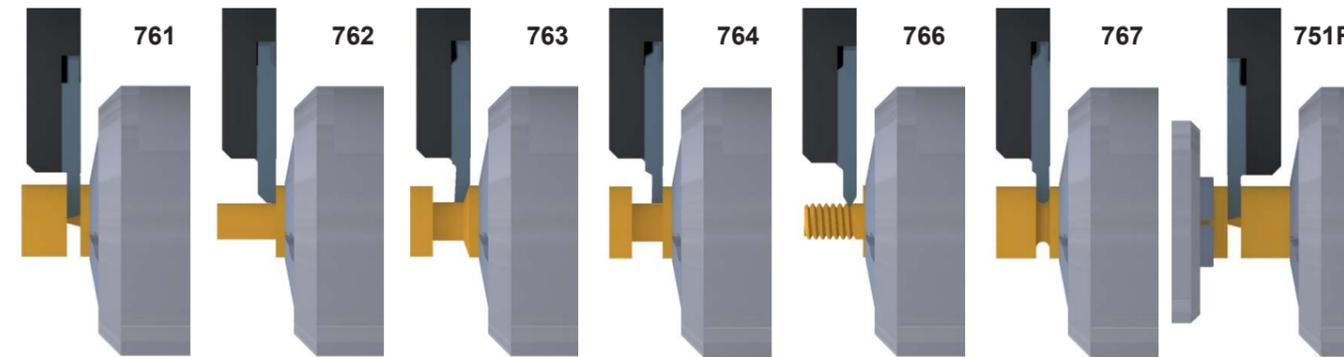
Chaque porte-outil est livré avec 2 paires de vis pour les 2 types de serrage  
Halter werden mit 2 Paar Schrauben für beide Spannsysteme geliefert  
2 pairs of screws for both clamping systems are included with each tool holder

| C       | L   | Art. N°      |
|---------|-----|--------------|
| 10 X 10 | 115 | 750-10-AB    |
| 12 X 12 | 130 | 750-12-AB    |
| 12 X 12 | 90  | 750-12-90-AB |
| 13 X 13 | 130 | 750-13       |
| 14 X 14 | 130 | 750-14       |
| 16 X 16 | 130 | 750-16       |
| 16 X 16 | 75  | 750-16-75    |
| 20 X 20 | 120 | 750-20       |

serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)



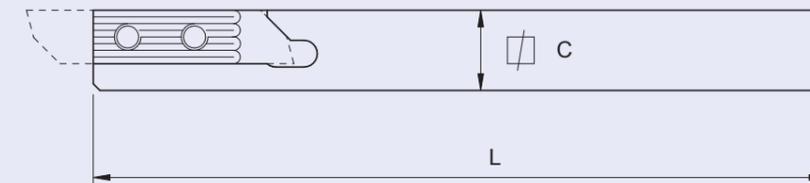
| C       | L   | Art. N°        |
|---------|-----|----------------|
| 25 X 25 | 140 | 760 / 750 - 25 |



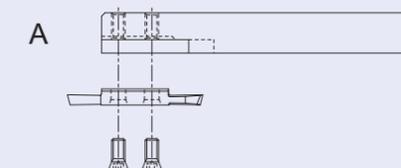
voir page :  
siehe Seite :  
see page :

|              |      |              |              |      |      |                        |
|--------------|------|--------------|--------------|------|------|------------------------|
| 1.41<br>1.43 | 1.49 | 1.51<br>1.53 | 1.53<br>1.55 | 1.57 | 1.57 | 1.45<br>1.47<br>(1.39) |
|--------------|------|--------------|--------------|------|------|------------------------|

porte-outils  
Halter  
holders

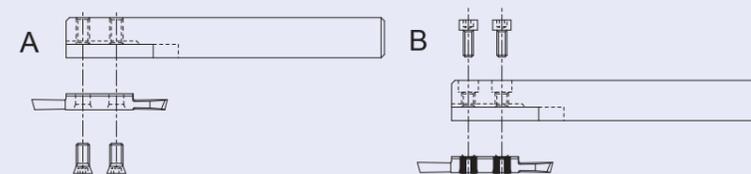


serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)



| C       | L   | Art. N°   |
|---------|-----|-----------|
| 10 X 10 | 115 | 760-10    |
| 10 X 10 | 50  | 760-10-50 |
| 12 X 12 | 130 | 760-12    |
| 12 X 12 | 90  | 760-12-90 |

serrage type A et B  
Spannsystem Typ A und B  
clamping system A and B



Chaque porte-outil est livré avec 2 paires de vis pour les 2 types de serrage  
Halter werden mit 2 Paar Schrauben für beide Spannsysteme geliefert  
2 pairs of screws for both clamping systems are included with each tool holder

| C       | L   | Art. N°      |
|---------|-----|--------------|
| 10 X 10 | 115 | 760-10-AB    |
| 12 X 12 | 130 | 760-12-AB    |
| 12 X 12 | 90  | 760-12-90-AB |
| 13 X 13 | 130 | 760-13       |
| 14 X 14 | 130 | 760-14       |
| 16 X 16 | 130 | 760-16       |
| 16 X 16 | 75  | 760-16-75    |
| 20 X 20 | 120 | 760-20       |

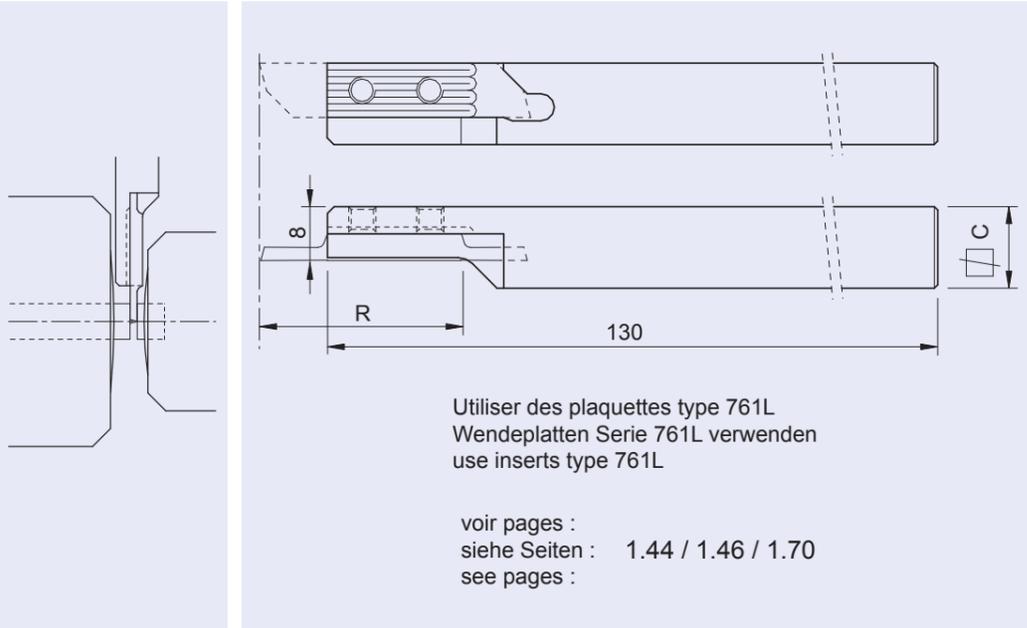
serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)



| C       | L   | Art. N°        |
|---------|-----|----------------|
| 25 X 25 | 140 | 760 / 750 - 25 |

Pour le tronçonnage de petites pièces  
Zum Abstechen von kleinen Werkstücken  
For small parts parting off

porte-outils  
Halter  
holders



| C       | R  | Art. N°  |
|---------|----|----------|
| 16 X 16 | 40 | 760LC-16 |

Utiliser des plaquettes type 761L  
Wendeplatten Serie 761L verwenden  
use inserts type 761L

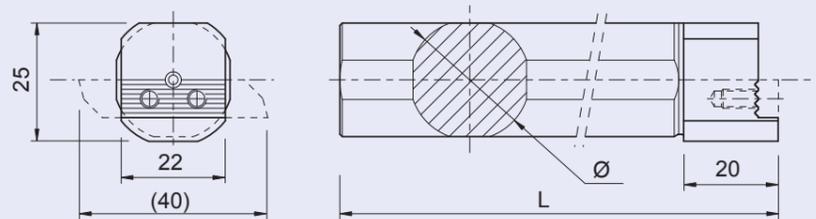
voir pages :  
siehe Seiten : 1.44 / 1.46 / 1.70  
see pages :

**L** coupe à gauche  
Linksschneiden  
left hand cut

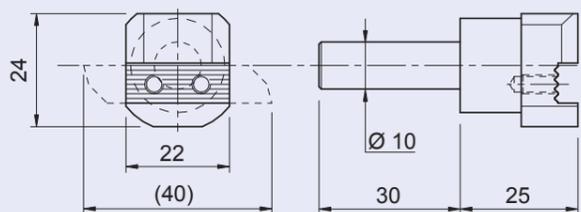
utiliser des plaquettes série 750  
Wendeplatten Serie 750 verwenden  
use inserts series 750

**R** coupe à droite  
Rechtsschneiden  
right hand cut

utiliser des plaquettes série 760  
Wendeplatten Serie 760 verwenden  
use inserts series 760



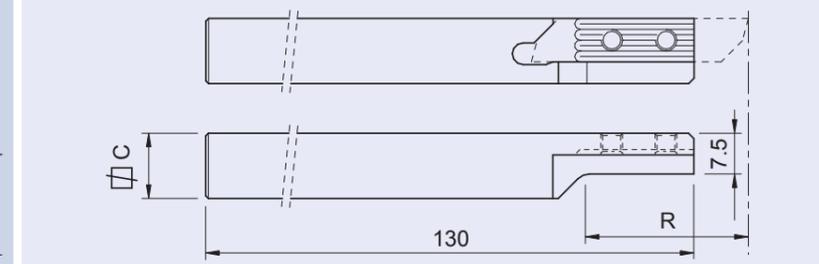
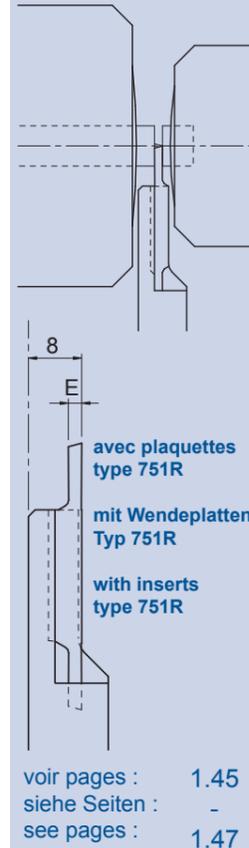
| Ø     | L   | Art. N°          |
|-------|-----|------------------|
| 19.05 | 160 | 760/750-D19.05   |
| 19.05 | 110 | 760/750-D19.05-S |
| 20    | 160 | 760/750-D20      |
| 25    | 200 | 760/750-D25      |
| 25.4  | 200 | 760/750-D25.4    |
| 25.4  | 125 | 760/750-D25.4-S  |



Art. N°  
760/750-D10

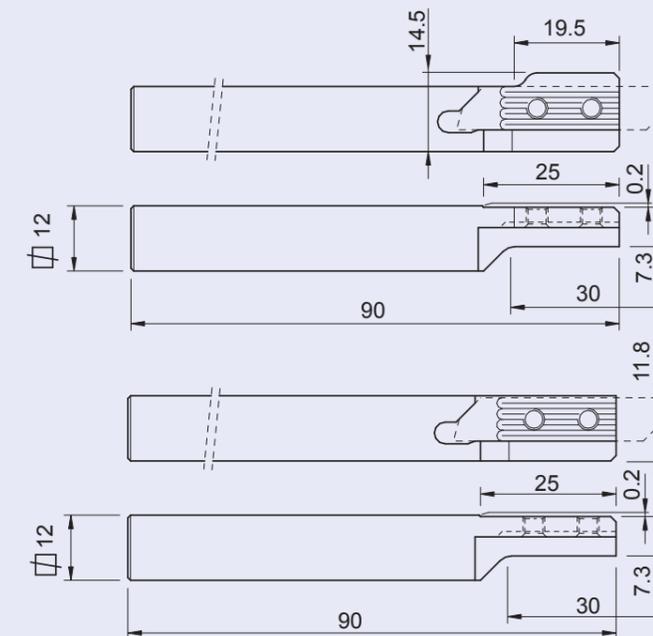
Pour le tronçonnage de petites pièces  
Zum Abstechen von kleinen Werkstücken  
For small parts parting off

porte-outils  
Halter  
holders



| C       | R  | Art. N°  |
|---------|----|----------|
| 12 X 12 | 30 | 750RC-12 |
| 16 X 16 | 40 | 750RC-16 |

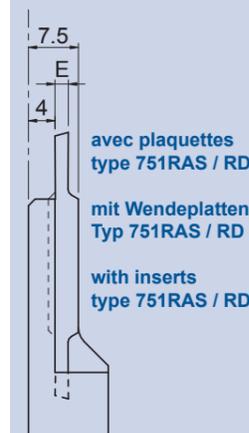
SPECIAL TORNOS AS14 / SAS16



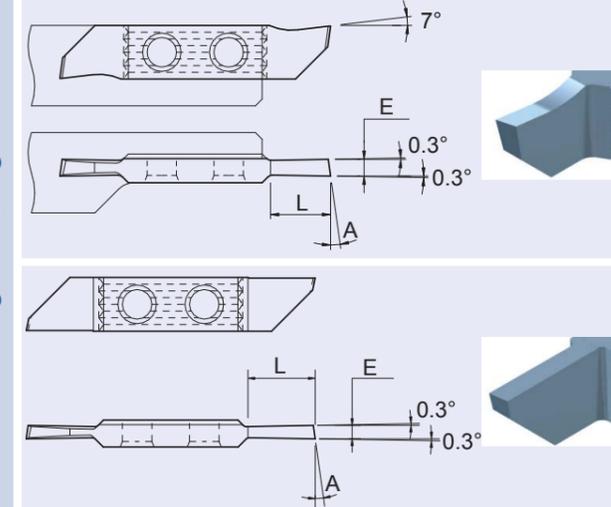
Art. N°  
750RAS-12

Art. N°  
750RAS12-H11.8

voir pages : 1.45  
siehe Seiten : -  
see pages : 1.47



tronçonnage  
abstechen  
parting off

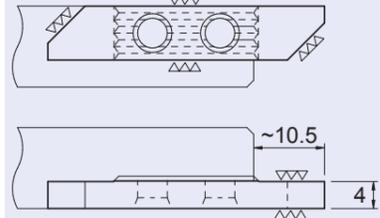


| A   | E   | L   | Art. N°        | TIN | TIALN | TALN (µK20) | HTIN | HTIALN | HTALN (µK10) |
|-----|-----|-----|----------------|-----|-------|-------------|------|--------|--------------|
| 8°  | 1.6 | 7.5 | 751RAS-1.6-8°  | ■   | ■     | ■           |      |        |              |
| 8°  | 2.0 | 9   | 751RAS-2.0-8°  | ■   | ■     | ■           | □    | □      | ■            |
| 8°  | 2.5 | 9   | 751RAS-2.5-8°  | ■   | ■     | ■           |      |        |              |
| 15° | 1.6 | 7.5 | 751RAS-1.6-15° | ■   | ■     | ■           |      |        |              |
| 15° | 2.0 | 9   | 751RAS-2.0-15° | ■   | ■     | ■           |      |        |              |
| 15° | 2.5 | 9   | 751RAS-2.5-15° | ■   | ■     | ■           |      |        |              |
| 8°  | 1.0 | 5   | 751RD-1.0-8°   | ■   | ■     | ■           |      |        |              |
| 8°  | 1.2 | 5   | 751RD-1.2-8°   | ■   | ■     | ■           |      |        |              |
| 8°  | 1.5 | 8   | 751RD-1.5-8°   | ■   | ■     | ■           | ■    | ■      | ■            |
| 8°  | 1.6 | 8   | 751RD-1.6-8°   | ■   | ■     | ■           |      |        |              |
| 8°  | 1.8 | 10  | 751RD-1.8-8°   | ■   | ■     | ■           |      |        |              |
| 8°  | 2.0 | 10  | 751RD-2.0-8°   | ■   | ■     | ■           |      |        |              |
| 8°  | 2.5 | 10  | 751RD-2.5-8°   | ■   | ■     | ■           |      |        |              |

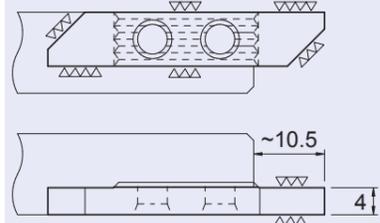
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



plaquette ébauche  
VHM-Rohling  
blank insert



| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 751-E   | ■        | ■         |



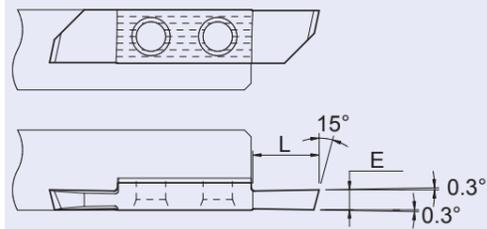
face de coupe polie  
Schneidfläche poliert  
cutting face polished



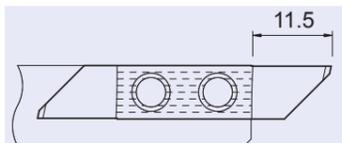
| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 751-EP  | ■        | ■         |



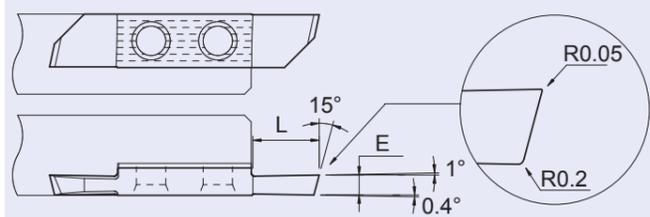
tronçonnage  
abstechen  
parting off



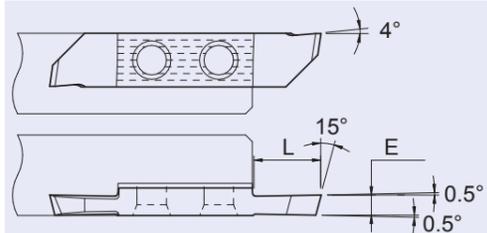
| E   | L   | Art. N° | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|-----|-----|---------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5   | 751-1.0 | ■   | ■     | ■        | □    | □      | ■         |
| 1.2 | 5   | 751-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 7.5 | 751-1.5 | ■   | ■     | ■        | □    | ■      | ■         |
| 1.8 | 7.5 | 751-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 751-2.0 | ■   | ■     | ■        | □    | ■      | ■         |
| 2.2 | 10  | 751-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 751-2.5 | ■   | ■     | ■        | □    | ■      | ■         |
| 3.0 | 10  | 751-3.0 | ■   | ■     | ■        |      |        |           |



|     |      |          |   |   |   |  |  |  |
|-----|------|----------|---|---|---|--|--|--|
| 2.0 | 11.5 | 751s-2.0 | ■ | ■ | ■ |  |  |  |
| 2.2 | 11.5 | 751s-2.2 | ■ | ■ | ■ |  |  |  |
| 2.5 | 11.5 | 751s-2.5 | ■ | ■ | ■ |  |  |  |
| 3.0 | 11.5 | 751s-3.0 | ■ | ■ | ■ |  |  |  |



|     |     |             |   |   |   |  |  |  |
|-----|-----|-------------|---|---|---|--|--|--|
| 1.5 | 7.5 | 751-1.5-R05 | ■ | ■ | ■ |  |  |  |
| 2.0 | 10  | 751-2.0-R05 | ■ | ■ | ■ |  |  |  |
| 2.5 | 10  | 751-2.5-R05 | ■ | ■ | ■ |  |  |  |



|     |    |           |   |   |   |  |  |  |
|-----|----|-----------|---|---|---|--|--|--|
| 2.0 | 10 | 751x4-2.0 | ■ | ■ | ■ |  |  |  |
|-----|----|-----------|---|---|---|--|--|--|

7XX-XX-B

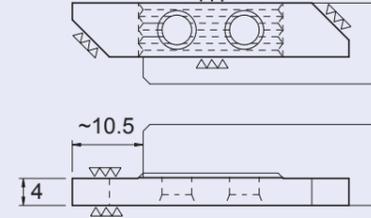


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

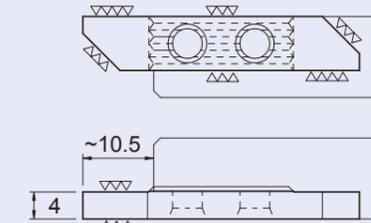
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



plaquette ébauche  
VHM-Rohling  
blank insert



| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 761-E   | ■        | ■         |

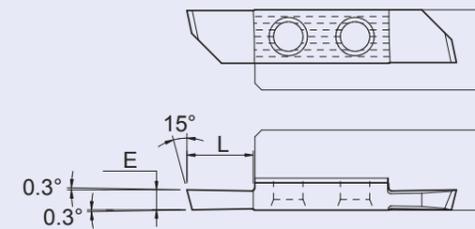


face de coupe polie  
Schneidfläche poliert  
cutting face polished

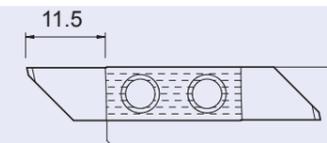


| Art. N° | N (μK20) | HN (μK10) |
|---------|----------|-----------|
| 761-EP  | ■        | ■         |

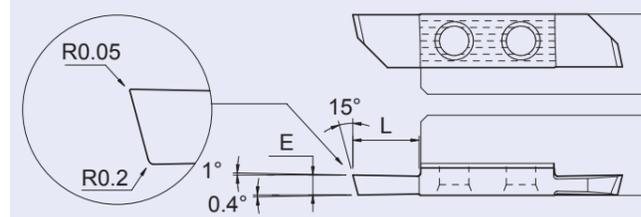
tronçonnage  
abstechen  
parting off



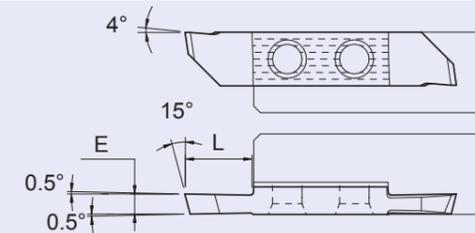
| E   | L   | Art. N° | TIN | TIALN | N (μK20) | HTIN | HTIALN | HN (μK10) |
|-----|-----|---------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5   | 761-1.0 | ■   | ■     | ■        | □    | ■      | ■         |
| 1.2 | 5   | 761-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 7.5 | 761-1.5 | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.8 | 7.5 | 761-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 761-2.0 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.2 | 10  | 761-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 761-2.5 | ■   | ■     | ■        | □    | ■      | ■         |
| 3.0 | 10  | 761-3.0 | ■   | ■     | ■        |      |        |           |



|     |      |          |   |   |   |  |  |  |
|-----|------|----------|---|---|---|--|--|--|
| 2.0 | 11.5 | 761s-2.0 | ■ | ■ | ■ |  |  |  |
| 2.2 | 11.5 | 761s-2.2 | ■ | ■ | ■ |  |  |  |
| 2.5 | 11.5 | 761s-2.5 | ■ | ■ | ■ |  |  |  |
| 3.0 | 11.5 | 761s-3.0 | ■ | ■ | ■ |  |  |  |



|     |     |             |   |   |   |  |  |  |
|-----|-----|-------------|---|---|---|--|--|--|
| 1.5 | 7.5 | 761-1.5-R05 | ■ | ■ | ■ |  |  |  |
| 2.0 | 10  | 761-2.0-R05 | ■ | ■ | ■ |  |  |  |
| 2.5 | 10  | 761-2.5-R05 | ■ | ■ | ■ |  |  |  |



|     |     |           |   |   |   |  |  |  |
|-----|-----|-----------|---|---|---|--|--|--|
| 1.5 | 7.5 | 761x4-1.5 | ■ | ■ | ■ |  |  |  |
| 2.0 | 10  | 761x4-2.0 | ■ | ■ | ■ |  |  |  |
| 2.5 | 10  | 761x4-2.5 | ■ | ■ | ■ |  |  |  |

7XX-XX-B

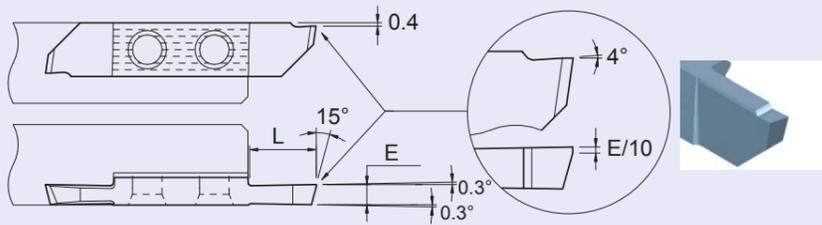


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

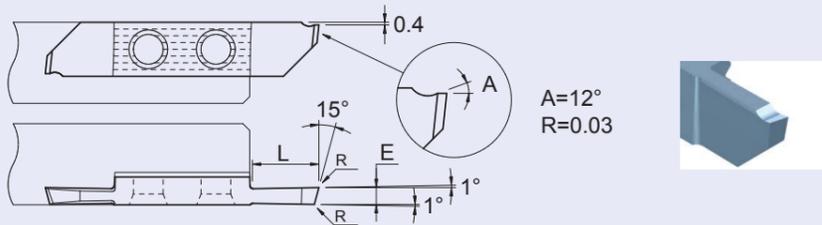
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



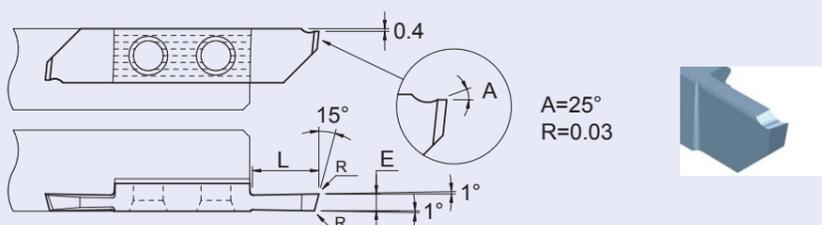
tronçonnage  
abstechen  
parting off



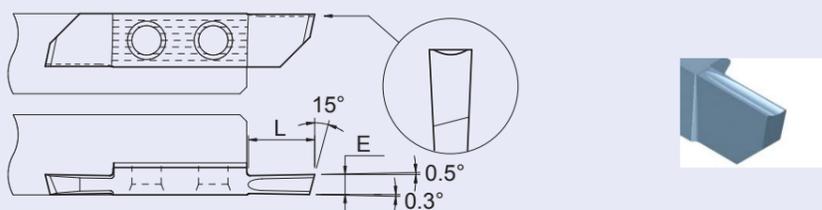
| E   | L   | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|-----------|-----|-------|----------|------|--------|-----------|
| 1.5 | 7.5 | 751xf-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 751xf-2.0 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.2 | 10  | 751xf-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 751xf-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10  | 751xf-3.0 | ■   | ■     | ■        |      |        |           |



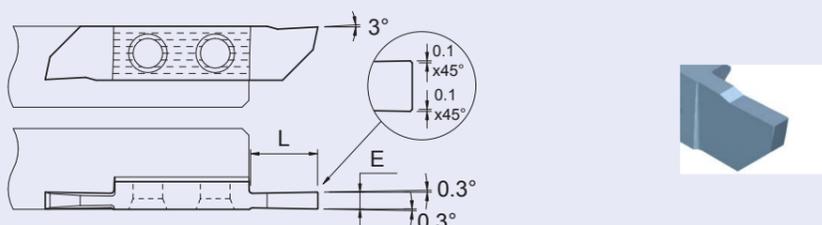
| E   | L   | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------------|-----|-------|----------|------|--------|-----------|
| 1.5 | 7.5 | 751x12-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 751x12-2.0 | ■   | ■     | ■        | □    | □      | ■         |
| 2.5 | 10  | 751x12-2.5 | ■   | ■     | ■        |      |        |           |



| E   | L   | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------------|-----|-------|----------|------|--------|-----------|
| 1.5 | 7.5 | 751x25-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 751x25-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 751x25-2.5 | ■   | ■     | ■        |      |        |           |



| E   | L  | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|----------|-----|-------|----------|------|--------|-----------|
| 2.0 | 10 | 751u-2.0 | ■   | ■     | ■        |      |        |           |



| E   | L  | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|------------|-----|-------|----------|------|--------|-----------|
| 2.0 | 10 | 751nxf-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10 | 751nxf-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10 | 751nxf-3.0 | ■   | ■     | ■        |      |        |           |

7XX-XX-B

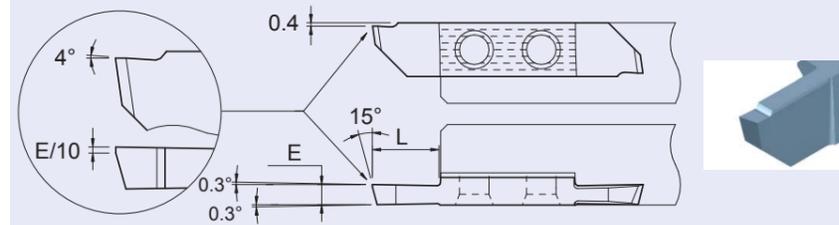


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

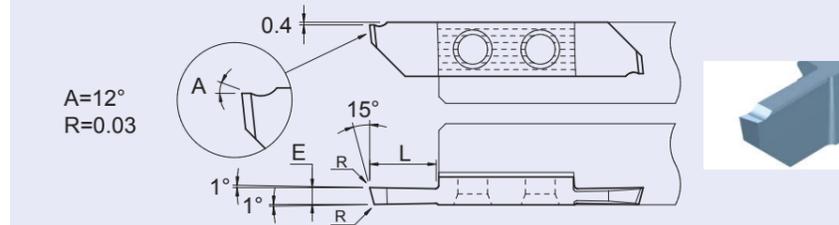
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



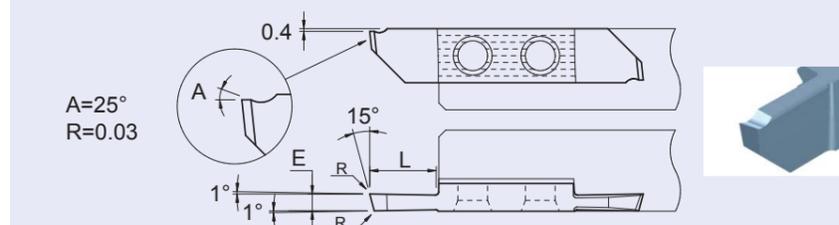
tronçonnage  
abstechen  
parting off



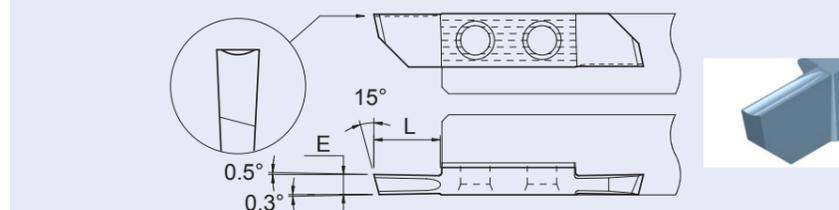
| E   | L   | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|-----------|-----|-------|----------|------|--------|-----------|
| 1.5 | 7.5 | 761xf-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 761xf-2.0 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.2 | 10  | 761xf-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 761xf-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10  | 761xf-3.0 | ■   | ■     | ■        |      |        |           |



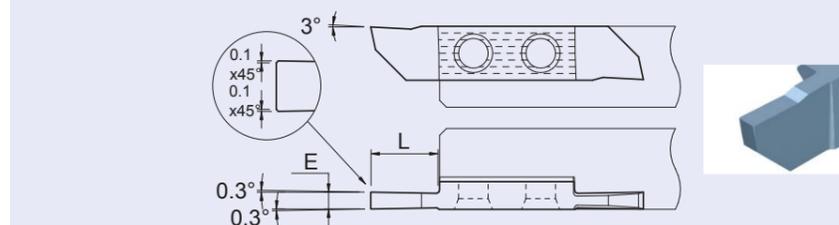
| E   | L   | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------------|-----|-------|----------|------|--------|-----------|
| 1.5 | 7.5 | 761x12-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 761x12-2.0 | ■   | ■     | ■        | □    | □      | ■         |
| 2.5 | 10  | 761x12-2.5 | ■   | ■     | ■        |      |        |           |



| E   | L   | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------------|-----|-------|----------|------|--------|-----------|
| 1.5 | 7.5 | 761x25-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 761x25-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 761x25-2.5 | ■   | ■     | ■        |      |        |           |



| E   | L  | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|----------|-----|-------|----------|------|--------|-----------|
| 2.0 | 10 | 761u-2.0 | ■   | ■     | ■        |      |        |           |



| E   | L  | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|------------|-----|-------|----------|------|--------|-----------|
| 2.0 | 10 | 761nxf-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10 | 761nxf-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10 | 761nxf-3.0 | ■   | ■     | ■        |      |        |           |

7XX-XX-B

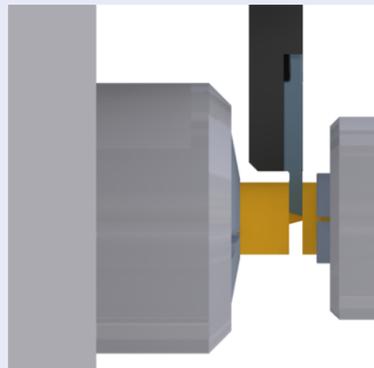


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

coupe à gauche déportée  
versetztes Linksschneiden  
left cut off line

broche principale  
Hauptspindel  
Mainspindle



contre-broche  
Gegenspindel  
subspindle

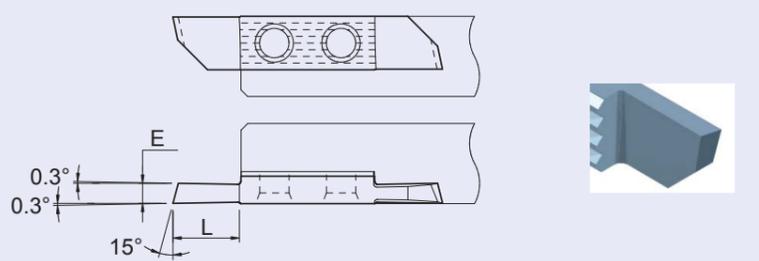
Utiliser des porte-outils série 760,  
voir pages 1.37 et 1.38.

Halter Serie 760 verwenden,  
siehe Seiten 1.37 und 1.38.

Use 760 series holders,  
see pages 1.37 und 1.38.



tronçonnage  
abstechen  
parting off



| E   | L   | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5   | 761L-1.0 | ■   | ■     | ■        |      |        |           |
| 1.5 | 7.5 | 761L-1.5 | ■   | ■     | ■        |      |        |           |
| 1.8 | 7.5 | 761L-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 761L-2.0 | ■   | ■     | ■        | □    | □      | ■         |
| 2.2 | 10  | 761L-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 761L-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10  | 761L-3.0 | ■   | ■     | ■        |      |        |           |

|     |      |           |   |   |   |  |  |  |
|-----|------|-----------|---|---|---|--|--|--|
| 1.0 | 5.5  | 761Ls-1.0 | ■ | ■ | ■ |  |  |  |
| 1.5 | 8    | 761Ls-1.5 | ■ | ■ | ■ |  |  |  |
| 2.0 | 11.5 | 761Ls-2.0 | ■ | ■ | ■ |  |  |  |
| 2.2 | 11.5 | 761Ls-2.2 | ■ | ■ | ■ |  |  |  |
| 2.5 | 11.5 | 761Ls-2.5 | ■ | ■ | ■ |  |  |  |
| 3.0 | 11.5 | 761Ls-3.0 | ■ | ■ | ■ |  |  |  |

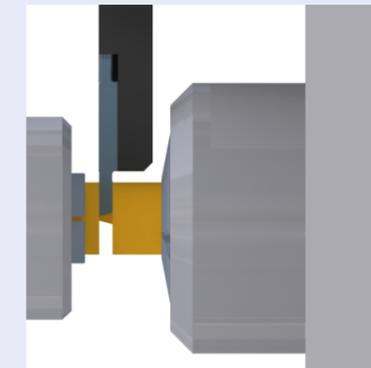
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|-----|-----|--------------|---|---|---|--|--|--|
| 1.5 | 7.5 | 761L-1.5-R05 | ■ | ■ | ■ |  |  |  |
| 2.0 | 10  | 761L-2.0-R05 | ■ | ■ | ■ |  |  |  |

|     |    |            |   |   |   |  |  |  |
|-----|----|------------|---|---|---|--|--|--|
| 2.0 | 10 | 761Lx4-2.0 | ■ | ■ | ■ |  |  |  |
|-----|----|------------|---|---|---|--|--|--|

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

coupe à droite déportée  
versetztes Rechtsschneiden  
right cut off line

contre-broche  
Gegenspindel  
subspindle



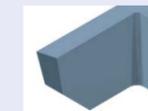
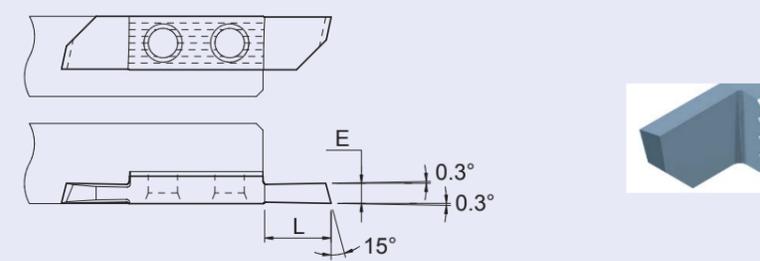
broche principale  
Hauptspindel  
Mainspindle

Utiliser des porte-outils série 750,  
voir pages 1.36 et 1.39.

Utiliser des porte-outils série 750,  
siehe Seiten 1.36 und 1.39.

Use 750 series holders,  
see pages 1.36 und 1.39.

tronçonnage  
abstechen  
parting off



| E   | L   | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5   | 751R-1.0 | ■   | ■     | ■        |      |        |           |
| 1.5 | 7.5 | 751R-1.5 | ■   | ■     | ■        | □    | □      | ■         |
| 1.8 | 7.5 | 751R-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 10  | 751R-2.0 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.2 | 10  | 751R-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10  | 751R-2.5 | ■   | ■     | ■        | ■    | ■      | ■         |
| 3.0 | 10  | 751R-3.0 | ■   | ■     | ■        |      |        |           |

|     |      |           |   |   |   |  |  |  |
|-----|------|-----------|---|---|---|--|--|--|
| 1.0 | 5.5  | 751Rs-1.0 | ■ | ■ | ■ |  |  |  |
| 1.5 | 8    | 751Rs-1.5 | ■ | ■ | ■ |  |  |  |
| 2.0 | 11.5 | 751Rs-2.0 | ■ | ■ | ■ |  |  |  |
| 2.2 | 11.5 | 751Rs-2.2 | ■ | ■ | ■ |  |  |  |
| 2.5 | 11.5 | 751Rs-2.5 | ■ | ■ | ■ |  |  |  |
| 3.0 | 11.5 | 751Rs-3.0 | ■ | ■ | ■ |  |  |  |

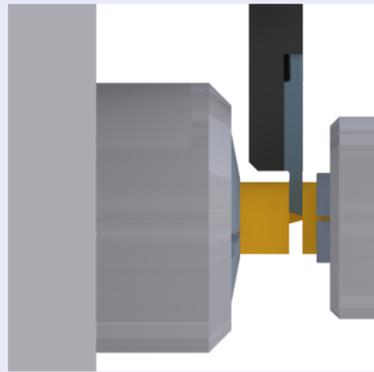
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|-----|-----|--------------|---|---|---|--|--|--|
| 1.5 | 7.5 | 751R-1.5-R05 | ■ | ■ | ■ |  |  |  |
| 2.0 | 10  | 751R-2.0-R05 | ■ | ■ | ■ |  |  |  |

|     |     |            |   |   |   |  |  |  |
|-----|-----|------------|---|---|---|--|--|--|
| 1.5 | 7.5 | 751Rx4-1.5 | ■ | ■ | ■ |  |  |  |
| 2.0 | 10  | 751Rx4-2.0 | ■ | ■ | ■ |  |  |  |
| 2.5 | 10  | 751Rx4-2.5 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

coupe à gauche déportée  
versetztes Linksschneiden  
left cut off line

broche principale  
Hauptspindel  
Mainspindle



contre-broche  
Gegenspindel  
subspindle

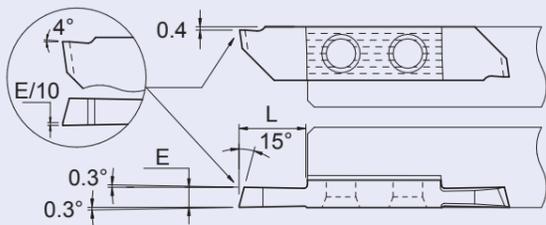
Utiliser des porte-outils série 760,  
voir pages 1.37 et 1.38.

Halter Serie 760 verwenden,  
siehe Seiten 1.37 und 1.38.

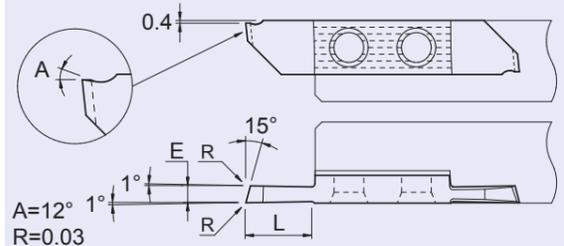
Use 760 series holders,  
see pages 1.37 und 1.38.



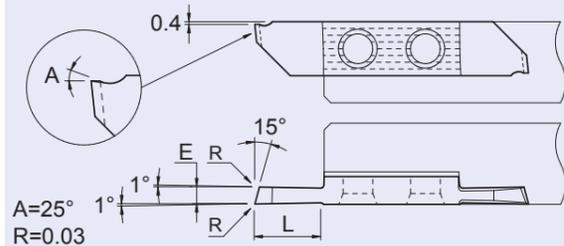
tronçonnage  
abstechen  
parting off



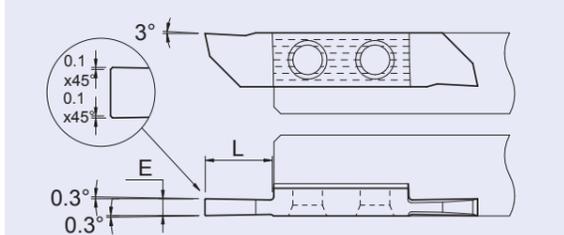
| E   | L  | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|------------|-----|-------|----------|------|--------|-----------|
| 2.0 | 10 | 761Lxf-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 10 | 761Lxf-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10 | 761Lxf-3.0 | ■   | ■     | ■        |      |        |           |



|     |    |             |   |   |   |  |  |  |
|-----|----|-------------|---|---|---|--|--|--|
| 2.0 | 10 | 761Lx12-2.0 | ■ | ■ | ■ |  |  |  |
|-----|----|-------------|---|---|---|--|--|--|



|     |    |             |   |   |   |  |  |  |
|-----|----|-------------|---|---|---|--|--|--|
| 2.0 | 10 | 761Lx25-2.0 | ■ | ■ | ■ |  |  |  |
|-----|----|-------------|---|---|---|--|--|--|

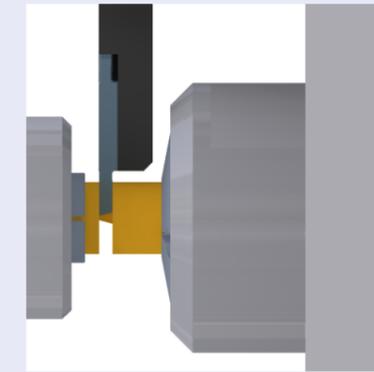


|     |    |            |   |   |   |  |  |  |
|-----|----|------------|---|---|---|--|--|--|
| 2.0 | 10 | 761nxf-2.0 | ■ | ■ | ■ |  |  |  |
| 2.5 | 10 | 761nxf-2.5 | ■ | ■ | ■ |  |  |  |
| 3.0 | 10 | 761nxf-3.0 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

coupe à droite déportée  
versetztes Rechtsschneiden  
right cut off line

contre-broche  
Gegenspindel  
subspindle



broche principale  
Hauptspindel  
Mainspindle

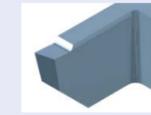
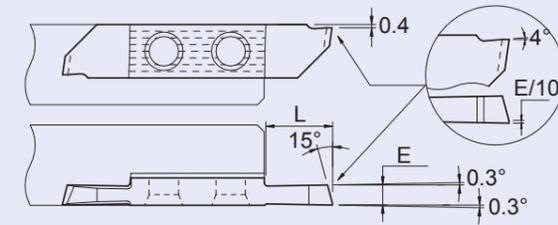
Utiliser des porte-outils série 750,  
voir pages 1.36 et 1.39.

Utiliser des porte-outils série 750,  
siehe Seiten 1.36 und 1.39.

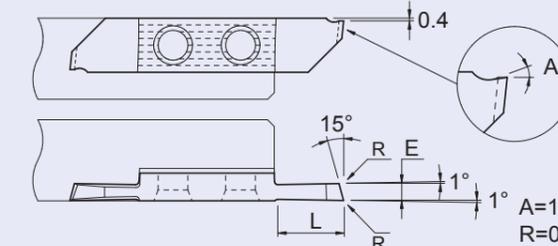
Use 750 series holders,  
see pages 1.36 und 1.39.



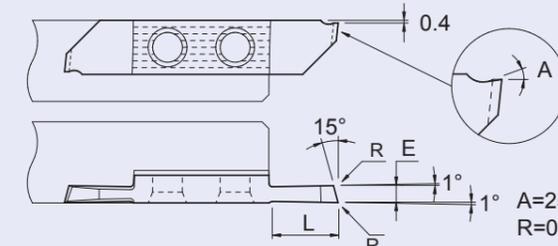
tronçonnage  
abstechen  
parting off



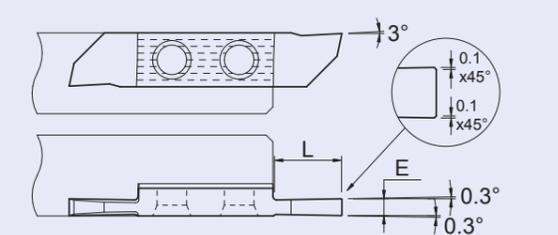
| E   | L  | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|------------|-----|-------|----------|------|--------|-----------|
| 1.5 | 10 | 751Rxf-1.5 | ■   | ■     | ■        | □    | □      | ■         |
| 2.0 | 10 | 751Rxf-2.0 | ■   | ■     | ■        | □    | □      | ■         |
| 2.5 | 10 | 751Rxf-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 10 | 751Rxf-3.0 | ■   | ■     | ■        |      |        |           |



|     |     |             |   |   |   |   |   |   |
|-----|-----|-------------|---|---|---|---|---|---|
| 1.5 | 7.5 | 751Rx12-1.5 | ■ | ■ | ■ |   |   |   |
| 2.0 | 10  | 751Rx12-2.0 | ■ | ■ | ■ | □ | □ | ■ |



|     |    |             |   |   |   |  |  |  |
|-----|----|-------------|---|---|---|--|--|--|
| 2.0 | 10 | 751Rx25-2.0 | ■ | ■ | ■ |  |  |  |
|-----|----|-------------|---|---|---|--|--|--|

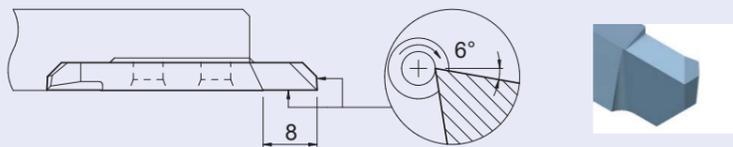
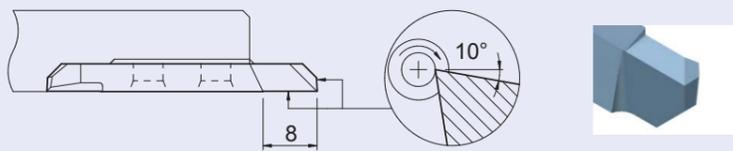
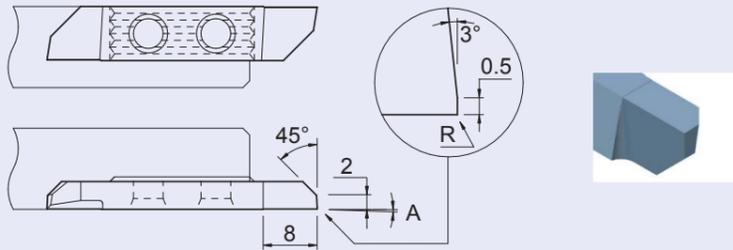


|     |    |            |   |   |   |  |  |  |
|-----|----|------------|---|---|---|--|--|--|
| 2.0 | 10 | 751nxf-2.0 | ■ | ■ | ■ |  |  |  |
| 2.5 | 10 | 751nxf-2.5 | ■ | ■ | ■ |  |  |  |
| 3.0 | 10 | 751nxf-3.0 | ■ | ■ | ■ |  |  |  |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



tourneur avant  
vorwärts drehen  
front turning



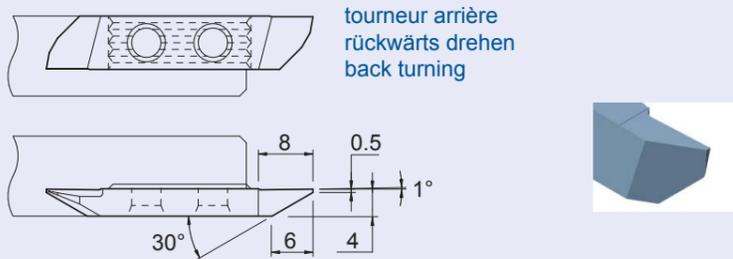
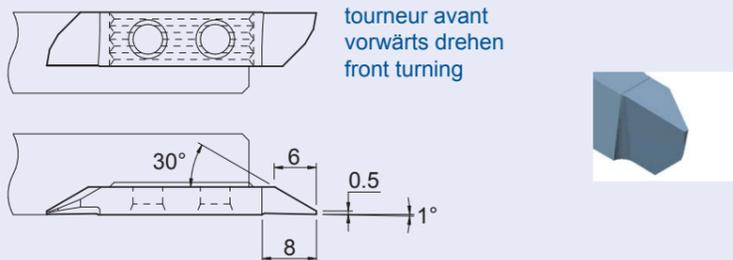
| A  | R | Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|----|---|---------|-----|-------|----------|------|--------|-----------|
| 0° | 0 | 752     | ■   | ■     | ■        | □    | □      | ■         |
| 3° | 0 | 752-3°  | ■   | ■     | ■        |      |        |           |

|    |     |          |   |   |   |   |   |   |
|----|-----|----------|---|---|---|---|---|---|
| 0° | 0   | 752x     | ■ | ■ | ■ | □ | □ | ■ |
| 0° | 0.2 | 752x-R20 | ■ | ■ | ■ |   |   |   |

|    |   |       |   |   |   |  |  |  |
|----|---|-------|---|---|---|--|--|--|
| 0° | 0 | 752Px | ■ | ■ | ■ |  |  |  |
|----|---|-------|---|---|---|--|--|--|



tourneur multifonction  
Mehrzweck Dreher  
multifunction turning



| Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|---------|-----|-------|----------|------|--------|-----------|
| 752s05  | ■   | ■     | ■        | □    | □      | ■         |

|        |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|
| 753s05 | ■ | ■ | ■ | □ | □ | ■ |
|--------|---|---|---|---|---|---|

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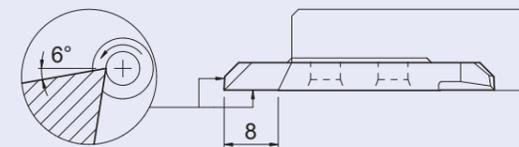
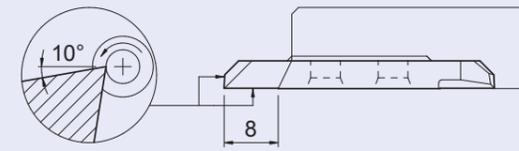
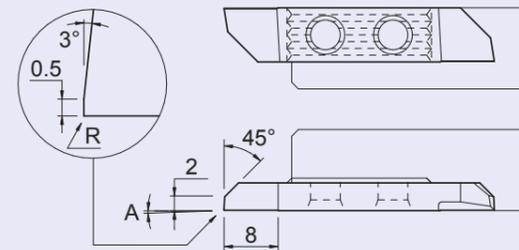


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



tourneur avant  
vorwärts drehen  
front turning

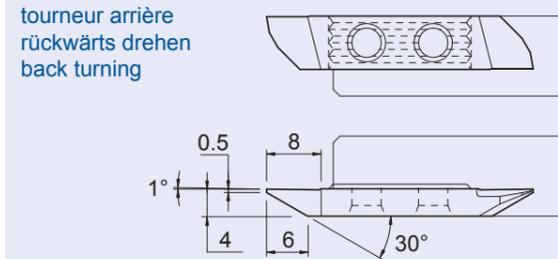
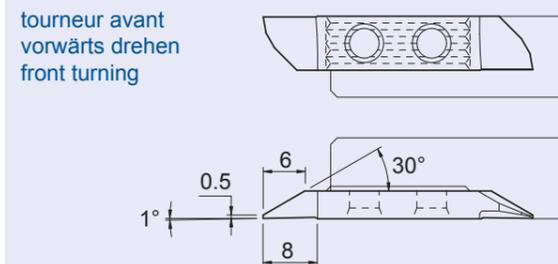


| A  | R   | Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|----|-----|---------|-----|-------|----------|------|--------|-----------|
| 0° | 0   | 762     | ■   | ■     | ■        | □    | □      | ■         |
| 0° | 0.2 | 762-R20 | ■   | ■     | ■        |      |        |           |
| 3° | 0   | 762-3°  | ■   | ■     | ■        | □    | □      | ■         |

|    |     |          |   |   |   |   |   |   |
|----|-----|----------|---|---|---|---|---|---|
| 0° | 0   | 762x     | ■ | ■ | ■ | □ | □ | ■ |
| 0° | 0.2 | 762x-R20 | ■ | ■ | ■ |   |   |   |

|    |   |       |   |   |   |  |  |  |
|----|---|-------|---|---|---|--|--|--|
| 0° | 0 | 762Px | ■ | ■ | ■ |  |  |  |
|----|---|-------|---|---|---|--|--|--|

tourneur multifonction  
Mehrzweck Dreher  
multifunction turning



| Art. N° | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|---------|-----|-------|----------|------|--------|-----------|
| 762s05  | ■   | ■     | ■        | □    | □      | ■         |

|        |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|
| 763s05 | ■ | ■ | ■ | □ | □ | ■ |
|--------|---|---|---|---|---|---|

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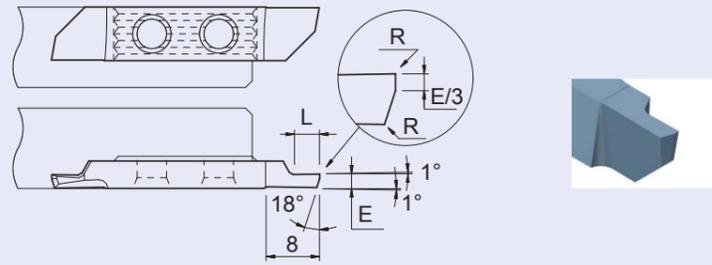


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



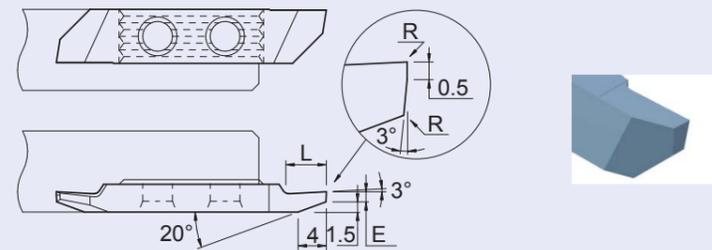
tourneur arrière / pré-coupe  
rückwärts drehen / vorstechen  
back turning / pre-parting off



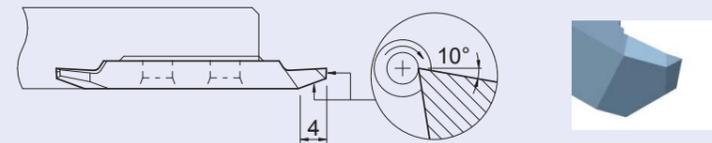
| E   | L   | R | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---|----------|-----|-------|----------|------|--------|-----------|
| 1.5 | 3   | 0 | 753P-1.5 | ■   | ■     | ■        |      |        |           |
| 1.8 | 3.5 | 0 | 753P-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0 | 753P-2.0 | ■   | ■     | ■        |      |        |           |
| 2.2 | 4.5 | 0 | 753P-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 5   | 0 | 753P-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0 | 753P-3.0 | ■   | ■     | ■        |      |        |           |



tourneur arrière  
rückwärts drehen  
back turning

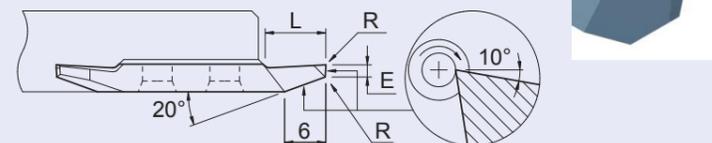


| E   | L   | R    | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------|-------------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5   | 0    | 753-1.0     | ■   | ■     | ■        |      |        |           |
| 1.0 | 5   | 0.08 | 753-1.0-R08 | ■   | ■     | ■        |      |        |           |
| 1.5 | 6   | 0    | 753-1.5     | ■   | ■     | ■        |      |        |           |
| 2.0 | 7.5 | 0    | 753-2.0     | ■   | ■     | ■        |      |        |           |
| 2.5 | 9   | 0    | 753-2.5     | ■   | ■     | ■        |      |        |           |



|     |     |      |              |   |   |   |  |  |  |
|-----|-----|------|--------------|---|---|---|--|--|--|
| 1.0 | 5   | 0    | 753x-1.0     | ■ | ■ | ■ |  |  |  |
| 1.0 | 5   | 0.08 | 753x-1.0-R08 | ■ | ■ | ■ |  |  |  |
| 1.0 | 5   | 0.2  | 753x-1.0-R20 | ■ | ■ | ■ |  |  |  |
| 1.5 | 6   | 0    | 753x-1.5     | ■ | ■ | ■ |  |  |  |
| 1.5 | 6   | 0.2  | 753x-1.5-R20 | ■ | ■ | ■ |  |  |  |
| 2.0 | 7.5 | 0    | 753x-2.0     | ■ | ■ | ■ |  |  |  |
| 2.0 | 7.5 | 0.2  | 753x-2.0-R20 | ■ | ■ | ■ |  |  |  |
| 2.5 | 9   | 0    | 753x-2.5     | ■ | ■ | ■ |  |  |  |
| 2.5 | 9   | 0.2  | 753x-2.5-R20 | ■ | ■ | ■ |  |  |  |

tourneur arrière pour passe profonde  
rückwärts drehen für Tiefbearbeitung  
back turning for deep cut



|     |   |     |               |   |   |   |  |  |  |
|-----|---|-----|---------------|---|---|---|--|--|--|
| 1.8 | 9 | 0   | 753xs-1.8     | ■ | ■ | ■ |  |  |  |
| 1.8 | 9 | 0.2 | 753xs-1.8-R20 | ■ | ■ | ■ |  |  |  |

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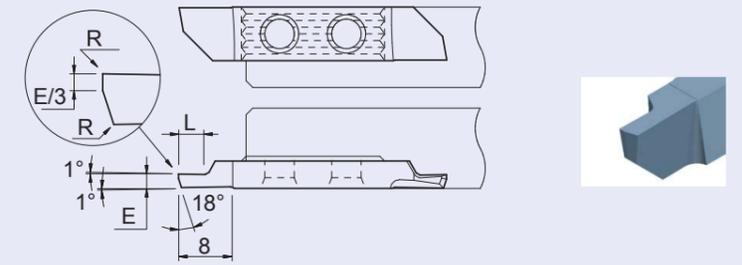


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

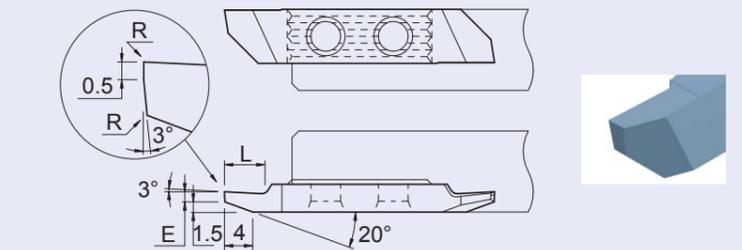


tourneur arrière / pré-coupe  
rückwärts drehen / vorstechen  
back turning / pre-parting off

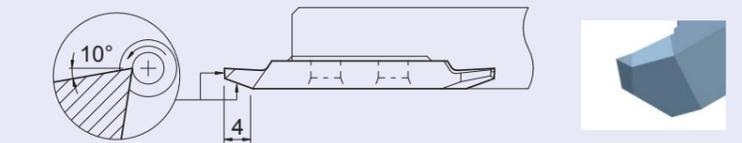


| E   | L   | R | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---|----------|-----|-------|----------|------|--------|-----------|
| 1.5 | 3   | 0 | 763P-1.5 | ■   | ■     | ■        |      |        |           |
| 1.8 | 3.5 | 0 | 763P-1.8 | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0 | 763P-2.0 | ■   | ■     | ■        |      |        |           |
| 2.2 | 4.5 | 0 | 763P-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 5   | 0 | 763P-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0 | 763P-3.0 | ■   | ■     | ■        |      |        |           |

tourneur arrière  
rückwärts drehen  
back turning

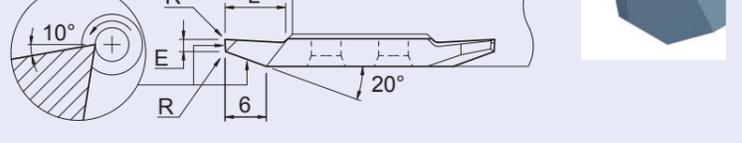


| E   | L   | R    | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------|-------------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5   | 0    | 763-1.0     | ■   | ■     | ■        | □    | □      | ■         |
| 1.0 | 5   | 0.08 | 763-1.0-R08 | ■   | ■     | ■        |      |        |           |
| 1.5 | 6   | 0    | 763-1.5     | ■   | ■     | ■        | □    | □      | ■         |
| 2.0 | 7.5 | 0    | 763-2.0     | ■   | ■     | ■        |      |        |           |
| 2.5 | 9   | 0    | 763-2.5     | ■   | ■     | ■        |      |        |           |



|     |     |      |              |   |   |   |   |   |   |
|-----|-----|------|--------------|---|---|---|---|---|---|
| 1.0 | 5   | 0    | 763x-1.0     | ■ | ■ | ■ | □ | □ | ■ |
| 1.0 | 5   | 0.08 | 763x-1.0-R08 | ■ | ■ | ■ |   |   |   |
| 1.0 | 5   | 0.2  | 763x-1.0-R20 | ■ | ■ | ■ |   |   |   |
| 1.5 | 6   | 0    | 763x-1.5     | ■ | ■ | ■ | □ | □ | ■ |
| 1.5 | 6   | 0.2  | 763x-1.5-R20 | ■ | ■ | ■ |   |   |   |
| 2.0 | 7.5 | 0    | 763x-2.0     | ■ | ■ | ■ |   |   |   |
| 2.0 | 7.5 | 0.2  | 763x-2.0-R20 | ■ | ■ | ■ |   |   |   |
| 2.5 | 9   | 0    | 763x-2.5     | ■ | ■ | ■ |   |   |   |
| 2.5 | 9   | 0.2  | 763x-2.5-R20 | ■ | ■ | ■ |   |   |   |

tourneur arrière pour passe profonde  
rückwärts drehen für Tiefbearbeitung  
back turning for deep cut



|     |   |     |               |   |   |   |  |  |  |
|-----|---|-----|---------------|---|---|---|--|--|--|
| 1.8 | 9 | 0   | 763xs-1.8     | ■ | ■ | ■ |  |  |  |
| 1.8 | 9 | 0.2 | 763xs-1.8-R20 | ■ | ■ | ■ |  |  |  |

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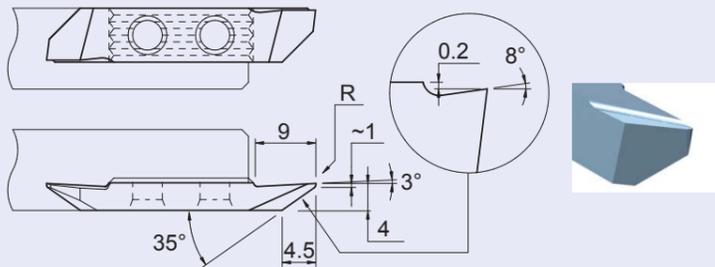


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

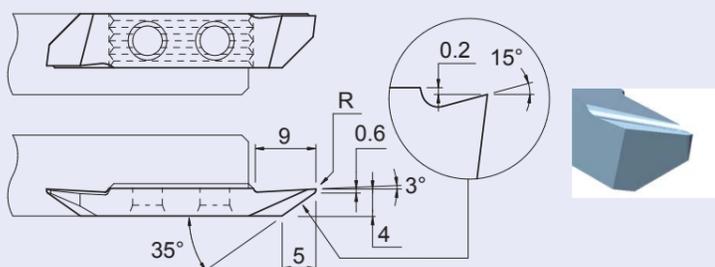
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



tourneur arrière  
rückwärts drehen  
back turning



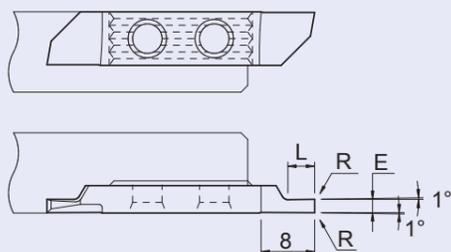
| R    | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|------|--------------|-----|-------|----------|------|--------|-----------|
| 0    | 753vx-8°     | ■   | ■     | ■        |      |        |           |
| 0.08 | 753vx-8°-R08 | ■   | ■     | ■        |      |        |           |



| R    | Art. N°       | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|------|---------------|-----|-------|----------|------|--------|-----------|
| 0    | 753vx-15°     | ■   | ■     | ■        |      |        |           |
| 0.08 | 753vx-15°-R08 | ■   | ■     | ■        |      |        |           |



foncer tourner  
einstechen und drehen  
grooving and turning



| E    | L   | R    | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|------|-----|------|-------------|-----|-------|----------|------|--------|-----------|
| 0.5  | 1.5 | 0    | 754-0.5     | ■   | ■     | ■        |      |        |           |
| 0.75 | 2   | 0    | 754-0.75    | ■   | ■     | ■        |      |        |           |
| 0.95 | 3   | 0    | 754-0.95    | ■   | ■     | ■        |      |        |           |
| 1.0  | 2.5 | 0    | 754-1.0     | ■   | ■     | ■        |      |        |           |
| 1.0  | 2.5 | 0.08 | 754-1.0-R08 | ■   | ■     | ■        |      |        |           |
| 1.2  | 3   | 0    | 754-1.2     | ■   | ■     | ■        |      |        |           |
| 1.5  | 3   | 0    | 754-1.5     | ■   | ■     | ■        | □    | □      | ■         |
| 1.5  | 3   | 0.08 | 754-1.5-R08 | ■   | ■     | ■        |      |        |           |
| 1.8  | 4   | 0    | 754-1.8     | ■   | ■     | ■        |      |        |           |
| 2.0  | 4   | 0    | 754-2.0     | ■   | ■     | ■        | □    | □      | ■         |
| 2.0  | 4   | 0.08 | 754-2.0-R08 | ■   | ■     | ■        |      |        |           |
| 2.0  | 4   | 0.2  | 754-2.0-R20 | ■   | ■     | ■        |      |        |           |
| 2.5  | 6   | 0    | 754-2.5     | ■   | ■     | ■        |      |        |           |
| 3.0  | 6   | 0    | 754-3.0     | ■   | ■     | ■        |      |        |           |
| 3.0  | 6   | 0.08 | 754-3.0-R08 | ■   | ■     | ■        |      |        |           |
| 3.0  | 6   | 0.2  | 754-3.0-R20 | ■   | ■     | ■        |      |        |           |
| 4.0  | 8   | 0    | 754-4.0     | ■   | ■     | ■        |      |        |           |

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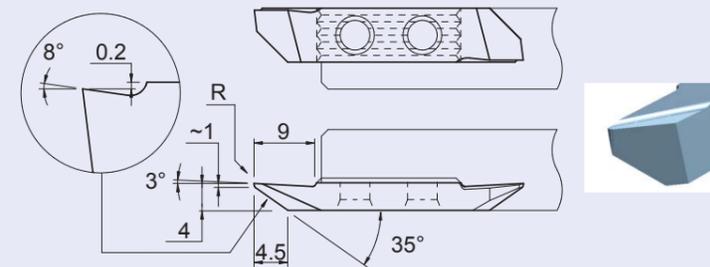


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

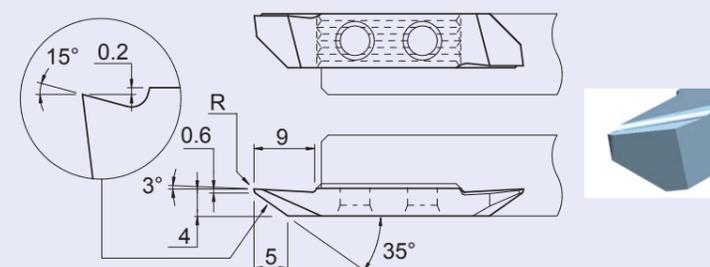
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



tourneur arrière  
rückwärts drehen  
back turning

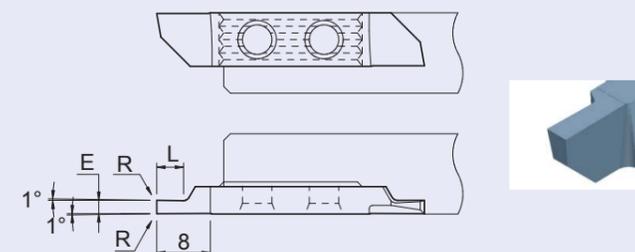


| R    | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|------|--------------|-----|-------|----------|------|--------|-----------|
| 0    | 763vx-8°     | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.08 | 763vx-8°-R08 | ■   | ■     | ■        | ■    | ■      | ■         |



| R    | Art. N°       | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|------|---------------|-----|-------|----------|------|--------|-----------|
| 0    | 763vx-15°     | ■   | ■     | ■        |      |        |           |
| 0.08 | 763vx-15°-R08 | ■   | ■     | ■        |      |        |           |

foncer tourner  
einstechen und drehen  
grooving and turning



| E    | L   | R    | Art. N°     | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|------|-----|------|-------------|-----|-------|----------|------|--------|-----------|
| 0.5  | 1.5 | 0    | 764-0.5     | ■   | ■     | ■        | ■    | ■      | ■         |
| 0.75 | 2   | 0    | 764-0.75    | ■   | ■     | ■        |      |        |           |
| 0.8  | 2   | 0    | 764-0.8     | ■   | ■     | ■        |      |        |           |
| 0.95 | 3   | 0    | 764-0.95    | ■   | ■     | ■        |      |        |           |
| 1.0  | 2.5 | 0    | 764-1.0     | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.0  | 2.5 | 0.08 | 764-1.0-R08 | ■   | ■     | ■        |      |        |           |
| 1.2  | 3   | 0    | 764-1.2     | ■   | ■     | ■        | □    | ■      | ■         |
| 1.5  | 3   | 0    | 764-1.5     | ■   | ■     | ■        | □    | ■      | ■         |
| 1.5  | 3   | 0.08 | 764-1.5-R08 | ■   | ■     | ■        |      |        |           |
| 1.5  | 3   | 0.2  | 764-1.5-R20 | ■   | ■     | ■        |      |        |           |
| 1.8  | 4   | 0    | 764-1.8     | ■   | ■     | ■        |      |        |           |
| 2.0  | 4   | 0    | 764-2.0     | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.0  | 4   | 0.08 | 764-2.0-R08 | ■   | ■     | ■        |      |        |           |
| 2.0  | 4   | 0.2  | 764-2.0-R20 | ■   | ■     | ■        |      |        |           |
| 2.5  | 6   | 0    | 764-2.5     | ■   | ■     | ■        | □    | ■      | ■         |
| 3.0  | 6   | 0    | 764-3.0     | ■   | ■     | ■        |      |        |           |
| 3.0  | 6   | 0.08 | 764-3.0-R08 | ■   | ■     | ■        |      |        |           |
| 3.0  | 6   | 0.2  | 764-3.0-R20 | ■   | ■     | ■        |      |        |           |
| 4.0  | 8   | 0    | 764-4.0     | ■   | ■     | ■        |      |        |           |

7XX-XX-B

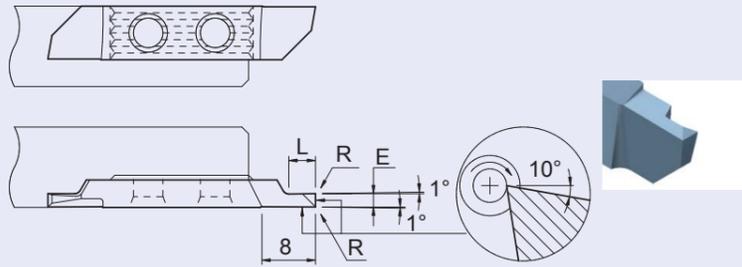


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

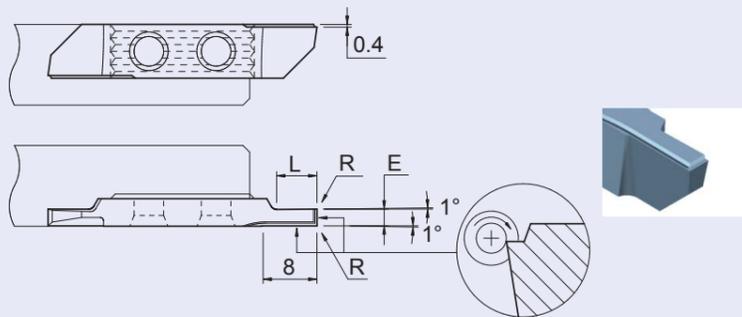
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



foncer tourner  
einstechen und drehen  
grooving and turning



| E   | L   | R    | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------|--------------|-----|-------|----------|------|--------|-----------|
| 1.0 | 2.5 | 0    | 754x-1.0     | ■   | ■     | ■        | □    | □      | ■         |
| 1.0 | 2.5 | 0.08 | 754x-1.0-R08 | ■   | ■     | ■        |      |        |           |
| 1.2 | 3   | 0    | 754x-1.2     | ■   | ■     | ■        |      |        |           |
| 1.5 | 3   | 0    | 754x-1.5     | ■   | ■     | ■        | □    | □      | ■         |
| 1.5 | 3   | 0.08 | 754x-1.5-R08 | ■   | ■     | ■        |      |        |           |
| 1.5 | 3   | 0.2  | 754x-1.5-R20 | ■   | ■     | ■        |      |        |           |
| 1.8 | 4   | 0    | 754x-1.8     | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0    | 754x-2.0     | ■   | ■     | ■        | □    | □      | ■         |
| 2.0 | 4   | 0.08 | 754x-2.0-R08 | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0.2  | 754x-2.0-R20 | ■   | ■     | ■        |      |        | □         |
| 2.5 | 6   | 0    | 754x-2.5     | ■   | ■     | ■        | □    | □      | ■         |
| 2.5 | 6   | 0.2  | 754x-2.5-R20 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0    | 754x-3.0     | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0.08 | 754x-3.0-R08 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0.2  | 754x-3.0-R20 | ■   | ■     | ■        |      |        |           |
| 4.0 | 8   | 0    | 754x-4.0     | ■   | ■     | ■        |      |        |           |
| 4.0 | 8   | 0.2  | 754x-4.0-R20 | ■   | ■     | ■        |      |        |           |



| E   | L   | R | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---|-----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 2   | 0 | 754vs-1.0 | ■   | ■     | ■        |      |        |           |
| 1.2 | 2.5 | 0 | 754vs-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 3   | 0 | 754vs-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0 | 754vs-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 6   | 0 | 754vs-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0 | 754vs-3.0 | ■   | ■     | ■        |      |        |           |

7XX-XX-B

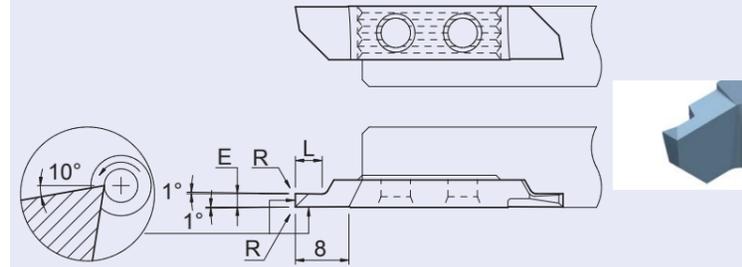


Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

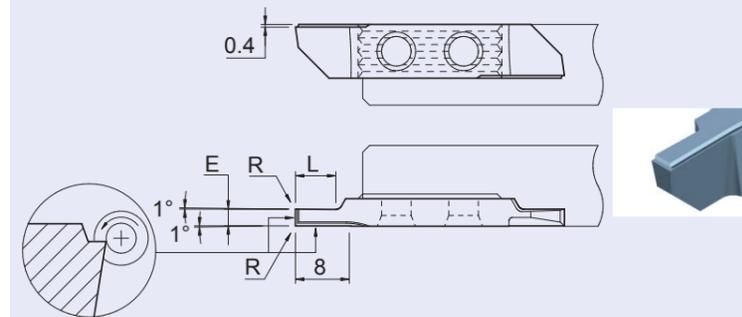
■ = Standard  
□ = Sur demande / Auf Anfrage / On request



foncer tourner  
einstechen und drehen  
grooving and turning



| E   | L   | R    | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|------|--------------|-----|-------|----------|------|--------|-----------|
| 1.0 | 2.5 | 0    | 764x-1.0     | ■   | ■     | ■        | □    | □      | ■         |
| 1.0 | 2.5 | 0.08 | 764x-1.0-R08 | ■   | ■     | ■        |      |        |           |
| 1.2 | 3   | 0    | 764x-1.2     | ■   | ■     | ■        |      |        |           |
| 1.5 | 3   | 0    | 764x-1.5     | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.5 | 3   | 0.08 | 764x-1.5-R08 | ■   | ■     | ■        |      |        |           |
| 1.5 | 3   | 0.2  | 764x-1.5-R20 | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.8 | 4   | 0    | 764x-1.8     | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0    | 764x-2.0     | ■   | ■     | ■        | □    | □      | ■         |
| 2.0 | 4   | 0.08 | 764x-2.0-R08 | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0.2  | 764x-2.0-R20 | ■   | ■     | ■        |      |        | □         |
| 2.5 | 6   | 0    | 764x-2.5     | ■   | ■     | ■        | □    | □      | ■         |
| 2.5 | 6   | 0.2  | 764x-2.5-R20 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0    | 764x-3.0     | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0.08 | 764x-3.0-R08 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0.2  | 764x-3.0-R20 | ■   | ■     | ■        |      |        |           |
| 4.0 | 8   | 0    | 764x-4.0     | ■   | ■     | ■        |      |        |           |
| 4.0 | 8   | 0.2  | 764x-4.0-R20 | ■   | ■     | ■        |      |        |           |



| E   | L   | R | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---|-----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 2   | 0 | 764vs-1.0 | ■   | ■     | ■        |      |        |           |
| 1.2 | 2.5 | 0 | 764vs-1.2 | ■   | ■     | ■        |      |        |           |
| 1.5 | 3   | 0 | 764vs-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 4   | 0 | 764vs-2.0 | ■   | ■     | ■        |      |        |           |
| 2.5 | 6   | 0 | 764vs-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 6   | 0 | 764vs-3.0 | ■   | ■     | ■        |      |        |           |

7XX-XX-B



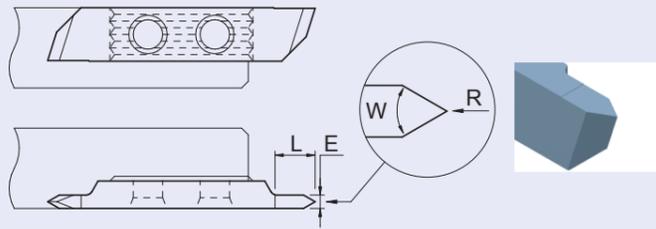
Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



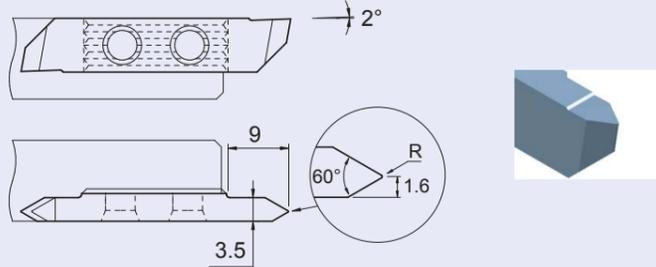
fileter  
Gewinde drehen  
threading

partial profile



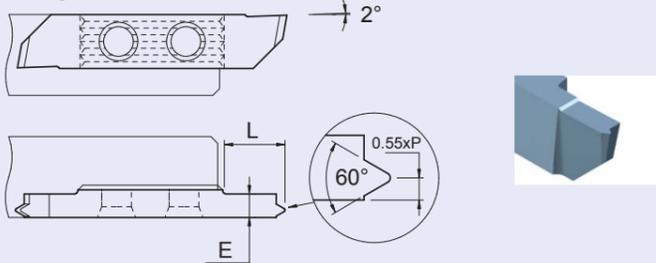
| W   | E   | L | R    | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---|------|--------------|-----|-------|----------|------|--------|-----------|
| 60° | 2.0 | 6 | 0    | 756-60-2     | ■   | ■     | ■        |      |        |           |
| 60° | 2.0 | 6 | 0.02 | 756-60-2-R02 | ■   | ■     | ■        | □    | □      | ■         |
| 60° | 3.0 | 8 | 0    | 756-60-3     | ■   | ■     | ■        |      |        |           |
| 60° | 3.0 | 8 | 0.02 | 756-60-3-R02 | ■   | ■     | ■        | □    | □      | ■         |
| 55° | 2.0 | 6 | 0    | 756-55-2     | ■   | ■     | ■        |      |        |           |
| 55° | 3.0 | 8 | 0    | 756-55-3     | ■   | ■     | ■        |      |        |           |

partial profile



| Pas<br>Steigung<br>Pitch | R    | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|--------------------------|------|-----------|-----|-------|----------|------|--------|-----------|
| P                        | R    | Art. N°   | ■   | ■     | ■        |      |        |           |
| 0.50-1.50                | 0.06 | 756-AG60° | ■   | ■     | ■        |      |        |           |
| 1.75-3.00                | 0.2  | 756-G60°  | ■   | ■     | ■        |      |        |           |

full profile



ISO metric

| Pas<br>Steigung<br>Pitch | E   | L | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|--------------------------|-----|---|------------|-----|-------|----------|------|--------|-----------|
| P                        | E   | L | Art. N°    | ■   | ■     | ■        |      |        |           |
| 0.80                     | 2.5 | 8 | 756-M-0.80 | ■   | ■     | ■        |      |        |           |
| 1.00                     | 2.5 | 8 | 756-M-1.00 | ■   | ■     | ■        |      |        |           |
| 1.25                     | 2.5 | 8 | 756-M-1.25 | ■   | ■     | ■        |      |        |           |
| 1.50                     | 3.5 | 9 | 756-M-1.50 | ■   | ■     | ■        |      |        |           |
| 1.75                     | 3.5 | 9 | 756-M-1.75 | ■   | ■     | ■        |      |        |           |
| 2.00                     | 3.5 | 9 | 756-M-2.00 | ■   | ■     | ■        |      |        |           |

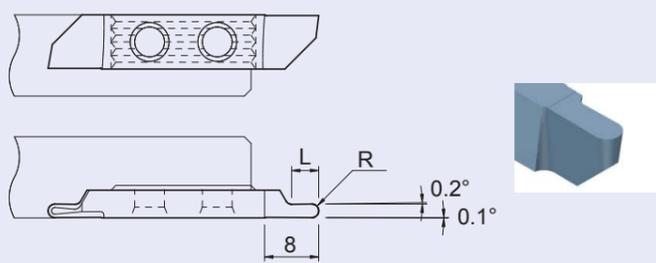
Pour de plus petits pas,  
voir série 736 à la page 1.34

Für kleinere Steigung,  
siehe Serie 736 auf Seite 1.34

For smaller pitch,  
see series 736 on page 1.34



plaquette à rayon  
Radius-Wendeplatte  
insert with radius



| R   | L   | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|----------|-----|-------|----------|------|--------|-----------|
| 0.5 | 2.5 | 757-R0.5 | ■   | ■     | ■        |      |        |           |
| 1.0 | 4   | 757-R1.0 | ■   | ■     | ■        |      |        |           |
| 1.5 | 6   | 757-R1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 8   | 757-R2.0 | ■   | ■     | ■        |      |        |           |

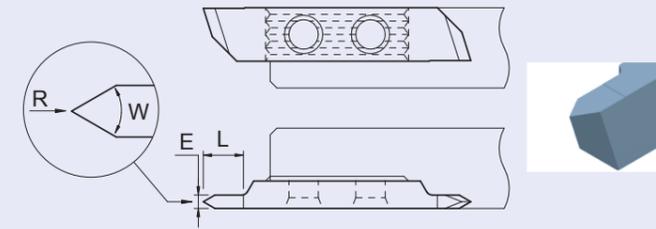
7XX-XX-B Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



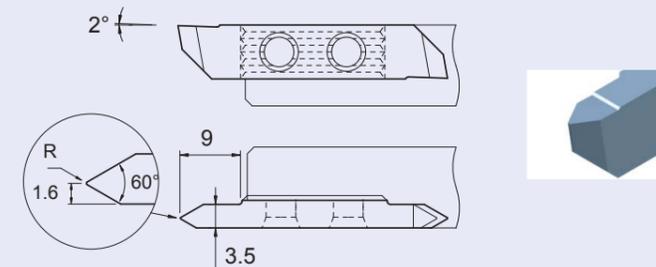
fileter  
Gewinde drehen  
threading

partial profile



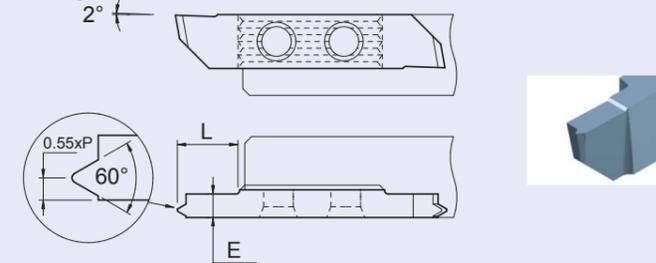
| W   | E   | L | R    | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|---|------|--------------|-----|-------|----------|------|--------|-----------|
| 60° | 2.0 | 6 | 0    | 766-60-2     | ■   | ■     | ■        |      |        |           |
| 60° | 2.0 | 6 | 0.02 | 766-60-2-R02 | ■   | ■     | ■        | □    | □      | ■         |
| 60° | 3.0 | 8 | 0    | 766-60-3     | ■   | ■     | ■        |      |        |           |
| 60° | 3.0 | 8 | 0.02 | 766-60-3-R02 | ■   | ■     | ■        | □    | □      | ■         |
| 55° | 2.0 | 6 | 0    | 766-55-2     | ■   | ■     | ■        |      |        |           |
| 55° | 3.0 | 8 | 0    | 766-55-3     | ■   | ■     | ■        |      |        |           |

partial profile



| Pas<br>Steigung<br>Pitch | R    | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|--------------------------|------|-----------|-----|-------|----------|------|--------|-----------|
| P                        | R    | Art. N°   | ■   | ■     | ■        |      |        |           |
| 0.50-1.50                | 0.06 | 766-AG60° | ■   | ■     | ■        |      |        |           |
| 1.75-3.00                | 0.2  | 766-G60°  | ■   | ■     | ■        |      |        |           |

full profile



ISO metric

| Pas<br>Steigung<br>Pitch | E   | L | Art. N°    | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|--------------------------|-----|---|------------|-----|-------|----------|------|--------|-----------|
| P                        | E   | L | Art. N°    | ■   | ■     | ■        |      |        |           |
| 0.80                     | 2.5 | 8 | 766-M-0.80 | ■   | ■     | ■        |      |        |           |
| 1.00                     | 2.5 | 8 | 766-M-1.00 | ■   | ■     | ■        |      |        |           |
| 1.25                     | 2.5 | 8 | 766-M-1.25 | ■   | ■     | ■        |      |        |           |
| 1.50                     | 3.5 | 9 | 766-M-1.50 | ■   | ■     | ■        |      |        |           |
| 1.75                     | 3.5 | 9 | 766-M-1.75 | ■   | ■     | ■        |      |        |           |
| 2.00                     | 3.5 | 9 | 766-M-2.00 | ■   | ■     | ■        |      |        |           |

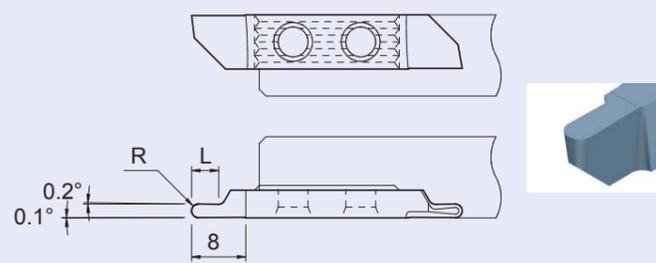
Pour de plus petits pas,  
voir série 746 à la page 1.35

Für kleinere Steigung,  
siehe Serie 746 auf Seite 1.35

For smaller pitch,  
see series 746 on page 1.35



plaquette à rayon  
Radius-Wendeplatte  
insert with radius

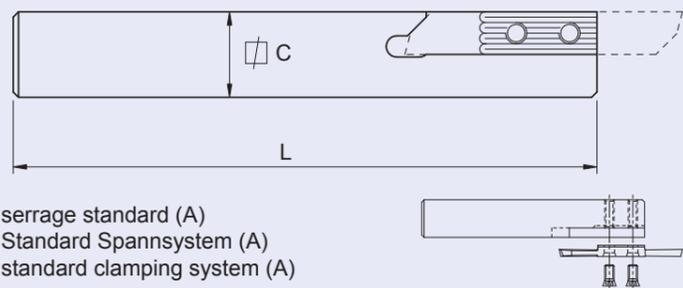


| R   | L   | Art. N°  | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|-----|----------|-----|-------|----------|------|--------|-----------|
| 0.5 | 2.5 | 767-R0.5 | ■   | ■     | ■        |      |        |           |
| 1.0 | 4   | 767-R1.0 | ■   | ■     | ■        |      |        |           |
| 1.5 | 6   | 767-R1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 8   | 767-R2.0 | ■   | ■     | ■        |      |        |           |

7XX-XX-B Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

porte-outils  
Halter  
holders

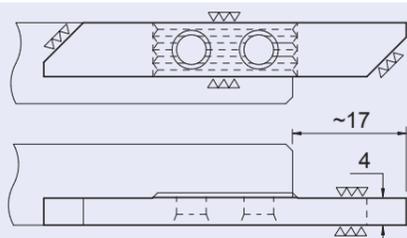


serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)

| C       | L   | Art. N°   |
|---------|-----|-----------|
| 12 X 12 | 130 | 770-12    |
| 12 X 12 | 90  | 770-12-90 |
| 13 X 13 | 130 | 770-13    |
| 14 X 14 | 130 | 770-14    |
| 16 X 16 | 130 | 770-16    |
| 16 X 16 | 75  | 770-16-75 |
| 20 X 20 | 120 | 770-20    |
| 25 X 25 | 140 | 770-25    |



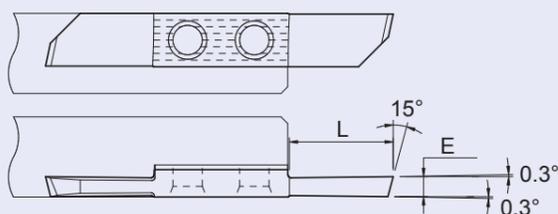
plaquette ébauche  
VHM-Rohling  
blank insert



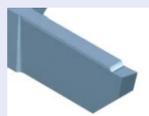
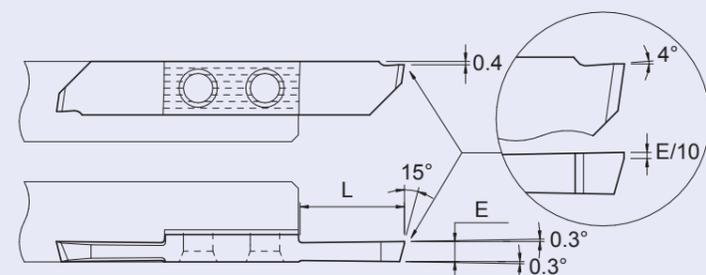
| Art. N° | N (µK20) |
|---------|----------|
| 771-E   | ■        |



tronçonnage  
abstechen  
parting off



| E   | L  | Art. N° | TIN | TIALN | N (µK20) |
|-----|----|---------|-----|-------|----------|
| 2.0 | 16 | 771-2.0 | ■   | ■     | ■        |
| 2.5 | 16 | 771-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 771-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 771-3.5 | ■   | ■     | ■        |



| E   | L  | Art. N°   | TIN | TIALN | N (µK20) |
|-----|----|-----------|-----|-------|----------|
| 2.5 | 16 | 771xf-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 771xf-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 771xf-3.5 | ■   | ■     | ■        |

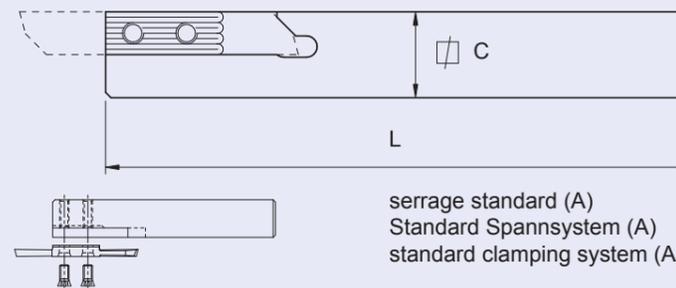
7XX-XX-B



Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

porte-outils  
Halter  
holders

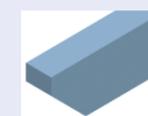
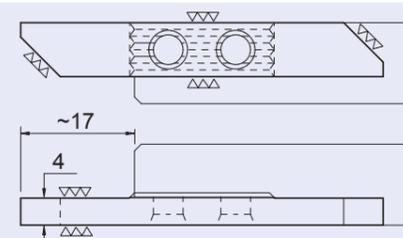


serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)

| C       | L   | Art. N°   |
|---------|-----|-----------|
| 12 X 12 | 130 | 780-12    |
| 12 X 12 | 90  | 780-12-90 |
| 13 X 13 | 130 | 780-13    |
| 14 X 14 | 130 | 780-14    |
| 16 X 16 | 130 | 780-16    |
| 16 X 16 | 75  | 780-16-75 |
| 20 X 20 | 120 | 780-20    |
| 25 X 25 | 140 | 780-25    |



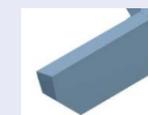
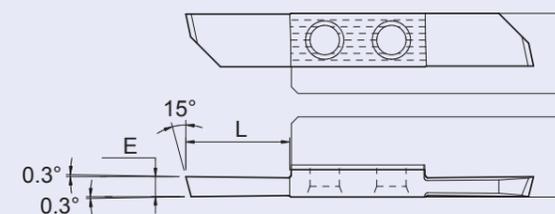
plaquette ébauche  
VHM-Rohling  
blank insert



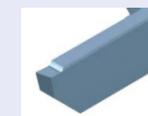
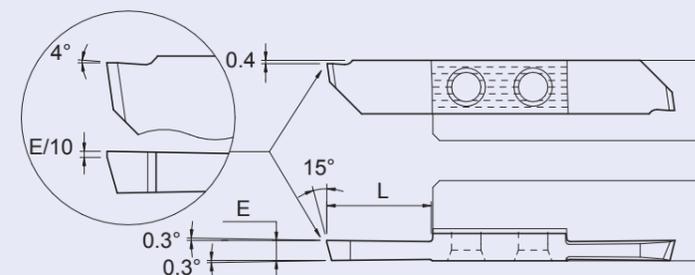
| Art. N° | N (µK20) |
|---------|----------|
| 781-E   | ■        |



tronçonnage  
abstechen  
parting off



| E   | L  | Art. N° | TIN | TIALN | N (µK20) |
|-----|----|---------|-----|-------|----------|
| 2.0 | 16 | 781-2.0 | ■   | ■     | ■        |
| 2.5 | 16 | 781-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 781-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 781-3.5 | ■   | ■     | ■        |



| E   | L  | Art. N°   | TIN | TIALN | N (µK20) |
|-----|----|-----------|-----|-------|----------|
| 2.5 | 16 | 781xf-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 781xf-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 781xf-3.5 | ■   | ■     | ■        |

7XX-XX-B



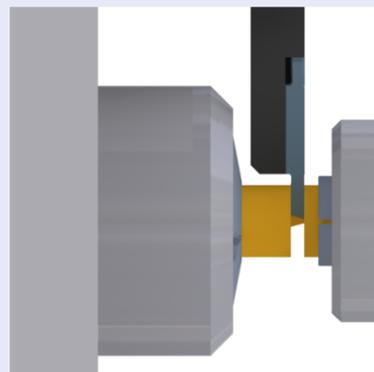
Sur demande pour serrage type B, voir page 1.2  
Wahlweise für B-Spannsystem, siehe Seite 1.2  
On request for B clamping system, see page 1.2

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



coupe à gauche déportée  
versetztes Linksschneiden  
left cut off line

broche principale  
Hauptspindel  
Mainspindle

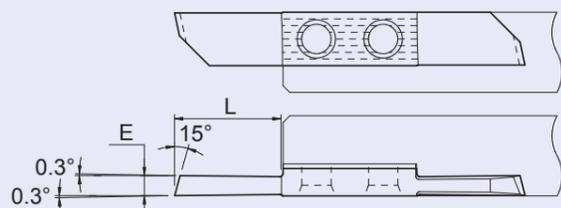


contre-broche  
Gegenspindel  
subspindle

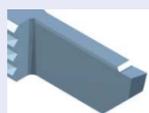
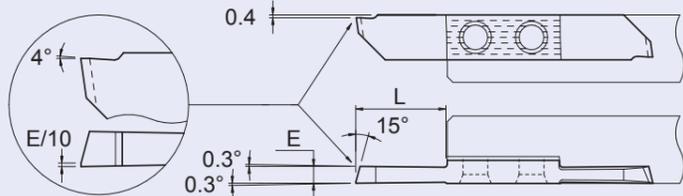
Utiliser des porte-outils série 780.  
(voir page 1.59)

Halter Serie 780 verwenden.  
(siehe Seite 1.59)

Use 780 series holders.  
(see page 1.59)



| E   | L  | Art. N°  | TIN | TIALN | N (µK20) |
|-----|----|----------|-----|-------|----------|
| 2.0 | 16 | 781L-2.0 | ■   | ■     | ■        |
| 2.5 | 16 | 781L-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 781L-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 781L-3.5 | ■   | ■     | ■        |



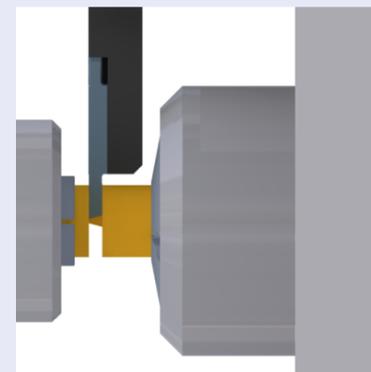
| E   | L  | Art. N°    | TIN | TIALN | N (µK20) |
|-----|----|------------|-----|-------|----------|
| 2.5 | 16 | 781Lxf-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 781Lxf-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 781Lxf-3.5 | ■   | ■     | ■        |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



coupe à droite déportée  
versetztes Rechtsschneiden  
right cut off line

contre-broche  
Gegenspindel  
subspindle

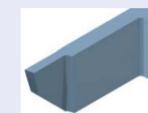
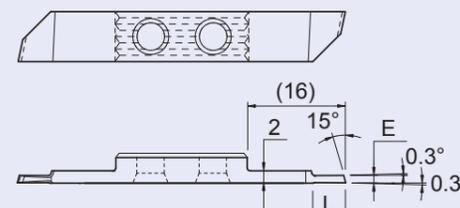


broche principale  
Hauptspindel  
Mainspindle

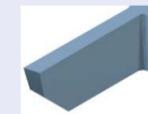
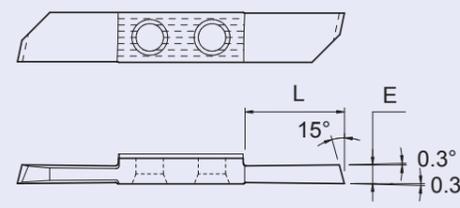
Utiliser des porte-outils série 770.  
(voir page 1.58)

Halter Serie 770 verwenden.  
(siehe Seite 1.58)

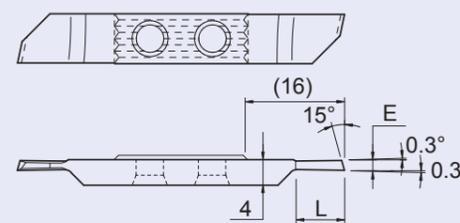
Use 770 series holders.  
(see page 1.58)



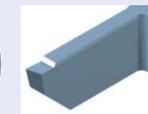
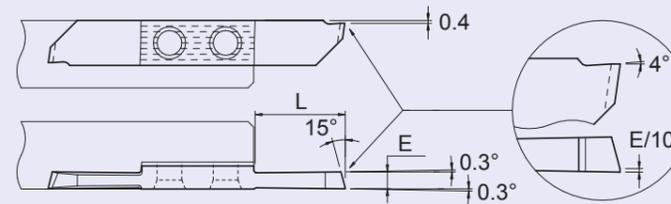
| E   | L   | Art. N°  | TIN | TIALN | N (µK20) |
|-----|-----|----------|-----|-------|----------|
| 1.0 | 5   | 771R-1.0 | ■   | ■     | ■        |
| 1.2 | 5   | 771R-1.2 | ■   | ■     | ■        |
| 1.5 | 8.5 | 771R-1.5 | ■   | ■     | ■        |



| E   | L  | Art. N°  | TIN | TIALN | N (µK20) |
|-----|----|----------|-----|-------|----------|
| 2.0 | 16 | 771R-2.0 | ■   | ■     | ■        |
| 2.5 | 16 | 771R-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 771R-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 771R-3.5 | ■   | ■     | ■        |



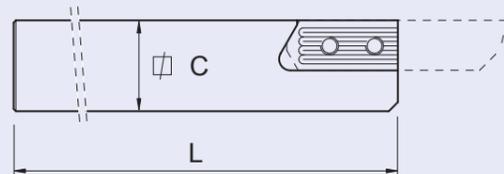
| E   | L   | Art. N°   | TIN | TIALN | N (µK20) |
|-----|-----|-----------|-----|-------|----------|
| 1.2 | 5   | 771RD-1.2 | ■   | ■     | ■        |
| 1.5 | 7.5 | 771RD-1.5 | ■   | ■     | ■        |
| 2.0 | 10  | 771RD-2.0 | ■   | ■     | ■        |



| E   | L  | Art. N°    | TIN | TIALN | N (µK20) |
|-----|----|------------|-----|-------|----------|
| 2.5 | 16 | 771Rxf-2.5 | ■   | ■     | ■        |
| 3.0 | 16 | 771Rxf-3.0 | ■   | ■     | ■        |
| 3.5 | 16 | 771Rxf-3.5 | ■   | ■     | ■        |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

porte-outils  
Halter  
holders

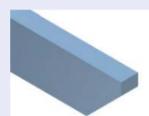
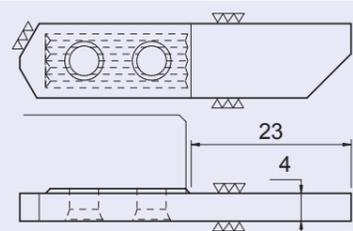


serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)

| C       | L   | Art. N°           |
|---------|-----|-------------------|
| 16 X 16 | 130 | <b>7050-16</b>    |
| 16 X 16 | 75  | <b>7050-16-75</b> |
| 20 X 20 | 120 | <b>7050-20</b>    |
| 25 X 25 | 140 | <b>7050-25</b>    |



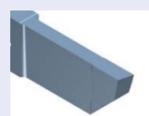
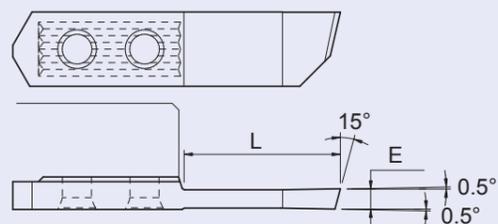
plaquette ébauche  
VHM-Rohling  
blank insert



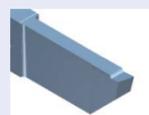
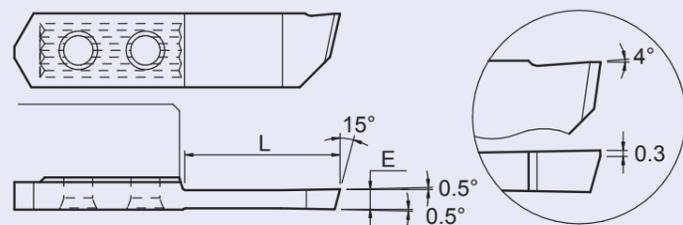
| Art. N°       | N (µK20) |
|---------------|----------|
| <b>7051-E</b> | ■        |



tronçonnage  
abstechen  
parting off



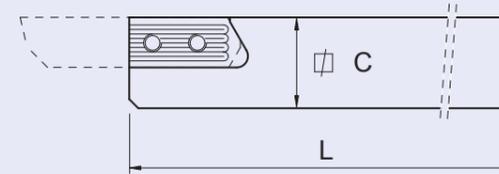
| E   | L  | Art. N°         | TIN | TIALN | N (µK20) |
|-----|----|-----------------|-----|-------|----------|
| 3.0 | 22 | <b>7051-3.0</b> | ■   | ■     | ■        |



| E   | L  | Art. N°           | TIN | TIALN | N (µK20) |
|-----|----|-------------------|-----|-------|----------|
| 3.0 | 22 | <b>7051xf-3.0</b> | ■   | ■     | ■        |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

porte-outils  
Halter  
holders

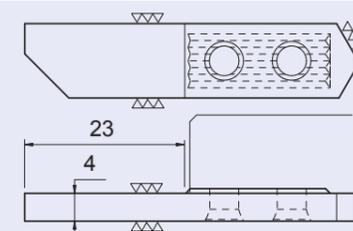


serrage standard (A)  
Standard Spannsystem (A)  
standard clamping system (A)

| C       | L   | Art. N°           |
|---------|-----|-------------------|
| 16 X 16 | 130 | <b>7060-16</b>    |
| 16 X 16 | 75  | <b>7060-16-75</b> |
| 20 X 20 | 120 | <b>7060-20</b>    |
| 25 X 25 | 140 | <b>7060-25</b>    |



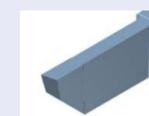
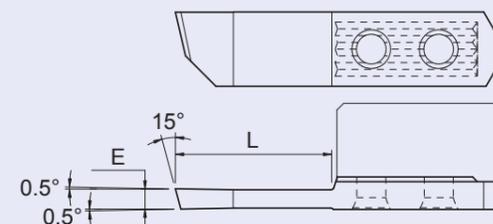
plaquette ébauche  
VHM-Rohling  
blank insert



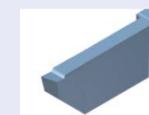
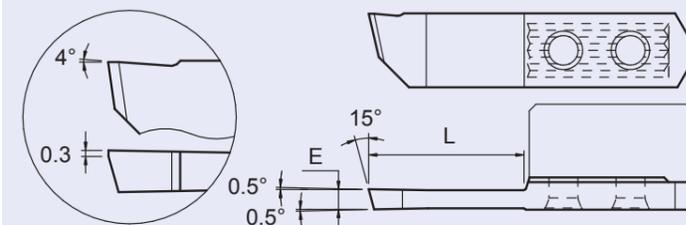
| Art. N°       | N (µK20) |
|---------------|----------|
| <b>7061-E</b> | ■        |



tronçonnage  
abstechen  
parting off



| E   | L  | Art. N°         | TIN | TIALN | N (µK20) |
|-----|----|-----------------|-----|-------|----------|
| 2.5 | 22 | <b>7061-2.5</b> | ■   | ■     | ■        |
| 3.0 | 22 | <b>7061-3.0</b> | ■   | ■     | ■        |
| 3.5 | 22 | <b>7061-3.5</b> | ■   | ■     | ■        |



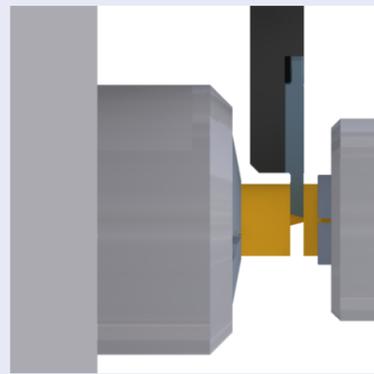
| E   | L  | Art. N°           | TIN | TIALN | N (µK20) |
|-----|----|-------------------|-----|-------|----------|
| 3.0 | 22 | <b>7061xf-3.0</b> | ■   | ■     | ■        |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



coupe à gauche déportée  
versetztes Linksschneiden  
left cut off line

broche principale  
Hauptspindel  
main spindle

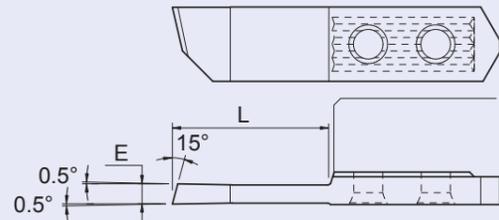


contre-broche  
Gegenspindel  
sub spindle

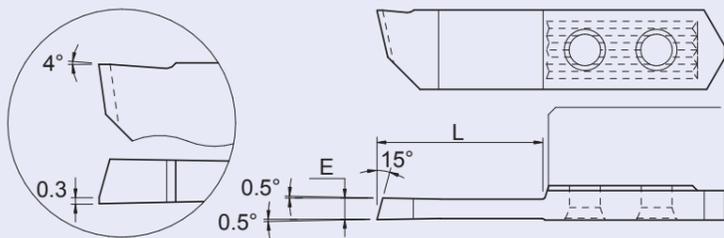
Utiliser des porte-outils série 7060.  
(voir page 1.63)

Halter Serie 7060 verwenden.  
(siehe Seite 1.63)

Use 7060 series holders.  
(see page 1.63)



| E   | L  | Art. N°   | TIN | TIALN | N (µK20) |
|-----|----|-----------|-----|-------|----------|
| 3.0 | 22 | 7061L-3.0 | ■   | ■     | ■        |



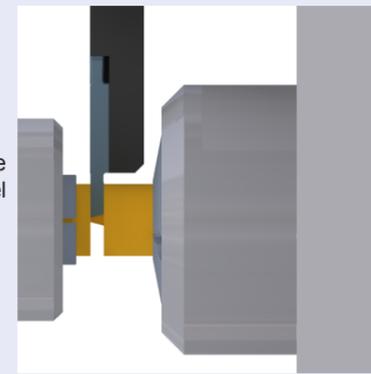
| E   | L  | Art. N°     | TIN | TIALN | N (µK20) |
|-----|----|-------------|-----|-------|----------|
| 3.0 | 22 | 7061Lxf-3.0 | ■   | ■     | ■        |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request



coupe à droite déportée  
versetztes Rechtsschneiden  
right cut off line

contre-broche  
Gegenspindel  
sub spindle

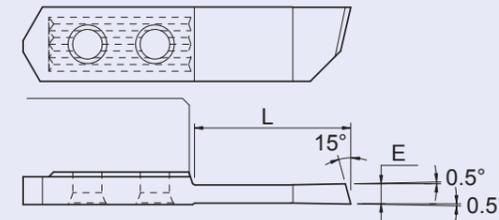


broche principale  
Hauptspindel  
main spindle

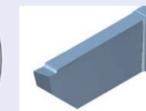
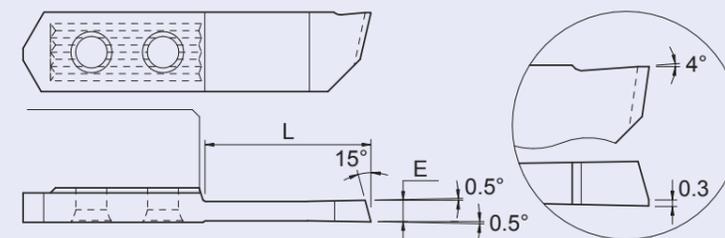
Utiliser des porte-outils série 7050.  
(voir page 1.62)

Halter Serie 7050 verwenden.  
(siehe Seite 1.62)

Use 7050 series holders.  
(see page 1.62)



| E   | L  | Art. N°   | TIN | TIALN | N (µK20) |
|-----|----|-----------|-----|-------|----------|
| 2.5 | 22 | 7051R-2.5 | ■   | ■     | ■        |
| 3.0 | 22 | 7051R-3.0 | ■   | ■     | ■        |
| 3.5 | 22 | 7051R-3.5 | ■   | ■     | ■        |

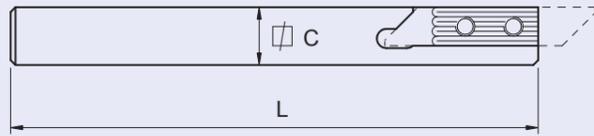


| E   | L  | Art. N°     | TIN | TIALN | N (µK20) |
|-----|----|-------------|-----|-------|----------|
| 3.0 | 22 | 7051Rxf-3.0 | ■   | ■     | ■        |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

burin série 700 avec plaquette large  
 Drehwerkzeug Serie 700 mit breiter Wendeplatte  
 turning tools series 700 with large insert

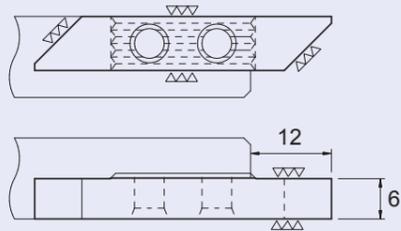
porte-outils  
 Halter  
 holders



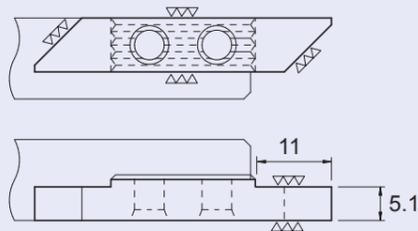
| C       | L   | Art. N° |
|---------|-----|---------|
| 12 X 12 | 130 | W750-12 |
| 16 X 16 | 130 | W750-16 |
| 20 X 20 | 120 | W750-20 |



plaquette ébauche  
 VHM-Rohling  
 blank insert



| Art. N° | N (µK20) |
|---------|----------|
| W751-E6 | ■        |

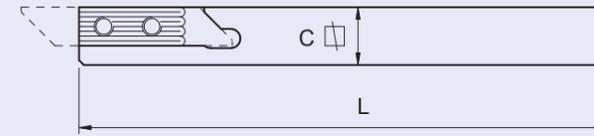


| Art. N° | N (µK20) |
|---------|----------|
| W751-E5 | ■        |

■ = Standard  
 □ = Sur demande / Auf Anfrage / On request

burin série 700 avec plaquette large  
 Drehwerkzeug Serie 700 mit breiter Wendeplatte  
 turning tools series 700 with large insert

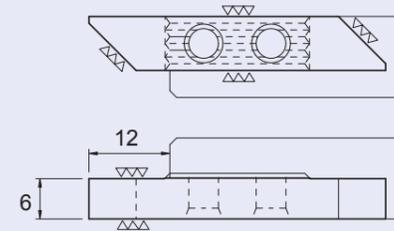
porte-outils  
 Halter  
 holders



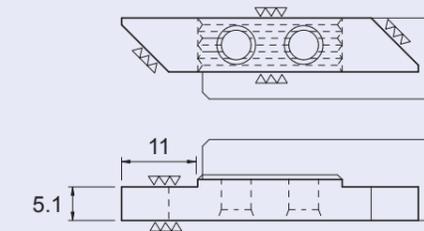
| C       | L   | Art. N° |
|---------|-----|---------|
| 12 X 12 | 130 | W760-12 |
| 16 X 16 | 130 | W760-16 |
| 20 X 20 | 120 | W760-20 |



plaquette ébauche  
 VHM-Rohling  
 blank insert



| Art. N° | N (µK20) |
|---------|----------|
| W761-E6 | ■        |

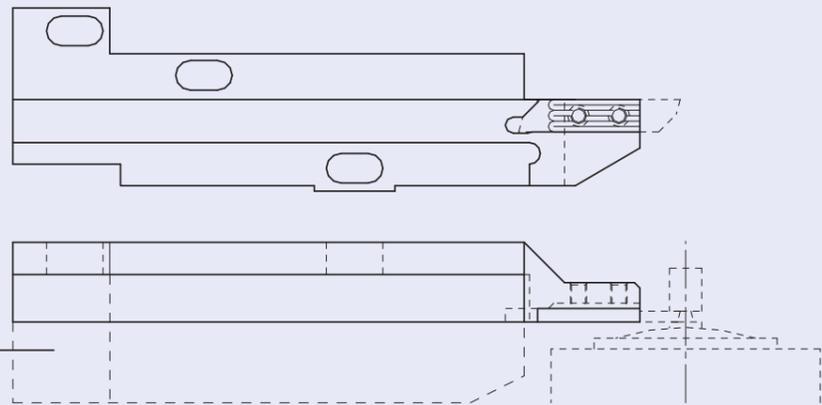


| Art. N° | N (µK20) |
|---------|----------|
| W761-E5 | ■        |

■ = Standard  
 □ = Sur demande / Auf Anfrage / On request

Porte-outils spéciaux pour machine TORNOS DECO 7 / 10 mm  
 Sonderhalter für TORNOS DECO 7 / 10 mm Maschine  
 Special holders für TORNOS DECO 7 / 10 mm machine

**L** coupe à gauche  
 Linksschneiden  
 left hand cut



Art. N°  
**730-DECO10**

A utiliser sur  
 porte-outil TORNOS  
 court à gauche

Auf TORNOS linker  
 Werkzeug-Halter kurz  
 verwenden

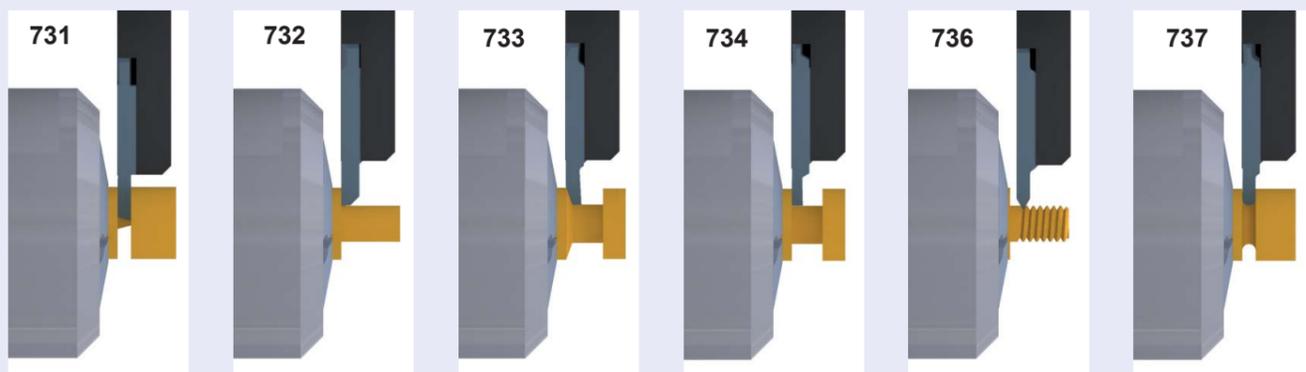
To be used on  
 TORNOS short  
 tool holder left

TORNOS N° 305 078

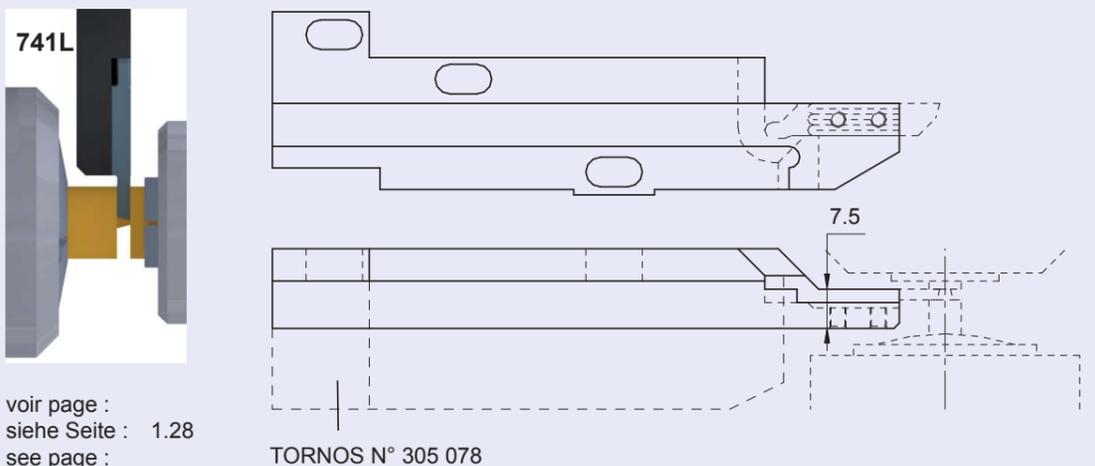
utiliser des plaquettes série 730  
 Wendeplatten Serie 730 verwenden  
 use inserts series 730

voir page :  
 siehe Seite : 1.24 - 1.34  
 see page :

serrage standard (A) uniquement  
 nur Standard Spannsystem (A)  
 standard clamping system (A) only



coupe à gauche déportée  
 versetztes Linksschneiden  
 left cut off line



Art. N°  
**740L-DECO10**

A utiliser sur  
 porte-outil TORNOS  
 court à gauche

Auf TORNOS linker  
 Werkzeug-Halter kurz  
 verwenden

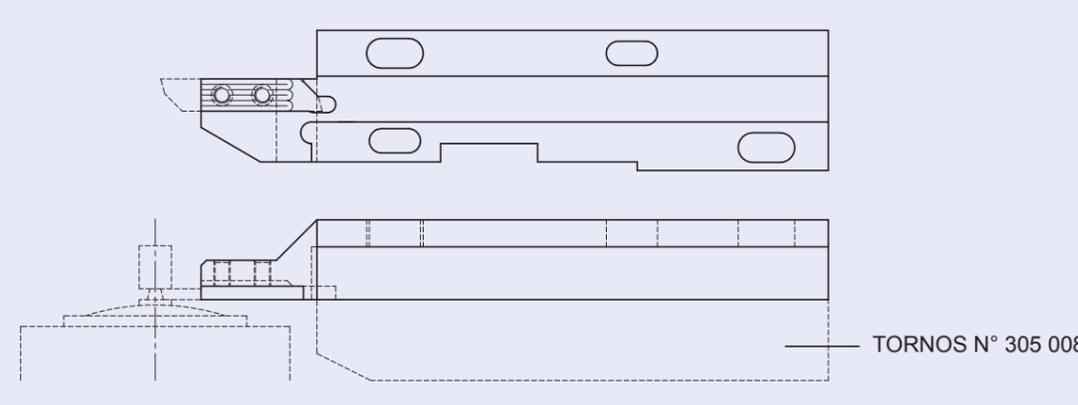
To be used on  
 TORNOS short  
 tool holder left

voir page :  
 siehe Seite : 1.28  
 see page :

TORNOS N° 305 078

Porte-outils spéciaux pour machine TORNOS DECO 7 / 10 mm  
 Sonderhalter für TORNOS DECO 7 / 10 mm Maschine  
 Special holders für TORNOS DECO 7 / 10 mm machine

**R** coupe à droite  
 Rechtsschneiden  
 right hand cut



Art. N°  
**740-DECO10**

A utiliser sur  
 porte-outil TORNOS  
 court à droite

Auf TORNOS rechter  
 Werkzeug-Halter kurz  
 verwenden

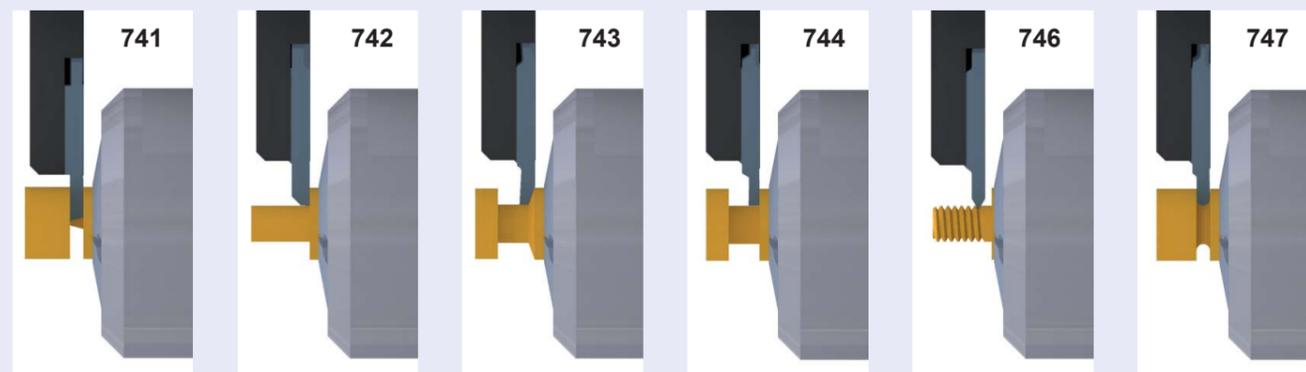
To be used on  
 TORNOS short tool  
 holder right

TORNOS N° 305 008

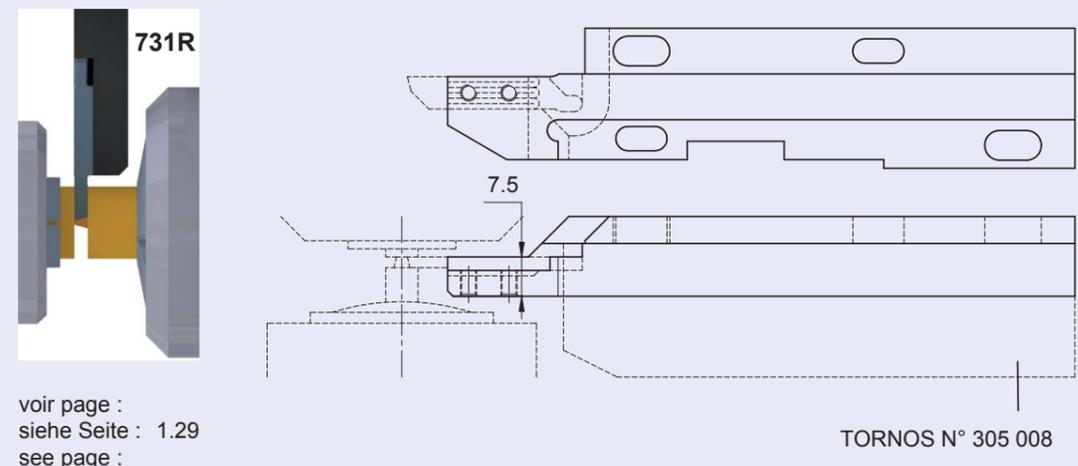
utiliser des plaquettes série 740  
 Wendeplatten Serie 740 verwenden  
 use inserts series 740

voir page :  
 siehe Seite : 1.25 - 1.35  
 see page :

serrage standard (A) uniquement  
 nur Standard Spannsystem (A)  
 standard clamping system (A) only



coupe à droite déportée  
 versetztes Rechtsschneiden  
 right cut off line



Art. N°  
**730R-DECO10**

A utiliser sur  
 porte-outil TORNOS  
 court à droite

Auf TORNOS rechter  
 Werkzeug-Halter kurz  
 verwenden

To be used on  
 TORNOS short  
 tool holder right

voir page :  
 siehe Seite : 1.29  
 see page :

TORNOS N° 305 008

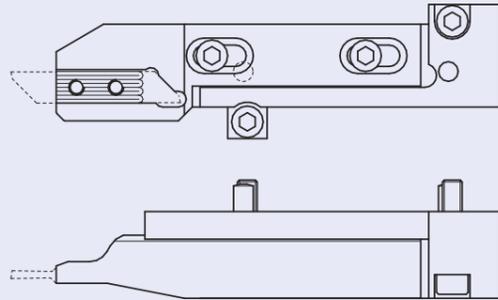
## L

Porte-outils spéciaux pour machine TORNOS DECO 7 / 10 mm  
 Sonderhalter für TORNOS DECO 7 / 10 mm Maschine  
 Special holders für TORNOS DECO 7 / 10 mm machine

## L

Pour le tronçonnage de petites pièces  
 Zum Abstechen von kleinen Werkstücken  
 For small parts parting off

porte-outils  
 Halter  
 holders



avec vis de réglage  
 mit Einstellungs-Schraube  
 with adjustment screw

Art. N°  
**760L-DECO10**

tronçonnage  
 abstechen  
 parting off

tronçonnage sur la ligne d'outil  
 abstechen auf Werkzeug-Nullpunkt  
 cut off on tool ref. line

| E   | L  | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|--------------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5  | 761LD-1.0-8° | ■   | ■     | ■        |      |        |           |
| 1.2 | 5  | 761LD-1.2-8° | ■   | ■     | ■        |      |        |           |
| 1.5 | 8  | 761LD-1.5-8° | ■   | ■     | ■        |      |        |           |
| 1.6 | 8  | 761LD-1.6-8° | ■   | ■     | ■        |      |        |           |
| 1.8 | 10 | 761LD-1.8-8° | ■   | ■     | ■        |      |        |           |
| 2.0 | 10 | 761LD-2.0-8° | ■   | ■     | ■        |      |        |           |

tronçonnage à fleur de la contre-broche  
 abstechen bis zur Gegenspindel  
 cut off on subspindle level

| E   | L    | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|------|-----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5.5  | 761Ls-1.0 | ■   | ■     | ■        |      |        |           |
| 1.5 | 8    | 761Ls-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 11.5 | 761Ls-2.0 | ■   | ■     | ■        |      |        |           |
| 2.2 | 11.5 | 761Ls-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 11.5 | 761Ls-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 11.5 | 761Ls-3.0 | ■   | ■     | ■        |      |        |           |

■ = Standard  
 □ = Sur demande / Auf Anfrage / On request

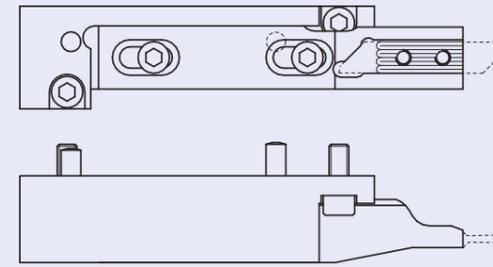
## R

Porte-outils spéciaux pour machine TORNOS DECO 7 / 10 mm  
 Sonderhalter für TORNOS DECO 7 / 10 mm Maschine  
 Special holders für TORNOS DECO 7 / 10 mm machine

## R

Pour le tronçonnage de petites pièces  
 Zum Abstechen von kleinen Werkstücken  
 For small parts parting off

porte-outils  
 Halter  
 holders



avec vis de réglage  
 mit Einstellungs-Schraube  
 with adjustment screw

Art. N°  
**750R-DECO10**

tronçonnage  
 abstechen  
 parting off

tronçonnage sur la ligne d'outil  
 abstechen auf Werkzeug-Nullpunkt  
 cut off on tool ref. line

| E   | L  | Art. N°      | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|----|--------------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5  | 751RD-1.0-8° | ■   | ■     | ■        |      |        |           |
| 1.2 | 5  | 751RD-1.2-8° | ■   | ■     | ■        |      |        |           |
| 1.5 | 8  | 751RD-1.5-8° | ■   | ■     | ■        | ■    | ■      | ■         |
| 1.6 | 8  | 751RD-1.6-8° | ■   | ■     | ■        |      |        |           |
| 1.8 | 10 | 751RD-1.8-8° | ■   | ■     | ■        |      |        |           |
| 2.0 | 10 | 751RD-2.0-8° | ■   | ■     | ■        |      |        |           |
| 2.5 | 10 | 751RD-2.5-8° | ■   | ■     | ■        |      |        |           |

tronçonnage à fleur de la contre-broche  
 abstechen bis zur Gegenspindel  
 cut off on subspindle level

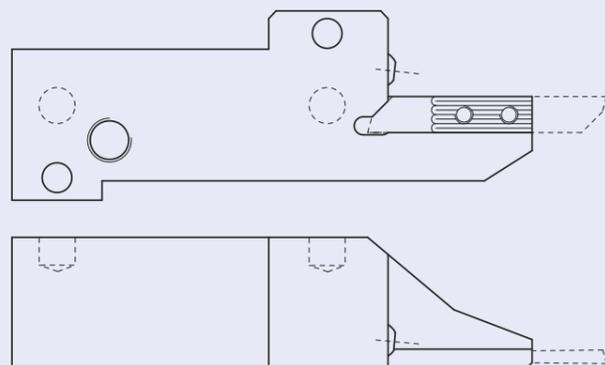
| E   | L    | Art. N°   | TIN | TIALN | N (µK20) | HTIN | HTIALN | HN (µK10) |
|-----|------|-----------|-----|-------|----------|------|--------|-----------|
| 1.0 | 5.5  | 751Rs-1.0 | ■   | ■     | ■        |      |        |           |
| 1.5 | 8    | 751Rs-1.5 | ■   | ■     | ■        |      |        |           |
| 2.0 | 11.5 | 751Rs-2.0 | ■   | ■     | ■        | ■    | ■      | ■         |
| 2.2 | 11.5 | 751Rs-2.2 | ■   | ■     | ■        |      |        |           |
| 2.5 | 11.5 | 751Rs-2.5 | ■   | ■     | ■        |      |        |           |
| 3.0 | 11.5 | 751Rs-3.0 | ■   | ■     | ■        |      |        |           |

■ = Standard  
 □ = Sur demande / Auf Anfrage / On request

Porte-outils spéciaux pour machine TORNOS DECO 13 et DECO 20  
 Sonderhalter für TORNOS DECO 13 und DECO 20 Maschinen  
 Special holders für TORNOS DECO13 and DECO 20 machines

Pour le tronçonnage de petites pièces  
 Zum Abstechen von kleinen Werkstücken  
 For small parts parting off

DECO 13



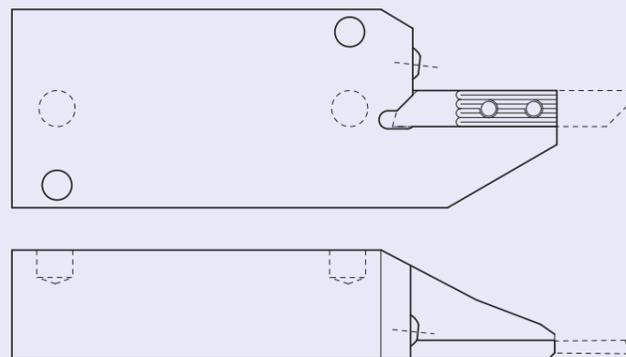
Arrosage intégré  
 (raccordement externe G1/8)

Integrierte Kühlung  
 (Externer Anschluss G 1/8)

Integrated cooling  
 (External connection G1/8)

Art. N°  
 770R-DECO13

DECO 20



Arrosage intégré

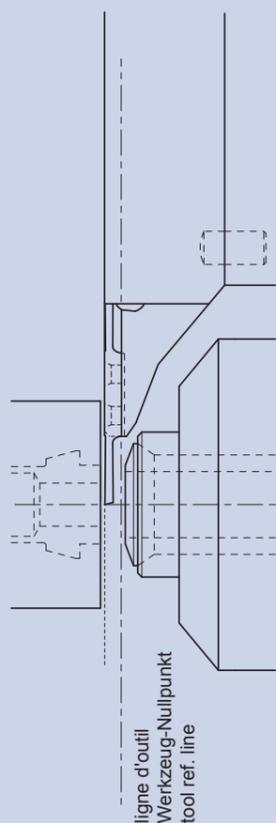
Integrierte Kühlung

Integrated cooling

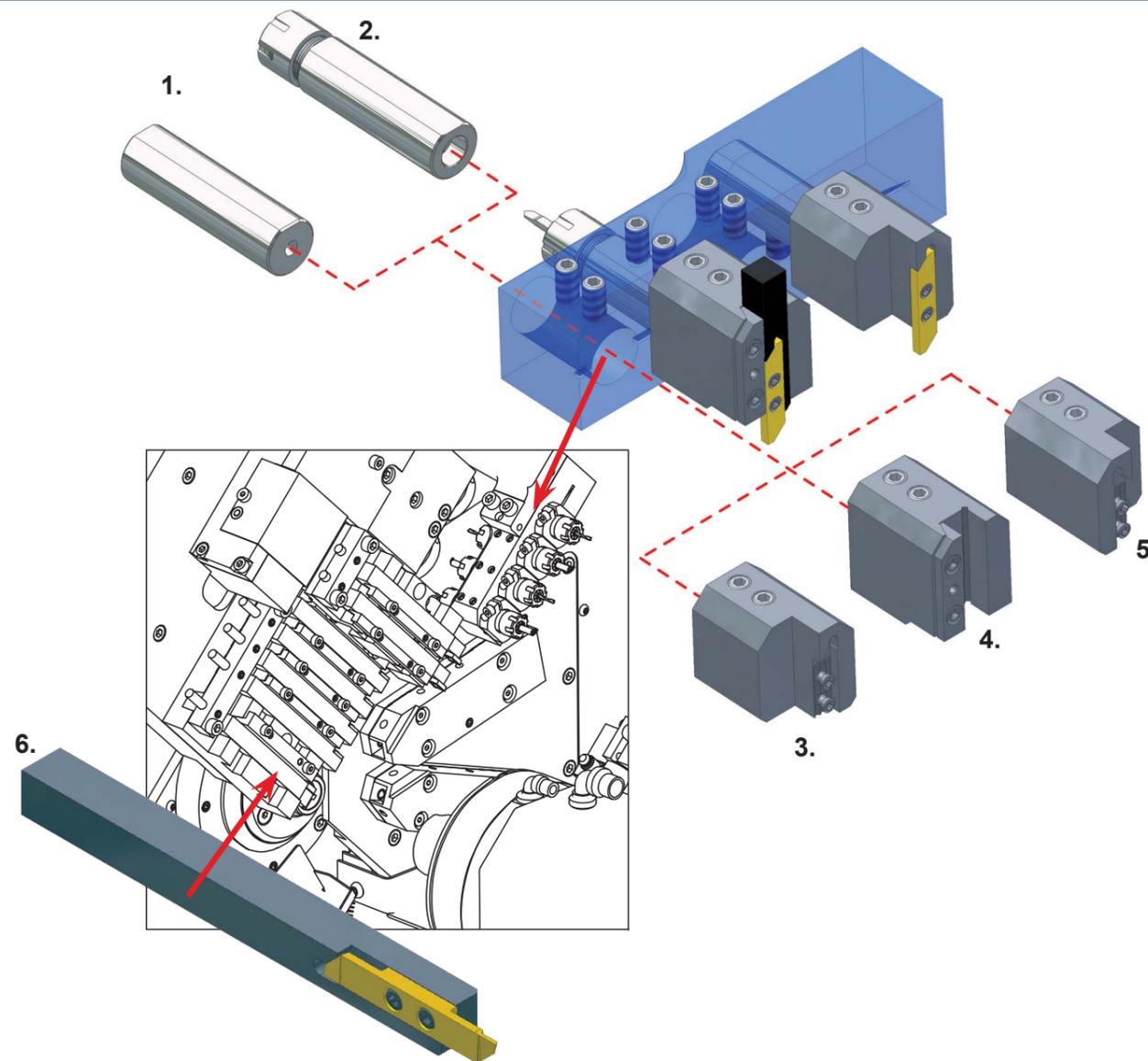
Art. N°  
 770R-DECO20

Utiliser des plaquettes série 771R  
 Wendepplatten Serie 771R verwenden  
 use inserts series 771R

voir page :  
 siehe Seite : 1.61  
 see page :

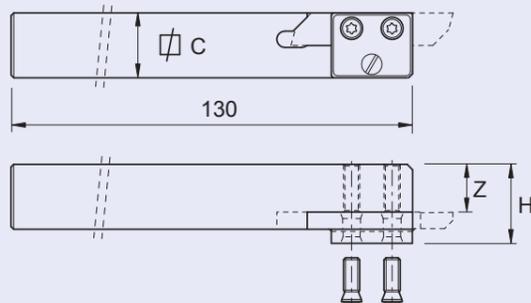


Outils spéciaux pour machine TORNOS Micro 8  
 Werkzeuge für TORNOS Micro 8  
 Tools für TORNOS Micro 8



|    | Art. N°       |   |
|----|---------------|---|
| 1. | D16-L55       | cylindre de fixation standard<br>cyl. Aufnahme<br>fixturing rod   |
| 2. | D16-L50F-ER11 | cylindre de fixation avec porte-pince ER11<br>cyl. Aufnahme mit Zangenhalter ER11<br>fixturing rod with ER11 collet holder  |
| 3. | S8-740        | porte-outil R pour plaquettes série 740 voir pages 1.25-1.35<br>Halter für WSP Serie 740 siehe Seiten 1.25-1.35<br>Holder for inserts serie 740 see pages 1.25-1.35   |
| 4. | S8-0808       | porte-outil pour outil 8 X 8<br>Halter für Werkzeug 8 X 8<br>Holder for 8 X 8 square tool   |
| 5. | S8-730        | porte-outil L pour plaquettes série 730 voir pages 1.24 à 1.34<br>Halter für WSP Serie 730 siehe Seiten 1.24-1.34<br>Holder for inserts serie 730 see pages 1.24-1.34 |
| 6. | 770-12        | outil de tronçonnage série 770 voir page 1.61<br>Abstechwerkzeug Serie 770 siehe Seite 1.61<br>parting off tool serie 770 see page 1.61                               |

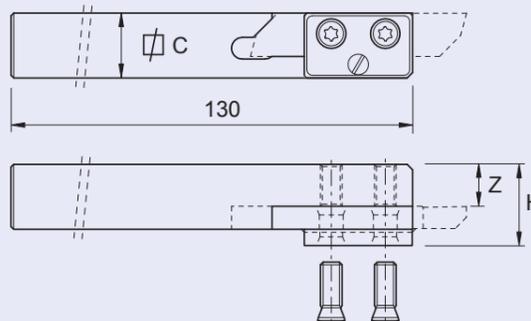
Porte-outils spéciaux pour usinage déporté  
Sonderhalter für versetzte Bearbeitung  
Special holders for shifted machining



| C       | Z    | H    | Art. N° |
|---------|------|------|---------|
| 12 X 12 | 9.5  | 14.5 | 740z-12 |
| 16 X 16 | 13.5 | 18.5 | 740z-16 |

utiliser des plaquettes série 740  
Wendeplatten Serie 740 verwenden  
use inserts series 740

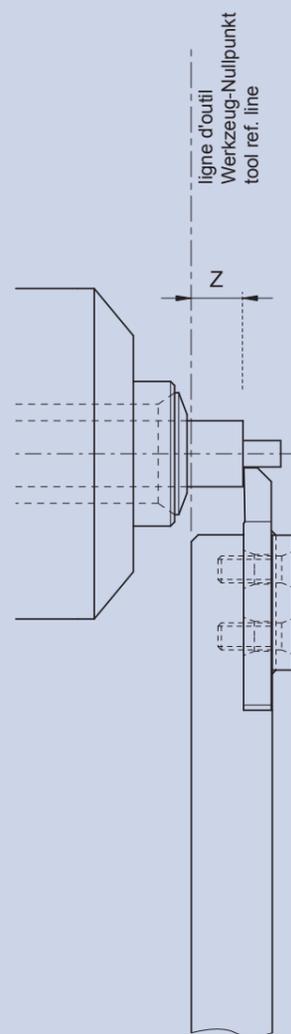
voir page :  
siehe Seite : 1.25 - 1.35  
see page :



| C       | Z  | H  | Art. N° |
|---------|----|----|---------|
| 12 X 12 | 8  | 15 | 760z-12 |
| 16 X 16 | 12 | 19 | 760z-16 |

utiliser des plaquettes série 760  
Wendeplatten Serie 760 verwenden  
use inserts series 760

voir page :  
siehe Seite : 1.41 - 1.57  
see page :



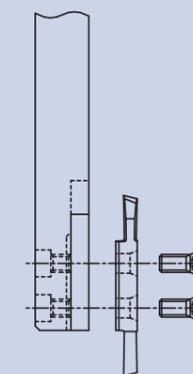
Vis et clés de recharge  
Ersatzschrauben und Schlüssel  
Spare screws and keys

|             | porte-outils<br>Halter<br>holders | serrage standard (A)<br>Standard Spannsystem (A)<br>standard clamping system (A) |            | serrage type B<br>Spannsystem Typ B<br>clamping system type B |          |
|-------------|-----------------------------------|--|------------|---|----------|
|             |                                   |  |            |   |          |
| <b>300</b>  | 311                               | V-M2.5x6.5-T8  | C-T8       | -   | -        |
|             | 312 >>> 316                       | V-M2.5x7.8-T8  | C-T8       | -   | -        |
|             | 322 >>> 326                       | V-M2.5x7.8-T8  | C-T8       | -   | -        |
|             | 332 >>> 336                       | V-M2.5x7.8-T8  | C-T8       | -   | -        |
|             | 342 >>> 346                       | V-M2.5x7.8-T8  | C-T8       | -   | -        |
| <b>710</b>  | 710-6                             | V-M2.5x5.8-T8  | C-T8       | -   | -        |
|             | 710-7                             | V-M2.5x6.5-T8  | C-T8       | -   | -        |
|             | 710-8 >>> 710-12                  | V-M2.5x7.8-T8  | C-T8       | -   | -        |
| <b>720</b>  | 720-7                             | V-M2.5x6.5-T8  | C-T8       | -   | -        |
|             | 720-8 >>> 720-12                  | V-M2.5x7.8-T8  | C-T8       | -   | -        |
| <b>730</b>  | 730-7                             | V-M3x7-T8  | C-T8       | -   | -        |
|             | 730-8 >>> 730-16                  | V-M3x7-T8  | C-T8       | V-M2.5x7.8-T8   | C-T8     |
|             | 730-DECO10                        | V-M3x7-T8  | C-T8       | -   | -        |
|             | 730R-DECO10                       | V-M3x7-T8  | C-T8       | -   | -        |
|             | 730RC                             | V-M3x5.5-T8  | C-T8       | -   | -        |
| <b>740</b>  | 740-7 >>> 740-16                  | V-M3x7-T8  | C-T8       | V-M2.5x7.8-T8   | C-T8     |
|             | 740/730-D                         | V-M3x7-T8  | C-T8       | -   | -        |
|             | 740-C                             | V-M3x5.5-T8  | C-T8       | -   | -        |
|             | 740-DECO10                        | V-M3x7-T8  | C-T8       | -   | -        |
|             | 740L-DECO10                       | V-M3x7-T8  | C-T8       | -   | -        |
|             | 740-Z                             | V-M3x9-T8  | C-T8       | -   | -        |
| <b>750</b>  | 750-10                            | V-M4x9-T15   | C-T15      | -   | -        |
|             | 750-10-AB                         | V-M4x9-T15   | C-T15      | V-M3x10-BN21  | C-6P-2.0 |
|             | 750-12                            | V-M4x9-T15   | C-T15      | -   | -        |
|             | 750-12-AB                         | V-M4x9-T15   | C-T15      | V-M3x8-BN11   | C-6P-2.5 |
|             | 750-13                            | V-M4x9-T15   | C-T15      | V-M3x10-BN11  | C-6P-2.5 |
|             | 750-14                            | V-M4x9-T15   | C-T15      | V-M3x10-BN11  | C-6P-2.5 |
|             | 750-16                            | V-M4x9-T15   | C-T15      | V-M3x12-BN11  | C-6P-2.5 |
|             | 750-20                            | V-M4x9-T15   | C-T15      | V-M3x16-BN11  | C-6P-2.5 |
|             | 750RAS                            | V-M4x7.3-T15   | C-T15      | -   | -        |
|             | 750RC                             | V-M4x7.3-T15   | C-T15      | -   | -        |
|             | 750R-DECO10                       | V-M4x5.6-T15   | C-T15      | -   | -        |
| <b>760</b>  | 760-10                            | V-M4x9-T15   | C-T15      | -   | -        |
|             | 760-10-AB                         | V-M4x9-T15   | C-T15      | V-M3x10-BN21  | C-6P-2.0 |
|             | 760-12                            | V-M4x9-T15   | C-T15      | -   | -        |
|             | 760-12-AB                         | V-M4x9-T15   | C-T15      | V-M3x8-BN11   | C-6P-2.5 |
|             | 760-13                            | V-M4x9-T15   | C-T15      | V-M3x10-BN11  | C-6P-2.5 |
|             | 760-14                            | V-M4x9-T15   | C-T15      | V-M3x10-BN11  | C-6P-2.5 |
|             | 760-16                            | V-M4x9-T15   | C-T15      | V-M3x12-BN11  | C-6P-2.5 |
|             | 760-20                            | V-M4x9-T15   | C-T15      | V-M3x16-BN11  | C-6P-2.5 |
|             | 760/750-25                        | V-M4x9-T15   | C-T15      | -   | -        |
|             | 760/750-D                         | V-M4x9-T15   | C-T15      | -   | -        |
|             | 760LC                             | V-M4x7.3-T15   | C-T15      | -   | -        |
|             | 760L-DECO10                       | V-M4x5.6-T15   | C-T15      | -   | -        |
|             | 760-Z                             | V-M4x12-T15  | C-T15      | -   | -        |
|             | <b>770</b>                        | 770-12 >>> 770-25  | V-M4x9-T15 | C-T15   | -        |
| 770R-DEC013 |                                   | V-M4x7.3-T15   | C-T15      | -   | -        |
| 770R-DEC020 |                                   | V-M4x7.3-T15   | C-T15      | -   | -        |
| <b>780</b>  | 780-12 >>> 780-25                 | V-M4x9-T15   | C-T15      | -   | -        |
| <b>7050</b> | 7050-16 >>> 7050-25               | V-M4x9-T15   | C-T15      | -   | -        |
| <b>7060</b> | 7060-16 >>> 7060-25               | V-M4x9-T15   | C-T15      | -   | -        |
| <b>W</b>    | W750                              | V-M4x11-T15  | C-T15      | -   | -        |
|             | W760                              | V-M4x11-T15  | C-T15      | -   | -        |

serrage standard (A)

Standard Spannsystem (A)

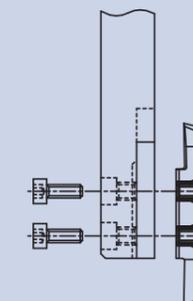
standard clamping system (A)



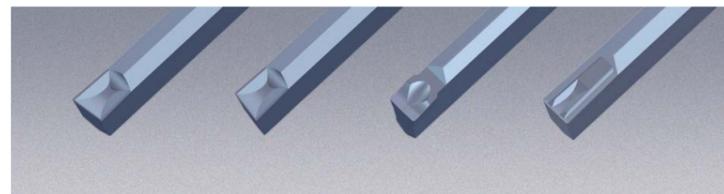
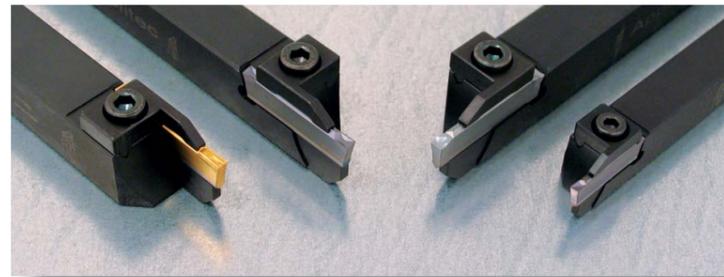
serrage type B

Spannsystem Typ B

clamping system type B



# CUT-LINE



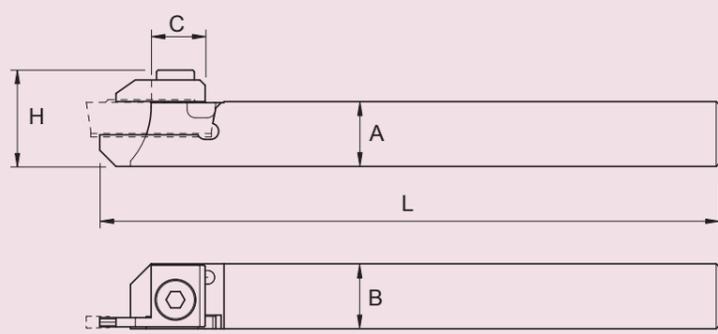
|                                    |                       |
|------------------------------------|-----------------------|
| Répertoire<br>Verzeichnis<br>Index | page<br>Seite<br>page |
|------------------------------------|-----------------------|

|  |                                   |         |      |
|--|-----------------------------------|---------|------|
|  | Porte-outils<br>Halter<br>Holders | H       | 2.02 |
|  |                                   | LP / RP | 2.03 |
|  |                                   | U       | 2.04 |
|  |                                   | NG      | 2.05 |

## Nuances des plaquettes Wendeplatte-Sorten PVD thin coating

| TiN<br>revêtement PVD<br>PVD Beschichtung<br>PVD coating  | TiAlN<br>revêtement PVD<br>PVD Beschichtung<br>PVD coating  | Tmax<br>revêtement PVD épais<br>PVD Dickbeschichtung<br>PVD thick coating   |
|---|---|---|
| nuance universelle pour travaux légers<br>très faible coefficient de frottement<br>1er choix pour l'usinage des matières peu résistantes qui créent des arêtes rapportées<br>à éviter pour l'usinage du titane                | excellente nuance universelle<br>très bonne résistance à la température<br>1er choix pour l'usinage finition des aciers, aciers inoxydables et alliages de titane | nuance pour usinages moyens à lourds des aciers et aciers inoxydables<br>résiste aux températures d'usinage élevées<br>1er choix pour le tronçonnage des aciers alliés          |
| Universal-Sorte für leichte Bearbeitung<br>sehr geringer Reibwert<br>bestens geeignet für die Bearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden<br>für die Bearbeitung von Titan nicht geeignet | beste Universal-Sorte<br>sehr gute Warmfestigkeit<br>bestens geeignet für die Bearbeitung von Stahl, rostfreiem Stahl und Titan Legierung                         | Sorte für mittlere bis hohe Belastung in Stahl und rostfreiem Stahl Bearbeitung<br>hohe Bearbeitungs-Warmfestigkeit<br>bestens geeignet für die Bearbeitung von legiertem Stahl |
| universal grade for light machining<br>very low friction ratio<br>first choice for low resistance materials which causes edge build-up<br>not suitable for titanium machining   | best universal grade<br>very good heat resistance<br>first choice for steel, stainless steel and titanium alloys machining  | grade for medium to heavy machining of steel and stainless steel<br>high machining heat resistance<br>first choice for the machining of alloyed steel                           |

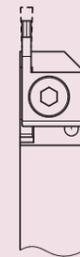
Porte-outils  
Halter  
Holders



L



R



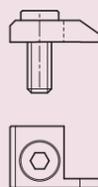
| A x B x L     | H    | C   | Art. N°         | Art. N°         | Plaquette WSP Insert |
|---------------|------|-----|-----------------|-----------------|----------------------|
| 10 x 10 x 115 | 15.5 | 9.5 | CUT16-H1010L    | CUT16-H1010R    | CUT16-..             |
| 12 x 12 x 130 | 17.5 | 9.5 | CUT16-H1212L    | CUT16-H1212R    | CUT16-..             |
| 12 x 12 x 90  | 17.5 | 9.5 | CUT16-H1212L-90 | CUT16-H1212R-90 | CUT16-..             |
| 13 x 13 x 130 | 18.5 | 9.5 | CUT16-H1313L    | CUT16-H1313R    | CUT16-..             |

|               |      |    |                 |                 |          |
|---------------|------|----|-----------------|-----------------|----------|
| 10 x 12 x 115 | 15.5 | 10 | CUT22-H1012L    | CUT22-H1012R    | CUT22-.. |
| 12 x 12 x 130 | 17.5 | 10 | CUT22-H1212L    | CUT22-H1212R    | CUT22-.. |
| 12 x 12 x 90  | 17.5 | 10 | CUT22-H1212L-90 | CUT22-H1212R-90 | CUT22-.. |
| 13 x 13 x 130 | 18.5 | 10 | CUT22-H1313L    | CUT22-H1313R    | CUT22-.. |
| 16 x 16 x 130 | 21.5 | 10 | CUT22-H1616L    | CUT22-H1616R    | CUT22-.. |
| 16 x 16 x 75  | 21.5 | 10 | CUT22-H1616L-75 | CUT22-H1616R-75 | CUT22-.. |
| 20 x 20 x 120 | 25.5 | 10 | CUT22-H2020L    | CUT22-H2020R    | CUT22-.. |

|               |    |      |                 |                 |          |
|---------------|----|------|-----------------|-----------------|----------|
| 16 x 16 x 130 | 23 | 11.5 | CUT31-H1616L    | CUT31-H1616R    | CUT31-.. |
| 16 x 16 x 75  | 23 | 11.5 | CUT31-H1616L-75 | CUT31-H1616R-75 | CUT31-.. |
| 20 x 20 x 120 | 27 | 11.5 | CUT31-H2020L    | CUT31-H2020R    | CUT31-.. |
| 25 x 25 x 140 | 32 | 11.5 | CUT31-H2525L    | CUT31-H2525R    | CUT31-.. |

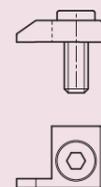
Pièces de rechange  
Ersatzteile  
Spare parts

L



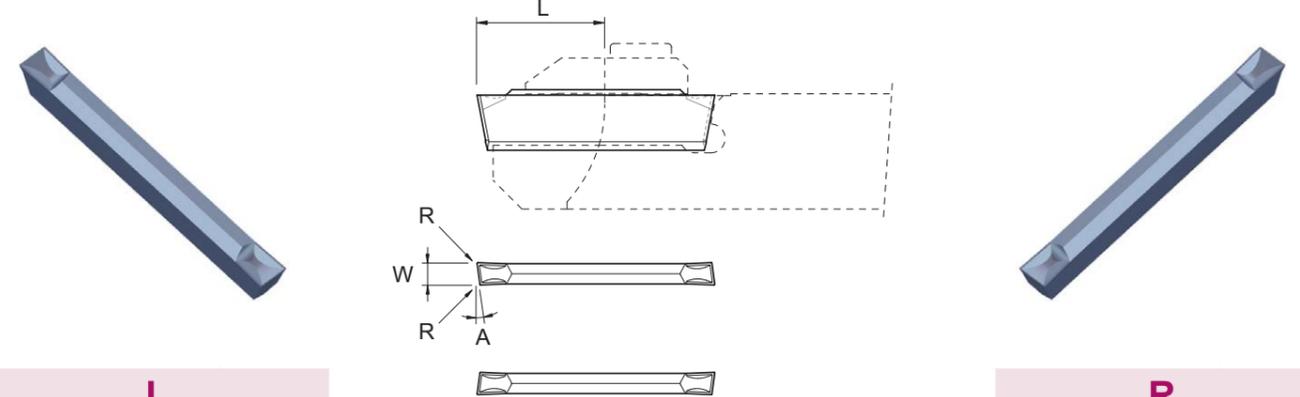
| Art. N°    |
|------------|
| CUT16L-SET |
| CUT22L-SET |
| CUT31L-SET |

R



| Art. N°    |
|------------|
| CUT16R-SET |
| CUT22R-SET |
| CUT31R-SET |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts



L

R

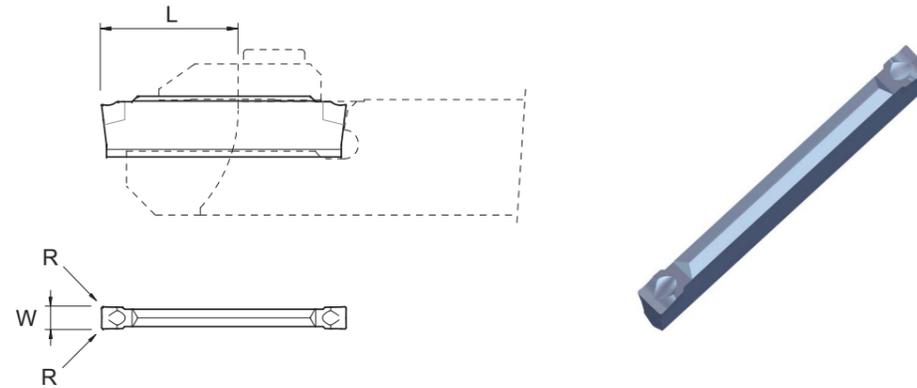
| Art. N°  | TiN<br>TiALN<br>Tmax | A  | L    | R    | W +/-0.05 | Art. N°  | TiN<br>TiALN<br>Tmax |
|----------|----------------------|----|------|------|-----------|----------|----------------------|
| CUT16-LP | ■ ■ ■                | 8° | 7    | 0.10 | 1.6       | CUT16-RP | ■ ■ ■                |
| CUT22-LP | ■ ■ ■                | 8° | 11.5 | 0.15 | 2.2       | CUT22-RP | ■ ■ ■                |
| CUT31-LP | ■ ■ ■                | 8° | 17   | 0.15 | 3.1       | CUT31-RP | ■ ■ ■                |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Paramètres de coupe indicatifs  
Empfohlene Schrittwerte  
Standard machining data

| Matière<br>Werkstoff<br>Material   | Vc<br>(m/min) | Tronçonnage<br>Abstechen<br>Cut off |                      |                      |
|--|---------------|-------------------------------------|----------------------|----------------------|
|  |               | F<br>(mm/U)<br>CUT16                | F<br>(mm/U)<br>CUT22 | F<br>(mm/U)<br>CUT31 |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 80 - 150      | 0.02 - 0.08                         | 0.03 - 0.10          | 0.03 - 0.12          |
| Acier<br>Stahl < 600 N/mm2<br>Steel  | 70 - 120      | 0.02 - 0.06                         | 0.03 - 0.08          | 0.03 - 0.10          |
| Acier<br>Stahl < 800 N/mm2<br>Steel  | 60 - 100      | 0.02 - 0.05                         | 0.03 - 0.06          | 0.03 - 0.08          |
| Acier<br>Stahl > 800 N/mm2<br>Steel  | 40 - 80       | 0.02 - 0.04                         | 0.03 - 0.05          | 0.03 - 0.07          |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 60 - 100      | 0.02 - 0.06                         | 0.03 - 0.08          | 0.03 - 0.10          |
| Aluminium  | 150 - 300     | 0.02 - 0.10                         | 0.03 - 0.12          | 0.03 - 0.15          |
| Titane<br>Titan<br>Titanium  | 30 - 60       | 0.02 - 0.06                         | 0.03 - 0.08          | 0.03 - 0.10          |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100 - 300     | 0.02 - 0.08                         | 0.03 - 0.10          | 0.03 - 0.12          |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts



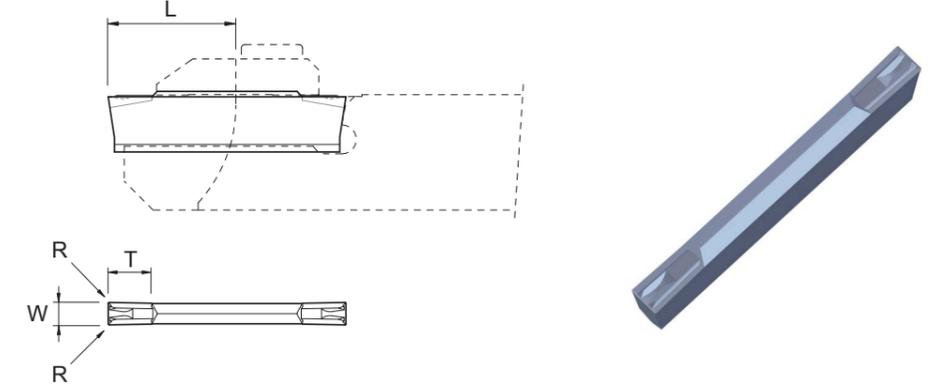
| L    | R   | W +/-0.05 | Art. N°    | TiN<br>TiAlN<br>Tmax |
|------|-----|-----------|------------|----------------------|
| 12   | 0.2 | 2.2       | CUT22-NP-U | ■ ■ ■                |
| 18.5 | 0.2 | 3.1       | CUT31-NP-U | ■ ■ ■                |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Paramètres de coupe indicatifs  
Empfohlene Schittwerte  
Standard machining data

| Matière<br>Werkstoff<br>Material   | Vc<br>(m/min) | Tronçonnage<br>Abstechen<br>Cut off |                      |
|--|---------------|-------------------------------------|----------------------|
|  |               | F<br>(mm/U)<br>CUT22                | F<br>(mm/U)<br>CUT31 |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 90 - 150      | 0.03 - 0.12                         | 0.04 - 0.15          |
| Acier<br>Stahl < 600 N/mm2<br>Steel  | 70 - 120      | 0.03 - 0.10                         | 0.04 - 0.12          |
| Acier<br>Stahl < 800 N/mm2<br>Steel  | 60 - 100      | 0.03 - 0.08                         | 0.04 - 0.10          |
| Acier<br>Stahl > 800 N/mm2<br>Steel  | 50 - 80       | 0.03 - 0.07                         | 0.04 - 0.08          |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 60 - 100      | 0.03 - 0.08                         | 0.04 - 0.12          |
| Aluminium  | 150 - 300     | 0.03 - 0.12                         | 0.04 - 0.15          |
| Titane<br>Titan<br>Titanium  | 30 - 60       | 0.03 - 0.08                         | 0.04 - 0.10          |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100 - 300     | 0.03 - 0.12                         | 0.04 - 0.15          |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts



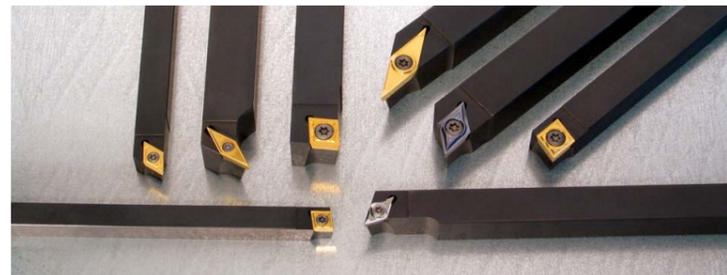
| T   | L    | R    | W +/-0.05 | Art. N°  | TiN<br>TiAlN<br>Tmax |
|-----|------|------|-----------|----------|----------------------|
| 2.5 | 7.5  | 0.10 | 1.6       | CUT16-NG | ■ ■ ■                |
| 3.5 | 11.5 | 0.15 | 2.2       | CUT22-NG | ■ ■ ■                |
| 5   | 17   | 0.15 | 3.1       | CUT31-NG | ■ ■ ■                |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Paramètres de coupe indicatifs  
Empfohlene Schittwerte  
Standard machining data

| Matière<br>Werkstoff<br>Material   | Vc<br>(m/min) | Tournage<br>Drehen<br>Turning |                      |                      |
|--|---------------|-------------------------------|----------------------|----------------------|
|  |               | F<br>(mm/U)<br>CUT16          | F<br>(mm/U)<br>CUT22 | F<br>(mm/U)<br>CUT31 |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 120 - 200     | 0.02 - 0.08                   | 0.03 - 0.12          | 0.04 - 0.15          |
| Acier<br>Stahl < 600 N/mm2<br>Steel  | 80 - 160      | 0.02 - 0.06                   | 0.03 - 0.10          | 0.04 - 0.12          |
| Acier<br>Stahl < 800 N/mm2<br>Steel  | 60 - 120      | 0.02 - 0.05                   | 0.03 - 0.08          | 0.04 - 0.10          |
| Acier<br>Stahl > 800 N/mm2<br>Steel  | 50 - 100      | 0.02 - 0.04                   | 0.03 - 0.07          | 0.04 - 0.08          |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 60 - 120      | 0.02 - 0.06                   | 0.03 - 0.08          | 0.04 - 0.10          |
| Aluminium  | 180 - 400     | 0.02 - 0.10                   | 0.03 - 0.12          | 0.04 - 0.15          |
| Titane<br>Titan<br>Titanium  | 40 - 70       | 0.02 - 0.06                   | 0.03 - 0.08          | 0.04 - 0.10          |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100 - 400     | 0.02 - 0.08                   | 0.03 - 0.10          | 0.04 - 0.12          |

# ISO-LINE



| Répertoire<br>Verzeichnis<br>Index  |  | page<br>Seite<br>page   |  |   |   |                   |
|---|--|---|--|---|---|-------------------|
| paramètres et nuances<br>Schnittwerte und Sorten<br>Data and Grades                               | INFO & DATA  |   |  |   |   |                   |
|   |  | 3.02<br>3.03  |  |   |   |                   |
| Géométries<br>des plaquettes<br><br>WSP-Spanform-<br>Geometrien<br><br>Inserts cutting geometries |  type<br>FN-X8°           | 3.04  |  type<br>ENP-X8°  | 3.04  |   |                   |
|   |  type<br>FN-X17°          | 3.05  |  type<br>ENP-X17° | 3.05  |   |                   |
|   |  type<br>FN-X25°          | 3.06  |  type<br>ENP-X25° | 3.06  |   |                   |
|   |  type<br>FN-K18°<br>FN-0° | 3.07  |  type<br>EN-XF    | 3.08  |   |                   |
|   |  type<br>EN-MF           | 3.08  |  type<br>EN-HF   | 3.09  |   |                   |
| Porte-outils et plaquettes<br>Halter und WSP<br>Holders and inserts<br><br>80°                    |                         |  |                 | 3.10<br>-<br>3.13   |   |                   |
| Porte-outils et plaquettes<br>Halter und WSP<br>Holders and inserts<br><br>55°                    |                         |  |                 |  | 3.14<br>-<br>3.19   |                   |
| Porte-outils et plaquettes<br>Halter und WSP<br>Holders and inserts<br><br>35°                    |                         |  |                 |  |  | 3.20<br>-<br>3.25 |

## Nuances des plaquettes Wendeplatte-Sorten Insert grades

| TiN<br>revêtement PVD<br>PVD Beschichtung<br>PVD coating  | TiALN<br>revêtement PVD<br>PVD Beschichtung<br>PVD coating  | Tmax<br>revêtement PVD épais<br>PVD Dickbeschichtung<br>PVD thick coating   |
|---|---|---|
| <p>nuance universelle pour travaux légers</p> <p>très faible coefficient de frottement</p> <p>1er choix pour l'usinage des matières peu résistantes qui créent des arêtes rapportées</p> <p>à éviter pour l'usinage du titane</p> <p>Universal-Sorte für leichte Bearbeitung</p> <p>sehr geringer Reibwert</p> <p>bestens geeignet für die Bearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschnitten</p> <p>für die Bearbeitung von Titan nicht geeignet</p> <p>universal grade for light machining</p> <p>very low friction ratio</p> <p>first choice for low resistance materials which causes edge build-up</p> <p>not suitable for titanium machining</p> | <p>excellente nuance universelle</p> <p>très bonne résistance à la température</p> <p>1er choix pour l'usinage finition des aciers, aciers inoxydables et alliages de titane</p> <p>beste Universal-Sorte</p> <p>sehr gute Warmfestigkeit</p> <p>bestens geeignet für die Bearbeitung von Stahl, rostfreiem Stahl und Titan Legierungen</p> <p>best universal grade</p> <p>very good heat resistance</p> <p>first choice for steel, stainless steel and titanium alloys machining</p> | <p>nuance pour usinages moyens à lourds des aciers et aciers inoxydables</p> <p>très faible coefficient de frottement</p> <p>résiste aux températures d'usinage élevées</p> <p>Sorte für mittlere bis hohe Belastung in Stahl und rostfreiem Stahl Bearbeitung</p> <p>sehr geringer Reibwert</p> <p>hohe Bearbeitungs-Warmfestigkeit</p> <p>grade for medium to heavy machining of steel and stainless steel</p> <p>very low friction ratio</p> <p>high machining heat resistance</p> |
| Ti3<br>revêtement CVD<br>CVD Beschichtung<br>CVD coating  | K10<br>non revêtu<br>unbeschichtet<br>uncoated  | K20<br>non revêtu<br>unbeschichtet<br>uncoated  |
| <p>nuance pour usinages moyens à lourds des aciers et aciers inoxydables</p> <p>résiste aux températures d'usinage élevées</p> <p>Sorte für mittlere bis hohe Belastung in Stahl und rostfreiem Stahl Bearbeitung</p> <p>hohe Bearbeitungs-Warmfestigkeit</p> <p>grade for medium to heavy machining of steel and stainless steel</p> <p>high machining heat resistance</p>   | <p>nuance micro-grain très résistante à l'usure</p> <p>recommandé pour l'usinage du titane</p> <p>déconseillé en cas de coupe interrompue</p> <p>verschleißfeste Feinkorn-Sorte</p> <p>empfehlenswert für Titan Bearbeitung</p> <p>für unterbrochene Schnitte nicht geeignet</p> <p>wear resistant micro-grain grade</p> <p>suitable for titanium machining</p> <p>not suitable for interrupted cut</p>   | <p>nuance micro-grain tenace</p> <p>1er choix comme base pour un revêtement</p> <p>supporte les coupes interrompues</p> <p>zähe Feinkorn-Sorte</p> <p>beste Basis für eine Beschichtung</p> <p>für unterbrochene Schnitte geeignet</p> <p>tough micro-grain grade</p> <p>first choice as base for coating</p> <p>suitable for interrupted cut</p>   |

## Paramètres de coupe indicatifs Empfohlene Schnittwerte Standard machining data

| Vc<br>m / min  | Nuances<br>Sorten<br>Grades |           |           |           |   |            |
|--|-----------------------------|-----------|-----------|-----------|---|------------|
|  | PVD                         |           |           | CVD       | non revêtu<br>unbeschichtet<br>uncoated |            |
| Matière<br>Werkstoff<br>Material   | TiN                         | TiALN     | Tmax      | Ti3       | K10                                     | K20        |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 120 - 180                   | 120 - 200 | 120 - 220 | 120 - 250 |   |            |
| Acier<br>Stahl<br>Steel < 600 N/mm²  | 80 - 150                    | 80 - 170  | 80 - 200  | 100 - 220 |   |            |
| Acier<br>Stahl<br>Steel < 800 N/mm²  | 60 - 120                    | 60 - 150  | 60 - 180  | 100 - 200 |   |            |
| Acier<br>Stahl<br>Steel > 800 N/mm²  |                             | 50 - 120  | 60 - 150  | 80 - 180  |   |            |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 80 - 120                    | 60 - 140  | 80 - 160  | 100 - 200 |   |            |
| Aluminium Si < 12%   | 250 - 2000                  |           |           |           | 250 - 2000                              | 250 - 1500 |
| Aluminium Si > 12%   | 200 - 1500                  |           |           |           | 200 - 1500                              | 200 - 1000 |
| Titane<br>Titan<br>Titanium  |                             | 30 - 80   |           |           | 30 - 70                                 | 30 - 60    |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100 - 500                   |           |           |           | 100 - 500                               | 100 - 300  |

## Conseils d'utilisation Anwendungs-Empfehlungen Application recommendations

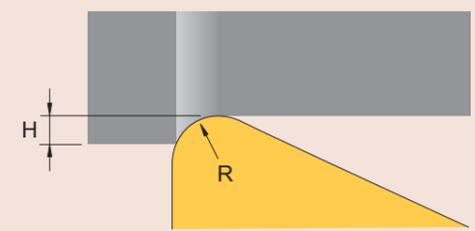


pour un meilleur état de surface et une meilleure stabilité d'usinage, choisir une géométrie d'outil permettant un angle "a" le plus petit possible

für bessere Oberflächegüte und Bearbeitungs-Stabilität, muss Werkzeug-Geometrie mit kleinstmöglichem Winkel "a" ausgewählt werden.

for a better surface finish and better machining stability, choose a tool geometry with angle "a" as small as possible

Rapport hauteur de passe / rayon d'outil  
Verhältniss zwischen Spantiefe und Werkzeugradius  
machining depth / tool radius ratio

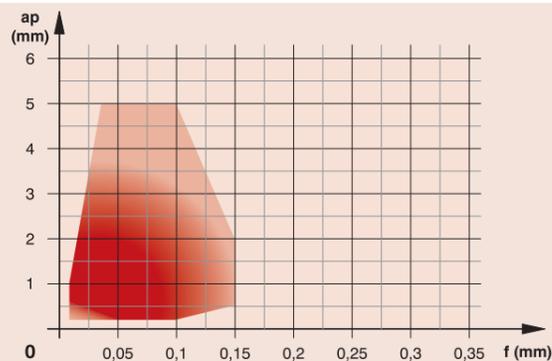
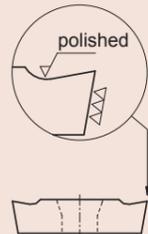


H min 0.7 x R  
R max = 1.4 x H

Géométries de coupe  
Spanformgeometrien  
cutting geometries

type  
FN-X8°

arête de coupe vive  
scharfe Schneidkante  
sharp cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe vive
- coupe positive 8° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- scharfe Schneidkante
- 8° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- sharp cutting edge
- 8° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition
- géométrie universelle pour l'usinage de toutes matières
- avance F = 0.01-0.15 mm

**Anwendung**

- Schlichtbearbeitung
- allgemeine Geometrie für die Bearbeitung aller Werkstoffe
- Vorschub F = 0.01-0.15 mm

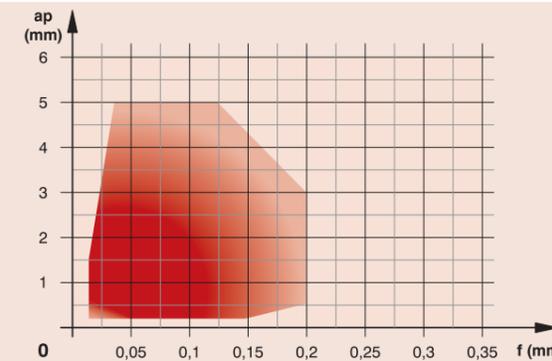
**Application**

- finishing
- general purpose geometry for the machining of all materials
- feed rate F = 0.01-0.15 mm

Géométries de coupe  
Spanformgeometrien  
cutting geometries

type  
FN-X17°

arête de coupe vive  
scharfe Schneidkante  
sharp cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe vive
- coupe positive 17° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- scharfe Schneidkante
- 17° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- sharp cutting edge
- 17° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition
- usinage des alliages d'aluminium et de titane, des matières non-ferreuses, ainsi que des aciers inoxydables
- avance F = 0.015-0.20 mm

**Anwendung**

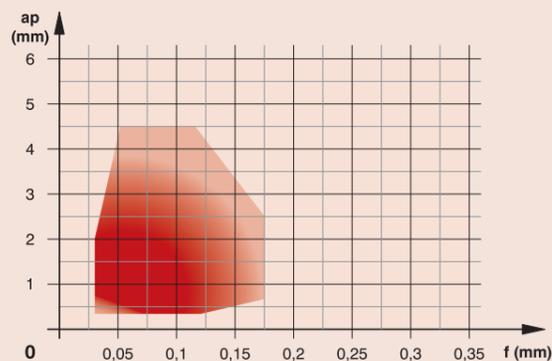
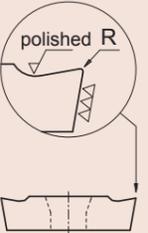
- Schlichtbearbeitung
- Bearbeitung von Aluminium und Titan, Nichteisenmetalle und rostfreiem Stahl
- Vorschub F = 0.015-0.20 mm

**Application**

- finishing
- machining of aluminium alloys, non-ferrous materials and stainless steel
- feed rate F = 0.015-0.20 mm

type  
ENP-X8°

arête de coupe polie  
polierte Schneidkante  
polished cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe renforcée par polissage
- coupe positive 8° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- verstärkte und polierte Schneidkante
- 8° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- reinforced and polished cutting edge
- 8° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition et semi-finition
- usinage des aciers et aciers inoxydables
- avance F = 0.03-0.18 mm

**Anwendung**

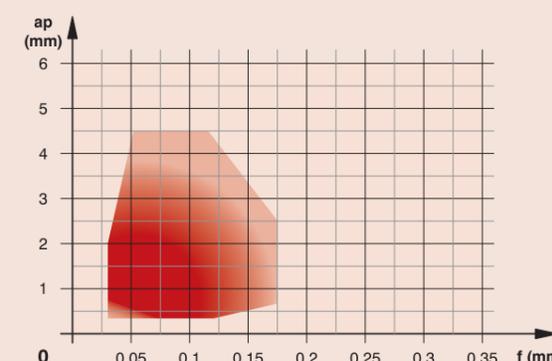
- mittlere bis Schlichtbearbeitung
- für die Bearbeitung von Stahl und rostfreiem Stahl
- Vorschub F = 0.03-0.18 mm

**Application**

- finishing and semi-finishing
- steel and stainless steel machining
- feed rate F = 0.03-0.18 mm

type  
ENP-X17°

arête de coupe polie  
polierte Schneidkante  
polished cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe renforcée par polissage
- coupe positive 17° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- verstärkte und polierte Schneidkante
- 17° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- reinforced and polished cutting edge
- 17° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition et semi-finition
- usinage des aciers et aciers inoxydables
- avance F = 0.03-0.18 mm

**Anwendung**

- mittlere bis Schlichtbearbeitung
- für die Bearbeitung von Stahl und rostfreiem Stahl
- Vorschub F = 0.03-0.18 mm

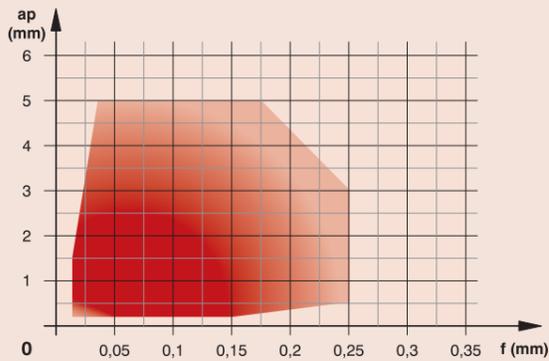
**Application**

- finishing and semi-finishing
- steel and stainless steel machining
- feed rate F = 0.03-0.18 mm

Géométries de coupe  
Spanformgeometrien  
cutting geometries

type  
FN-X25°

arête de coupe vive  
scharfe Schneidkante  
sharp cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe vive
- coupe positive 25° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- scharfe Schneidkante
- 25° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- sharp cutting edge
- 25° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition
- usinage des alliages d'aluminium et des matières non-ferreuses, ainsi que des aciers inoxydables
- avance F = 0.015-0.25 mm

**Anwendung**

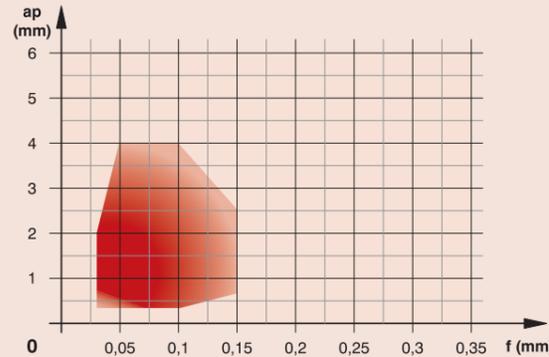
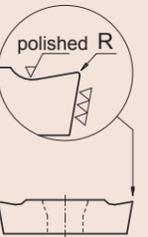
- Schlichtbearbeitung
- Bearbeitung von Aluminium-Legierungen, Nichteisenmetalle und rostfreiem Stahl
- Vorschub F = 0.015-0.25 mm

**Application**

- finishing
- machining of aluminium alloys, non-ferrous materials and stainless steel
- feed rate F = 0.015-0.25 mm

type  
ENP-X25°

arête de coupe polie  
polierte Schneidkante  
polished cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe renforcée par polissage
- coupe positive 25° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- verstärkte und polierte Schneidkante
- 25° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- reinforced and polished cutting edge
- 25° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition et semi-finition
- usinage des aciers et aciers inoxydables
- avance F = 0.03-0.15 mm

**Anwendung**

- mittlere bis Schlichtbearbeitung
- für die Bearbeitung von Stahl und rostfreiem Stahl
- Vorschub F = 0.03-0.15 mm

**Application**

- finishing and semi-finishing
- steel and stainless steel machining
- feed rate F = 0.03-0.15 mm

Géométries de coupe  
Spanformgeometrien  
cutting geometries

type  
FN-K18°

disponible uniquement en version 35° type VCGT-1103  
nur als 35°-Ausführung typ VCGT-1103 erhältlich  
available only in 35° execution type VCGT-1103



arête de coupe vive  
scharfe Schneidkante  
sharp cutting edge



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe vive
- coupe positive 18° avec maîtrise des copeaux
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- scharfe Schneidkante
- 18° positiver Schnitt mit kontrolliertem Spanbruch
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- sharp cutting edge
- 18° positive cut with controlled chip-breaking
- micrograin grades with PVD coatings

**Application**

- finition
- géométrie universelle pour l'usinage de toutes matières
- avance F = 0.01-0.10 mm

**Anwendung**

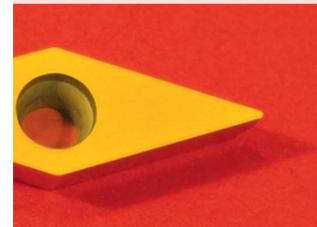
- Schlichtbearbeitung
- allgemeine Geometrie für die Bearbeitung aller Werkstoffe
- Vorschub F = 0.01-0.10 mm

**Application**

- finishing
- general purpose geometry for the machining of all materials
- feed rate F = 0.01-0.10 mm

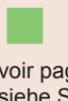
type  
FN-0°

disponible uniquement en version 35° type VCGW-1103  
nur als 35°-Ausführung typ VCGW-1103 erhältlich  
available only in 35° execution type VCGW-1103



arête de coupe vive  
scharfe Schneidkante  
sharp cutting edge

Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
3.03

**Descriptif**

- plaquette polie et rectifiée
- arête de coupe vive
- coupe neutre 0°
- nuances micro-grain avec revêtements PVD

**Beschreibung**

- polierte und geschliffene Wendeplatte
- scharfe Schneidkante
- 0° neutraler Schnitt
- Feinkornsorten mit PVD-Beschichtungen

**Description**

- polished and ground insert
- sharp cutting edge
- neutral cut 0°
- micrograin grades with PVD coatings

**Application**

- finition
- usinage du laiton
- avance F = 0.01-0.10 mm

**Anwendung**

- mittlere bis Schlichtbearbeitung
- Messing-Bearbeitung
- Vorschub F = 0.01-0.10 mm

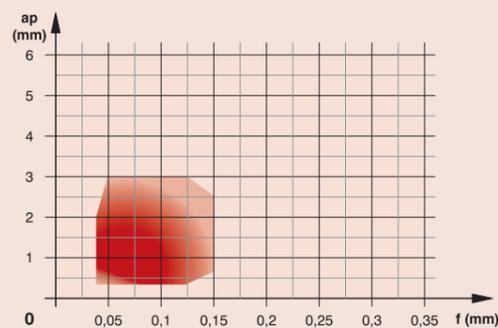
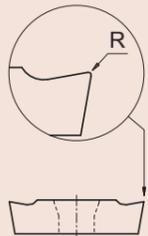
**Application**

- finishing and semi-finishing
- brass machining
- feed rate F = 0.01-0.10 mm

Géométries de coupe  
Spanformgeometrien  
cutting geometries

type  
EN-XF

traitement d'arête minimum  
kleinste Schneidkante Behandlung  
smallest cutting edge treatment



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
**3.03**

**Descriptif**

- plaquette non rectifiée
- coupe positive avec maîtrise des copeaux
- traitement spécial permettant un rayon minimum des arêtes de coupe
- revêtements PVD et CVD

**Beschreibung**

- ungeschliffene Wendeplatte
- positiver Schnitt mit kontrolliertem Spanbruch
- kleinste Schneidkanten-Abrundung durch Sonderbehandlungs-Prozess
- PVD und CVD Beschichtungen

**Description**

- unground insert
- positive cut with controlled chip-breaking
- special treatment for smallest cutting edge rounding
- PVD and CVD coatings

**Application**

- finition et semi-finition
- usinage des aciers et aciers inoxydables
- avance F = 0.04-0.15 mm

**Anwendung**

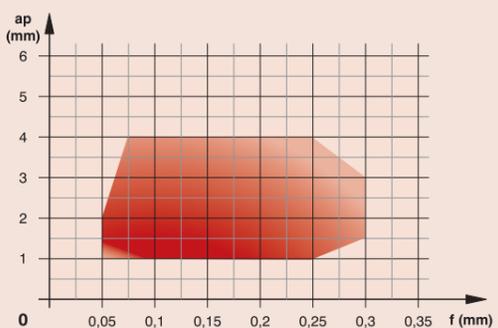
- mittlere bis Schlichtbearbeitung
- für die Bearbeitung von Stahl und rostfreiem Stahl
- Vorschub F = 0.04-0.15 mm

**Application**

- finishing and semi-finishing
- steel and stainless steel machining
- feed rate F = 0.04-0.15 mm

type  
EN-MF

traitement d'arête  
Schneidkante Behandlung  
cutting edge treatment



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
**3.03**

**Descriptif**

- plaquette non rectifiée
- coupe positive avec maîtrise des copeaux
- traitement spécial des arêtes de coupe
- revêtements PVD et CVD

**Beschreibung**

- ungeschliffene Wendeplatte
- positiver Schnitt mit kontrolliertem Spanbruch
- Schneidkanten-Abrundung durch Sonderbehandlungs-Prozess
- PVD und CVD Beschichtungen

**Description**

- unground insert
- positive cut with controlled chip-breaking
- special treatment for cutting edge rounding
- PVD and CVD coatings

**Application**

- travaux moyens
- usinage des aciers et aciers inoxydables
- avance F = 0.05-0.30 mm

**Anwendung**

- Mittlere Bearbeitung
- für die Bearbeitung von Stahl und rostfreiem Stahl
- Vorschub F = 0.05-0.30 mm

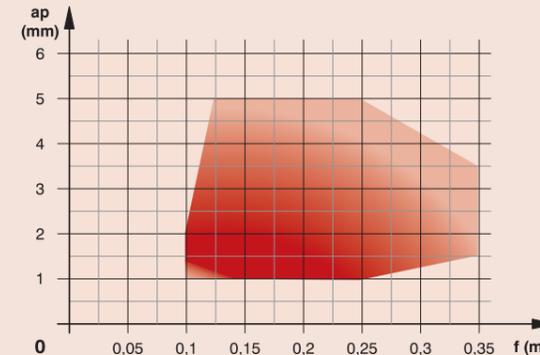
**Application**

- medium turning
- steel and stainless steel machining
- feed rate F = 0.05-0.30 mm

Géométries de coupe  
Spanformgeometrien  
cutting geometries

type  
EN-HF

traitement d'arête  
Schneidkante Behandlung  
cutting edge treatment



Matière  
Werkstoff  
Material



voir page :  
siehe Seite :  
see page :  
**3.03**

**Descriptif**

- plaquette non rectifiée
- coupe positive avec maîtrise des copeaux
- traitement spécial des arêtes de coupe
- revêtement CVD

**Beschreibung**

- ungeschliffene Wendeplatte
- positiver Schnitt mit kontrolliertem Spanbruch
- Schneidkanten-Abrundung durch Sonderbehandlungs-Prozess
- CVD Beschichtung

**Description**

- unground insert
- positive cut with controlled chip-breaking
- special treatment for cutting edge rounding
- CVD coating

**Application**

- travaux moyens et ébauche
- usinage des aciers et aciers inoxydables
- avance F = 0.1-0.35 mm

**Anwendung**

- Mittlere- und Schrupp-Bearbeitung
- für die Bearbeitung von Stahl und rostfreiem Stahl
- Vorschub F = 0.1-0.35 mm

**Application**

- medium turning and roughing
- steel and stainless steel machining
- feed rate F = 0.1-0.35 mm

INFO

TOP-LINE 300

plaquettes sans rayons : R = 0  
géométries spécifiques pour le décolletage

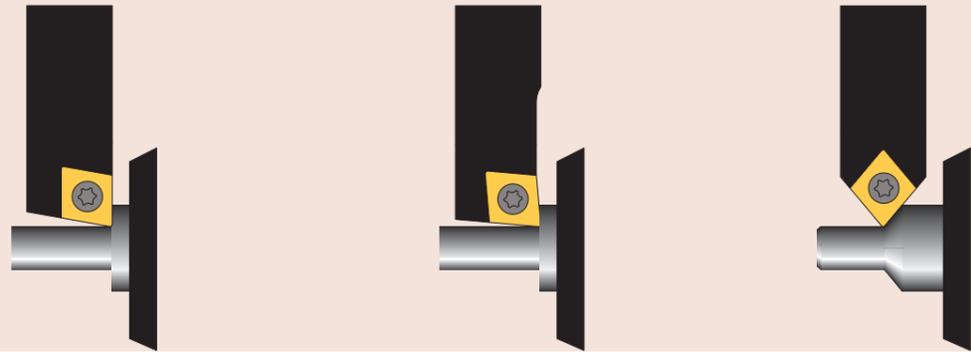
Wendeplatten ohne Radius : R = 0  
Sondergeometrien für Drehautomaten

Inserts without radius : R = 0  
special geometries for automatic lathes

voir pages 1.8 - 1.15  
siehe Seiten 1.8 - 1.15  
see pages 1.8 - 1.15

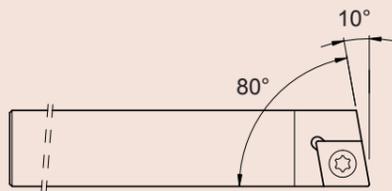


Outils de tournage 80°  
80°-Drehwerkzeuge  
turning tools 80°



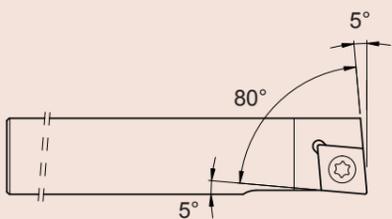
porte-outils  
Halter  
holders

L



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SCACL-0808X-06 | ISO-2112    | 8 x 8 x 115   | CC..-0602..          |
| SCACL-1010X-06 | ISO-2113    | 10 x 10 x 115 | CC..-0602..          |
| SCACL-1212X-06 | ISO-2114    | 12 x 12 x 130 | CC..-0602..          |
| SCACL-1212G-06 | ISO-2114-90 | 12 x 12 x 90  | CC..-0602..          |
| SCACL-1616X-06 | ISO-2115    | 16 x 16 x 130 | CC..-0602..          |
| SCACL-1616F-06 | ISO-2115-75 | 16 x 16 x 75  | CC..-0602..          |
| SCACL-1212X-09 | ISO-2214    | 12 x 12 x 130 | CC..-09T3..          |
| SCACL-1212G-09 | ISO-2214-90 | 12 x 12 x 90  | CC..-09T3..          |
| SCACL-1616X-09 | ISO-2215    | 16 x 16 x 130 | CC..-09T3..          |
| SCACL-1616F-09 | ISO-2215-75 | 16 x 16 x 75  | CC..-09T3..          |
| SCACL-2020X-09 | ISO-2216    | 20 x 20 x 120 | CC..-09T3..          |

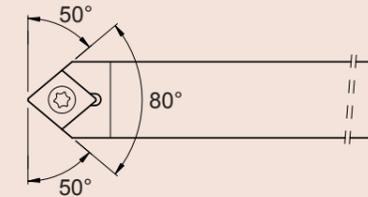
L



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SCLCL-0808X-06 | ISO-2132    | 8 x 8 x 115   | CC..-0602..          |
| SCLCL-1010X-06 | ISO-2133    | 10 x 10 x 115 | CC..-0602..          |
| SCLCL-1212X-06 | ISO-2134    | 12 x 12 x 130 | CC..-0602..          |
| SCLCL-1212G-06 | ISO-2134-90 | 12 x 12 x 90  | CC..-0602..          |
| SCLCL-1616X-06 | ISO-2135    | 16 x 16 x 130 | CC..-0602..          |
| SCLCL-1616F-06 | ISO-2135-75 | 16 x 16 x 75  | CC..-0602..          |
| SCLCL-1212X-09 | ISO-2234    | 12 x 12 x 130 | CC..-09T3..          |
| SCLCL-1212G-09 | ISO-2234-90 | 12 x 12 x 90  | CC..-09T3..          |
| SCLCL-1616X-09 | ISO-2235    | 16 x 16 x 130 | CC..-09T3..          |
| SCLCL-1616F-09 | ISO-2235-75 | 16 x 16 x 75  | CC..-09T3..          |
| SCLCL-2020X-09 | ISO-2236    | 20 x 20 x 120 | CC..-09T3..          |

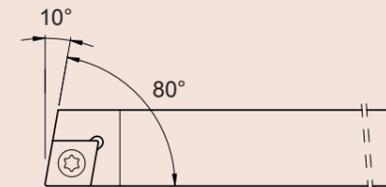
porte-outils  
Halter  
holders

N



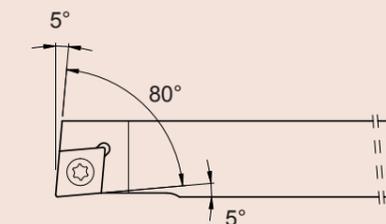
| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SCMCN-0808X-06 | ISO-2102    | 8 x 8 x 115   | CC..-0602..          |
| SCMCN-1010X-06 | ISO-2103    | 10 x 10 x 115 | CC..-0602..          |
| SCMCN-1212X-06 | ISO-2104    | 12 x 12 x 130 | CC..-0602..          |
| SCMCN-1212G-06 | ISO-2104-90 | 12 x 12 x 90  | CC..-0602..          |
| SCMCN-1616X-06 | ISO-2105    | 16 x 16 x 130 | CC..-0602..          |
| SCMCN-1616F-06 | ISO-2105-75 | 16 x 16 x 75  | CC..-0602..          |
| SCMCN-1212X-09 | ISO-2204    | 12 x 12 x 130 | CC..-09T3..          |
| SCMCN-1212G-09 | ISO-2204-90 | 12 x 12 x 90  | CC..-09T3..          |
| SCMCN-1616X-09 | ISO-2205    | 16 x 16 x 130 | CC..-09T3..          |
| SCMCN-1616F-09 | ISO-2205-75 | 16 x 16 x 75  | CC..-09T3..          |
| SCMCN-2020X-09 | ISO-2206    | 20 x 20 x 120 | CC..-09T3..          |

R



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SCACR-0808X-06 | ISO-2122    | 8 x 8 x 115   | CC..-0602..          |
| SCACR-1010X-06 | ISO-2123    | 10 x 10 x 115 | CC..-0602..          |
| SCACR-1212X-06 | ISO-2124    | 12 x 12 x 130 | CC..-0602..          |
| SCACR-1212G-06 | ISO-2124-90 | 12 x 12 x 90  | CC..-0602..          |
| SCACR-1616X-06 | ISO-2125    | 16 x 16 x 130 | CC..-0602..          |
| SCACR-1616F-06 | ISO-2125-75 | 16 x 16 x 75  | CC..-0602..          |
| SCACR-1212X-09 | ISO-2224    | 12 x 12 x 130 | CC..-09T3..          |
| SCACR-1212G-09 | ISO-2224-90 | 12 x 12 x 90  | CC..-09T3..          |
| SCACR-1616X-09 | ISO-2225    | 16 x 16 x 130 | CC..-09T3..          |
| SCACR-1616F-09 | ISO-2225-75 | 16 x 16 x 75  | CC..-09T3..          |
| SCACR-2020X-09 | ISO-2226    | 20 x 20 x 120 | CC..-09T3..          |

R

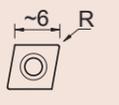
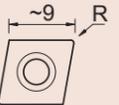
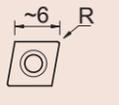
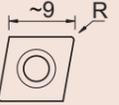
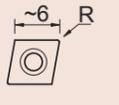
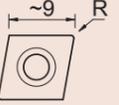
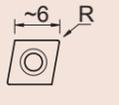
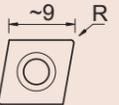


| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SCLCR-0808X-06 | ISO-2142    | 8 x 8 x 115   | CC..-0602..          |
| SCLCR-1010X-06 | ISO-2143    | 10 x 10 x 115 | CC..-0602..          |
| SCLCR-1212X-06 | ISO-2144    | 12 x 12 x 130 | CC..-0602..          |
| SCLCR-1212G-06 | ISO-2144-90 | 12 x 12 x 90  | CC..-0602..          |
| SCLCR-1616X-06 | ISO-2145    | 16 x 16 x 130 | CC..-0602..          |
| SCLCR-1616F-06 | ISO-2145-75 | 16 x 16 x 75  | CC..-0602..          |
| SCLCR-1212X-09 | ISO-2244    | 12 x 12 x 130 | CC..-09T3..          |
| SCLCR-1212G-09 | ISO-2244-90 | 12 x 12 x 90  | CC..-09T3..          |
| SCLCR-1616X-09 | ISO-2245    | 16 x 16 x 130 | CC..-09T3..          |
| SCLCR-1616F-09 | ISO-2245-75 | 16 x 16 x 75  | CC..-09T3..          |
| SCLCR-2020X-09 | ISO-2246    | 20 x 20 x 120 | CC..-09T3..          |

Vis et clés de rechange  
Ersatzschrauben und Schlüssel  
Spare screws and keys

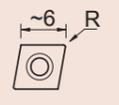
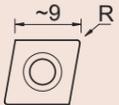
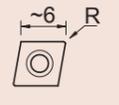
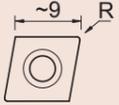
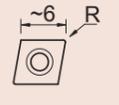
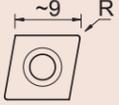
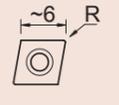
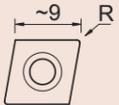
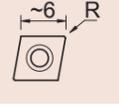
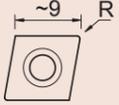
|                 |                |  |       |  |
|-----------------|----------------|--|-------|--|
| series ISO-2100 | V-M2.5x7.8-T8  |  | C-T8  |  |
| series ISO-2200 | V-M4x9-T15-ISO |  | C-T15 |  |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

|  | R    | ISO-Code             | Art. N°    | revêtu beschichtet coated |                      |            | non revêtu unbeschichtet uncoated |     |
|--|------|----------------------|------------|---------------------------|----------------------|------------|-----------------------------------|-----|
|  |      |                      |            | TiN                       | PVD<br>TiAlN<br>Tmax | CVD<br>Ti3 | K10                               | K20 |
| <b>CCGT</b><br>       | 0.05 | CCGT-0602005-FN-X8   | ISO-1130   | ■                         | ■                    |            | ■                                 |     |
|  | 0.1  | CCGT-060201-FN-X8    | ISO-1131   | ■                         | ■                    |            | ■                                 |     |
|  | 0.2  | CCGT-060202-FN-X8    | ISO-1132   | ■                         | ■                    |            | ■                                 |     |
|  | 0.4  | CCGT-060204-FN-X8    | ISO-1134   | ■                         | ■                    |            | ■                                 |     |
| <b>FN-X8°</b><br>     | 0.05 | CCGT-09T3005-FN-X8   | ISO-1230   | ■                         | ■                    |            | ■                                 |     |
|  | 0.1  | CCGT-09T301-FN-X8    | ISO-1231   | ■                         | ■                    |            | ■                                 |     |
|  | 0.2  | CCGT-09T302-FN-X8    | ISO-1232   | ■                         | ■                    |            | ■                                 |     |
|  | 0.4  | CCGT-09T304-FN-X8    | ISO-1234   | ■                         | ■                    |            | ■                                 |     |
| <b>CCGT</b><br>       | 0.05 | CCGT-0602005-ENP-X8  | ISO-1130-P | □                         | ■                    |            | □                                 |     |
|  | 0.1  | CCGT-060201-ENP-X8   | ISO-1131-P | □                         | ■                    |            | □                                 |     |
|  | 0.2  | CCGT-060202-ENP-X8   | ISO-1132-P | □                         | ■                    |            | □                                 |     |
|  | 0.4  | CCGT-060204-ENP-X8   | ISO-1134-P | □                         | ■                    |            | □                                 |     |
| <b>ENP-X8°</b><br>    | 0.05 | CCGT-09T3005-ENP-X8  | ISO-1230-P | □                         | ■                    |            | □                                 |     |
|  | 0.1  | CCGT-09T301-ENP-X8   | ISO-1231-P | □                         | ■                    |            | □                                 |     |
|  | 0.2  | CCGT-09T302-ENP-X8   | ISO-1232-P | □                         | ■                    |            | □                                 |     |
|  | 0.4  | CCGT-09T304-ENP-X8   | ISO-1234-P | □                         | ■                    |            | □                                 |     |
| <b>CCGT</b><br>     | 0.05 | CCGT-0602005-FN-X17  | ISO-1140   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.1  | CCGT-060201-FN-X17   | ISO-1141   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.2  | CCGT-060202-FN-X17   | ISO-1142   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.4  | CCGT-060204-FN-X17   | ISO-1144   | ■                         | ■                    |            | □                                 | ■   |
| <b>FN-X17°</b><br>  | 0.05 | CCGT-09T3005FN-X17   | ISO-1240   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.1  | CCGT-09T301-FN-X17   | ISO-1241   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.2  | CCGT-09T302-FN-X17   | ISO-1242   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.4  | CCGT-09T304-FN-X17   | ISO-1244   | ■                         | ■                    |            | □                                 | ■   |
| <b>CCGT</b><br>     | 0.05 | CCGT-0602005-ENP-X17 | ISO-1140-P | □                         | ■                    |            | □                                 |     |
|  | 0.1  | CCGT-060201-ENP-X17  | ISO-1141-P | □                         | ■                    |            | □                                 |     |
|  | 0.2  | CCGT-060202-ENP-X17  | ISO-1142-P | □                         | ■                    |            | □                                 |     |
|  | 0.4  | CCGT-060204-ENP-X17  | ISO-1144-P | □                         | ■                    |            | □                                 |     |
| <b>ENP-X17°</b><br> | 0.05 | CCGT-09T3005-ENP-X17 | ISO-1240-P | □                         | ■                    |            | □                                 |     |
|  | 0.1  | CCGT-09T301-ENP-X17  | ISO-1241-P | □                         | ■                    |            | □                                 |     |
|  | 0.2  | CCGT-09T302-ENP-X17  | ISO-1242-P | □                         | ■                    |            | □                                 |     |
|  | 0.4  | CCGT-09T304-ENP-X17  | ISO-1244-P | □                         | ■                    |            | □                                 |     |

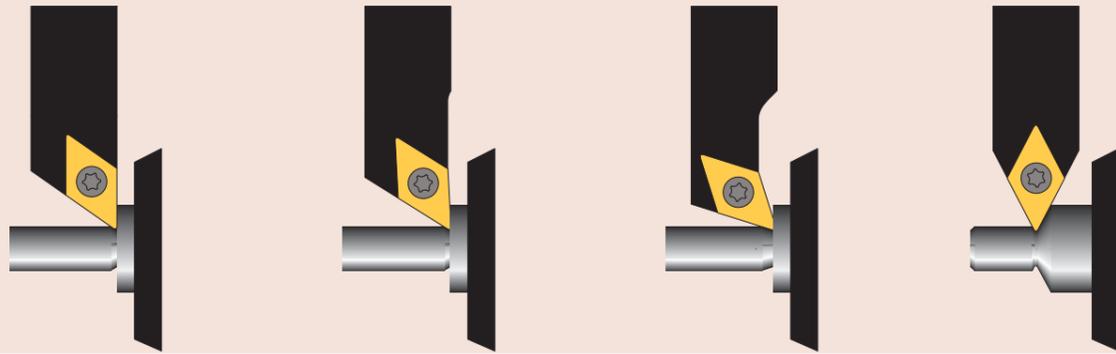
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

|  | R    | ISO-Code             | Art. N°    | revêtu beschichtet coated |                      |            | non revêtu unbeschichtet uncoated |     |
|--|------|----------------------|------------|---------------------------|----------------------|------------|-----------------------------------|-----|
|  |      |                      |            | TiN                       | PVD<br>TiAlN<br>Tmax | CVD<br>Ti3 | K10                               | K20 |
| <b>CCGT</b><br>     | 0.05 | CCGT-0602005-FN-X25  | ISO-1150   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.1  | CCGT-060201-FN-X25   | ISO-1151   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.2  | CCGT-060202-FN-X25   | ISO-1152   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.4  | CCGT-060204-FN-X25   | ISO-1154   | ■                         | ■                    |            | □                                 | ■   |
| <b>FN-X25°</b><br>  | 0.05 | CCGT-09T3005-FN-X25  | ISO-1250   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.1  | CCGT-09T301-FN-X25   | ISO-1251   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.2  | CCGT-09T302-FN-X25   | ISO-1252   | ■                         | ■                    |            | □                                 | ■   |
|  | 0.4  | CCGT-09T304-FN-X25   | ISO-1254   | ■                         | ■                    |            | □                                 | ■   |
| <b>CCGT</b><br>     | 0.05 | CCGT-0602005-ENP-X25 | ISO-1150-P | □                         | ■                    |            | □                                 |     |
|  | 0.1  | CCGT-060201-ENP-X25  | ISO-1151-P | □                         | ■                    |            | □                                 |     |
|  | 0.2  | CCGT-060202-ENP-X25  | ISO-1152-P | □                         | ■                    |            | □                                 |     |
|  | 0.4  | CCGT-060204-ENP-X25  | ISO-1154-P | □                         | ■                    |            | □                                 |     |
| <b>ENP-X25°</b><br> | 0.05 | CCGT-09T3005-ENP-X25 | ISO-1250-P | □                         | ■                    |            | □                                 |     |
|  | 0.1  | CCGT-09T301-ENP-X25  | ISO-1251-P | □                         | ■                    |            | □                                 |     |
|  | 0.2  | CCGT-09T302-ENP-X25  | ISO-1252-P | □                         | ■                    |            | □                                 |     |
|  | 0.4  | CCGT-09T304-ENP-X25  | ISO-1254-P | □                         | ■                    |            | □                                 |     |
| <b>CCMT</b><br>   | 0.2  | CCMT-060202-EN-XF    | ISO-1112   | ■                         | ■                    |            | ■                                 |     |
|  | 0.4  | CCMT-060204-EN-XF    | ISO-1114   | ■                         | ■                    |            | ■                                 |     |
| <b>EN-XF</b><br>  | 0.2  | CCMT-09T302-EN-XF    | ISO-1212   | ■                         | ■                    |            | ■                                 |     |
|  | 0.4  | CCMT-09T304-EN-XF    | ISO-1214   | ■                         | ■                    |            | ■                                 |     |
|  | 0.8  | CCMT-09T308-EN-XF    | ISO-1218   | ■                         | ■                    |            | ■                                 |     |
| <b>CCMT</b><br>   | 0.2  | CCMT-060202-EN-MF    | ISO-1122   | ■                         | ■                    | ■          | ■                                 |     |
|  | 0.4  | CCMT-060204-EN-MF    | ISO-1124   | ■                         | ■                    | ■          | ■                                 |     |
| <b>EN-MF</b><br>  | 0.2  | CCMT-09T302-EN-MF    | ISO-1222   | ■                         | ■                    | ■          | ■                                 |     |
|  | 0.4  | CCMT-09T304-EN-MF    | ISO-1224   | ■                         | ■                    | ■          | ■                                 |     |
|  | 0.8  | CCMT-09T308-EN-MF    | ISO-1228   | ■                         | ■                    | ■          | ■                                 |     |
| <b>CCMT</b><br>   | 0.4  | CCMT-060204-EN-HF    | ISO-1194   |                           |                      |            | ■                                 |     |
|  | 0.8  | CCMT-060208-EN-HF    | ISO-1198   |                           |                      |            | ■                                 |     |
| <b>EN-HF</b><br>  | 0.4  | CCMT-09T304-EN-HF    | ISO-1294   |                           |                      |            | ■                                 |     |
|  | 0.8  | CCMT-09T308-EN-HF    | ISO-1298   |                           |                      |            | ■                                 |     |

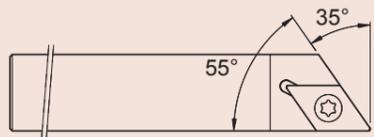
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Outils de tournage 55°  
55°-Drehwerkzeuge  
turning tools 55°



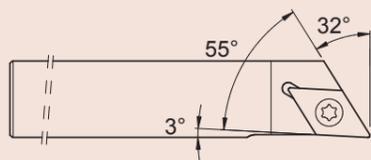
porte-outils  
Halter  
holders

L



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SDACL-0808X-07 | ISO-2312    | 8 x 8 x 115   | DC..-0702..          |
| SDACL-1010X-07 | ISO-2313    | 10 x 10 x 115 | DC..-0702..          |
| SDACL-1212X-07 | ISO-2314    | 12 x 12 x 130 | DC..-0702..          |
| SDACL-1212G-07 | ISO-2314-90 | 12 x 12 x 90  | DC..-0702..          |
| SDACL-1616X-07 | ISO-2315    | 16 x 16 x 130 | DC..-0702..          |
| SDACL-1616F-07 | ISO-2315-75 | 16 x 16 x 75  | DC..-0702..          |
| SDACL-1212X-11 | ISO-2414    | 12 x 12 x 130 | DC..-11T3..          |
| SDACL-1212G-11 | ISO-2414-90 | 12 x 12 x 90  | DC..-11T3..          |
| SDACL-1616X-11 | ISO-2415    | 16 x 16 x 130 | DC..-11T3..          |
| SDACL-1616F-11 | ISO-2415-75 | 16 x 16 x 75  | DC..-11T3..          |
| SDACL-2020X-11 | ISO-2416    | 20 x 20 x 120 | DC..-11T3..          |

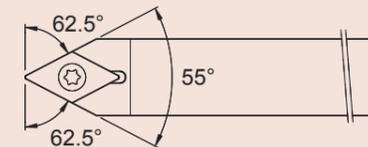
L



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SDJCL-0808X-07 | ISO-2332    | 8 x 8 x 115   | DC..-0702..          |
| SDJCL-1010X-07 | ISO-2333    | 10 x 10 x 115 | DC..-0702..          |
| SDJCL-1212X-07 | ISO-2334    | 12 x 12 x 130 | DC..-0702..          |
| SDJCL-1212G-07 | ISO-2334-90 | 12 x 12 x 90  | DC..-0702..          |
| SDJCL-1616X-07 | ISO-2335    | 16 x 16 x 130 | DC..-0702..          |
| SDJCL-1616F-07 | ISO-2335-75 | 16 x 16 x 75  | DC..-0702..          |
| SDJCL-2020X-07 | ISO-2336    | 20 x 20 x 120 | DC..-0702..          |
| SDJCL-1212X-11 | ISO-2434    | 12 x 12 x 130 | DC..-11T3..          |
| SDJCL-1212G-11 | ISO-2434-90 | 12 x 12 x 90  | DC..-11T3..          |
| SDJCL-1616X-11 | ISO-2435    | 16 x 16 x 130 | DC..-11T3..          |
| SDJCL-1616F-11 | ISO-2435-75 | 16 x 16 x 75  | DC..-11T3..          |
| SDJCL-2020X-11 | ISO-2436    | 20 x 20 x 120 | DC..-11T3..          |

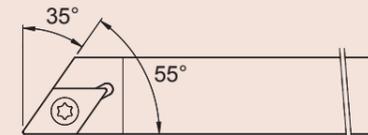
porte-outils  
Halter  
holders

N



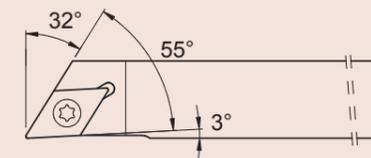
| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SDNCN-0808X-07 | ISO-2302    | 8 x 8 x 115   | DC..-0702..          |
| SDNCN-1010X-07 | ISO-2303    | 10 x 10 x 115 | DC..-0702..          |
| SDNCN-1212X-07 | ISO-2304    | 12 x 12 x 130 | DC..-0702..          |
| SDNCN-1212G-07 | ISO-2304-90 | 12 x 12 x 90  | DC..-0702..          |
| SDNCN-1616X-07 | ISO-2305    | 16 x 16 x 130 | DC..-0702..          |
| SDNCN-1616F-07 | ISO-2305-75 | 16 x 16 x 75  | DC..-0702..          |
| SDNCN-1212X-11 | ISO-2404    | 12 x 12 x 130 | DC..-11T3..          |
| SDNCN-1212G-11 | ISO-2404-90 | 12 x 12 x 90  | DC..-11T3..          |
| SDNCN-1616X-11 | ISO-2405    | 16 x 16 x 130 | DC..-11T3..          |
| SDNCN-1616F-11 | ISO-2405-75 | 16 x 16 x 75  | DC..-11T3..          |
| SDNCN-2020X-11 | ISO-2406    | 20 x 20 x 120 | DC..-11T3..          |

R



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SDACR-0808X-07 | ISO-2322    | 8 x 8 x 115   | DC..-0702..          |
| SDACR-1010X-07 | ISO-2323    | 10 x 10 x 115 | DC..-0702..          |
| SDACR-1212X-07 | ISO-2324    | 12 x 12 x 130 | DC..-0702..          |
| SDACR-1212G-07 | ISO-2324-90 | 12 x 12 x 90  | DC..-0702..          |
| SDACR-1616X-07 | ISO-2325    | 16 x 16 x 130 | DC..-0702..          |
| SDACR-1616F-07 | ISO-2325-75 | 16 x 16 x 75  | DC..-0702..          |
| SDACR-1212X-11 | ISO-2424    | 12 x 12 x 130 | DC..-11T3..          |
| SDACR-1212G-11 | ISO-2424-90 | 12 x 12 x 90  | DC..-11T3..          |
| SDACR-1616X-11 | ISO-2425    | 16 x 16 x 130 | DC..-11T3..          |
| SDACR-1616F-11 | ISO-2425-75 | 16 x 16 x 75  | DC..-11T3..          |
| SDACR-2020X-11 | ISO-2426    | 20 x 20 x 120 | DC..-11T3..          |

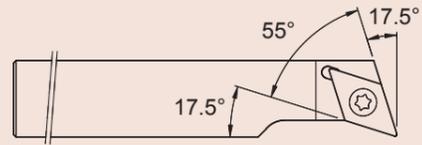
R



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SDJCR-0808X-07 | ISO-2342    | 8 x 8 x 115   | DC..-0702..          |
| SDJCR-1010X-07 | ISO-2343    | 10 x 10 x 115 | DC..-0702..          |
| SDJCR-1212X-07 | ISO-2344    | 12 x 12 x 130 | DC..-0702..          |
| SDJCR-1212G-07 | ISO-2344-90 | 12 x 12 x 90  | DC..-0702..          |
| SDJCR-1616X-07 | ISO-2345    | 16 x 16 x 130 | DC..-0702..          |
| SDJCR-1616F-07 | ISO-2345-75 | 16 x 16 x 75  | DC..-0702..          |
| SDJCR-2020X-07 | ISO-2346    | 20 x 20 x 120 | DC..-0702..          |
| SDJCR-1212X-11 | ISO-2444    | 12 x 12 x 130 | DC..-11T3..          |
| SDJCR-1212G-11 | ISO-2444-90 | 12 x 12 x 90  | DC..-11T3..          |
| SDJCR-1616X-11 | ISO-2445    | 16 x 16 x 130 | DC..-11T3..          |
| SDLCR-1616F-11 | ISO-2445-75 | 16 x 16 x 75  | DC..-11T3..          |
| SDJCR-2020X-11 | ISO-2446    | 20 x 20 x 120 | DC..-11T3..          |

porte-outils  
Halter  
holders

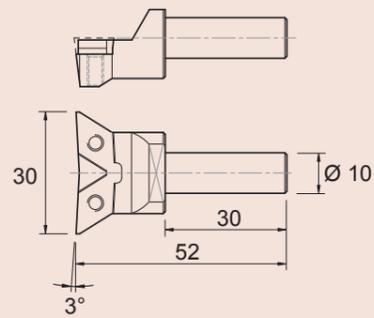
L



| ISO-Code       | Art. N°            | Ø X L         | Plaquette WSP insert |
|----------------|--------------------|---------------|----------------------|
| SDHCL-1010X-07 | <b>ISO-2353</b>    | 10 x 10 x 115 | DC..-0702..          |
| SDHCL-1212X-07 | <b>ISO-2354</b>    | 12 x 12 x 130 | DC..-0702..          |
| SDHCL-1212G-07 | <b>ISO-2354-90</b> | 12 x 12 x 90  | DC..-0702..          |
| SDHCL-1616X-07 | <b>ISO-2355</b>    | 16 x 16 x 130 | DC..-0702..          |
| SDHCL-1616F-07 | <b>ISO-2355-75</b> | 16 x 16 x 75  | DC..-0702..          |

|                |                    |               |             |
|----------------|--------------------|---------------|-------------|
| SDHCL-1616X-11 | <b>ISO-2455</b>    | 16 x 16 x 130 | DC..-11T3.. |
| SDHCL-1616F-11 | <b>ISO-2455-75</b> | 16 x 16 x 75  | DC..-11T3.. |
| SDHCL-2020X-11 | <b>ISO-2456</b>    | 20 x 20 x 120 | DC..-11T3.. |

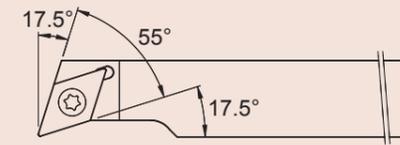
L/R



| Art. N°             | Plaquette WSP insert |
|---------------------|----------------------|
| <b>ISO-2400-D10</b> | DC..-11T3..          |

porte-outils  
Halter  
holders

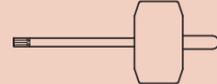
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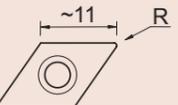
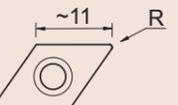
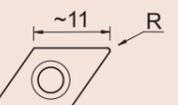
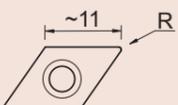
| ISO-Code       | Art. N°            | Ø X L         | Plaquette WSP insert |
|----------------|--------------------|---------------|----------------------|
| SDHCR-1010X-07 | <b>ISO-2363</b>    | 10 x 10 x 115 | DC..-0702..          |
| SDHCR-1212X-07 | <b>ISO-2364</b>    | 12 x 12 x 130 | DC..-0702..          |
| SDHCR-1212G-07 | <b>ISO-2364-90</b> | 12 x 12 x 90  | DC..-0702..          |
| SDHCR-1616X-07 | <b>ISO-2365</b>    | 16 x 16 x 130 | DC..-0702..          |
| SDHCR-1616F-07 | <b>ISO-2365-75</b> | 16 x 16 x 75  | DC..-0702..          |

|                |                    |               |             |
|----------------|--------------------|---------------|-------------|
| SDHCR-1616X-11 | <b>ISO-2465</b>    | 16 x 16 x 130 | DC..-11T3.. |
| SDHCR-1616F-11 | <b>ISO-2465-75</b> | 16 x 16 x 75  | DC..-11T3.. |
| SDHCR-2020X-11 | <b>ISO-2466</b>    | 20 x 20 x 120 | DC..-11T3.. |

Vis et clés de rechange  
Ersatzschrauben und Schlüssel  
Spare screws and keys

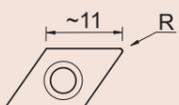
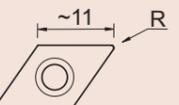
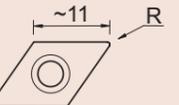
|                 |                |   |       |   |
|-----------------|----------------|---|-------|---|
| series ISO-2300 | V-M2.5x7.8-T8  |  | C-T8  |  |
| series ISO-2400 | V-M4x9-T15-ISO |  | C-T15 |  |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

|  | R | ISO-Code | Art. N° | revêtu beschichtet coated |                      |            | non revêtu unbeschichtet uncoated |     |
|--|---|----------|---------|---------------------------|----------------------|------------|-----------------------------------|-----|
|  |   |          |         | TiN                       | PVD<br>TiAlN<br>Tmax | CVD<br>Ti3 | K10                               | K20 |
| <b>DCGT</b><br>        |   |          |         |                           |                      |            |                                   |     |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
| <b>FN-X8°</b><br>     |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
| <b>DCGT</b><br>        |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
| <b>ENP-X8°</b><br>    |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
| <b>DCGT</b><br>      |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
| <b>FN-X17°</b><br>  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
| <b>DCGT</b><br>      |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
| <b>ENP-X17°</b><br> |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |

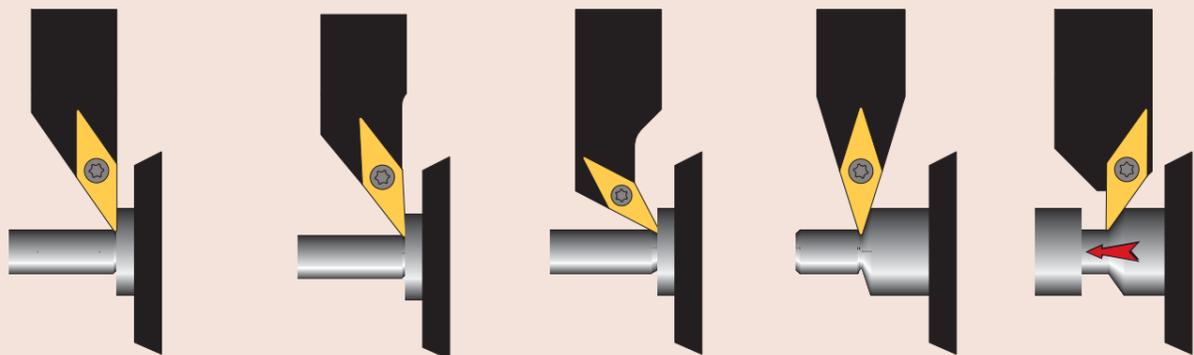
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

|  | R | ISO-Code | Art. N° | revêtu beschichtet coated |                      |            | non revêtu unbeschichtet uncoated |     |
|--|---|----------|---------|---------------------------|----------------------|------------|-----------------------------------|-----|
|  |   |          |         | TiN                       | PVD<br>TiAlN<br>Tmax | CVD<br>Ti3 | K10                               | K20 |
| <b>DCGT</b><br>     |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
| <b>FN-X25°</b><br>  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
|  |   |          |         | ■                         | ■                    |            |                                   | □   |
| <b>DCGT</b><br>     |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
| <b>ENP-X25°</b><br> |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
|  |   |          |         | □                         | ■                    |            |                                   | □   |
| <b>DCMT</b><br>   |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
| <b>EN-XF</b><br>  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
| <b>DCMT</b><br>   |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
| <b>EN-MF</b><br>  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
|  |   |          |         | ■                         | ■                    |            |                                   | ■   |
| <b>DCMT</b><br>   |   |          |         |                           |                      |            |                                   | ■   |
|  |   |          |         |                           |                      |            |                                   | ■   |
| <b>EN-HF</b><br>  |   |          |         |                           |                      |            |                                   | ■   |
|  |   |          |         |                           |                      |            |                                   | ■   |

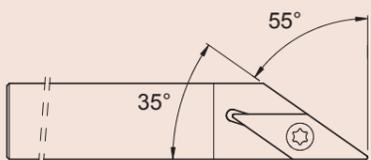
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Outils de tournage 35°  
35°-Drehwerkzeuge  
turning tools 35°



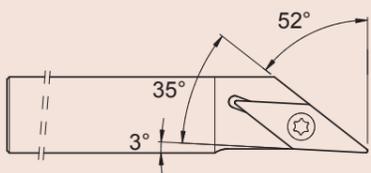
porte-outils  
Halter  
holders

L



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SVACL-0808X-11 | ISO-2612    | 8 x 8 x 115   | VC..-1103..          |
| SVACL-1010X-11 | ISO-2613    | 10 x 10 x 115 | VC..-1103..          |
| SVACL-1212X-11 | ISO-2614    | 12 x 12 x 130 | VC..-1103..          |
| SVACL-1212G-11 | ISO-2614-90 | 12 x 12 x 90  | VC..-1103..          |
| SVACL-1616X-11 | ISO-2615    | 16 x 16 x 130 | VC..-1103..          |
| SVACL-1616F-11 | ISO-2615-75 | 16 x 16 x 75  | VC..-1103..          |
| SVACL-2020X-11 | ISO-2616    | 20 x 20 x 120 | VC..-1103..          |
| SVACL-1212X-16 | ISO-2714    | 12 x 12 x 130 | VC..-1604..          |
| SVACL-1212G-16 | ISO-2714-90 | 12 x 12 x 90  | VC..-1604..          |
| SVACL-1616X-16 | ISO-2715    | 16 x 16 x 130 | VC..-1604..          |
| SVACL-1616F-16 | ISO-2715-75 | 16 x 16 x 75  | VC..-1604..          |
| SVACL-2020X-16 | ISO-2716    | 20 x 20 x 120 | VC..-1604..          |

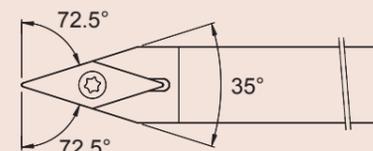
L



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SVJCL-0808X-11 | ISO-2632    | 8 x 8 x 115   | VC..-1103..          |
| SVJCL-1010X-11 | ISO-2633    | 10 x 10 x 115 | VC..-1103..          |
| SVJCL-1212X-11 | ISO-2634    | 12 x 12 x 130 | VC..-1103..          |
| SVJCL-1212G-11 | ISO-2634-90 | 12 x 12 x 90  | VC..-1103..          |
| SVJCL-1616X-11 | ISO-2635    | 16 x 16 x 130 | VC..-1103..          |
| SVJCL-1616F-11 | ISO-2635-75 | 16 x 16 x 75  | VC..-1103..          |
| SVJCL-2020X-11 | ISO-2636    | 20 x 20 x 120 | VC..-1103..          |
| SVJCL-1212X-16 | ISO-2734    | 12 x 12 x 130 | VC..-1604..          |
| SVJCL-1212G-16 | ISO-2734-90 | 12 x 12 x 90  | VC..-1604..          |
| SVJCL-1616X-16 | ISO-2735    | 16 x 16 x 130 | VC..-1604..          |
| SVLCL-1616F-16 | ISO-2735-75 | 16 x 16 x 75  | VC..-1604..          |
| SVJCL-2020X-16 | ISO-2736    | 20 x 20 x 120 | VC..-1604..          |

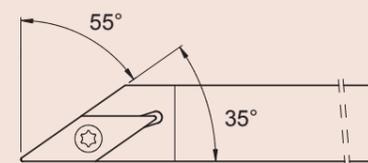
porte-outils  
Halter  
holders

N



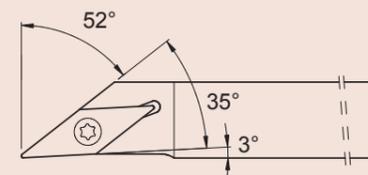
| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SVVCN-0808X-11 | ISO-2602    | 8 x 8 x 115   | VC..-1103..          |
| SVVCN-1010X-11 | ISO-2603    | 10 x 10 x 115 | VC..-1103..          |
| SVVCN-1212X-11 | ISO-2604    | 12 x 12 x 130 | VC..-1103..          |
| SVVCN-1212G-11 | ISO-2604-90 | 12 x 12 x 90  | VC..-1103..          |
| SVVCN-1616X-11 | ISO-2605    | 16 x 16 x 130 | VC..-1103..          |
| SVVCN-1616F-11 | ISO-2605-75 | 16 x 16 x 75  | VC..-1103..          |
| SVVCN-2020X-11 | ISO-2606    | 20 x 20 x 120 | VC..-1103..          |
| SVVCN-1212X-16 | ISO-2704    | 12 x 12 x 130 | VC..-1604..          |
| SVVCN-1212G-16 | ISO-2704-90 | 12 x 12 x 90  | VC..-1604..          |
| SVVCN-1616X-16 | ISO-2705    | 16 x 16 x 130 | VC..-1604..          |
| SVVCN-1616F-16 | ISO-2705-75 | 16 x 16 x 75  | VC..-1604..          |
| SVVCN-2020X-16 | ISO-2706    | 20 x 20 x 120 | VC..-1604..          |

R



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SVACR-0808X-11 | ISO-2622    | 8 x 8 x 115   | VC..-1103..          |
| SVACR-1010X-11 | ISO-2623    | 10 x 10 x 115 | VC..-1103..          |
| SVACR-1212X-11 | ISO-2624    | 12 x 12 x 130 | VC..-1103..          |
| SVACR-1212G-11 | ISO-2624-90 | 12 x 12 x 90  | VC..-1103..          |
| SVACR-1616X-11 | ISO-2625    | 16 x 16 x 130 | VC..-1103..          |
| SVACR-1616F-11 | ISO-2625-75 | 16 x 16 x 75  | VC..-1103..          |
| SVACR-2020X-11 | ISO-2626    | 20 x 20 x 120 | VC..-1103..          |
| SVACR-1212X-16 | ISO-2724    | 12 x 12 x 130 | VC..-1604..          |
| SVACR-1212G-16 | ISO-2724-90 | 12 x 12 x 90  | VC..-1604..          |
| SVACR-1616X-16 | ISO-2725    | 16 x 16 x 130 | VC..-1604..          |
| SVACR-1616F-16 | ISO-2725-75 | 16 x 16 x 75  | VC..-1604..          |
| SVACR-2020X-16 | ISO-2726    | 20 x 20 x 120 | VC..-1604..          |

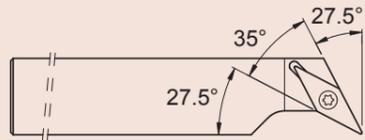
R



| ISO-Code       | Art. N°     | Ø X L         | Plaquette WSP insert |
|----------------|-------------|---------------|----------------------|
| SVJCR-0808X-11 | ISO-2642    | 8 x 8 x 115   | VC..-1103..          |
| SVJCR-1010X-11 | ISO-2643    | 10 x 10 x 115 | VC..-1103..          |
| SVJCR-1212X-11 | ISO-2644    | 12 x 12 x 130 | VC..-1103..          |
| SVJCR-1212G-11 | ISO-2644-90 | 12 x 12 x 90  | VC..-1103..          |
| SVJCR-1616X-11 | ISO-2645    | 16 x 16 x 130 | VC..-1103..          |
| SVJCR-1616F-11 | ISO-2645-75 | 16 x 16 x 75  | VC..-1103..          |
| SVJCR-2020X-11 | ISO-2646    | 20 x 20 x 120 | VC..-1103..          |
| SVJCR-1212X-16 | ISO-2744    | 12 x 12 x 130 | VC..-1604..          |
| SVJCR-1212G-16 | ISO-2744-90 | 12 x 12 x 90  | VC..-1604..          |
| SVJCR-1616X-16 | ISO-2745    | 16 x 16 x 130 | VC..-1604..          |
| SVLCR-1616F-16 | ISO-2745-75 | 16 x 16 x 75  | VC..-1604..          |
| SVJCR-2020X-16 | ISO-2746    | 20 x 20 x 120 | VC..-1604..          |

porte-outils  
Halter  
holders

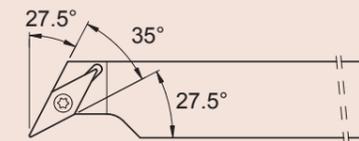
L



| ISO-Code       | Art. N°            | ∅ X L         | Plaquette<br>WSP<br>insert |
|----------------|--------------------|---------------|----------------------------|
| SVXCL-1616X-11 | <b>ISO-2655</b>    | 16 x 16 x 130 | VC..-1103..                |
| SVXCL-1616F-11 | <b>ISO-2655-75</b> | 16 x 16 x 75  | VC..-1103..                |
| SVXCL-2020X-11 | <b>ISO-2656</b>    | 20 x 20 x 120 | VC..-1103..                |

porte-outils  
Halter  
holders

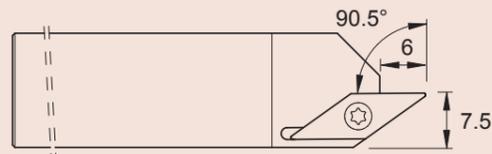
R



| ISO-Code       | Art. N°            | ∅ X L         | Plaquette<br>WSP<br>insert |
|----------------|--------------------|---------------|----------------------------|
| SVXCR-1616X-11 | <b>ISO-2665</b>    | 16 x 16 x 130 | VC..-1103..                |
| SVXCR-1616F-11 | <b>ISO-2665-75</b> | 16 x 16 x 75  | VC..-1103..                |
| SVXCR-2020X-11 | <b>ISO-2666</b>    | 20 x 20 x 120 | VC..-1103..                |

L

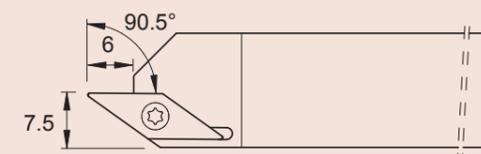
tourneur arrière  
rückwärts drehen  
back turning



| ISO-Code       | Art. N°            | ∅ X L         | Plaquette<br>WSP<br>insert |
|----------------|--------------------|---------------|----------------------------|
| SV-CL-1212X-11 | <b>ISO-2674</b>    | 12 x 12 x 130 | VCG.-1103..                |
| SV-CL-1212G-11 | <b>ISO-2674-90</b> | 12 x 12 x 90  | VCG.-1103..                |
| SV-CL-1616X-11 | <b>ISO-2675</b>    | 16 x 16 x 130 | VCG.-1103..                |
| SV-CL-1616F-11 | <b>ISO-2675-75</b> | 16 x 16 x 75  | VCG.-1103..                |
| SV-CL-2020X-11 | <b>ISO-2676</b>    | 20 x 20 x 120 | VCG.-1103..                |

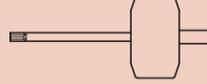
R

tourneur arrière  
rückwärts drehen  
back turning

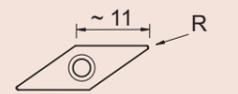
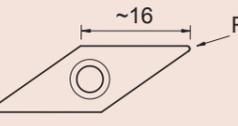
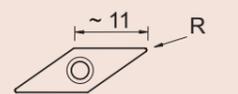
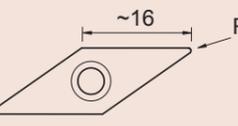
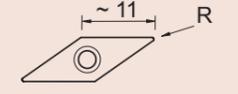
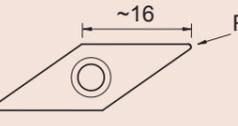
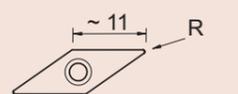
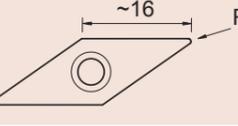
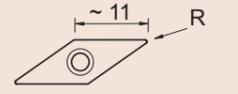
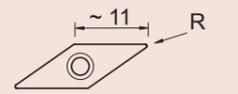


| ISO-Code       | Art. N°            | ∅ X L         | Plaquette<br>WSP<br>insert |
|----------------|--------------------|---------------|----------------------------|
| SV-CR-1212X-11 | <b>ISO-2684</b>    | 12 x 12 x 130 | VCG.-1103..                |
| SV-CR-1212G-11 | <b>ISO-2684-90</b> | 12 x 12 x 90  | VCG.-1103..                |
| SV-CR-1616X-11 | <b>ISO-2685</b>    | 16 x 16 x 130 | VCG.-1103..                |
| SV-CR-1616F-11 | <b>ISO-2685-75</b> | 16 x 16 x 75  | VCG.-1103..                |
| SV-CR-2020X-11 | <b>ISO-2686</b>    | 20 x 20 x 120 | VCG.-1103..                |

Vis et clés de rechange  
Ersatzschrauben und Schlüsseln  
Spare screws and keys

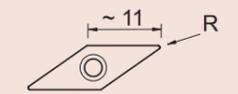
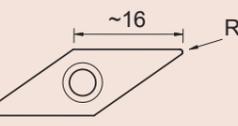
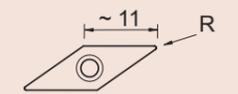
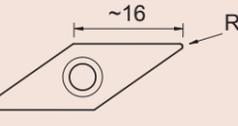
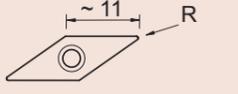
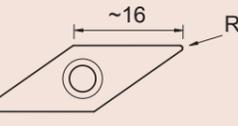
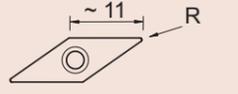
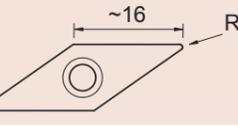
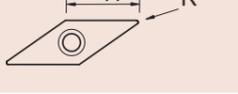
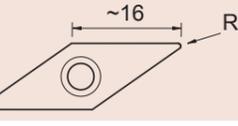
|                 |               |   |       |   |
|-----------------|---------------|---|-------|---|
| series ISO-2600 | V-M2.5x7.8-T8 |  | C-T8  |  |
| series ISO-2700 | V-M4x9-T15    |  | C-T15 |  |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

|   | R   | ISO-Code | Art. N°              | revêtu beschichtet coated |                      |            | non revêtu unbeschichtet uncoated |     |
|---|---|----------|----------------------|---------------------------|----------------------|------------|-----------------------------------|-----|
|   |   |          |                      | TiN                       | PVD<br>TiAlN<br>Tmax | CVD<br>Ti3 | K10                               | K20 |
| <b>VCGT</b><br>       |                      | 0.05     | VCGT-1103005-FN-X8   | ISO-1630                  | ■                    | ■          |                                   | ■   |
|   |   | 0.1      | VCGT-110301-FN-X8    | ISO-1631                  | ■                    | ■          |                                   | ■   |
|   |   | 0.2      | VCGT-110302-FN-X8    | ISO-1632                  | ■                    | ■          |                                   | ■   |
|   |   | 0.4      | VCGT-110304-FN-X8    | ISO-1634                  | ■                    | ■          |                                   | ■   |
| <b>FN-X8°</b><br>     |                      | 0.05     | VCGT-1604005-FN-X8   | ISO-1730                  | ■                    | ■          |                                   | ■   |
|   |   | 0.1      | VCGT-160401-FN-X8    | ISO-1731                  | ■                    | ■          |                                   | ■   |
|   |   | 0.2      | VCGT-160402-FN-X8    | ISO-1732                  | ■                    | ■          |                                   | ■   |
|   |   | 0.4      | VCGT-160404-FN-X8    | ISO-1734                  | ■                    | ■          |                                   | ■   |
| <b>VCGT</b><br>       |                      | 0.05     | VCGT-1103005-ENP-X8  | ISO-1630-P                | □                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-110301-ENP-X8   | ISO-1631-P                | □                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-110302-ENP-X8   | ISO-1632-P                | □                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-110304-ENP-X8   | ISO-1634-P                | □                    | ■          |                                   | □   |
| <b>ENP-X8°</b><br>   |                      | 0.05     | VCGT-1604005-ENP-X8  | ISO-1730-P                | □                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-160401-ENP-X8   | ISO-1731-P                | □                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-160402-ENP-X8   | ISO-1732-P                | □                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-160404-ENP-X8   | ISO-1734-P                | □                    | ■          |                                   | □   |
| <b>VCGT</b><br>     |                    | 0.05     | VCGT-1103005-FN-X17  | ISO-1640                  | ■                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-110301-FN-X17   | ISO-1641                  | ■                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-110302-FN-X17   | ISO-1642                  | ■                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-110304-FN-X17   | ISO-1644                  | ■                    | ■          |                                   | □   |
| <b>FN-X17°</b><br>  |                    | 0.05     | VCGT-1604005FN-X17   | ISO-1740                  | ■                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-160401-FN-X17   | ISO-1741                  | ■                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-160402-FN-X17   | ISO-1742                  | ■                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-160404-FN-X17   | ISO-1744                  | ■                    | ■          |                                   | □   |
| <b>VCGT</b><br>     |                    | 0.05     | VCGT-1103005-ENP-X17 | ISO-1640-P                | □                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-110301-ENP-X17  | ISO-1641-P                | □                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-110302-ENP-X17  | ISO-1642-P                | □                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-110304-ENP-X17  | ISO-1644-P                | □                    | ■          |                                   | □   |
| <b>ENP-X17°</b><br> |                    | 0.05     | VCGT-1604005-ENP-X17 | ISO-1740-P                | □                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-160401-ENP-X17  | ISO-1741-P                | □                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-160402-ENP-X17  | ISO-1742-P                | □                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-160404-ENP-X17  | ISO-1744-P                | □                    | ■          |                                   | □   |
| <b>VCGT</b><br>     | <b>FN-K18°</b><br> | 0.05     | VCGT-1103005-FN-K18  | ISO-1680                  | ■                    | ■          |                                   | ■   |
|   |   | 0.1      | VCGT-110301-FN-K18   | ISO-1681                  | ■                    | ■          |                                   | ■   |
|   |   | 0.2      | VCGT-110302-FN-K18   | ISO-1682                  | ■                    | ■          |                                   | ■   |
|   |   | 0.4      | VCGT-110304-FN-K18   | ISO-1684                  | ■                    | ■          |                                   | ■   |
| <b>VCGW</b><br>     | <b>FN-0°</b><br>   | 0.05     | VCGW-1103005-FN-0    | ISO-1670                  | ■                    | ■          |                                   | ■   |
|   |   | 0.1      | VCGW-110301-FN-0     | ISO-1671                  | ■                    | ■          |                                   | ■   |
|   |   | 0.2      | VCGW-110302-FN-0     | ISO-1672                  | ■                    | ■          |                                   | ■   |
|   |   | 0.4      | VCGW-110304-FN-0     | ISO-1674                  | ■                    | ■          |                                   | ■   |

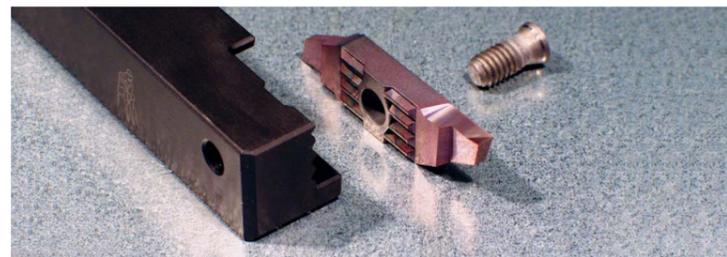
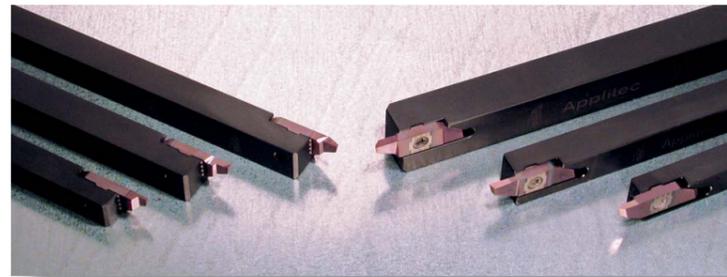
■ = Standard  
□ = Sur demande / Auf Anfrage / On request

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

|   | R   | ISO-Code | Art. N°              | revêtu beschichtet coated |                      |            | non revêtu unbeschichtet uncoated |     |
|---|---|----------|----------------------|---------------------------|----------------------|------------|-----------------------------------|-----|
|   |   |          |                      | TiN                       | PVD<br>TiAlN<br>Tmax | CVD<br>Ti3 | K10                               | K20 |
| <b>VCGT</b><br>      |    | 0.05     | VCGT-1103005-FN-X25  | ISO-1650                  | ■                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-110301-FN-X25   | ISO-1651                  | ■                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-110302-FN-X25   | ISO-1652                  | ■                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-110304-FN-X25   | ISO-1654                  | ■                    | ■          |                                   | □   |
| <b>FN-X25°</b><br>   |    | 0.05     | VCGT-1604005-FN-X25  | ISO-1750                  | ■                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-160401-FN-X25   | ISO-1751                  | ■                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-160402-FN-X25   | ISO-1752                  | ■                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-160404-FN-X25   | ISO-1754                  | ■                    | ■          |                                   | □   |
| <b>VCGT</b><br>      |    | 0.05     | VCGT-1103005-ENP-X25 | ISO-1650-P                | □                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-110301-ENP-X25  | ISO-1651-P                | □                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-110302-ENP-X25  | ISO-1652-P                | □                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-110304-ENP-X25  | ISO-1654-P                | □                    | ■          |                                   | □   |
| <b>ENP-X25°</b><br> |    | 0.05     | VCGT-1604005-ENP-X25 | ISO-1750-P                | □                    | ■          |                                   | □   |
|   |   | 0.1      | VCGT-160401-ENP-X25  | ISO-1751-P                | □                    | ■          |                                   | □   |
|   |   | 0.2      | VCGT-160402-ENP-X25  | ISO-1752-P                | □                    | ■          |                                   | □   |
|   |   | 0.4      | VCGT-160404-ENP-X25  | ISO-1754-P                | □                    | ■          |                                   | □   |
| <b>VCMT</b><br>    |  | 0.2      | VCMT-110302-EN-XF    | ISO-1612                  | ■                    | ■          | ■                                 |     |
|   |   | 0.4      | VCMT-110304-EN-XF    | ISO-1614                  | ■                    | ■          | ■                                 |     |
| <b>EN-XF</b><br>   |  | 0.4      | VCMT-160404-EN-XF    | ISO-1714                  | ■                    | ■          | ■                                 |     |
|   |   | 0.8      | VCMT-160408-EN-XF    | ISO-1718                  | ■                    | ■          | ■                                 |     |
| <b>VCMT</b><br>    |  | 0.2      | VCMT-110302-EN-MF    | ISO-1622                  | ■                    | ■          | ■                                 | ■   |
|   |   | 0.4      | VCMT-110304-EN-MF    | ISO-1624                  | ■                    | ■          | ■                                 | ■   |
| <b>EN-MF</b><br>   |  | 0.4      | VCMT-160404-EN-MF    | ISO-1724                  | ■                    | ■          | ■                                 | ■   |
|   |   | 0.8      | VCMT-160408-EN-MF    | ISO-1728                  | ■                    | ■          | ■                                 | ■   |
| <b>VCMT</b><br>    |  | 0.4      | VCMT-110304-EN-HF    | ISO-1694                  |                      |            | ■                                 |     |
|   |   | 0.8      | VCMT-110308-EN-HF    | ISO-1698                  |                      |            | ■                                 |     |
| <b>EN-HF</b><br>   |  | 0.4      | VCMT-160404-EN-HF    | ISO-1794                  |                      |            | ■                                 |     |
|   |   | 0.8      | VCMT-160408-EN-HF    | ISO-1798                  |                      |            | ■                                 |     |

■ = Standard  
□ = Sur demande / Auf Anfrage / On request

# ECO-LINE

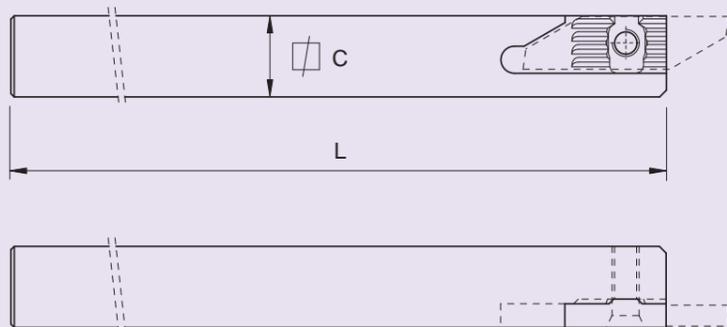


| INDEX | page<br>Seite<br>page |      |
|-------|-----------------------|------|
|       | L                     | R    |
|       | 4.02                  | 4.03 |
|       | 4.04                  | 4.05 |
|       | 4.06                  | 4.07 |
|       | 4.08                  | 4.09 |

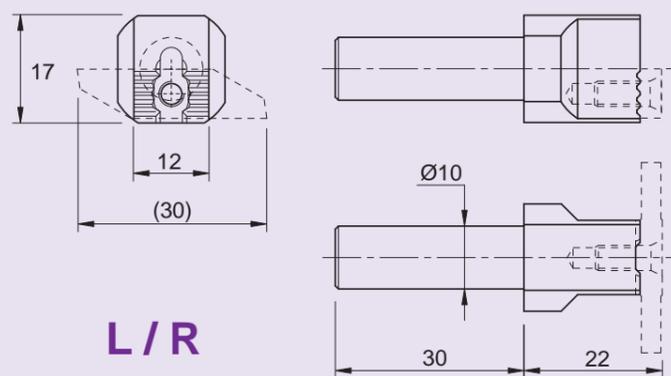
## Paramètres de coupe indicatifs Empfohlene Schnittwerte Standard machining data

| Matière<br>Werkstoff<br>Material   | Tournage<br>Drehen<br>Turning |             | Tronçonnage<br>Abstechen<br>Cut off |             | Indications pour premiers réglages<br>Hinweise für die erste Einrichtung<br>Indications for first setting |                                     |
|--|-------------------------------|-------------|-------------------------------------|-------------|---|-------------------------------------|
|  | Vc<br>(m/min)                 | F<br>(mm/U) | Vc<br>(m/min)                       | F<br>(mm/U) | ébauche<br>schruppen<br>roughing  | finition<br>schlichten<br>finishing |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 120 - 200                     | 0.01 - 0.20 | 80 - 150                            | 0.01 - 0.15 | vitesse de coupe<br>moyenne   | vitesse de coupe élevée             |
| Acier<br>Stahl<br>Steel < 600 N/mm2  | 80 - 160                      | 0.01 - 0.18 | 70 - 120                            | 0.01 - 0.12 | avance élevée   | avance faible                       |
| Acier<br>Stahl<br>Steel < 800 N/mm2  | 60 - 120                      | 0.01 - 0.15 | 60 - 100                            | 0.01 - 0.10 | durchschnittliche<br>Schnittgeschwindigkeit   | hoher<br>Schnittgeschwindigkeit     |
| Acier<br>Stahl<br>Steel > 800 N/mm2  | 50 - 100                      | 0.01 - 0.12 | 40 - 80                             | 0.01 - 0.08 | hoher Vorschub  | niedriger Vorschub                  |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 60 - 120                      | 0.01 - 0.15 | 60 - 100                            | 0.01 - 0.08 | average cutting speed   | high cutting speed                  |
| Aluminium  | 180 - 800                     | 0.01 - 0.30 | 150 - 300                           | 0.01 - 0.20 | high cutting feed   | low cutting feed                    |
| Titane<br>Titan<br>Titanium  | 30 - 70                       | 0.01 - 0.12 | 30 - 50                             | 0.01 - 0.06 |   |                                     |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100 - 500                     | 0.01 - 0.30 | 100 - 300                           | 0.01 - 0.20 |   |                                     |

porte-outils  
Halter  
holders



| C       | L   | Art. N°   |
|---------|-----|-----------|
| 8 x 8   | 115 | 250-8     |
| 10 x 10 | 115 | 250-10    |
| 12 x 12 | 130 | 250-12    |
| 12 x 12 | 90  | 250-12-90 |
| 13 x 13 | 130 | 250-13    |
| 16 x 16 | 130 | 250-16    |
| 16 x 16 | 75  | 250-16-75 |
| 20 x 20 | 120 | 250-20    |



L/R

Art. N°  
260 / 250-D10

Vis et clés de rechange  
Ersatzschrauben und Schlüssel  
Spare screws and keys

porte-outils  
Halter  
holders

250-... / 260-...  
250-8 / 260-8  
250RC / 260-C

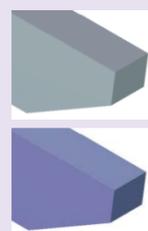
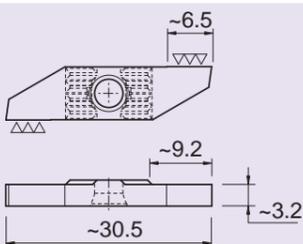
vis  
Schrauben  
screw

V-M4x9-T15  
V-M3.5x7-T15  
V-M4x7.3-T15

clé  
Schlüssel  
key

C-T15

plaquette ébauche  
VHM-Rohling  
blank insert



sans revêtement  
unbeschichtet  
uncoated

Art. N°

251-E-N

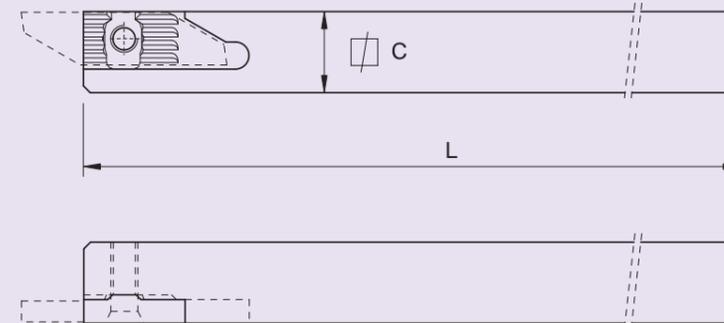
revêtu  
beschichtet  
coated

251-E-AP202

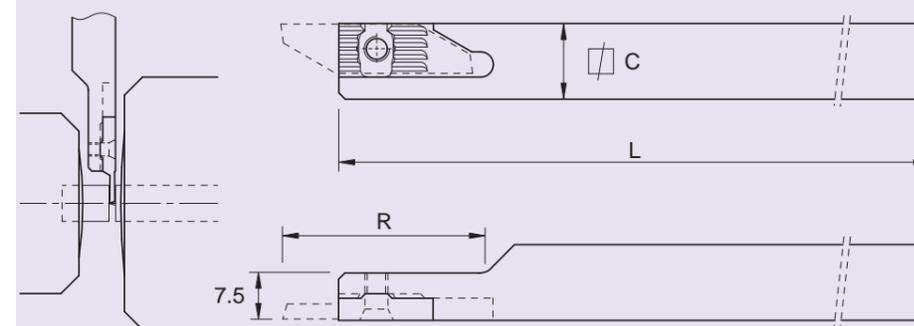
AP202

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

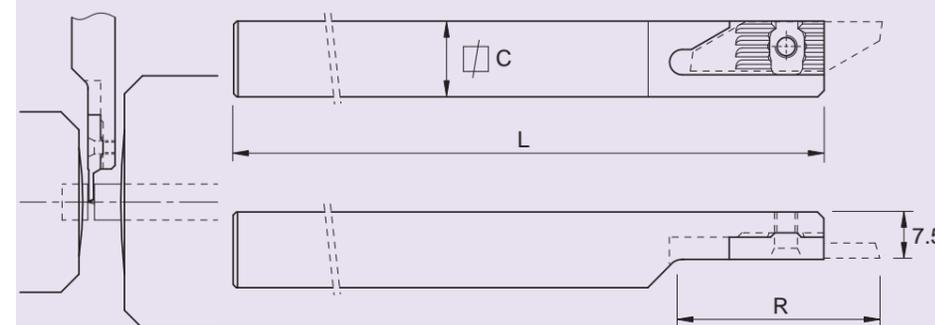
porte-outils  
Halter  
holders



| C       | L   | Art. N°   |
|---------|-----|-----------|
| 8 x 8   | 115 | 260-8     |
| 10 x 10 | 115 | 260-10    |
| 12 x 12 | 130 | 260-12    |
| 12 x 12 | 90  | 260-12-90 |
| 13 x 13 | 130 | 260-13    |
| 16 x 16 | 130 | 260-16    |
| 16 x 16 | 75  | 260-16-75 |
| 20 x 20 | 120 | 260-20    |



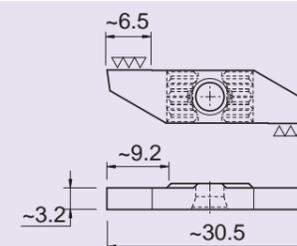
| C       | L   | R  | Art. N°  |
|---------|-----|----|----------|
| 12 x 12 | 130 | 30 | 260-C-12 |



| C       | L   | R  | Art. N°  |
|---------|-----|----|----------|
| 12 x 12 | 130 | 30 | 250RC-12 |
| 16 x 16 | 130 | 40 | 250RC-16 |

utiliser des plaquettes type 251R  
WSP Typ 251R verwenden  
use inserts type 251R

plaquette ébauche  
VHM-Rohling  
blank insert



sans revêtement  
unbeschichtet  
uncoated

Art. N°

261-E-N

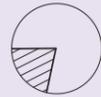
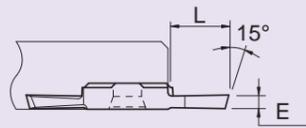
revêtu  
beschichtet  
coated

261-E-AP202

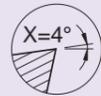
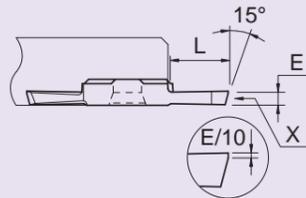
AP202

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

Tronçonnage  
Abstechen  
Cut off

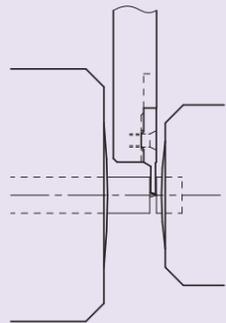


| E   | L   | Art. N°       |
|-----|-----|---------------|
| 0.8 | 4   | 251-0.8-AP202 |
| 1.0 | 5   | 251-1.0-AP202 |
| 1.2 | 5   | 251-1.2-AP202 |
| 1.5 | 7   | 251-1.5-AP202 |
| 2.0 | 8.5 | 251-2.0-AP202 |
| 2.5 | 8.5 | 251-2.5-AP202 |

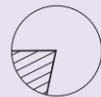
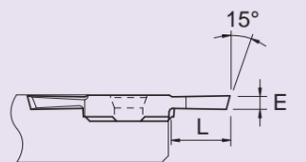


| E   | L   | Art. N°         |
|-----|-----|-----------------|
| 1.5 | 7   | 251xf-1.5-AP202 |
| 2.0 | 8.5 | 251xf-2.0-AP202 |

coupe à gauche déportée  
versetztes Linksschneiden  
left cut off line



Utiliser des porte-outils série 260  
Halter Serie 260 verwenden  
Use 260 series holders

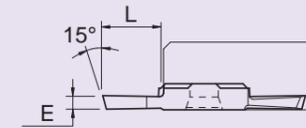


| E   | L   | Art. N°        |
|-----|-----|----------------|
| 2.0 | 8.5 | 261L-2.0-AP202 |

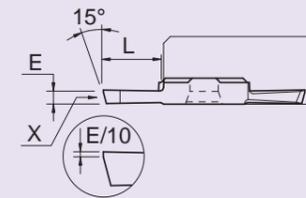
AP202

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

Tronçonnage  
Abstechen  
Cut off

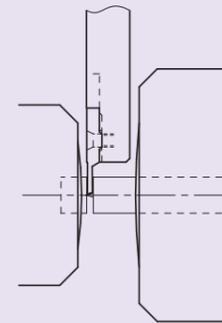


| E   | L   | Art. N°       |
|-----|-----|---------------|
| 0.8 | 4   | 261-0.8-AP202 |
| 1.0 | 5   | 261-1.0-AP202 |
| 1.2 | 5   | 261-1.2-AP202 |
| 1.5 | 7   | 261-1.5-AP202 |
| 2.0 | 8.5 | 261-2.0-AP202 |
| 2.5 | 8.5 | 261-2.5-AP202 |

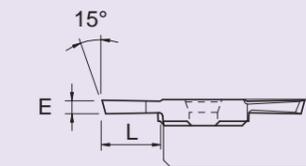


| E   | L   | Art. N°         |
|-----|-----|-----------------|
| 1.5 | 7   | 261xf-1.5-AP202 |
| 2.0 | 8.5 | 261xf-2.0-AP202 |

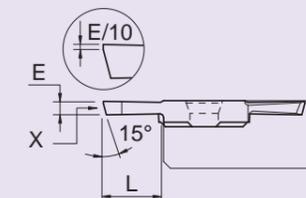
coupe à droite déportée  
versetztes Rechtsschneiden  
right cut off line



Utiliser des porte-outils série 250  
Halter Serie 250 verwenden  
Use 250 series holders



| E   | L   | Art. N°        |
|-----|-----|----------------|
| 1.5 | 7   | 251R-1.5-AP202 |
| 2.0 | 8.5 | 251R-2.0-AP202 |

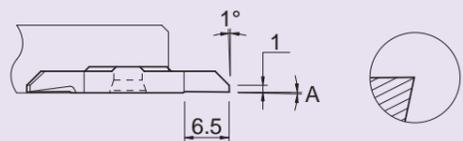


| E   | L   | Art. N°          |
|-----|-----|------------------|
| 1.5 | 7   | 251Rxf-1.5-AP202 |
| 2.0 | 8.5 | 251Rxf-2.0-AP202 |

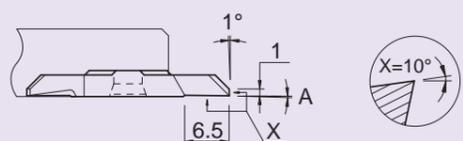
AP202

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

tourneur avant  
vorwärts drehen  
front turning

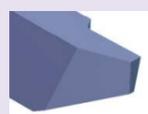
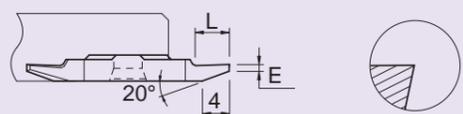


| A  | Art. N°      |
|----|--------------|
| 0° | 252-AP202    |
| 2° | 252-2°-AP202 |

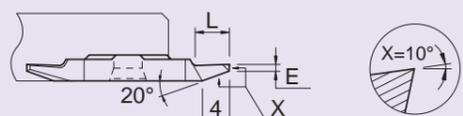


| A  | Art. N°       |
|----|---------------|
| 0° | 252x-AP202    |
| 2° | 252x-2°-AP202 |

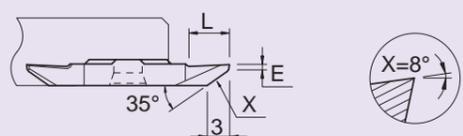
tourneur arrière  
rückwärts drehen  
back turning



| E   | L | Art. N°       |
|-----|---|---------------|
| 0.5 | 4 | 253-0.5-AP202 |
| 1.0 | 5 | 253-1.0-AP202 |



| E   | L | Art. N°        |
|-----|---|----------------|
| 1.0 | 5 | 253x-1.0-AP202 |

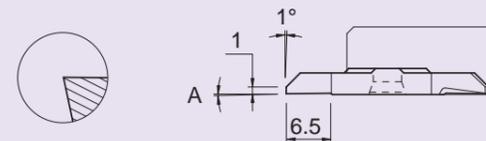


| E    | L | Art. N°        |
|------|---|----------------|
| ~1.0 | 6 | 253vx-8°-AP202 |

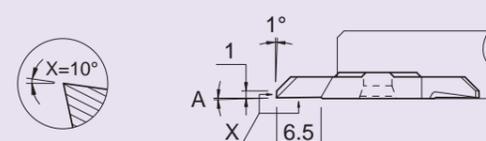
**AP202**

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

tourneur avant  
vorwärts drehen  
front turning

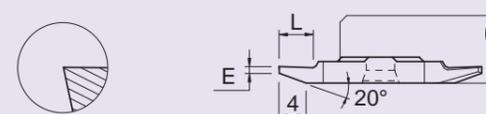


| A  | Art. N°      |
|----|--------------|
| 0° | 262-AP202    |
| 2° | 262-2°-AP202 |

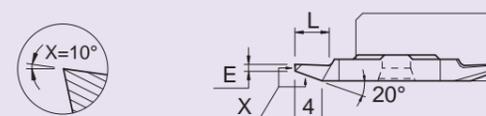


| A  | Art. N°       |
|----|---------------|
| 0° | 262x-AP202    |
| 2° | 262x-2°-AP202 |

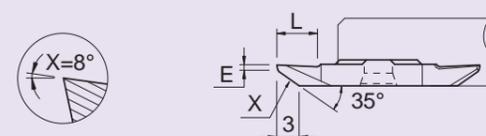
tourneur arrière  
rückwärts drehen  
back turning



| E   | L | Art. N°       |
|-----|---|---------------|
| 0.5 | 4 | 263-0.5-AP202 |
| 1.0 | 5 | 263-1.0-AP202 |



| E   | L | Art. N°        |
|-----|---|----------------|
| 1.0 | 5 | 263x-1.0-AP202 |

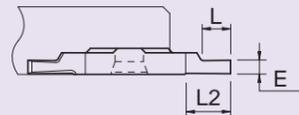


| E    | L | Art. N°        |
|------|---|----------------|
| ~1.0 | 6 | 263vx-8°-AP202 |

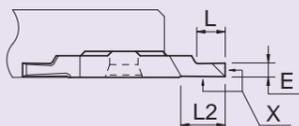
**AP202**

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

foncer-tourner  
einstechen und drehen  
grooving and turning

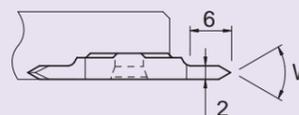


| E   | L   | L2  | Art. N°       |
|-----|-----|-----|---------------|
| 0.8 | 2   | 4   | 254-0.8-AP202 |
| 1.0 | 2.5 | 4   | 254-1.0-AP202 |
| 1.2 | 3   | 4   | 254-1.2-AP202 |
| 1.5 | 3   | 4   | 254-1.5-AP202 |
| 2.0 | 4   | 6.5 | 254-2.0-AP202 |
| 2.5 | 6   | 6.5 | 254-2.5-AP202 |
| 3.0 | 6.5 | 6.5 | 254-3.0-AP202 |



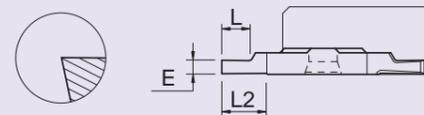
| E   | L   | L2  | Art. N°        |
|-----|-----|-----|----------------|
| 1.0 | 2.5 | 4   | 254x-1.0-AP202 |
| 1.2 | 3   | 4   | 254x-1.2-AP202 |
| 1.5 | 3   | 4   | 254x-1.5-AP202 |
| 2.0 | 4   | 6.5 | 254x-2.0-AP202 |
| 2.5 | 6   | 6.5 | 254x-2.5-AP202 |
| 3.0 | 6.5 | 6.5 | 254x-3.0-AP202 |

fileter  
Gewinde drehen  
threading

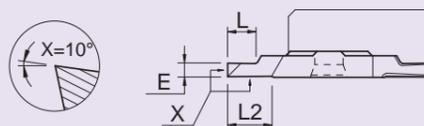


| W   | Art. N°        |
|-----|----------------|
| 60° | 256-60-2-AP202 |

foncer-tourner  
einstechen und drehen  
grooving and turning

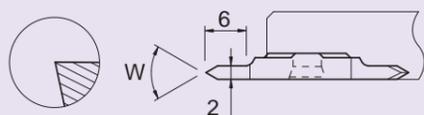


| E   | L   | L2  | Art. N°       |
|-----|-----|-----|---------------|
| 0.8 | 2   | 4   | 264-0.8-AP202 |
| 1.0 | 2.5 | 4   | 264-1.0-AP202 |
| 1.2 | 3   | 4   | 264-1.2-AP202 |
| 1.5 | 3   | 4   | 264-1.5-AP202 |
| 2.0 | 4   | 6.5 | 264-2.0-AP202 |
| 2.5 | 6   | 6.5 | 264-2.5-AP202 |
| 3.0 | 6.5 | 6.5 | 264-3.0-AP202 |



| E   | L   | L2  | Art. N°        |
|-----|-----|-----|----------------|
| 1.0 | 2.5 | 4   | 264x-1.0-AP202 |
| 1.2 | 3   | 4   | 264x-1.2-AP202 |
| 1.5 | 3   | 4   | 264x-1.5-AP202 |
| 2.0 | 4   | 6.5 | 264x-2.0-AP202 |
| 2.5 | 6   | 6.5 | 264x-2.5-AP202 |
| 3.0 | 6.5 | 6.5 | 264x-3.0-AP202 |

fileter  
Gewinde drehen  
threading



| W   | Art. N°        |
|-----|----------------|
| 60° | 266-60-2-AP202 |

**AP202**

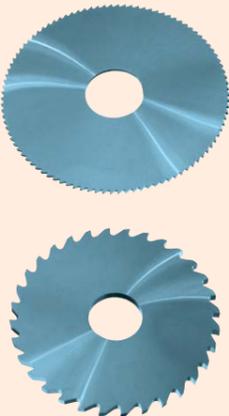
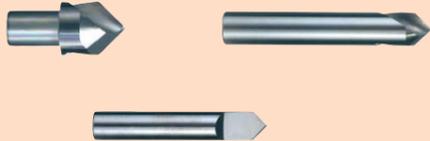
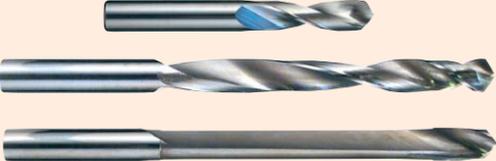
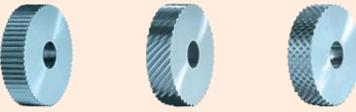
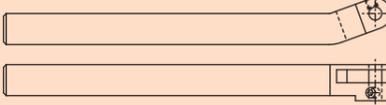
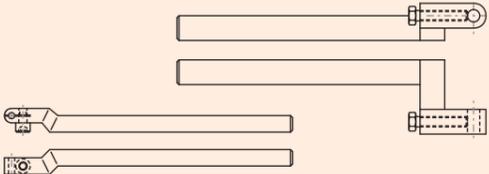
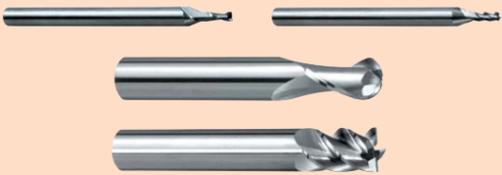
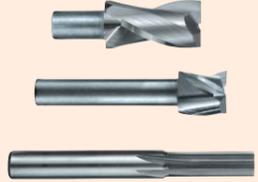
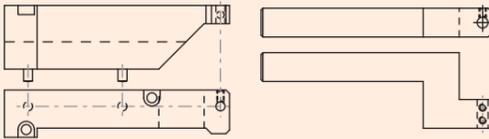
revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

**AP202**

revêtement PVD universel haute performance (TiAlN)  
universelle hochleistungs PVD Beschichtung (TiAlN)  
universal high performance PVD coating (TiAlN)

# TOOLING-LINE



|   | page<br>Seite<br>page |   | page<br>Seite<br>page |
|---|-----------------------|---|-----------------------|
| INFO  | 5.02<br>5.03          |    | 5.24<br>-<br>5.27     |
|    | 5.04<br>-<br>5.07     |    | 5.28<br>-<br>5.29     |
|    | 5.08<br>-<br>5.15     |   | 5.30                  |
|   | 5.16<br>-<br>5.17     |  | 5.31                  |
|  | 5.18                  |  | 5.32<br>-<br>5.36     |
|  | 5.19<br>-<br>5.21     |  | 5.36                  |
|  | 5.22<br>-<br>5.23     |  | 5.37                  |
|  | 5.23                  |   |                       |

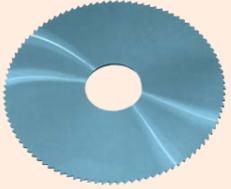
Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

| matière<br>Werkstoff<br>material  | lubrifiant*<br>Kühlung*<br>coolant* |  |   |                   |                   |  |   |      |      |
|---|-------------------------------------|---|---|-------------------|-------------------|--|---|------|------|
|   |                                     | Forets en métal dur<br>VHM-Bohrer<br>Solid carbide drills                         |   |                   |                   | Alésoirs en métal dur<br>VHM-Reibahlen<br>Solid carbide reamers                    |   |      |      |
|   |                                     | Vc  | avance par tour<br>Vorschub per Umdrehung<br>Feed per rotation<br>mm / $\curvearrowright$ |                   |                   | Vc   | avance par tour<br>Vorschub per Umdrehung<br>Feed per rotation<br>mm / $\curvearrowright$ |      |      |
| m / min   | Ø1-4                                | Ø 4-8   | Ø 8-12  | m / min           | Ø 1-4             | Ø 4-8  | Ø 8-12  |      |      |
| acier de décolletage<br>Automatenstahl<br>free-cutting steel              | O / E                               | 90 - 120  | 0.02<br>-<br>0.05   | 0.05<br>-<br>0.07 | 0.07<br>-<br>0.10 | 15 - 22  | 0.12  | 0.16 | 0.25 |
| acier<br>Stahl<br>steel < 600 N/mm2                                       | O / E                               | 80 - 110  | 0.01<br>-<br>0.04   | 0.04<br>-<br>0.06 | 0.06<br>-<br>0.08 | 10 - 18  | 0.10  | 0.15 | 0.20 |
| acier<br>Stahl<br>steel < 800 N/mm2                                       | O / E                               | 70 - 100  | 0.01<br>-<br>0.03   | 0.03<br>-<br>0.05 | 0.05<br>-<br>0.07 | 8 - 15   | 0.10  | 0.13 | 0.16 |
| acier<br>Stahl<br>steel < 1000 N/mm2                                      | O / E                               | 60 - 80   | 0.01<br>-<br>0.03   | 0.03<br>-<br>0.05 | 0.05<br>-<br>0.07 | 6 - 12   | 0.07  | 0.10 | 0.13 |
| acier<br>Stahl<br>steel > 1000 N/mm2                                      | O / E                               | 30 - 50   | 0.01<br>-<br>0.02   | 0.02<br>-<br>0.04 | 0.04<br>-<br>0.06 | 5 - 10   | 0.05  | 0.08 | 0.10 |
| acier inoxydable<br>rostfreier Stahl<br>stainless steel                   | O / E                               | 30 - 50   | 0.01<br>-<br>0.03   | 0.03<br>-<br>0.05 | 0.05<br>-<br>0.08 | 8 - 12   | 0.04  | 0.06 | 0.08 |
| acier réfractaire<br>warmfester Stahl<br>heat resistant steel             | O / E                               | 20 - 40   | 0.01<br>-<br>0.02   | 0.02<br>-<br>0.03 | 0.03<br>-<br>0.05 | 5 - 10   | 0.03  | 0.05 | 0.07 |
| fonte<br>Gusseisen<br>cast iron   | A / E                               | 70 - 100  | 0.03<br>-<br>0.05   | 0.05<br>-<br>0.07 | 0.07<br>-<br>0.10 | 8 - 12   | 0.20  | 0.25 | 0.30 |
| Aluminium Si < 12%  | O / E                               | 100 - 150   | 0.04<br>-<br>0.06   | 0.06<br>-<br>0.10 | 0.10<br>-<br>0.14 | 20 - 35  | 0.20  | 0.25 | 0.30 |
| Aluminium Si > 12 %   | O / E                               | 50 - 100  | 0.02<br>-<br>0.04   | 0.04<br>-<br>0.06 | 0.06<br>-<br>0.09 | 10 - 22  | 0.10  | 0.15 | 0.20 |
| titane<br>Titan<br>titanium   | O / E                               | 30 - 50   | 0.01<br>-<br>0.02   | 0.02<br>-<br>0.04 | 0.04<br>-<br>0.08 | 6 - 10   | 0.08  | 0.10 | 0.12 |
| civre, laiton, bronze<br>Kupfer, Messing, Bronze<br>copper, brass, bronze | A / O / E                           | 60 - 100  | 0.03<br>-<br>0.06   | 0.06<br>-<br>0.10 | 0.10<br>-<br>0.15 | 15 - 40  | 0.15  | 0.20 | 0.30 |
| thermoplastique<br>Thermoplaste<br>thermoplastics                         | A                                   | 80 - 150  | 0.03<br>-<br>0.04   | 0.04<br>-<br>0.06 | 0.06<br>-<br>0.08 | 15 - 35  | 0.10  | 0.15 | 0.20 |
| duroplastique<br>Duroplaste<br>duroplastics                               | A                                   | 60 - 120  | 0.03<br>-<br>0.05   | 0.05<br>-<br>0.08 | 0.08<br>-<br>0.12 | 15 - 35  | 0.10  | 0.15 | 0.20 |

\* O= huile de coupe /Schneidöl / cutting oil  
\* E = Emulsion  
\* A= sec (air comprimé) / Trocken (Pressluft) / Dry (air)

avec revêtement TiN / TiCN / TiALN, augmenter les valeurs de 20%  
mit TiN / TiCN / TiALN Beschichtung, Daten um 20% erhöhen  
with TiN / TiCN / TiALN coating, increase data by 20 %

Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

| matière<br>Werkstoff<br>material  | lubrifiant*<br>Kühlung*<br>coolant* |  |  |         |      |      |   |
|---|-------------------------------------|---|--|---------|------|---|---|
|   |                                     | Fraises en bout en métal dur<br>VHM-Schaftfräser<br>Solid carbide end mills         |  |         |      | Fraises circulaires en métal dur<br>VHM-Kreissägeblätter<br>Solid carbide slitting saws |   |
|   |                                     | Vc  | avance par dent<br>Vorschub pro Zahn<br>Feed per tooth<br>mm / Z |         |      | Vc  | choix de la denture / avance<br>Verzahnungswahl / Vorschub<br>teeth selection / cutting feed                  |
| m / min   | Ø1-4                                | Ø 4-8   | Ø 8-12   | m / min |      |   |   |
| acier de décolletage<br>Automatenstahl<br>free-cutting steel              | O / E                               | 100 - 150   | 0.03   | 0.04    | 0.05 | 120 - 240   | <b>Type 1101</b><br>Pour usinage peu profond ou longueur à fendre faible.<br>Avance par dent : 0.005 - 0.05** |
| acier<br>Stahl<br>steel < 600 N/mm2                                       | O / E                               | 80 - 120  | 0.03   | 0.04    | 0.05 | 100 - 200   | Für geringe Bearbeitungstiefen oder kurze Schlitzlängen.<br>Vorschub pro Zahn : 0.005-0.05**                  |
| acier<br>Stahl<br>steel < 800 N/mm2                                       | O / E                               | 70 - 100  | 0.02   | 0.03    | 0.04 | 80 - 160  | For low machining depth or short slots.<br>Feed per teeth : 0.005 - 0.05**                                    |
| acier<br>Stahl<br>steel < 1000 N/mm2                                      | O / E                               | 50 - 80   | 0.01   | 0.02    | 0.03 | 60 - 120  |   |
| acier<br>Stahl<br>steel > 1000 N/mm2                                      | O / E                               | 30 - 60   | 0.01   | 0.02    | 0.03 | 40 - 80   | <b>Type 1102</b><br>Pour usinage profond ou grande longueur à fendre.<br>Avance par dent : 0.01 - 0.1**       |
| acier inoxydable<br>rostfreier Stahl<br>stainless steel                   | O / E                               | 40 - 80   | 0.01   | 0.02    | 0.03 | 50 - 100  | Für grosse Bearbeitungstiefen oder grosse Schlitzlängen.<br>Vorschub pro Zahn : 0.01-0.1**                    |
| acier réfractaire<br>warmfester Stahl<br>heat resistant steel             | O / E                               | 20 - 50   | 0.01   | 0.02    | 0.03 | 25 - 60   | For deep machining or long slots.<br>Feed per teeth : 0.01 - 0.1**  |
| fonte<br>Gusseisen<br>cast iron   | A / E                               | 60 - 100  | 0.02   | 0.04    | 0.06 | 60 - 120  | <b>Type 1103</b><br>Pour usinage de pièces fragiles ou fines.<br>Avance par dent : 0.002 - 0.02**             |
| Aluminium Si < 12%  | O / E                               | 250 - 400   | 0.03   | 0.06    | 0.10 | 150 - 600   | Für die Bearbeitung von empfindlichen oder dünnwandigen Werkstücken.<br>Vorschub pro Zahn : 0.002 - 0.02**    |
| Aluminium Si > 12 %   | O / E                               | 120 - 250   | 0.02   | 0.05    | 0.08 | 80 - 300  |   |
| titane<br>Titan<br>titanium   | O / E                               | 25 - 50   | 0.01   | 0.02    | 0.03 | 30 - 60   | For machining of fragile or thin workpieces.<br>Feed per teeth : 0.002 - 0.02**                               |
| civre, laiton, bronze<br>Kupfer, Messing, Bronze<br>copper, brass, bronze | A / O / E                           | 100 - 300   | 0.02   | 0.04    | 0.06 | 80 - 300  | **selon la matière, l'épaisseur ainsi que la rigidité globale   |
| thermoplastique<br>Thermoplaste<br>thermoplastics                         | A                                   | 120 - 200   | 0.03   | 0.06    | 0.09 | 200 - 700   | **je nach Werkstoff, Dicke und Gesamtstartheit  |
| duroplastique<br>Duroplaste<br>duroplastics                               | A                                   | 80 - 120  | 0.03   | 0.05    | 0.08 | 150 - 600   | **according to material, thickness and global rigidity  |

\* O= huile de coupe /Schneidöl / cutting oil  
\* E = Emulsion  
\* A= sec (air comprimé) / Trocken (Pressluft) / Dry (air)

avec revêtement TiN / TiCN / TiALN, augmenter les valeurs de 20%  
mit TiN / TiCN / TiALN Beschichtung, Daten um 20% erhöhen  
with TiN / TiCN / TiALN coating, increase data by 20 %

Forets à centrer plat  
Zentrier-Flachbohrer  
Centering flat drills

Type 1200

L

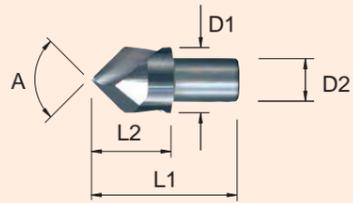


| A   | D  | L  | Art. N°   | métal dur<br>Vollhartmetall<br>solid carbide |
|-----|----|----|-----------|--|
| 90° | 3  | 13 | 1200-313  |  |
| 90° | 3  | 17 | 1200-317  |  |
| 90° | 3  | 38 | 1200-338  |  |
| 90° | 4  | 40 | 1200-440  |  |
| 90° | 5  | 50 | 1200-550  |  |
| 90° | 6  | 50 | 1200-650  |  |
| 90° | 8  | 58 | 1200-858  |  |
| 90° | 10 | 66 | 1200-1066 |  |
| 90° | 12 | 73 | 1200-1273 |  |

Forets à centrer hélicoïdaux  
Zentrier-Spiralbohrer  
Centering twist drills

Type 1500

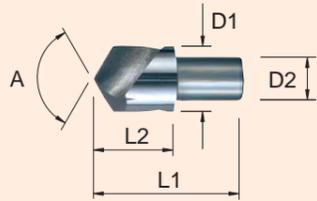
L



| A   | D1 | D2 | L1 | L2 | Art. N°     | HSS | Art. N°    | métal dur<br>Vollhartmetall<br>solid carbide |
|-----|----|----|----|----|-------------|-----|------------|--|
| 90° | 5  | 4  | 17 | 8  | 1500-5-HSS  |     | 1500-5-MD  |  |
| 90° | 7  | 5  | 17 | 8  | 1500-7-HSS  |     | 1500-7-MD  |  |
| 90° | 10 | 6  | 22 | 10 | 1500-10-HSS |     | 1500-10-MD |  |
| 90° | 12 | 8  | 26 | 12 | 1500-12-HSS |     | 1500-12-MD |  |

Type 1510

L



|      |    |   |    |    |             |  |            |  |
|------|----|---|----|----|-------------|--|------------|--|
| 120° | 5  | 4 | 17 | 8  | 1510-5-HSS  |  | 1510-5-MD  |  |
| 120° | 7  | 5 | 17 | 8  | 1510-7-HSS  |  | 1510-7-MD  |  |
| 120° | 10 | 6 | 22 | 10 | 1510-10-HSS |  | 1510-10-MD |  |
| 120° | 12 | 8 | 26 | 12 | 1510-12-HSS |  | 1510-12-MD |  |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Forets à centrer plat  
Zentrier-Flachbohrer  
Centering flat drills

Type 2200

R

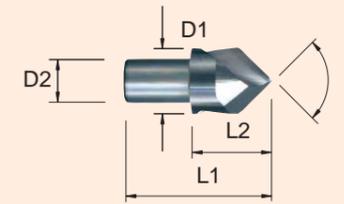


| A   | D  | L  | Art. N°   | métal dur<br>Vollhartmetall<br>solid carbide |
|-----|----|----|-----------|--|
| 90° | 3  | 13 | 2200-313  |  |
| 90° | 3  | 17 | 2200-317  |  |
| 90° | 3  | 38 | 2200-338  |  |
| 90° | 4  | 40 | 2200-440  |  |
| 90° | 5  | 50 | 2200-550  |  |
| 90° | 6  | 50 | 2200-650  |  |
| 90° | 8  | 58 | 2200-858  |  |
| 90° | 10 | 66 | 2200-1066 |  |
| 90° | 12 | 73 | 2200-1273 |  |

Forets à centrer hélicoïdaux  
Zentrier-Spiralbohrer  
Centering twist drills

Type 2520

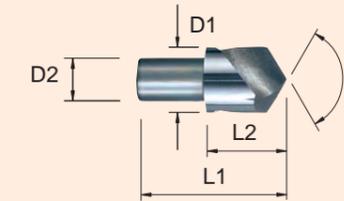
R



| A   | D1 | D2 | L1 | L2 | Art. N°     | HSS | Art. N°    | métal dur<br>Vollhartmetall<br>solid carbide |
|-----|----|----|----|----|-------------|-----|------------|--|
| 90° | 5  | 4  | 17 | 8  | 2520-5-HSS  |     | 2520-5-MD  |  |
| 90° | 7  | 5  | 17 | 8  | 2520-7-HSS  |     | 2520-7-MD  |  |
| 90° | 10 | 6  | 22 | 10 | 2520-10-HSS |     | 2520-10-MD |  |
| 90° | 12 | 8  | 26 | 12 | 2520-12-HSS |     | 2520-12-MD |  |

Type 2530

R

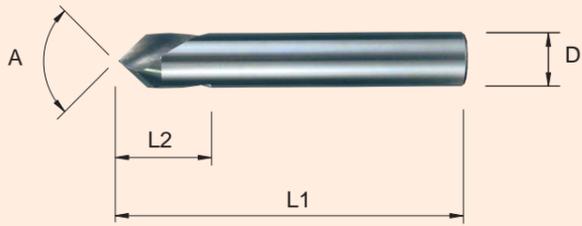


|      |    |   |    |    |             |  |            |  |
|------|----|---|----|----|-------------|--|------------|--|
| 120° | 5  | 4 | 17 | 8  | 2530-5-HSS  |  | 2530-5-MD  |  |
| 120° | 7  | 5 | 17 | 8  | 2530-7-HSS  |  | 2530-7-MD  |  |
| 120° | 10 | 6 | 22 | 10 | 2530-10-HSS |  | 2530-10-MD |  |
| 120° | 12 | 8 | 26 | 12 | 2530-12-HSS |  | 2530-12-MD |  |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Forets à centrer NC  
NC-Zentrierbohrer  
Forets à centrer NC

Type 1680 L 90°



| A   | D1  | L1 | L2 | HSS            |  | métal dur<br>Vollhartmetall<br>solid carbide |  |
|-----|-----|----|----|----------------|--|--|--|
|     |     |    |    | Art. N°        |  | Art. N°                                      |  |
| 90° | 2   | 38 | 8  | ---            |  | 1680-2-90-MD                                 |  |
| 90° | 2.5 | 38 | 8  | ---            |  | 1680-2.5-90-MD                               |  |
| 90° | 3   | 38 | 10 | 1680-3-90-HSS  |  | 1680-3-90-MD                                 |  |
| 90° | 4   | 50 | 12 | 1680-4-90-HSS  |  | 1680-4-90-MD                                 |  |
| 90° | 5   | 50 | 15 | 1680-5-90-HSS  |  | 1680-5-90-MD                                 |  |
| 90° | 6   | 57 | 16 | 1680-6-90-HSS  |  | 1680-6-90-MD                                 |  |
| 90° | 8   | 63 | 20 | 1680-8-90-HSS  |  | 1680-8-90-MD                                 |  |
| 90° | 10  | 72 | 22 | 1680-10-90-HSS |  | 1680-10-90-MD                                |  |
| 90° | 12  | 73 | 24 | 1680-12-90-HSS |  | 1680-12-90-MD                                |  |
| 90° | 16  | 82 | 26 | ---            |  | 1680-16-90-MD                                |  |
| 90° | 20  | 92 | 30 | ---            |  | 1680-20-90-MD                                |  |

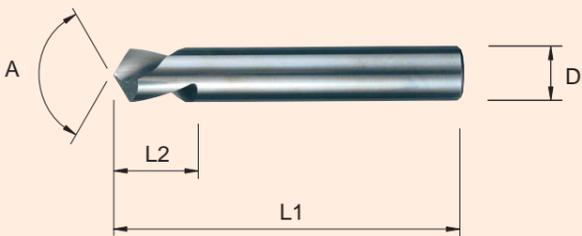
Forets à centrer NC  
NC-Zentrierbohrer  
Forets à centrer NC

Type 2680 R 90°



| A   | D1  | L1 | L2 | HSS            |  | métal dur<br>Vollhartmetall<br>solid carbide |  |
|-----|-----|----|----|----------------|--|--|--|
|     |     |    |    | Art. N°        |  | Art. N°                                      |  |
| 90° | 2   | 38 | 8  | ---            |  | 2680-2-90-MD                                 |  |
| 90° | 2.5 | 38 | 8  | ---            |  | 2680-2.5-50-MD                               |  |
| 90° | 3   | 38 | 10 | 2680-3-90-HSS  |  | 2680-3-90-MD                                 |  |
| 90° | 4   | 50 | 12 | 2680-4-90-HSS  |  | 2680-4-90-MD                                 |  |
| 90° | 5   | 50 | 15 | 2680-5-90-HSS  |  | 2680-5-90-MD                                 |  |
| 90° | 6   | 57 | 16 | 2680-6-90-HSS  |  | 2680-6-90-MD                                 |  |
| 90° | 8   | 63 | 20 | 2680-8-90-HSS  |  | 2680-8-90-MD                                 |  |
| 90° | 10  | 72 | 22 | 2680-10-90-HSS |  | 2680-10-90-MD                                |  |
| 90° | 12  | 73 | 24 | 2680-12-90-HSS |  | 2680-12-90-MD                                |  |
| 90° | 16  | 82 | 26 | ---            |  | 2680-16-90-MD                                |  |
| 90° | 20  | 92 | 30 | ---            |  | 2680-20-90-MD                                |  |

Type 1680 L 120°



| A    | D1  | L1 | L2 | HSS             |  | métal dur<br>Vollhartmetall<br>solid carbide |  |
|------|-----|----|----|-----------------|--|--|--|
|      |     |    |    | Art. N°         |  | Art. N°                                      |  |
| 120° | 2   | 38 | 8  | ---             |  | 1680-2-120-MD                                |  |
| 120° | 2.5 | 38 | 8  | ---             |  | 1680-2.5-120-MD                              |  |
| 120° | 3   | 38 | 10 | 1680-3-120-HSS  |  | 1680-3-120-MD                                |  |
| 120° | 4   | 50 | 12 | 1680-4-120-HSS  |  | 1680-4-120-MD                                |  |
| 120° | 5   | 50 | 15 | 1680-5-120-HSS  |  | 1680-5-120-MD                                |  |
| 120° | 6   | 57 | 16 | 1680-6-120-HSS  |  | 1680-6-120-MD                                |  |
| 120° | 8   | 63 | 20 | 1680-8-120-HSS  |  | 1680-8-120-MD                                |  |
| 120° | 10  | 72 | 22 | 1680-10-120-HSS |  | 1680-10-120-MD                               |  |
| 120° | 12  | 73 | 24 | 1680-12-120-HSS |  | 1680-12-120-MD                               |  |
| 120° | 16  | 82 | 26 | ---             |  | 1680-16-120-MD                               |  |
| 120° | 20  | 92 | 30 | ---             |  | 1680-20-120-MD                               |  |

Type 2680 R 120°



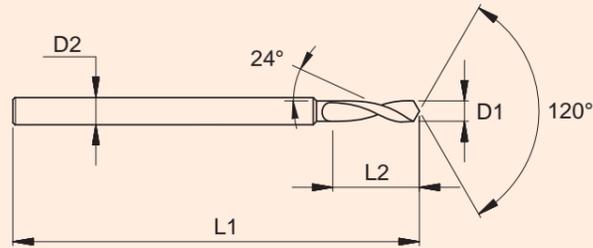
| A    | D1  | L1 | L2 | HSS             |  | métal dur<br>Vollhartmetall<br>solid carbide |  |
|------|-----|----|----|-----------------|--|--|--|
|      |     |    |    | Art. N°         |  | Art. N°                                      |  |
| 120° | 2   | 38 | 8  | ---             |  | 2680-2-120-MD                                |  |
| 120° | 2.5 | 38 | 8  | ---             |  | 2680-2.5-120-MD                              |  |
| 120° | 3   | 38 | 10 | 2680-3-120-HSS  |  | 2680-3-120-MD                                |  |
| 120° | 4   | 50 | 12 | 2680-4-120-HSS  |  | 2680-4-120-MD                                |  |
| 120° | 5   | 50 | 15 | 2680-5-120-HSS  |  | 2680-5-120-MD                                |  |
| 120° | 6   | 57 | 16 | 2680-6-120-HSS  |  | 2680-6-120-MD                                |  |
| 120° | 8   | 63 | 20 | 2680-8-120-HSS  |  | 2680-8-120-MD                                |  |
| 120° | 10  | 72 | 22 | 2680-10-120-HSS |  | 2680-10-120-MD                               |  |
| 120° | 12  | 73 | 24 | 2680-12-120-HSS |  | 2680-12-120-MD                               |  |
| 120° | 16  | 82 | 26 | ---             |  | 2680-16-120-MD                               |  |
| 120° | 20  | 92 | 30 | ---             |  | 2680-20-120-MD                               |  |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Forets pointeurs en métal dur  
Vollhartmetall Anbohrer  
Solid carbide spot drills

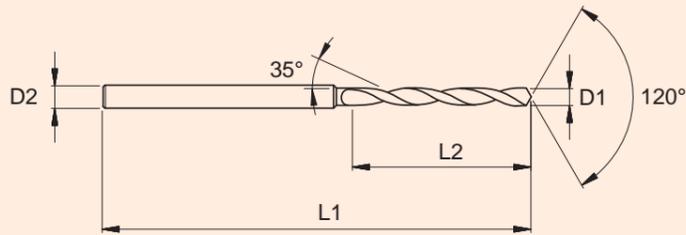
Type 2012 R



| D1 h6 | D2 h6 | L1 | L2  | D1 h6 | D2 h6 | L1 | L2  |
|-------|-------|----|-----|-------|-------|----|-----|
| 0.50  | 1.5   | 30 | 1.7 | 1.30  | 1.5   | 30 | 4.2 |
| 0.55  | 1.5   | 30 | 1.9 | 1.40  | 1.5   | 30 | 4.7 |
| 0.60  | 1.5   | 30 | 1.9 | 1.50  | 2.0   | 38 | 4.7 |
| 0.65  | 1.5   | 30 | 1.9 | 1.60  | 2.0   | 38 | 5.4 |
| 0.70  | 1.5   | 30 | 2.4 | 1.70  | 2.0   | 38 | 5.4 |
| 0.75  | 1.5   | 30 | 2.4 | 1.80  | 2.0   | 38 | 6.5 |
| 0.80  | 1.5   | 30 | 2.6 | 1.90  | 2.0   | 38 | 6.5 |
| 0.85  | 1.5   | 30 | 2.6 | 2.00  | 2.5   | 38 | 6.5 |
| 0.90  | 1.5   | 30 | 3.0 | 2.10  | 2.5   | 38 | 6.5 |
| 0.95  | 1.5   | 30 | 3.0 | 2.20  | 2.5   | 38 | 6.5 |
| 1.00  | 1.5   | 30 | 3.4 | 2.30  | 2.5   | 38 | 6.5 |
| 1.10  | 1.5   | 30 | 3.8 | 2.40  | 2.5   | 38 | 6.5 |
| 1.20  | 1.5   | 30 | 4.2 |       |       |    |     |

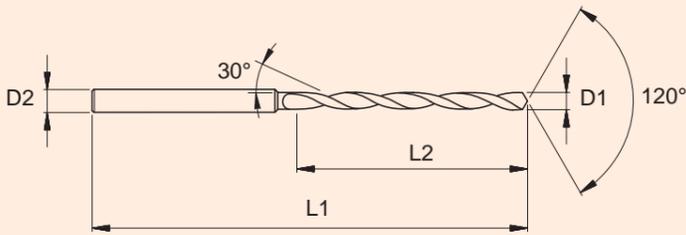
Micro forets en métal dur  
Vollhartmetall Mikro-Bohrer  
Solid carbide micro drills

Type 2013 R



| D1 h6 | D2 h6 | L1 | L2  | D1 h6 | D2 h6 | L1 | L2   |
|-------|-------|----|-----|-------|-------|----|------|
| 0.40  | 1.0   | 25 | 3.6 | 1.10  | 1.5   | 30 | 9.0  |
| 0.45  | 1.0   | 25 | 3.6 | 1.15  | 1.5   | 30 | 9.0  |
| 0.50  | 1.0   | 25 | 4.0 | 1.20  | 1.5   | 30 | 10.0 |
| 0.55  | 1.0   | 25 | 4.5 | 1.25  | 1.5   | 30 | 10.0 |
| 0.60  | 1.0   | 25 | 4.5 | 1.30  | 1.5   | 30 | 10.0 |
| 0.65  | 1.0   | 25 | 5.0 | 1.35  | 1.5   | 30 | 11.2 |
| 0.70  | 1.0   | 25 | 5.6 | 1.40  | 1.5   | 30 | 11.2 |
| 0.75  | 1.0   | 25 | 5.6 | 1.45  | 1.5   | 30 | 11.2 |
| 0.80  | 1.5   | 30 | 6.3 | 1.50  | 2.0   | 38 | 12.0 |
| 0.85  | 1.5   | 30 | 6.3 | 1.60  | 2.0   | 38 | 12.0 |
| 0.90  | 1.5   | 30 | 7.1 | 1.70  | 2.0   | 38 | 12.0 |
| 0.95  | 1.5   | 30 | 7.1 | 1.80  | 2.0   | 38 | 12.0 |
| 1.00  | 1.5   | 30 | 8.0 | 1.90  | 2.0   | 38 | 12.0 |
| 1.05  | 1.5   | 30 | 8.0 |       |       |    |      |

Type 2014 R

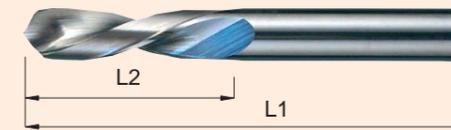


| D1 h6 | D2 h6 | L1 | L2   | D1 h6 | D2 h6 | L1 | L2   |
|-------|-------|----|------|-------|-------|----|------|
| 0.50  | 1.5   | 30 | 6.0  | 1.25  | 1.5   | 38 | 15.0 |
| 0.55  | 1.5   | 30 | 6.5  | 1.30  | 1.5   | 38 | 17.0 |
| 0.60  | 1.5   | 30 | 6.5  | 1.35  | 1.5   | 38 | 17.0 |
| 0.65  | 1.5   | 30 | 7.5  | 1.40  | 1.5   | 38 | 17.0 |
| 0.70  | 1.5   | 30 | 8.5  | 1.45  | 1.5   | 38 | 17.0 |
| 0.75  | 1.5   | 30 | 8.5  | 1.50  | 2.0   | 38 | 18.0 |
| 0.80  | 1.5   | 30 | 9.5  | 1.55  | 2.0   | 38 | 18.0 |
| 0.85  | 1.5   | 30 | 9.5  | 1.60  | 2.0   | 38 | 18.0 |
| 0.90  | 1.5   | 30 | 10.5 | 1.65  | 2.0   | 38 | 18.0 |
| 0.95  | 1.5   | 30 | 10.5 | 1.70  | 2.0   | 38 | 18.0 |
| 1.00  | 1.5   | 38 | 12.0 | 1.75  | 2.0   | 38 | 18.0 |
| 1.05  | 1.5   | 38 | 12.0 | 1.80  | 2.0   | 38 | 18.0 |
| 1.10  | 1.5   | 38 | 13.5 | 1.85  | 2.0   | 38 | 18.0 |
| 1.15  | 1.5   | 38 | 13.5 | 1.90  | 2.0   | 38 | 18.0 |
| 1.20  | 1.5   | 38 | 15.0 | 1.95  | 2.0   | 38 | 18.0 |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

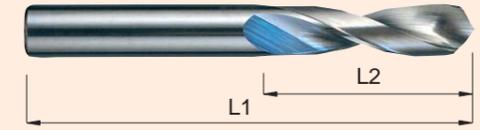
forets hélicoïdaux en métal dur  
Vollhartmetall Spiralbohrer  
Solid carbide twist drills

Type CLASSIC Art. N° 1010 L



Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

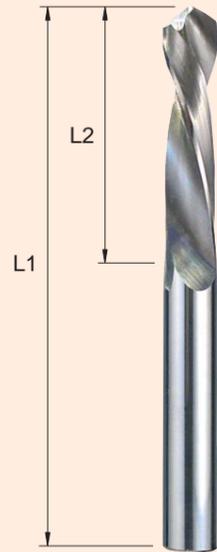
Type CLASSIC Art. N° 2010 R



| D h6 | L1 | L2 |
|------|----|----|------|----|----|------|----|----|------|----|----|
| 0.50 | 30 | 5  | 2.55 | 45 | 18 | 0.50 | 30 | 5  | 2.55 | 45 | 18 |
| 0.55 | 30 | 5  | 2.60 | 45 | 18 | 0.55 | 30 | 5  | 2.60 | 45 | 18 |
| 0.60 | 30 | 5  | 2.65 | 45 | 18 | 0.60 | 30 | 5  | 2.65 | 45 | 18 |
| 0.65 | 30 | 6  | 2.70 | 45 | 18 | 0.65 | 30 | 6  | 2.70 | 45 | 18 |
| 0.70 | 30 | 6  | 2.75 | 45 | 18 | 0.70 | 30 | 6  | 2.75 | 45 | 18 |
| 0.75 | 30 | 8  | 2.80 | 45 | 18 | 0.75 | 30 | 8  | 2.80 | 45 | 18 |
| 0.80 | 30 | 8  | 2.85 | 45 | 18 | 0.80 | 30 | 8  | 2.85 | 45 | 18 |
| 0.85 | 30 | 9  | 2.90 | 45 | 18 | 0.85 | 30 | 9  | 2.90 | 45 | 18 |
| 0.90 | 30 | 9  | 2.95 | 45 | 18 | 0.90 | 30 | 9  | 2.95 | 45 | 18 |
| 0.95 | 30 | 10 | 3.00 | 45 | 18 | 0.95 | 30 | 10 | 3.00 | 45 | 18 |
| 1.00 | 30 | 10 | 3.10 | 50 | 20 | 1.00 | 30 | 10 | 3.10 | 50 | 20 |
| 1.05 | 30 | 10 | 3.20 | 50 | 20 | 1.05 | 30 | 10 | 3.20 | 50 | 20 |
| 1.10 | 30 | 10 | 3.30 | 50 | 20 | 1.10 | 30 | 10 | 3.30 | 50 | 20 |
| 1.15 | 30 | 12 | 3.40 | 50 | 20 | 1.15 | 30 | 12 | 3.40 | 50 | 20 |
| 1.20 | 30 | 12 | 3.50 | 50 | 20 | 1.20 | 30 | 12 | 3.50 | 50 | 20 |
| 1.25 | 30 | 12 | 3.60 | 50 | 20 | 1.25 | 30 | 12 | 3.60 | 50 | 20 |
| 1.30 | 30 | 12 | 3.70 | 50 | 20 | 1.30 | 30 | 12 | 3.70 | 50 | 20 |
| 1.35 | 30 | 12 | 3.80 | 50 | 20 | 1.35 | 30 | 12 | 3.80 | 50 | 20 |
| 1.40 | 30 | 12 | 3.90 | 50 | 20 | 1.40 | 30 | 12 | 3.90 | 50 | 20 |
| 1.45 | 30 | 12 | 4.00 | 50 | 20 | 1.45 | 30 | 12 | 4.00 | 50 | 20 |
| 1.50 | 30 | 12 | 4.10 | 50 | 25 | 1.50 | 30 | 12 | 4.10 | 50 | 25 |
| 1.55 | 40 | 16 | 4.20 | 50 | 25 | 1.55 | 40 | 16 | 4.20 | 50 | 25 |
| 1.60 | 40 | 16 | 4.30 | 50 | 25 | 1.60 | 40 | 16 | 4.30 | 50 | 25 |
| 1.65 | 40 | 16 | 4.40 | 50 | 25 | 1.65 | 40 | 16 | 4.40 | 50 | 25 |
| 1.70 | 40 | 16 | 4.50 | 50 | 25 | 1.70 | 40 | 16 | 4.50 | 50 | 25 |
| 1.75 | 40 | 16 | 4.60 | 50 | 25 | 1.75 | 40 | 16 | 4.60 | 50 | 25 |
| 1.80 | 40 | 16 | 4.70 | 50 | 25 | 1.80 | 40 | 16 | 4.70 | 50 | 25 |
| 1.85 | 40 | 16 | 4.80 | 50 | 25 | 1.85 | 40 | 16 | 4.80 | 50 | 25 |
| 1.90 | 40 | 16 | 4.90 | 50 | 25 | 1.90 | 40 | 16 | 4.90 | 50 | 25 |
| 1.95 | 40 | 16 | 5.00 | 50 | 25 | 1.95 | 40 | 16 | 5.00 | 50 | 25 |
| 2.00 | 40 | 16 | 5.10 | 50 | 25 | 2.00 | 40 | 16 | 5.10 | 50 | 25 |
| 2.05 | 40 | 18 | 5.20 | 50 | 25 | 2.05 | 40 | 18 | 5.20 | 50 | 25 |
| 2.10 | 40 | 18 | 5.30 | 50 | 25 | 2.10 | 40 | 18 | 5.30 | 50 | 25 |
| 2.15 | 40 | 18 | 5.40 | 50 | 25 | 2.15 | 40 | 18 | 5.40 | 50 | 25 |
| 2.20 | 40 | 18 | 5.50 | 50 | 25 | 2.20 | 40 | 18 | 5.50 | 50 | 25 |
| 2.25 | 40 | 18 | 5.60 | 50 | 25 | 2.25 | 40 | 18 | 5.60 | 50 | 25 |
| 2.30 | 40 | 18 | 5.70 | 50 | 25 | 2.30 | 40 | 18 | 5.70 | 50 | 25 |
| 2.35 | 40 | 18 | 5.80 | 50 | 25 | 2.35 | 40 | 18 | 5.80 | 50 | 25 |
| 2.40 | 40 | 18 | 5.90 | 50 | 25 | 2.40 | 40 | 18 | 5.90 | 50 | 25 |
| 2.45 | 40 | 18 | 6.00 | 50 | 25 | 2.45 | 40 | 18 | 6.00 | 50 | 25 |
| 2.50 | 40 | 18 |      |    |    | 2.50 | 40 | 18 |      |    |    |

Forets à hélice progressive en métal dur  
Vollhartmetall-Bohrer mit progressiver Spirale  
Solid carbide twist drills with progressive spiral

Type WINNER  
DIN 1897  
Art. N° 1005  
L

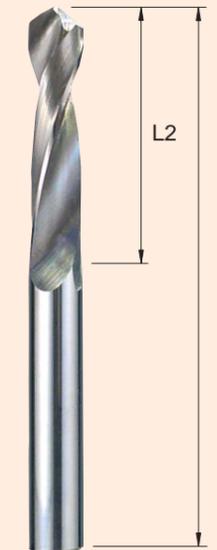


| D h6 | L1 | L2 | D h6  | L1 | L2 |
|------|----|----|-------|----|----|
| 1.50 | 32 | 9  | 4.50  | 58 | 24 |
| 1.55 | 34 | 10 | 4.60  | 58 | 24 |
| 1.60 | 34 | 10 | 4.70  | 58 | 24 |
| 1.65 | 34 | 10 | 4.80  | 62 | 26 |
| 1.70 | 34 | 10 | 4.90  | 62 | 26 |
| 1.75 | 36 | 11 | 5.00  | 62 | 26 |
| 1.80 | 36 | 11 | 5.10  | 62 | 26 |
| 1.85 | 36 | 11 | 5.20  | 62 | 26 |
| 1.90 | 36 | 11 | 5.30  | 62 | 26 |
| 1.95 | 38 | 12 | 5.40  | 66 | 28 |
| 2.00 | 38 | 12 | 5.50  | 66 | 28 |
| 2.05 | 38 | 12 | 5.60  | 66 | 28 |
| 2.10 | 38 | 12 | 5.70  | 66 | 28 |
| 2.15 | 40 | 13 | 5.80  | 66 | 28 |
| 2.20 | 40 | 13 | 5.90  | 66 | 28 |
| 2.25 | 40 | 13 | 6.00  | 66 | 28 |
| 2.30 | 40 | 13 | 6.10  | 70 | 31 |
| 2.35 | 40 | 13 | 6.20  | 70 | 31 |
| 2.40 | 43 | 14 | 6.30  | 70 | 31 |
| 2.45 | 43 | 14 | 6.40  | 70 | 31 |
| 2.50 | 43 | 14 | 6.50  | 70 | 31 |
| 2.55 | 43 | 14 | 6.60  | 70 | 31 |
| 2.60 | 43 | 14 | 6.70  | 70 | 31 |
| 2.65 | 43 | 14 | 6.80  | 74 | 34 |
| 2.70 | 46 | 16 | 6.90  | 74 | 34 |
| 2.75 | 46 | 16 | 7.00  | 74 | 34 |
| 2.80 | 46 | 16 | 7.10  | 74 | 34 |
| 2.85 | 46 | 16 | 7.20  | 74 | 34 |
| 2.90 | 46 | 16 | 7.30  | 74 | 34 |
| 2.95 | 46 | 16 | 7.40  | 74 | 34 |
| 3.00 | 46 | 16 | 7.50  | 79 | 37 |
| 3.10 | 49 | 18 | 7.60  | 79 | 37 |
| 3.20 | 49 | 18 | 7.70  | 79 | 37 |
| 3.30 | 49 | 18 | 7.80  | 79 | 37 |
| 3.40 | 52 | 20 | 7.90  | 79 | 37 |
| 3.50 | 52 | 20 | 8.00  | 79 | 37 |
| 3.60 | 52 | 20 | 8.20  | 79 | 37 |
| 3.70 | 52 | 20 | 8.50  | 79 | 37 |
| 3.80 | 55 | 22 | 8.80  | 84 | 40 |
| 3.90 | 55 | 22 | 9.00  | 84 | 40 |
| 4.00 | 55 | 22 | 9.20  | 84 | 40 |
| 4.10 | 55 | 22 | 9.50  | 84 | 40 |
| 4.20 | 55 | 22 | 9.80  | 89 | 43 |
| 4.30 | 58 | 24 | 10.00 | 89 | 43 |
| 4.40 | 58 | 24 |       |    |    |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Forets à hélice progressive en métal dur  
Vollhartmetall-Bohrer mit progressiver Spirale  
Solid carbide twist drills with progressive spiral

Type WINNER  
DIN 1897  
Art. N° 2005  
R

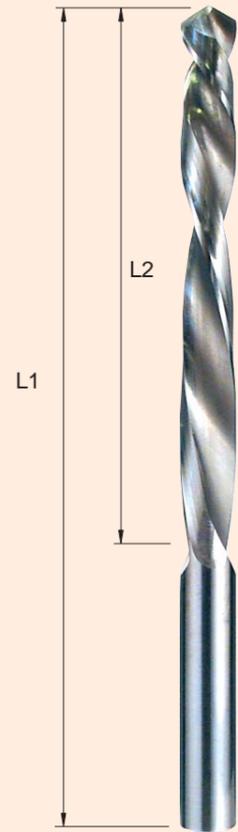


| D h6 | L1 | L2 | D h6  | L1 | L2 |
|------|----|----|-------|----|----|
| 1.50 | 32 | 9  | 4.50  | 58 | 24 |
| 1.55 | 34 | 10 | 4.60  | 58 | 24 |
| 1.60 | 34 | 10 | 4.70  | 58 | 24 |
| 1.65 | 34 | 10 | 4.80  | 62 | 26 |
| 1.70 | 34 | 10 | 4.90  | 62 | 26 |
| 1.75 | 36 | 11 | 5.00  | 62 | 26 |
| 1.80 | 36 | 11 | 5.10  | 62 | 26 |
| 1.85 | 36 | 11 | 5.20  | 62 | 26 |
| 1.90 | 36 | 11 | 5.30  | 62 | 26 |
| 1.95 | 38 | 12 | 5.40  | 66 | 28 |
| 2.00 | 38 | 12 | 5.50  | 66 | 28 |
| 2.05 | 38 | 12 | 5.60  | 66 | 28 |
| 2.10 | 38 | 12 | 5.70  | 66 | 28 |
| 2.15 | 40 | 13 | 5.80  | 66 | 28 |
| 2.20 | 40 | 13 | 5.90  | 66 | 28 |
| 2.25 | 40 | 13 | 6.00  | 66 | 28 |
| 2.30 | 40 | 13 | 6.10  | 70 | 31 |
| 2.35 | 40 | 13 | 6.20  | 70 | 31 |
| 2.40 | 43 | 14 | 6.30  | 70 | 31 |
| 2.45 | 43 | 14 | 6.40  | 70 | 31 |
| 2.50 | 43 | 14 | 6.50  | 70 | 31 |
| 2.55 | 43 | 14 | 6.60  | 70 | 31 |
| 2.60 | 43 | 14 | 6.70  | 70 | 31 |
| 2.65 | 43 | 14 | 6.80  | 74 | 34 |
| 2.70 | 46 | 16 | 6.90  | 74 | 34 |
| 2.75 | 46 | 16 | 7.00  | 74 | 34 |
| 2.80 | 46 | 16 | 7.10  | 74 | 34 |
| 2.85 | 46 | 16 | 7.20  | 74 | 34 |
| 2.90 | 46 | 16 | 7.30  | 74 | 34 |
| 2.95 | 46 | 16 | 7.40  | 74 | 34 |
| 3.00 | 46 | 16 | 7.50  | 79 | 37 |
| 3.10 | 49 | 18 | 7.60  | 79 | 37 |
| 3.20 | 49 | 18 | 7.70  | 79 | 37 |
| 3.30 | 49 | 18 | 7.80  | 79 | 37 |
| 3.40 | 52 | 20 | 7.90  | 79 | 37 |
| 3.50 | 52 | 20 | 8.00  | 79 | 37 |
| 3.60 | 52 | 20 | 8.20  | 79 | 37 |
| 3.70 | 52 | 20 | 8.50  | 79 | 37 |
| 3.80 | 55 | 22 | 8.80  | 84 | 40 |
| 3.90 | 55 | 22 | 9.00  | 84 | 40 |
| 4.00 | 55 | 22 | 9.20  | 84 | 40 |
| 4.10 | 55 | 22 | 9.50  | 84 | 40 |
| 4.20 | 55 | 22 | 9.80  | 89 | 43 |
| 4.30 | 58 | 24 | 10.00 | 89 | 43 |
| 4.40 | 58 | 24 |       |    |    |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Forets à hélice progressive en métal dur  
 Vollhartmetall-Bohrer mit progressiver Spirale  
 Solid carbide twist drills with progressive spiral

|                       |                        |          |
|-----------------------|------------------------|----------|
| Type<br><b>WINNER</b> | Art. N°<br><b>1006</b> | <b>L</b> |
| <b>DIN 338</b>        |                        |          |



| D h6 | L1 | L2 | D h6 | L1 | L2 |
|------|----|----|------|----|----|
| 1.50 | 40 | 18 | 4.50 | 80 | 47 |
| 1.55 | 43 | 20 | 4.60 | 80 | 47 |
| 1.60 | 43 | 20 | 4.70 | 80 | 47 |
| 1.65 | 43 | 20 | 4.80 | 86 | 52 |
| 1.70 | 43 | 20 | 4.90 | 86 | 52 |
| 1.75 | 46 | 22 | 5.00 | 86 | 52 |
| 1.80 | 46 | 22 | 5.10 | 86 | 52 |
| 1.85 | 46 | 22 | 5.20 | 86 | 52 |
| 1.90 | 46 | 22 | 5.30 | 86 | 52 |
| 1.95 | 49 | 24 | 5.40 | 93 | 57 |
| 2.00 | 49 | 24 | 5.50 | 93 | 57 |
| 2.05 | 49 | 24 | 5.60 | 93 | 57 |
| 2.10 | 49 | 24 | 5.70 | 93 | 57 |
| 2.15 | 53 | 27 | 5.80 | 93 | 57 |
| 2.20 | 53 | 27 | 5.90 | 93 | 27 |
| 2.25 | 53 | 27 | 6.00 | 93 | 27 |
| 2.30 | 53 | 27 |      |    |    |
| 2.35 | 53 | 27 |      |    |    |
| 2.40 | 57 | 30 |      |    |    |
| 2.45 | 57 | 30 |      |    |    |
| 2.50 | 57 | 30 |      |    |    |
| 2.55 | 57 | 30 |      |    |    |
| 2.60 | 57 | 30 |      |    |    |
| 2.65 | 57 | 30 |      |    |    |
| 2.70 | 61 | 33 |      |    |    |
| 2.75 | 61 | 33 |      |    |    |
| 2.80 | 61 | 33 |      |    |    |
| 2.85 | 61 | 33 |      |    |    |
| 2.90 | 61 | 33 |      |    |    |
| 2.95 | 61 | 33 |      |    |    |
| 3.00 | 61 | 33 |      |    |    |
| 3.10 | 65 | 36 |      |    |    |
| 3.20 | 65 | 36 |      |    |    |
| 3.30 | 65 | 36 |      |    |    |
| 3.40 | 70 | 39 |      |    |    |
| 3.50 | 70 | 39 |      |    |    |
| 3.60 | 70 | 39 |      |    |    |
| 3.70 | 70 | 39 |      |    |    |
| 3.80 | 75 | 43 |      |    |    |
| 3.90 | 75 | 43 |      |    |    |
| 4.00 | 75 | 43 |      |    |    |
| 4.10 | 75 | 43 |      |    |    |
| 4.20 | 75 | 43 |      |    |    |
| 4.30 | 80 | 47 |      |    |    |
| 4.40 | 80 | 47 |      |    |    |

Revêtement sur demande  
 Beschichtung auf Anfrage  
 Coating on request

Forets à hélice progressive en métal dur  
 Vollhartmetall-Bohrer mit progressiver Spirale  
 Solid carbide twist drills with progressive spiral

|                       |                        |          |
|-----------------------|------------------------|----------|
| Type<br><b>WINNER</b> | Art. N°<br><b>2006</b> | <b>R</b> |
| <b>DIN 338</b>        |                        |          |

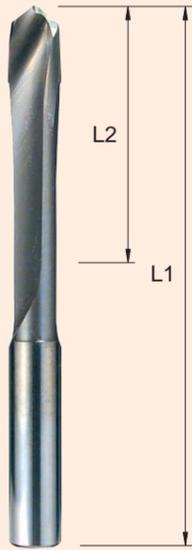


| D h6 | L1 | L2 | D h6 | L1 | L2 |
|------|----|----|------|----|----|
| 1.50 | 40 | 18 | 4.50 | 80 | 47 |
| 1.55 | 43 | 20 | 4.60 | 80 | 47 |
| 1.60 | 43 | 20 | 4.70 | 80 | 47 |
| 1.65 | 43 | 20 | 4.80 | 86 | 52 |
| 1.70 | 43 | 20 | 4.90 | 86 | 52 |
| 1.75 | 46 | 22 | 5.00 | 86 | 52 |
| 1.80 | 46 | 22 | 5.10 | 86 | 52 |
| 1.85 | 46 | 22 | 5.20 | 86 | 52 |
| 1.90 | 46 | 22 | 5.30 | 86 | 52 |
| 1.95 | 49 | 24 | 5.40 | 93 | 57 |
| 2.00 | 49 | 24 | 5.50 | 93 | 57 |
| 2.05 | 49 | 24 | 5.60 | 93 | 57 |
| 2.10 | 49 | 24 | 5.70 | 93 | 57 |
| 2.15 | 53 | 27 | 5.80 | 93 | 57 |
| 2.20 | 53 | 27 | 5.90 | 93 | 57 |
| 2.25 | 53 | 27 | 6.00 | 93 | 57 |
| 2.30 | 53 | 27 |      |    |    |
| 2.35 | 53 | 27 |      |    |    |
| 2.40 | 57 | 30 |      |    |    |
| 2.45 | 57 | 30 |      |    |    |
| 2.50 | 57 | 30 |      |    |    |
| 2.55 | 57 | 30 |      |    |    |
| 2.60 | 57 | 30 |      |    |    |
| 2.65 | 57 | 30 |      |    |    |
| 2.70 | 61 | 33 |      |    |    |
| 2.75 | 61 | 33 |      |    |    |
| 2.80 | 61 | 33 |      |    |    |
| 2.85 | 61 | 33 |      |    |    |
| 2.90 | 61 | 33 |      |    |    |
| 2.95 | 61 | 33 |      |    |    |
| 3.00 | 61 | 33 |      |    |    |
| 3.10 | 65 | 36 |      |    |    |
| 3.20 | 65 | 36 |      |    |    |
| 3.30 | 65 | 36 |      |    |    |
| 3.40 | 70 | 39 |      |    |    |
| 3.50 | 70 | 39 |      |    |    |
| 3.60 | 70 | 39 |      |    |    |
| 3.70 | 70 | 39 |      |    |    |
| 3.80 | 75 | 43 |      |    |    |
| 3.90 | 75 | 43 |      |    |    |
| 4.00 | 75 | 43 |      |    |    |
| 4.10 | 75 | 43 |      |    |    |
| 4.20 | 75 | 43 |      |    |    |
| 4.30 | 80 | 47 |      |    |    |
| 4.40 | 80 | 47 |      |    |    |

Revêtement sur demande  
 Beschichtung auf Anfrage  
 Coating on request

Forets à hélice partielle en métal dur  
Vollhartmetall Bohrer mit Spiralspitze  
Solid carbide drills with partial spiral

|                     |                        |          |
|---------------------|------------------------|----------|
| Type<br><b>THOR</b> | Art. N°<br><b>2000</b> | <b>R</b> |
| <b>DIN 1897</b>     |                        |          |



| D h6 | L1 | L2 | D h6  | L1 | L2 |
|------|----|----|-------|----|----|
| 1.50 | 32 | 9  | 4.50  | 58 | 24 |
| 1.55 | 34 | 10 | 4.60  | 58 | 24 |
| 1.60 | 34 | 10 | 4.70  | 58 | 24 |
| 1.65 | 34 | 10 | 4.80  | 62 | 26 |
| 1.70 | 34 | 10 | 4.90  | 62 | 26 |
| 1.75 | 36 | 11 | 5.00  | 62 | 26 |
| 1.80 | 36 | 11 | 5.10  | 62 | 26 |
| 1.85 | 36 | 11 | 5.20  | 62 | 26 |
| 1.90 | 36 | 11 | 5.30  | 62 | 26 |
| 1.95 | 38 | 12 | 5.40  | 66 | 28 |
| 2.00 | 38 | 12 | 5.50  | 66 | 28 |
| 2.05 | 38 | 12 | 5.60  | 66 | 28 |
| 2.10 | 38 | 12 | 5.70  | 66 | 28 |
| 2.15 | 40 | 13 | 5.80  | 66 | 28 |
| 2.20 | 40 | 13 | 5.90  | 66 | 28 |
| 2.25 | 40 | 13 | 6.00  | 66 | 28 |
| 2.30 | 40 | 13 | 6.10  | 70 | 31 |
| 2.35 | 40 | 13 | 6.20  | 70 | 31 |
| 2.40 | 43 | 14 | 6.30  | 70 | 31 |
| 2.45 | 43 | 14 | 6.40  | 70 | 31 |
| 2.50 | 43 | 14 | 6.50  | 70 | 31 |
| 2.55 | 43 | 14 | 6.60  | 70 | 31 |
| 2.60 | 43 | 14 | 6.70  | 70 | 31 |
| 2.65 | 43 | 14 | 6.80  | 74 | 34 |
| 2.70 | 46 | 16 | 6.90  | 74 | 34 |
| 2.75 | 46 | 16 | 7.00  | 74 | 34 |
| 2.80 | 46 | 16 | 7.10  | 74 | 34 |
| 2.85 | 46 | 16 | 7.20  | 74 | 34 |
| 2.90 | 46 | 16 | 7.30  | 74 | 34 |
| 2.95 | 46 | 16 | 7.40  | 74 | 34 |
| 3.00 | 46 | 16 | 7.50  | 79 | 37 |
| 3.10 | 49 | 18 | 7.60  | 79 | 37 |
| 3.20 | 49 | 18 | 7.70  | 79 | 37 |
| 3.30 | 49 | 18 | 7.80  | 79 | 37 |
| 3.40 | 52 | 20 | 7.90  | 79 | 37 |
| 3.50 | 52 | 20 | 8.00  | 79 | 37 |
| 3.60 | 52 | 20 | 8.20  | 79 | 37 |
| 3.70 | 52 | 20 | 8.50  | 79 | 37 |
| 3.80 | 55 | 22 | 8.80  | 84 | 40 |
| 3.90 | 55 | 22 | 9.00  | 84 | 40 |
| 4.00 | 55 | 22 | 9.20  | 84 | 40 |
| 4.10 | 55 | 22 | 9.50  | 84 | 40 |
| 4.20 | 55 | 22 | 9.80  | 89 | 43 |
| 4.30 | 58 | 24 | 10.00 | 89 | 43 |
| 4.40 | 58 | 24 |       |    |    |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Forets à hélice partielle en métal dur  
Vollhartmetall Bohrer mit Spiralspitze  
Solid carbide drills with partial spiral

|                     |                        |          |
|---------------------|------------------------|----------|
| Type<br><b>THOR</b> | Art. N°<br><b>2001</b> | <b>R</b> |
| <b>DIN 338</b>      |                        |          |



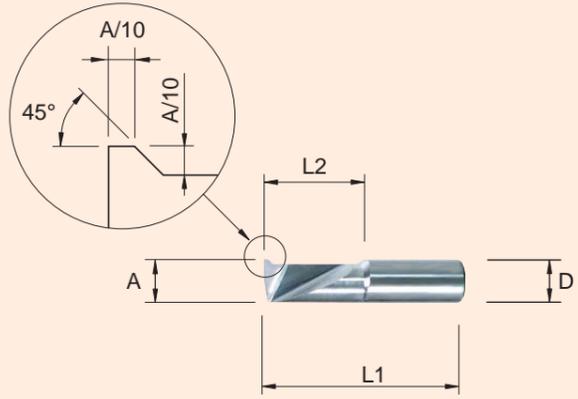
| D h6 | L1 | L2 | D h6 | L1 | L2 |
|------|----|----|------|----|----|
| 2.00 | 49 | 24 | 5.20 | 86 | 52 |
| 2.05 | 49 | 24 | 5.30 | 86 | 52 |
| 2.10 | 49 | 24 | 5.40 | 93 | 57 |
| 2.15 | 53 | 27 | 5.50 | 93 | 57 |
| 2.20 | 53 | 27 | 5.60 | 93 | 57 |
| 2.25 | 53 | 27 | 5.70 | 93 | 57 |
| 2.30 | 53 | 27 | 5.80 | 93 | 57 |
| 2.35 | 53 | 27 | 5.90 | 93 | 57 |
| 2.40 | 57 | 30 | 6.00 | 93 | 57 |
| 2.45 | 57 | 30 |      |    |    |
| 2.50 | 57 | 30 |      |    |    |
| 2.55 | 57 | 30 |      |    |    |
| 2.60 | 57 | 30 |      |    |    |
| 2.65 | 57 | 30 |      |    |    |
| 2.70 | 61 | 33 |      |    |    |
| 2.75 | 61 | 33 |      |    |    |
| 2.80 | 61 | 33 |      |    |    |
| 2.85 | 61 | 33 |      |    |    |
| 2.90 | 61 | 33 |      |    |    |
| 2.95 | 61 | 33 |      |    |    |
| 3.00 | 61 | 33 |      |    |    |
| 3.10 | 65 | 36 |      |    |    |
| 3.20 | 65 | 36 |      |    |    |
| 3.30 | 65 | 36 |      |    |    |
| 3.40 | 70 | 39 |      |    |    |
| 3.50 | 70 | 39 |      |    |    |
| 3.60 | 70 | 39 |      |    |    |
| 3.70 | 70 | 39 |      |    |    |
| 3.80 | 75 | 43 |      |    |    |
| 3.90 | 75 | 43 |      |    |    |
| 4.00 | 75 | 43 |      |    |    |
| 4.10 | 75 | 43 |      |    |    |
| 4.20 | 75 | 43 |      |    |    |
| 4.30 | 80 | 47 |      |    |    |
| 4.40 | 80 | 47 |      |    |    |
| 4.50 | 80 | 47 |      |    |    |
| 4.60 | 80 | 47 |      |    |    |
| 4.70 | 80 | 47 |      |    |    |
| 4.80 | 86 | 52 |      |    |    |
| 4.90 | 86 | 52 |      |    |    |
| 5.00 | 86 | 52 |      |    |    |
| 5.10 | 86 | 52 |      |    |    |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Burins intérieurs en métal dur  
Vollhartmetall-Innendrehwerkzeuge  
Solid carbide internal turning tools

Type 1600

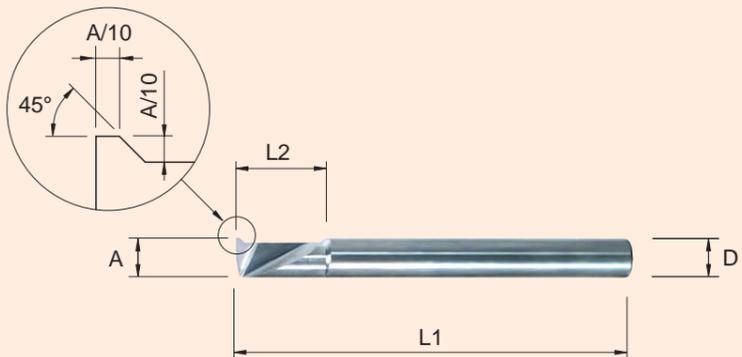
L



| A <sup>-0.05</sup> | D | L1 | L2 | Art. N°   |
|--------------------|---|----|----|-----------|
| 2                  | 3 | 13 | 4  | 1600-2-4  |
| 3                  | 3 | 15 | 6  | 1600-3-6  |
| 4                  | 4 | 17 | 8  | 1600-4-8  |
| 4                  | 4 | 21 | 12 | 1600-4-12 |
| 5                  | 5 | 21 | 10 | 1600-5-10 |
| 5                  | 5 | 26 | 15 | 1600-5-15 |
| 6                  | 6 | 25 | 12 | 1600-6-12 |
| 6                  | 6 | 31 | 18 | 1600-6-18 |
| 8                  | 8 | 32 | 16 | 1600-8-16 |
| 8                  | 8 | 40 | 24 | 1600-8-24 |

Type 1610

L



| A <sup>-0.05</sup> | D | L1 | L2 | Art. N°   |
|--------------------|---|----|----|-----------|
| 2                  | 3 | 38 | 4  | 1610-2-4  |
| 3                  | 3 | 38 | 6  | 1610-3-6  |
| 4                  | 4 | 40 | 8  | 1610-4-8  |
| 4                  | 4 | 40 | 12 | 1610-4-12 |
| 5                  | 5 | 50 | 10 | 1610-5-10 |
| 5                  | 5 | 54 | 15 | 1610-5-15 |
| 6                  | 6 | 50 | 12 | 1610-6-12 |
| 6                  | 6 | 57 | 18 | 1610-6-18 |
| 8                  | 8 | 58 | 16 | 1610-8-16 |
| 8                  | 8 | 63 | 24 | 1610-8-24 |

Fraises à angler coniques en métal dur  
Vollhartmetall-Kegelsenker  
Solid carbide chamfering tools

Type 1901

Z=4

L



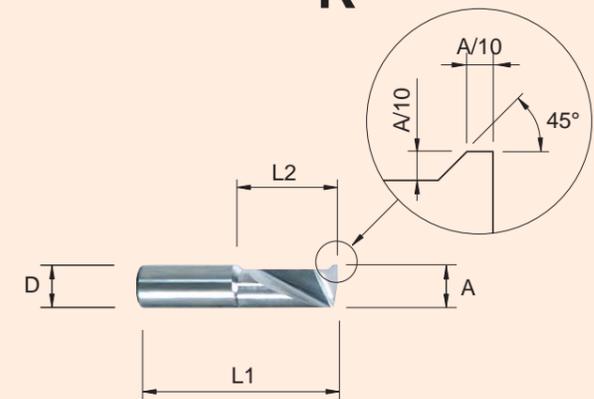
| A   | D    | d min. | L  | Art. N° |
|-----|------|--------|----|---------|
| 90° | 3.0  | 0.5    | 38 | 1901-3  |
| 90° | 6.0  | 1.0    | 50 | 1901-6  |
| 90° | 8.0  | 1.5    | 58 | 1901-8  |
| 90° | 12.0 | 2.0    | 73 | 1901-12 |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Burins intérieurs en métal dur  
Vollhartmetall-Innendrehwerkzeuge  
Solid carbide internal turning tools

Type 2620

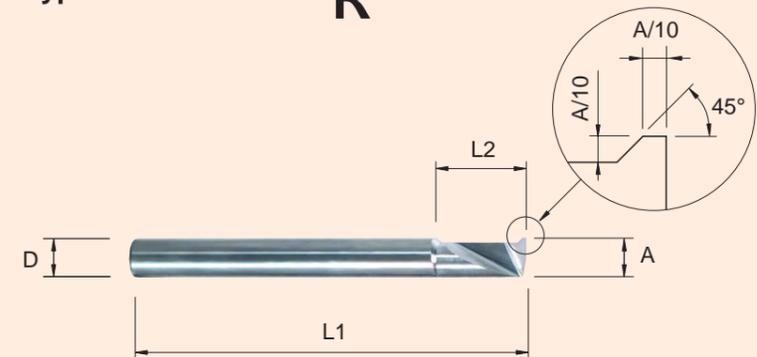
R



| A <sup>-0.05</sup> | D | L1 | L2 | Art. N°   |
|--------------------|---|----|----|-----------|
| 2                  | 3 | 13 | 4  | 2620-2-4  |
| 3                  | 3 | 15 | 6  | 2620-3-6  |
| 4                  | 4 | 17 | 8  | 2620-4-8  |
| 4                  | 4 | 21 | 12 | 2620-4-12 |
| 5                  | 5 | 21 | 10 | 2620-5-10 |
| 5                  | 5 | 26 | 15 | 2620-5-15 |
| 6                  | 6 | 25 | 12 | 2620-6-12 |
| 6                  | 6 | 31 | 18 | 2620-6-18 |
| 8                  | 8 | 32 | 16 | 2620-8-16 |
| 8                  | 8 | 40 | 24 | 2620-8-24 |

Type 2630

R



| A <sup>-0.05</sup> | D  | L1 | L2 | Art. N°    |
|--------------------|----|----|----|------------|
| 2                  | 3  | 38 | 4  | 2630-2-4   |
| 3                  | 3  | 38 | 6  | 2630-3-6   |
| 4                  | 4  | 40 | 8  | 2630-4-8   |
| 4                  | 4  | 40 | 12 | 2630-4-12  |
| 5                  | 5  | 50 | 10 | 2630-5-10  |
| 5                  | 5  | 54 | 15 | 2630-5-15  |
| 6                  | 6  | 50 | 12 | 2630-6-12  |
| 6                  | 6  | 57 | 18 | 2630-6-18  |
| 8                  | 8  | 58 | 16 | 2630-8-16  |
| 8                  | 8  | 63 | 24 | 2630-8-24  |
| 10                 | 10 | 72 | 30 | 2630-10-30 |
| 12                 | 12 | 83 | 36 | 2630-12-36 |

Fraises à angler coniques en métal dur  
Vollhartmetall-Kegelsenker  
Solid carbide chamfering tools

Type 3901

Z=4

R



| A   | D    | d min. | L  | Art. N° |
|-----|------|--------|----|---------|
| 90° | 3.0  | 0.5    | 38 | 3901-3  |
| 90° | 6.0  | 1.0    | 50 | 3901-6  |
| 90° | 8.0  | 1.5    | 58 | 3901-8  |
| 90° | 12.0 | 2.0    | 73 | 3901-12 |

Type 3911

Z=3

R



| A   | D1  | d min. | D2 h6 | L1 | L2  | Art. N°  |
|-----|-----|--------|-------|----|-----|----------|
| 90° | 1.0 | 0.3    | 3.0   | 39 | 3   | 3911-1.0 |
| 90° | 1.5 | 0.3    | 3.0   | 39 | 4.5 | 3911-1.5 |
| 90° | 2.0 | 0.3    | 3.0   | 39 | 6   | 3911-2.0 |
| 90° | 2.5 | 0.3    | 3.0   | 39 | 7.5 | 3911-2.5 |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Alésoirs en métal dur  
VHM-Reibahlen  
Solid carbide reamers

Type 2100

Coupe à droite, hélice à gauche 8°  
Rechtsschneidend, linksdrall 8°  
Right-hand cut, left-hand spiral 8°



nombre de dents  
Zähnezahl  
number of teeth

0.97 - 4.50 → Z = 4  
4.60 - 12.0 → Z = 6

Tolérance D1  
D1-Toleranz  
Tolerance D1

|      |                 |                   |
|------|-----------------|-------------------|
| Ø    | 0.97 - 3.03     | → 0 / +0.003      |
|      | 3.10 - 10.03    | → 0 / +0.004      |
| Ø H7 | 1.0H7 - 3.0H7   | → +0.004 / +0.008 |
|      | 3.5H7 - 6.0H7   | → +0.005 / +0.010 |
|      | 6.5H7 - 10.0H7  | → +0.006 / +0.012 |
|      | 11.0H7 - 12.0H7 | → +0.008 / +0.015 |

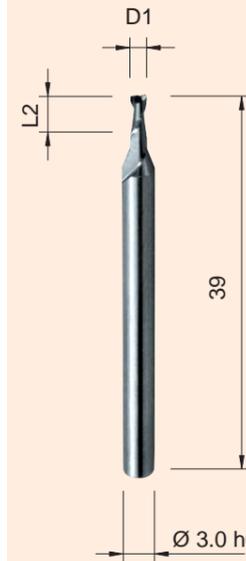
Ø H7  
= ~ 40%  
tol.  
(VSM  
34306)

| D1    | D2  | L1 | L2 | L3 | D1    | D2  | L1 | L2 | L3 | D1    | D2  | L1  | L2 | L3 | D1     | D2   | L1  | L2 | L3 |
|-------|-----|----|----|----|-------|-----|----|----|----|-------|-----|-----|----|----|--------|------|-----|----|----|
| 0.97  | 1.5 | 50 | 15 | 30 | 2.52  | 2.5 | 50 | 15 | 30 | 4.50  | 4.5 | 60  | 20 | 40 | 6.99   | 7.0  | 100 | 30 | 65 |
| 0.98  | 1.5 | 50 | 15 | 30 | 2.53  | 2.5 | 50 | 15 | 30 | 4.5H7 | 4.5 | 60  | 20 | 40 | 7.00   | 7.0  | 100 | 30 | 65 |
| 0.99  | 1.5 | 50 | 15 | 30 | 2.60  | 3.0 | 60 | 20 | 40 | 4.60  | 5.0 | 75  | 25 | 50 | 7.0H7  | 7.0  | 100 | 30 | 65 |
| 1.00  | 1.5 | 50 | 15 | 30 | 2.70  | 3.0 | 60 | 20 | 40 | 4.70  | 5.0 | 75  | 25 | 50 | 7.01   | 7.0  | 100 | 30 | 65 |
| 1.0H7 | 1.5 | 50 | 15 | 30 | 2.80  | 3.0 | 60 | 20 | 40 | 4.80  | 5.0 | 75  | 25 | 50 | 7.02   | 7.0  | 100 | 30 | 65 |
| 1.01  | 1.5 | 50 | 15 | 30 | 2.90  | 3.0 | 60 | 20 | 40 | 4.90  | 5.0 | 75  | 25 | 50 | 7.03   | 7.0  | 100 | 30 | 65 |
| 1.02  | 1.5 | 50 | 15 | 30 | 2.97  | 3.0 | 60 | 20 | 40 | 4.97  | 5.0 | 75  | 25 | 50 | 7.97   | 8.0  | 100 | 30 | 65 |
| 1.03  | 1.5 | 50 | 15 | 30 | 2.98  | 3.0 | 60 | 20 | 40 | 4.98  | 5.0 | 75  | 25 | 50 | 7.98   | 8.0  | 100 | 30 | 65 |
| 1.10  | 1.5 | 50 | 15 | 30 | 2.99  | 3.0 | 60 | 20 | 40 | 4.99  | 5.0 | 75  | 25 | 50 | 7.99   | 8.0  | 100 | 30 | 65 |
| 1.20  | 1.5 | 50 | 15 | 30 | 3.00  | 3.0 | 60 | 20 | 40 | 5.00  | 5.0 | 75  | 25 | 50 | 8.00   | 8.0  | 100 | 30 | 65 |
| 1.30  | 1.5 | 50 | 15 | 30 | 3.0H7 | 3.0 | 60 | 20 | 40 | 5.0H7 | 5.0 | 75  | 25 | 50 | 8.0H7  | 8.0  | 100 | 30 | 65 |
| 1.40  | 1.5 | 50 | 15 | 30 | 3.01  | 3.0 | 60 | 20 | 40 | 5.01  | 5.0 | 75  | 25 | 50 | 8.01   | 8.0  | 100 | 30 | 65 |
| 1.50  | 1.5 | 50 | 15 | 30 | 3.02  | 3.0 | 60 | 20 | 40 | 5.02  | 5.0 | 75  | 25 | 50 | 8.02   | 8.0  | 100 | 30 | 65 |
| 1.5H7 | 1.5 | 50 | 15 | 30 | 3.03  | 3.0 | 60 | 20 | 40 | 5.03  | 5.0 | 75  | 25 | 50 | 8.03   | 8.0  | 100 | 30 | 65 |
| 1.60  | 2.0 | 50 | 15 | 30 | 3.10  | 3.5 | 60 | 20 | 40 | 5.10  | 6.0 | 75  | 25 | 50 | 8.97   | 9.0  | 100 | 30 | 65 |
| 1.70  | 2.0 | 50 | 15 | 30 | 3.20  | 3.5 | 60 | 20 | 40 | 5.20  | 6.0 | 75  | 25 | 50 | 8.98   | 9.0  | 100 | 30 | 65 |
| 1.80  | 2.0 | 50 | 15 | 30 | 3.30  | 3.5 | 60 | 20 | 40 | 5.30  | 6.0 | 75  | 25 | 50 | 8.99   | 9.0  | 100 | 30 | 65 |
| 1.90  | 2.0 | 50 | 15 | 30 | 3.40  | 3.5 | 60 | 20 | 40 | 5.40  | 6.0 | 75  | 25 | 50 | 9.00   | 9.0  | 100 | 30 | 65 |
| 1.97  | 2.0 | 50 | 15 | 30 | 3.50  | 3.5 | 60 | 20 | 40 | 5.50  | 6.0 | 75  | 25 | 50 | 9.0H7  | 9.0  | 100 | 30 | 65 |
| 1.98  | 2.0 | 50 | 15 | 30 | 3.5H7 | 3.5 | 60 | 20 | 40 | 5.5H7 | 6.0 | 75  | 25 | 50 | 9.01   | 9.0  | 100 | 30 | 65 |
| 1.99  | 2.0 | 50 | 15 | 30 | 3.60  | 4.0 | 60 | 20 | 40 | 5.60  | 6.0 | 75  | 25 | 50 | 9.02   | 9.0  | 100 | 30 | 65 |
| 2.00  | 2.0 | 50 | 15 | 30 | 3.70  | 4.0 | 60 | 20 | 40 | 5.70  | 6.0 | 75  | 25 | 50 | 9.03   | 9.0  | 100 | 30 | 65 |
| 2.0H7 | 2.0 | 50 | 15 | 30 | 3.80  | 4.0 | 60 | 20 | 40 | 5.80  | 6.0 | 75  | 25 | 50 | 9.97   | 10.0 | 100 | 30 | 65 |
| 2.01  | 2.0 | 50 | 15 | 30 | 3.90  | 4.0 | 60 | 20 | 40 | 5.90  | 6.0 | 75  | 25 | 50 | 9.98   | 10.0 | 100 | 30 | 65 |
| 2.02  | 2.0 | 50 | 15 | 30 | 3.97  | 4.0 | 60 | 20 | 40 | 5.97  | 6.0 | 75  | 25 | 50 | 9.99   | 10.0 | 100 | 30 | 65 |
| 2.03  | 2.0 | 50 | 15 | 30 | 3.98  | 4.0 | 60 | 20 | 40 | 5.98  | 6.0 | 75  | 25 | 50 | 10.00  | 10.0 | 100 | 30 | 65 |
| 2.10  | 2.5 | 50 | 15 | 30 | 3.99  | 4.0 | 60 | 20 | 40 | 5.99  | 6.0 | 75  | 25 | 50 | 10.0H7 | 10.0 | 100 | 30 | 65 |
| 2.20  | 2.5 | 50 | 15 | 30 | 4.00  | 4.0 | 60 | 20 | 40 | 6.00  | 6.0 | 75  | 25 | 50 | 10.01  | 10.0 | 100 | 30 | 65 |
| 2.30  | 2.5 | 50 | 15 | 30 | 4.0H7 | 4.0 | 60 | 20 | 40 | 6.0H7 | 6.0 | 75  | 25 | 50 | 10.02  | 10.0 | 100 | 30 | 65 |
| 2.40  | 2.5 | 50 | 15 | 30 | 4.01  | 4.0 | 60 | 20 | 40 | 6.01  | 6.0 | 75  | 25 | 50 | 10.03  | 10.0 | 100 | 30 | 65 |
| 2.47  | 2.5 | 50 | 15 | 30 | 4.02  | 4.0 | 60 | 20 | 40 | 6.02  | 6.0 | 75  | 25 | 50 | 11.0H7 | 11.0 | 100 | 30 | 65 |
| 2.48  | 2.5 | 50 | 15 | 30 | 4.03  | 4.0 | 60 | 20 | 40 | 6.03  | 6.0 | 75  | 25 | 50 | 12.0H7 | 12.0 | 100 | 30 | 65 |
| 2.49  | 2.5 | 50 | 15 | 30 | 4.10  | 4.5 | 60 | 20 | 40 | 6.50  | 7.0 | 75  | 25 | 50 |        |      |     |    |    |
| 2.50  | 2.5 | 50 | 15 | 30 | 4.20  | 4.5 | 60 | 20 | 40 | 6.5H7 | 7.0 | 75  | 25 | 50 |        |      |     |    |    |
| 2.5H7 | 2.5 | 50 | 15 | 30 | 4.30  | 4.5 | 60 | 20 | 40 | 6.97  | 7.0 | 100 | 30 | 65 |        |      |     |    |    |
| 2.51  | 2.5 | 50 | 15 | 30 | 4.40  | 4.5 | 60 | 20 | 40 | 6.98  | 7.0 | 100 | 30 | 65 |        |      |     |    |    |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Micro-fraises de précision en métal dur  
Vollhartmetall-Micropräzisionsfräser  
Solid carbide precision micro end mills

Type 3271



| D1<br>+/- 0.015 | L2  | D1<br>+/- 0.015 | L2 |
|-----------------|-----|-----------------|----|
| 0.3             | 1   | 1.6             | 4  |
| 0.4             | 1   | 1.7             | 5  |
| 0.5             | 1.5 | 1.8             | 5  |
| 0.6             | 1.5 | 1.9             | 5  |
| 0.7             | 2   | 2.0             | 5  |
| 0.75            | 2   | 2.1             | 5  |
| 0.8             | 2   | 2.2             | 5  |
| 0.9             | 2.5 | 2.3             | 7  |
| 1.0             | 3   | 2.4             | 7  |
| 1.1             | 3   | 2.5             | 7  |
| 1.2             | 4   | 2.6             | 7  |
| 1.3             | 4   | 2.7             | 7  |
| 1.4             | 4   | 2.8             | 7  |
| 1.5             | 4   | 2.9             | 7  |

Z=2 coupe au centre  
Zentrumsschnitt  
cut over center

30° hélice  
Drall  
spiral

Type 3274



| D1<br>+/- 0.015 | L2   | D1<br>+/- 0.015 | L2   |
|-----------------|------|-----------------|------|
| 0.2             | 0.3  | 1.1             | 1.65 |
| 0.25            | 0.35 | 1.2             | 1.8  |
| 0.3             | 0.45 | 1.3             | 1.95 |
| 0.4             | 0.6  | 1.4             | 2.1  |
| 0.5             | 0.75 | 1.5             | 2.25 |
| 0.6             | 0.9  | 1.6             | 2.4  |
| 0.7             | 1.05 | 1.7             | 2.55 |
| 0.8             | 1.2  | 1.8             | 2.7  |
| 0.9             | 1.35 | 1.9             | 2.85 |
| 1.0             | 1.5  | 2.0             | 3.0  |

Z=2 coupe au centre  
Zentrumsschnitt  
cut over center

30° hélice  
Drall  
spiral

extra-courte  
Extra kurz  
extra short

Type 3371



| D1<br>+/- 0.015 | L2  | D1<br>+/- 0.015 | L2 |
|-----------------|-----|-----------------|----|
| 0.5             | 1.5 | 1.7             | 5  |
| 0.6             | 1.5 | 1.8             | 5  |
| 0.7             | 2   | 1.9             | 5  |
| 0.75            | 2   | 2.0             | 5  |
| 0.8             | 2   | 2.1             | 5  |
| 0.9             | 2.5 | 2.2             | 5  |
| 1.0             | 3   | 2.3             | 7  |
| 1.1             | 3   | 2.4             | 7  |
| 1.2             | 4   | 2.5             | 7  |
| 1.3             | 4   | 2.6             | 7  |
| 1.4             | 4   | 2.7             | 7  |
| 1.5             | 4   | 2.8             | 7  |
| 1.6             | 4   | 2.9             | 7  |

Z=3 coupe au centre  
Zentrumsschnitt  
cut over center

30° hélice  
Drall  
spiral

Type 3374



| D1<br>+/- 0.015 | L2  | D1<br>+/- 0.015 | L2  |
|-----------------|-----|-----------------|-----|
| 0.4             | 0.6 | 1.4             | 1.8 |
| 0.45            | 0.7 | 1.5             | 1.8 |
| 0.5             | 0.7 | 1.6             | 2.0 |
| 0.6             | 0.8 | 1.7             | 2.0 |
| 0.7             | 0.9 | 1.8             | 2.0 |
| 0.8             | 1.0 | 1.9             | 2.4 |
| 0.9             | 1.3 | 2.0             | 2.4 |
| 1.0             | 1.3 | 2.2             | 2.6 |
| 1.1             | 1.6 | 2.5             | 3.0 |
| 1.2             | 1.6 | 2.8             | 3.5 |
| 1.3             | 1.8 | 2.9             | 3.5 |

Z=3 coupe au centre  
Zentrumsschnitt  
cut over center

30° hélice  
Drall  
spiral

extra-courte  
Extra kurz  
extra short

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Micro-fraises de précision en métal dur  
Vollhartmetall-Micropräzisionsfräser  
Solid carbide precision micro end mills

**Type 3278**

hémisphérique  
Stinradius  
ball end

| D1<br>+/- 0.015 | L2  | D1<br>+/- 0.015 | L2 |
|-----------------|-----|-----------------|----|
| 0.3             | 1   | 1.4             | 4  |
| 0.4             | 1   | 1.5             | 4  |
| 0.5             | 1.5 | 1.6             | 4  |
| 0.6             | 1.5 | 1.8             | 5  |
| 0.7             | 2   | 2.0             | 7  |
| 0.8             | 2   | 2.2             | 7  |
| 0.9             | 2.5 | 2.5             | 7  |
| 1.0             | 3   | 2.8             | 7  |
| 1.2             | 4   |                 |    |

**Z=2**  
coupe au centre  
Zentrumsschnitt  
cut over center

**30°** hélice  
Drall  
spiral

Ø 3.0 h6

**Type 3279**

hémisphérique, extra-courte  
Stinradius, Extra kurz  
ball end, extra short

| D1<br>+/- 0.015 | L2   | D1<br>+/- 0.015 | L2   |
|-----------------|------|-----------------|------|
| 0.2             | 0.3  | 1.0             | 1.5  |
| 0.25            | 0.35 | 1.1             | 1.65 |
| 0.3             | 0.45 | 1.2             | 1.8  |
| 0.4             | 0.6  | 1.3             | 1.95 |
| 0.5             | 0.75 | 1.4             | 2.1  |
| 0.6             | 0.9  | 1.5             | 2.25 |
| 0.7             | 1.05 | 1.6             | 2.4  |
| 0.8             | 1.2  | 1.8             | 2.7  |
| 0.9             | 1.35 | 2.0             | 3.0  |

**Z=2**  
coupe au centre  
Zentrumsschnitt  
cut over center

**30°** hélice  
Drall  
spiral

Ø 3.0 h6

Micro-fraises de précision en métal dur  
Vollhartmetall-Micropräzisionsfräser  
Solid carbide precision micro end mills

**Type 3335**

extra-courte  
Extra kurz  
extra short

| D1<br>+/- 0.015 | L2 | D1<br>+/- 0.015 | L2 |
|-----------------|----|-----------------|----|
| 1.5             | 3  | 4.0             | 5  |
| 2.0             | 3  | 4.5             | 5  |
| 2.5             | 3  | 5.0             | 6  |
| 3.0             | 4  | 6.0             | 7  |
| 3.5             | 4  |                 |    |

**Z=3**  
coupe au centre  
Zentrumsschnitt  
cut over center

angle vif  
scharfe Ecke  
sharp corner

Ø 6.0 h6

**Type 3336 DIN 6527 K**

**Z = 3**  
coupe au centre  
Zentrumsschnitt  
cut over center

| D1 h10 | D2 h6 | L1 | L2 |
|--------|-------|----|----|
| 1.5    | 6.0   | 50 | 3  |
| 1.8    | 6.0   | 50 | 3  |
| 2.0    | 6.0   | 50 | 3  |
| 2.5    | 6.0   | 50 | 3  |
| 2.8    | 6.0   | 50 | 4  |
| 3.0    | 6.0   | 50 | 4  |
| 3.5    | 6.0   | 50 | 4  |
| 3.8    | 6.0   | 54 | 5  |
| 4.0    | 6.0   | 54 | 5  |
| 4.5    | 6.0   | 54 | 5  |
| 4.8    | 6.0   | 54 | 6  |
| 5.0    | 6.0   | 54 | 6  |
| 5.5    | 6.0   | 54 | 7  |
| 5.8    | 6.0   | 54 | 7  |
| 6.0    | 6.0   | 54 | 7  |
| 7.0    | 8.0   | 58 | 8  |
| 8.0    | 8.0   | 58 | 9  |
| 9.0    | 10.0  | 66 | 10 |
| 10.0   | 10.0  | 66 | 11 |
| 12.0   | 12.0  | 73 | 12 |

angle vif  
scharfe Ecke  
sharp corner

DIN 6535 HB

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Fraises en bout en métal dur  
VHM-Schaftfräser  
Solid carbide end mills

| Type 3231 | Type 3238 | Type 3331 | Type 3338 | Type 3341 | Type 3361 | Type 3431 | Type 3441 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Z = 2     | Z = 2 / R | Z = 3     | Z = 3 / R | Z = 3     | Z = 3     | Z = 4     | Z = 4     |
| a = 30°   | a = 30°   | a = 30°   | a = 30°   | a = 45°   | a = 60°   | a = 30°   | a = 45°   |

dimensions  
Abmessungen  
dimensions

| D1 h10 | D2 h6 | L1 | L2 |
|--------|-------|----|----|
| 2.0    | 32    | 8  |    |
| 2.5    | 32    | 8  |    |
| 3.0    | 32    | 12 |    |
| 3.5    | 32    | 12 |    |
| 4.0    | 40    | 12 |    |
| 4.5    | 50    | 14 |    |
| 5.0    | 50    | 14 |    |
| 6.0    | 50    | 16 |    |
| 7.0    | 60    | 20 |    |
| 8.0    | 60    | 20 |    |
| 9.0    | 60    | 20 |    |
| 10.0   | 70    | 22 |    |
| 12.0   | 70    | 22 |    |

queue lisse  
Zylinderschaft  
straight shank

coupe au centre  
Zentrumsschnitt  
cut over center

angle vif  
scharfe Ecke  
sharp corner

**Type 3336 DIN 6527 K**

**Z = 3**  
coupe au centre  
Zentrumsschnitt  
cut over center

angle vif  
scharfe Ecke  
sharp corner

DIN 6535 HB

**Type 3337 DIN 6527 L**

**Z = 3**  
coupe au centre  
Zentrumsschnitt  
cut over center

angle vif  
scharfe Ecke  
sharp corner

DIN 6535 HB

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Fraises en bout en métal dur pour usinage en bout plat  
 VHM-Schaftfräser für flache Front-Bearbeitung  
 Solid carbide end mills for flat front machining

| Type 3281  | Type 3381 | dimensions<br>Abmessungen<br>dimensions  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
|--|-----------|--|---|--------|--------|-----|------|------|-----|-----|-----|-----|------|-----|------|------|----|------|----|
| Z = 2  | Z = 3     |  | <table border="1"> <tr><th>D1 h10</th></tr> <tr><td>6.0</td></tr> <tr><td>8.0</td></tr> <tr><td>10.0</td></tr> <tr><td>12.0</td></tr> </table>  | D1 h10 | 6.0    | 8.0 | 10.0 | 12.0 |     |     |     |     |      |     |      |      |    |      |    |
| D1 h10   |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 6.0  |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 8.0  |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 10.0   |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 12.0   |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
|  |           | coupe au centre<br>Zentrumsschnitt<br>cut over center<br><br>30° hélice<br>Drall<br>spiral |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| Type 3282  | Type 3382 | dimensions<br>Abmessungen<br>dimensions  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| Z = 2  | Z = 3     |  | <table border="1"> <tr><th>D1 h10</th><th>D1 h10</th></tr> <tr><td>3.0</td><td>6.0</td></tr> <tr><td>3.5</td><td>7.0</td></tr> <tr><td>4.0</td><td>8.0</td></tr> <tr><td>4.5</td><td>10.0</td></tr> <tr><td>5.0</td><td>12.0</td></tr> <tr><td>5.5</td><td></td></tr> </table>                      | D1 h10 | D1 h10 | 3.0 | 6.0  | 3.5  | 7.0 | 4.0 | 8.0 | 4.5 | 10.0 | 5.0 | 12.0 | 5.5  |    |      |    |
| D1 h10   | D1 h10    |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 3.0  | 6.0       |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 3.5  | 7.0       |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 4.0  | 8.0       |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 4.5  | 10.0      |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 5.0  | 12.0      |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 5.5  |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
|  |           | coupe au centre<br>Zentrumsschnitt<br>cut over center<br><br>30° hélice<br>Drall<br>spiral |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| Type 3283  | Type 3383 | dimensions<br>Abmessungen<br>dimensions  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| Z = 2  | Z = 3     |  | <table border="1"> <tr><th>D1 h10</th><th>L2</th></tr> <tr><td>4.0</td><td>4</td></tr> <tr><td>5.0</td><td>5</td></tr> <tr><td>6.0</td><td>6</td></tr> <tr><td>7.0</td><td>7</td></tr> <tr><td>8.0</td><td>8</td></tr> <tr><td>10.0</td><td>10</td></tr> <tr><td>12.0</td><td>12</td></tr> </table> | D1 h10 | L2     | 4.0 | 4    | 5.0  | 5   | 6.0 | 6   | 7.0 | 7    | 8.0 | 8    | 10.0 | 10 | 12.0 | 12 |
| D1 h10   | L2        |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 4.0  | 4         |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 5.0  | 5         |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 6.0  | 6         |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 7.0  | 7         |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 8.0  | 8         |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 10.0   | 10        |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| 12.0   | 12        |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
|  |           | coupe au centre<br>Zentrumsschnitt<br>cut over center<br><br>30° hélice<br>Drall<br>spiral |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |
| Revêtement sur demande<br>Beschichtung auf Anfrage<br>Coating on request |           |  |   |        |        |     |      |      |     |     |     |     |      |     |      |      |    |      |    |

Fraises en bout en métal dur pour usinage de cames  
 Vollhartmetall-Schaftfräser für Kurvenbearbeitung  
 Solid carbide end mills for came machining

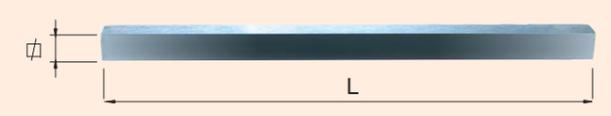
| Z = 3   |         | <table border="1"> <tr><th>D1</th><th>D2 h6</th><th>Art. N°</th></tr> <tr><td>5.0</td><td>5.0</td><td>3801</td></tr> <tr><td>5.2</td><td>6.0</td><td>3802</td></tr> <tr><td>6.0</td><td>6.0</td><td>3803</td></tr> </table>                          | D1      | D2 h6   | Art. N° | 5.0  | 5.0  | 3801 | 5.2  | 6.0  | 3802 | 6.0  | 6.0  | 3803 |
|---|---------|--|---------|---------|---------|------|------|------|------|------|------|------|------|------|
|   | D1      | D2 h6  | Art. N° |         |         |      |      |      |      |      |      |      |      |      |
| 5.0   | 5.0     | 3801   |         |         |         |      |      |      |      |      |      |      |      |      |
| 5.2   | 6.0     | 3802   |         |         |         |      |      |      |      |      |      |      |      |      |
| 6.0   | 6.0     | 3803   |         |         |         |      |      |      |      |      |      |      |      |      |
| coupe au centre<br>Zentrumsschnitt<br>cut over center |         | <table border="1"> <tr><th>D1</th><th>Art. N°</th></tr> <tr><td>5.2</td><td>3812</td></tr> <tr><td>6.0</td><td>3813</td></tr> </table>   | D1      | Art. N° | 5.2     | 3812 | 6.0  | 3813 |      |      |      |      |      |      |
| D1  | Art. N° |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 5.2   | 3812    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 6.0   | 3813    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| Z = 6   |         | <table border="1"> <tr><th>D1</th><th>Art. N°</th></tr> <tr><td>4.2</td><td>3821</td></tr> <tr><td>5.2</td><td>3822</td></tr> </table>   | D1      | Art. N° | 4.2     | 3821 | 5.2  | 3822 |      |      |      |      |      |      |
|   | D1      | Art. N°  |         |         |         |      |      |      |      |      |      |      |      |      |
| 4.2   | 3821    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 5.2   | 3822    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| Z = 10  |         | <table border="1"> <tr><th>D1</th><th>Art. N°</th></tr> <tr><td>16.3</td><td>3831</td></tr> <tr><td>18.3</td><td>3832</td></tr> <tr><td>20.3</td><td>3833</td></tr> <tr><td>22.3</td><td>3834</td></tr> <tr><td>24.3</td><td>3835</td></tr> </table> | D1      | Art. N° | 16.3    | 3831 | 18.3 | 3832 | 20.3 | 3833 | 22.3 | 3834 | 24.3 | 3835 |
| D1  | Art. N° |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 16.3  | 3831    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 18.3  | 3832    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 20.3  | 3833    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 22.3  | 3834    |  |         |         |         |      |      |      |      |      |      |      |      |      |
| 24.3  | 3835    |  |         |         |         |      |      |      |      |      |      |      |      |      |

Cylindres rectifiés en métal dur  
 Vollhartmetall-Rundstäbe geschliffen  
 Solid carbide ground rods



| D h6 | Art. N°  | D h6 | Art. N°  | D h6  | Art. N°   |
|------|----------|------|----------|-------|-----------|
| 1.00 | 0010-1.0 | 4.0  | 0010-4.0 | 8.00  | 0010-8.0  |
| 1.50 | 0010-1.5 | 4.50 | 0010-4.5 | 9.00  | 0010-9.0  |
| 2.00 | 0010-2.0 | 5.00 | 0010-5.0 | 10.00 | 0010-10.0 |
| 2.50 | 0010-2.5 | 5.50 | 0010-5.5 | 11.00 | 0010-11.0 |
| 3.00 | 0010-3.0 | 6.00 | 0010-6.0 | 12.00 | 0010-12.0 |
| 3.50 | 0010-3.5 | 7.00 | 0010-7.0 |       |           |

Barreaux carrés rectifiés en métal dur  
 Vollhartmetall-Quadratstäbe geschliffen  
 Solid carbide ground square bar blanks



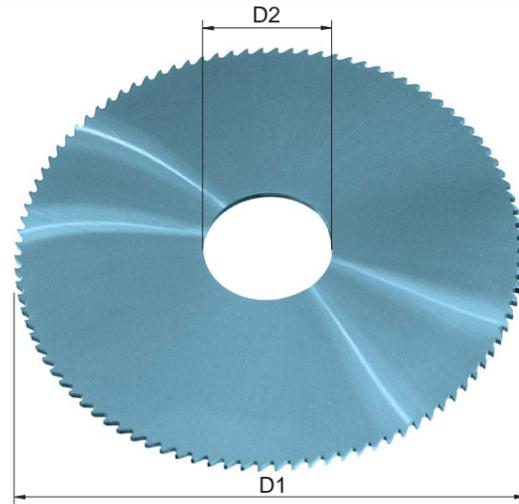
| φ mm    | L   | Art. N° |
|---------|-----|---------|
| 6 x 6   | 130 | 0001    |
| 7 x 7   | 140 | 0002    |
| 8 x 8   | 140 | 0003    |
| 10 x 10 | 140 | 0004    |
| 12 x 12 | 140 | 0005    |

Fraises circulaires en métal dur  
VHM-Kreissägeblätter  
Solid carbide slitting saws

Type 1101

denture fine  
feine Verzahnung  
fine teeth

DIN 1837



Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

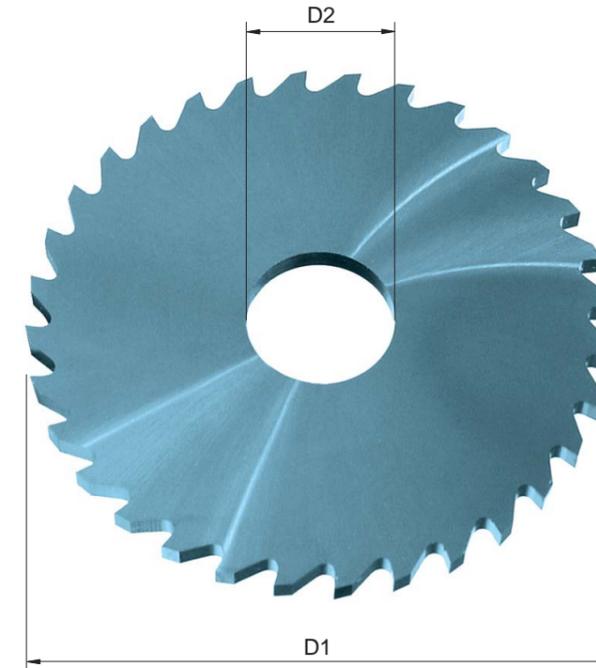
| D1   | 15  | 20 | 25 | 30  | 40  | 50  | 63  | 80  | 100 | 125 |
|--|---|----|----|-----|-----|-----|-----|-----|-----|-----|
| D2 H7                                      | 5   | 5  | 8  | 8   | 10  | 13  | 16  | 22  | 22  | 22  |
| épaisseur<br>Dicke<br>thickness<br>+/-0.01 | nombre de dents<br>Zähnezahl<br>number of teeth |    |    |     |     |     |     |     |     |     |
| 0.10                                       | 64  | 80 | 80 | 100 | 128 |     |     |     |     |     |
| 0.15                                       | 64  | 80 | 80 | 100 | 128 |     |     |     |     |     |
| 0.20                                       | 64  | 80 | 80 | 100 | 128 | 128 | 160 |     |     |     |
| 0.25                                       | 64  | 64 | 80 | 100 | 100 | 128 | 128 | 160 |     |     |
| 0.30                                       | 64  | 64 | 80 | 80  | 100 | 128 | 128 | 160 |     |     |
| 0.35                                       | 64  | 64 | 64 | 80  | 100 | 100 | 128 | 160 |     |     |
| 0.40                                       | 64  | 64 | 64 | 80  | 100 | 100 | 128 | 160 |     |     |
| 0.45                                       | 48  | 48 | 64 | 80  | 80  | 100 | 128 | 128 |     |     |
| 0.50                                       | 48  | 48 | 64 | 80  | 80  | 100 | 128 | 128 | 160 |     |
| 0.60                                       | 48  | 48 | 64 | 64  | 80  | 100 | 100 | 128 | 160 | 160 |
| 0.70                                       | 48  | 48 | 48 | 64  | 80  | 80  | 100 | 128 | 128 | 160 |
| 0.80                                       | 40  | 40 | 48 | 64  | 80  | 80  | 100 | 128 | 128 | 160 |
| 0.90                                       | 40  | 40 | 48 | 64  | 64  | 80  | 100 | 100 | 128 | 160 |
| 1.00                                       | 40  | 40 | 48 | 64  | 64  | 80  | 100 | 100 | 128 | 160 |
| 1.10                                       | 40  | 40 | 48 | 48  | 64  | 80  | 80  | 100 | 128 | 128 |
| 1.20                                       | 40  | 40 | 48 | 48  | 64  | 80  | 80  | 100 | 128 | 128 |
| 1.30                                       | 40  | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 |     |
| 1.40                                       | 40  | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 | 128 |
| 1.50                                       | 40  | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 | 128 |
| 1.60                                       | 40  | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 | 128 |
| 1.70                                       | 40  | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 |     |
| 1.80                                       | 40  | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 | 128 |
| 1.90                                       | 40  | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 |     |
| 2.00                                       | 40  | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 | 128 |
| 2.50                                       | 40  | 32 | 40 | 40  | 48  | 64  | 64  | 80  | 100 | 100 |
| 3.00                                       | 40  | 32 | 32 | 40  | 48  | 48  | 64  | 80  | 80  | 100 |
| 3.50                                       | 24  | 24 | 32 | 40  | 40  | 48  | 64  | 64  | 80  | 100 |
| 4.00                                       | 24  | 24 | 32 | 40  | 40  | 48  | 64  | 64  | 80  | 100 |
| 5.00                                       | 24  | 24 | 32 | 32  | 40  | 48  | 48  | 64  | 80  | 100 |
| 6.00                                       | 24  | 24 | 24 | 32  | 40  | 40  | 48  | 64  | 64  | 100 |

Fraises circulaires en métal dur  
VHM-Kreissägeblätter  
Solid carbide slitting saws

Type 1102

denture grossière  
grobe Verzahnung  
large teeth

DIN 1838



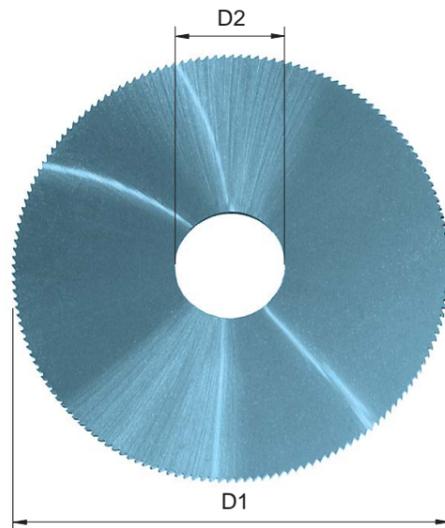
| D1   | 15  | 20 | 25 | 30 | 40 | 50 | 63 | 80 | 100 | 125 |
|--|---|----|----|----|----|----|----|----|-----|-----|
| D2 H7                                      | 5   | 5  | 8  | 8  | 10 | 13 | 16 | 22 | 22  | 22  |
| épaisseur<br>Dicke<br>thickness<br>+/-0.01 | nombre de dents<br>Zähnezahl<br>number of teeth |    |    |    |    |    |    |    |     |     |
| 0.20                                       | 20  | 20 | 20 | 30 | 40 |    |    |    |     |     |
| 0.25                                       | 20  | 20 | 20 | 30 | 40 |    |    |    |     |     |
| 0.30                                       | 20  | 20 | 20 | 30 | 40 |    |    |    |     |     |
| 0.40                                       | 20  | 20 | 20 | 30 | 40 | 48 | 64 |    |     |     |
| 0.50                                       | 20  | 20 | 20 | 30 | 40 | 48 | 64 |    |     |     |
| 0.60                                       | 20  | 20 | 20 | 30 | 40 | 48 | 48 | 64 | 80  |     |
| 0.70                                       | 20  | 20 | 20 | 30 | 40 | 40 | 48 | 64 | 64  |     |
| 0.80                                       | 20  | 20 | 20 | 24 | 32 | 40 | 48 | 64 | 64  | 80  |
| 0.90                                       | 20  | 20 | 20 | 24 | 32 | 40 | 48 | 48 | 64  | 80  |
| 1.00                                       | 20  | 20 | 20 | 24 | 32 | 40 | 48 | 48 | 64  | 80  |
| 1.20                                       | 20  | 20 | 20 | 24 | 32 | 40 | 40 | 48 | 64  | 64  |
| 1.50                                       | 20  | 20 | 20 | 24 | 32 | 32 | 40 | 48 | 48  | 64  |
| 1.60                                       | 20  | 20 | 20 | 24 | 32 | 32 | 40 | 48 | 48  | 64  |
| 1.80                                       | 20  | 20 | 20 | 24 | 24 | 32 | 40 | 40 | 48  | 64  |
| 2.00                                       | 20  | 20 | 20 | 24 | 24 | 32 | 40 | 40 | 48  | 64  |
| 2.50                                       | 20  | 20 | 20 | 24 | 24 | 32 | 32 | 40 | 48  | 48  |
| 3.00                                       | 20  | 20 | 20 | 24 | 24 | 24 | 32 | 40 | 40  | 48  |
| 4.00                                       | 20  | 20 | 20 | 24 | 20 | 24 | 32 | 32 | 40  | 48  |
| 5.00                                       | 20  | 20 | 20 | 24 | 20 | 24 | 24 | 32 | 40  | 40  |
| 6.00                                       | 20  | 20 | 20 | 24 | 20 | 20 | 24 | 32 | 32  | 40  |

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Fraises circulaires en métal dur  
VHM-Kreissägeblätter  
Solid carbide slitting saws

Type 1103

denture extra-fine  
extra feine Verzahnung  
extra fine teeth



pour usinage de pièces fragiles ou fines

idéal pour le décolletage

für die Bearbeitung von empfindlichen oder dünnwandigen Werkstücken

für Landrehautomaten besonders empfehlenswert

for machining of fragile or thin workpieces

recommended on automatic lathes

| D1   | 8   | 10 | 12 | 15 | 20 | 20  | 20 | 25 | 25  | 25  | 30  | 32 |
|--|---|----|----|----|----|-----|----|----|-----|-----|-----|----|
| D2 H7                                      | 3   | 3  | 5  | 5  | 5  | 5   | 6  | 5  | 6   | 8   | 8   | 8  |
| épaisseur<br>Dicke<br>thickness<br>+/-0.01 | nombre de dents<br>Zähnezahl<br>number of teeth |    |    |    |    |     |    |    |     |     |     |    |
| 0.10                                       | 48  | 64 | 64 | 80 | *  | 100 | 80 | 80 |     |     |     |    |
| 0.15                                       | 48  | 64 | 64 | 80 | *  | 100 | 80 | 80 | 100 | 100 | *   | 80 |
| 0.20                                       | 48  | 64 | 64 | 80 | *  | 100 | 80 | 80 | 100 | 100 | *   | 80 |
| 0.25                                       | 48  | 64 | 64 | 80 | 80 | 100 | 80 | 80 | 100 | 100 | *   | 80 |
| 0.30                                       | 48  | 64 | 64 | 80 | 80 | 100 | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.35                                       | 48  | 64 | 64 | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.40                                       | 48  | 64 | 64 | 80 | 80 | 100 | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.50                                       | 48  | 64 | 64 | 80 | 80 | 100 | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.60                                       | 48  | 64 | 64 | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.70                                       | 48  | 64 | 64 | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.80                                       | 48  | 64 | 64 | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 0.90                                       | 48  | 64 | 64 | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 1.00                                       | 48  | 64 | 64 | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 1.20                                       |   |    |    | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 1.50                                       |   |    |    | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 2.00                                       |   |    |    | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 2.50                                       |   |    |    | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |
| 3.00                                       |   |    |    | 80 | 80 |     | 80 | 80 | 100 | 100 | 100 | 80 |

\*=voir type 1101  
\*=siehe Typ 1101  
\*=see type 1101

Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Fraises circulaires en métal dur  
VHM-Kreissägeblätter  
Solid carbide slitting saws

Type 1103

denture extra-fine  
extra feine Verzahnung  
extra fine teeth

| D1   | 35  | 40  | 40  | 40  | 40  | 45  | 45  | 50  | 50  | 63  | 80  |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| D2 H7                                      | 8   | 8   | 8   | 10  | 10  | 8   | 8   | 10  | 13  | 16  | 16  |
| épaisseur<br>Dicke<br>thickness<br>+/-0.01 | nombre de dents<br>Zähnezahl<br>number of teeth |     |     |     |     |     |     |     |     |     |     |
| 0.15                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 |     |     |     |     |
| 0.20                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 |     |     |     |
| 0.25                                       | 96  | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     |
| 0.30                                       | 96  | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     |
| 0.35                                       | 96  | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     |
| 0.40                                       | 96  | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     |
| 0.50                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 0.60                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 0.70                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 0.80                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 0.90                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 1.00                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 1.20                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 1.50                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 2.00                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 2.50                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |
| 3.00                                       | 96  | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 |

\*=voir type 1101  
\*=siehe Typ 1101  
\*=see type 1101

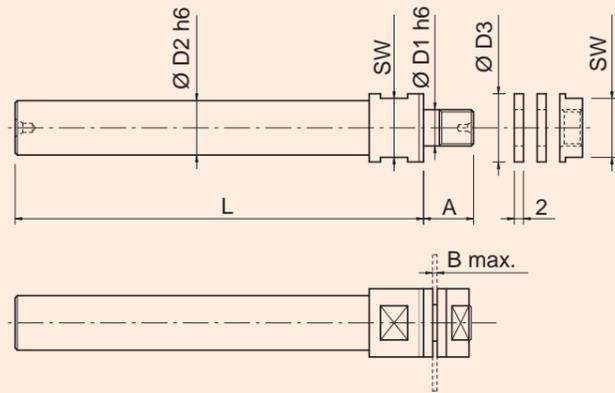
Revêtement sur demande  
Beschichtung auf Anfrage  
Coating on request

Tasseaux porte-fraise avec serrage avant  
Fräsdorne (Spannung von vorne)  
Milling arbors with front clamping

Type 2810

Tasseaux pour rotation à droite (serrage avant avec filet à droite)  
Fräsdorne für Drehrichtung rechts (Spannung von vorne mit Rechtsgewinde)  
Arbors for right hand rotation (front clamping with right hand thread)

R

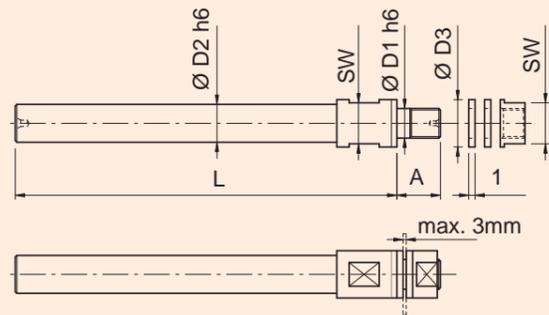


| D1   | D2 | D3 | L   | A    | SW | B | Art. N°    |
|------|----|----|-----|------|----|---|------------|
| 5.0  | 6  | 10 | 70  | 9    | 8  | 6 | 2810-5-6   |
| 5.0  | 10 | 10 | 80  | 9    | 8  | 6 | 2810-5-10  |
| 6.0  | 10 | 12 | 80  | 9.5  | 10 | 6 | 2810-6-10  |
| 8.0  | 10 | 15 | 80  | 10   | 13 | 6 | 2810-8-10  |
| 8.0  | 12 | 15 | 90  | 10   | 13 | 6 | 2810-8-12  |
| 10.0 | 6  | 18 | 80  | 10.5 | 15 | 6 | 2810-10-6  |
| 10.0 | 10 | 18 | 80  | 10.5 | 15 | 6 | 2810-10-10 |
| 10.0 | 16 | 18 | 100 | 10.5 | 15 | 6 | 2810-10-16 |
| 13.0 | 16 | 22 | 110 | 11   | 19 | 6 | 2810-13-16 |
| 16.0 | 10 | 22 | 80  | 8    | 19 | 3 | 2810-16-10 |
| 16.0 | 20 | 26 | 120 | 12   | 22 | 6 | 2810-16-20 |

Type 2815

Tasseaux pour très petites fraises circulaires  
Fräsdorne für sehr kleine Kreissägeblätter  
Arbors for very small slitting saws

R



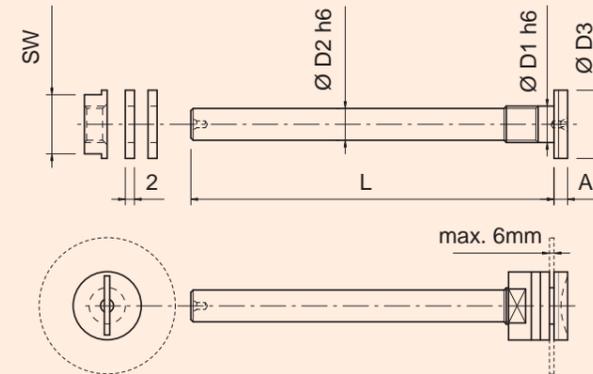
| D1  | D2 | D3  | L  | A | SW | Art. N°  |
|-----|----|-----|----|---|----|----------|
| 3.0 | 5  | 5   | 60 | 7 | 4  | 2815-3-5 |
| 5.0 | 6  | 7.5 | 70 | 7 | 6  | 2815-5-6 |

Tasseaux porte-fraise avec serrage arrière  
Fräsdorne (Spannung von hinten)  
Milling arbors with rear clamping

Type 2820

Tasseaux pour rotation à droite (serrage arrière avec filet à gauche)  
Fräsdorne für Drehrichtung rechts (Spannung von hinten mit Linksgewinde)  
Arbors for right hand rotation (rear clamping with left hand thread)

R

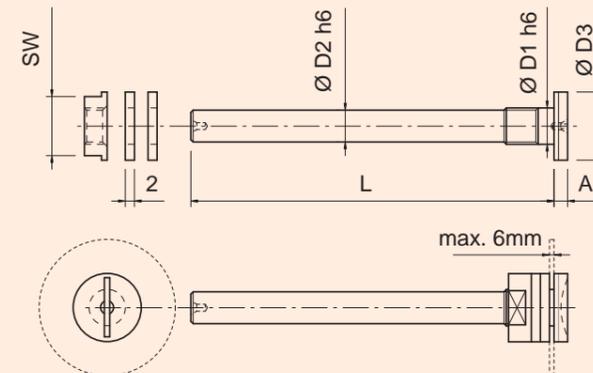


| D1   | D2 | D3 | L   | A   | SW | Art. N°    |
|------|----|----|-----|-----|----|------------|
| 5.0  | 4  | 10 | 50  | 3   | 8  | 2820-5-4   |
| 6.0  | 5  | 12 | 60  | 3   | 10 | 2820-6-5   |
| 8.0  | 6  | 15 | 70  | 3   | 13 | 2820-8-6   |
| 8.0  | 7  | 15 | 80  | 3   | 13 | 2820-8-7   |
| 10.0 | 6  | 18 | 70  | 3.5 | 15 | 2820-10-6  |
| 10.0 | 8  | 18 | 90  | 3.5 | 15 | 2820-10-8  |
| 13.0 | 10 | 22 | 110 | 3.5 | 19 | 2820-13-10 |
| 16.0 | 12 | 26 | 120 | 3.5 | 22 | 2820-16-12 |

Type 1820

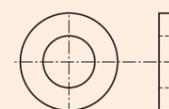
Tasseaux pour rotation à gauche (serrage arrière avec filet à droite)  
Fräsdorne für Drehrichtung links (Spannung von hinten mit Rechtsgewinde)  
Arbore for left hand rotation (rear clamping with right hand thread)

L

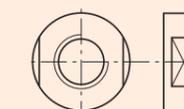


| D1   | D2 | D3 | L  | A   | SW | Art. N°   |
|------|----|----|----|-----|----|-----------|
| 5.0  | 4  | 10 | 50 | 3   | 8  | 1820-5-4  |
| 6.0  | 5  | 12 | 60 | 3   | 10 | 1820-6-5  |
| 8.0  | 6  | 15 | 70 | 3   | 13 | 1820-8-6  |
| 10.0 | 6  | 18 | 70 | 3.5 | 15 | 1820-10-6 |

Pièces de rechange  
Ersatzteile  
Spare parts



Art. N°  
1820-D1\*-a  
2810-D1\*-a  
2815-D1\*-a  
2820-D1\*-a



Art. N°  
1820-D1\*-b  
2810-D1\*-b  
2815-D1\*-b  
2820-D1\*-b

\*Diamètre D1 à spécifier  
\*Durchmesser D1 angeben  
\*Diameter D1 to be specified

Chaque tasseau est livré avec 2 entretoises et 1 écrou  
Jeder Fräsdorn wird mit 2 Abstandsrings und 1 Mutter geliefert  
2 distance rings and 1 nut are included with each arbor

Molettes en métal dur  
Vollhartmetall-Rändelrädchen  
Solid carbide knurling wheels

Type 1107



AA



BL



BR



GE

| molettes standards<br>Standard-Rändelrädchen<br>standard knurls | Ø  | épaisseur<br>Dicke<br>thickness | alésage<br>Bohrung<br>bore | pas ( tous les 0.1 mm)<br>Teilung (alle 0.1 mm)<br>pitch (every 0.1 mm) |
|---|----|---------------------------------|----------------------------|---|
| AA (0°)   | 8  | 2                               | 3                          | 0.2 - 0.6   |
|   | 8  | 2                               | 4                          | 0.2 - 0.6   |
|   | 8  | 3                               | 3                          | 0.2 - 0.6   |
|   | 8  | 3                               | 4                          | 0.2 - 0.6   |
|   | 8  | 4                               | 3                          | 0.2 - 0.6   |
|   | 8  | 4                               | 4                          | 0.2 - 0.6   |
|   | 10 | 2                               | 3                          | 0.2 - 0.8   |
|   | 10 | 2                               | 4                          | 0.2 - 0.8   |
|   | 10 | 3                               | 3                          | 0.2 - 0.8   |
|   | 10 | 3                               | 4                          | 0.2 - 0.8   |
|   | 10 | 4                               | 3                          | 0.2 - 0.8   |
|   | 10 | 4                               | 4                          | 0.2 - 0.8   |
|   | 12 | 4                               | 4                          | 0.3 - 1.0   |
|   | 15 | 4                               | 4                          | 0.4 - 1.0   |
|   | 15 | 4                               | 5                          | 0.4 - 1.0   |
|   | 15 | 5                               | 4                          | 0.4 - 1.0   |
| BL 15° / BR 15°<br>BL 30° / BR 30°<br>BL 45° / BR 45°           | 20 | 4                               | 5                          | 0.5 - 1.2   |
|   | 20 | 5                               | 5                          | 0.5 - 1.2   |
|   | 20 | 6                               | 6                          | 0.5 - 1.2   |
|   | 20 | 8                               | 6                          | 0.5 - 1.2   |
|   | 20 | 8                               | 6                          | 0.5 - 1.2   |
| GE 30°<br>GE 45°  | 15 | 5                               | 5                          | 0.4 - 1.0   |
|   | 15 | 5                               | 4                          | 0.4 - 1.0   |
|   | 15 | 5                               | 5                          | 0.4 - 1.0   |
|   | 20 | 4                               | 5                          | 0.5 - 1.2   |
|   | 20 | 5                               | 5                          | 0.5 - 1.2   |

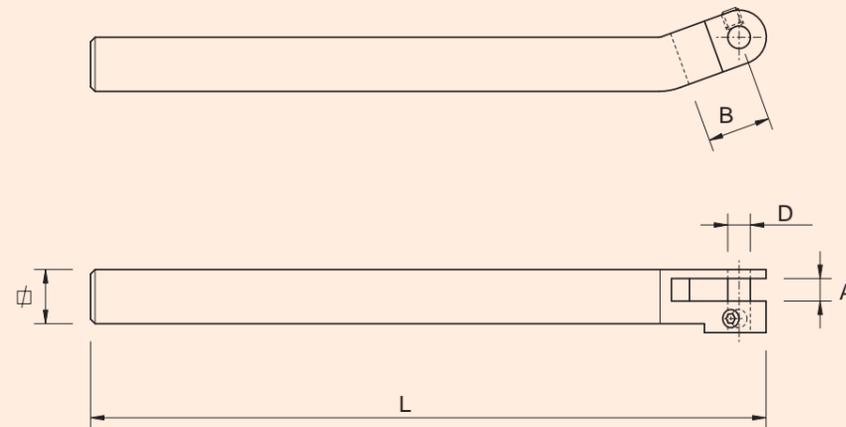
| molettes "Quick"<br>"Quick"-Rändelrädchen<br>"Quick" knurling wheels | Ø    | épaisseur<br>Dicke<br>thickness | alésage<br>Bohrung<br>bore | pas ( tous les 0.1 mm)<br>Teilung (alle 0.1 mm)<br>pitch (every 0.1 mm) |
|--|------|---------------------------------|----------------------------|---|
| AA (0°)  | 8.9  | 2.5                             | 4                          | 0.2 - 0.8   |
| BL 15° / BR 15°  | 14.5 | 3                               | 5                          | 0.4 - 1.0   |
| BL 30° / BR 30°  | 21.5 | 5                               | 8                          | 0.5 - 1.2   |

Exécutions spéciales sur demande  
Sonderausführungen auf Anfrage  
Specials execution on request

Porte-molettes  
Rändelhalter  
Knurl holders

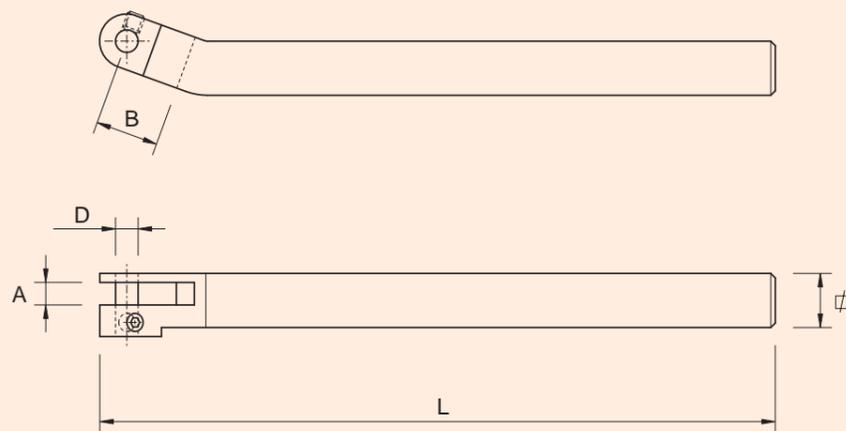
Type 2402

R



Type 1402

L

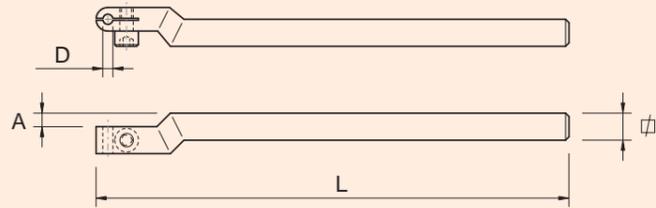


| Ø       | L   | A | D | B  | Art. N°   |
|---------|-----|---|---|----|-----------|
| 6 x 6   | 132 | 2 | 3 | 10 | 2402-623  |
| 6 x 6   | 132 | 3 | 3 | 10 | 2402-633  |
| 7 x 7   | 140 | 2 | 3 | 10 | 2402-723  |
| 7 x 7   | 140 | 3 | 3 | 10 | 2402-733  |
| 7 x 7   | 140 | 4 | 3 | 10 | 2402-743  |
| 7 x 7   | 140 | 2 | 4 | 10 | 2402-724  |
| 7 x 7   | 140 | 3 | 4 | 10 | 2402-734  |
| 7 x 7   | 140 | 4 | 4 | 10 | 2402-744  |
| 8 x 8   | 140 | 2 | 3 | 10 | 2402-823  |
| 8 x 8   | 140 | 3 | 3 | 10 | 2402-833  |
| 8 x 8   | 140 | 4 | 3 | 10 | 2402-843  |
| 8 x 8   | 140 | 2 | 4 | 10 | 2402-824  |
| 8 x 8   | 140 | 3 | 4 | 10 | 2402-834  |
| 8 x 8   | 140 | 4 | 4 | 10 | 2402-844  |
| 10 x 10 | 150 | 3 | 3 | 10 | 2402-1033 |
| 10 x 10 | 150 | 4 | 3 | 10 | 2402-1043 |
| 10 x 10 | 150 | 3 | 4 | 10 | 2402-1034 |
| 10 x 10 | 150 | 4 | 4 | 10 | 2402-1044 |
| 12 x 12 | 150 | 4 | 4 | 12 | 2402-1244 |
| 12 x 12 | 150 | 5 | 4 | 12 | 2402-1254 |
| 12 x 12 | 150 | 4 | 5 | 12 | 2402-1245 |
| 12 x 12 | 150 | 5 | 5 | 12 | 2402-1255 |
| 16 x 16 | 150 | 4 | 4 | 12 | 2402-1644 |
| 16 x 16 | 150 | 4 | 5 | 12 | 2402-1645 |
| 16 x 16 | 150 | 5 | 5 | 12 | 2402-1655 |
| 16 x 16 | 150 | 6 | 4 | 12 | 2402-1664 |
| 16 x 16 | 150 | 6 | 6 | 12 | 2402-1666 |
| 16 x 16 | 150 | 8 | 6 | 12 | 2402-1686 |

| Ø       | L   | A | D | B  | Art. N°   |
|---------|-----|---|---|----|-----------|
| 6 x 6   | 132 | 2 | 3 | 10 | 1402-623  |
| 6 x 6   | 132 | 3 | 3 | 10 | 1402-633  |
| 7 x 7   | 140 | 2 | 3 | 10 | 1402-723  |
| 7 x 7   | 140 | 3 | 3 | 10 | 1402-733  |
| 7 x 7   | 140 | 4 | 3 | 10 | 1402-743  |
| 7 x 7   | 140 | 2 | 4 | 10 | 1402-724  |
| 7 x 7   | 140 | 3 | 4 | 10 | 1402-734  |
| 7 x 7   | 140 | 4 | 4 | 10 | 1402-744  |
| 8 x 8   | 140 | 2 | 3 | 10 | 1402-823  |
| 8 x 8   | 140 | 3 | 3 | 10 | 1402-833  |
| 8 x 8   | 140 | 4 | 3 | 10 | 1402-843  |
| 8 x 8   | 140 | 2 | 4 | 10 | 1402-824  |
| 8 x 8   | 140 | 3 | 4 | 10 | 1402-834  |
| 8 x 8   | 140 | 4 | 4 | 10 | 1402-844  |
| 10 x 10 | 150 | 3 | 3 | 10 | 1402-1033 |
| 10 x 10 | 150 | 4 | 3 | 10 | 1402-1043 |
| 10 x 10 | 150 | 3 | 4 | 10 | 1402-1034 |
| 10 x 10 | 150 | 4 | 4 | 10 | 1402-1044 |
| 10 x 10 | 150 | 5 | 4 | 10 | 1402-1054 |
| 12 x 12 | 150 | 4 | 4 | 12 | 1402-1244 |
| 12 x 12 | 150 | 5 | 4 | 12 | 1402-1254 |
| 12 x 12 | 150 | 4 | 5 | 12 | 1402-1245 |
| 12 x 12 | 150 | 5 | 5 | 12 | 1402-1255 |
| 16 x 16 | 150 | 4 | 4 | 12 | 1402-1644 |

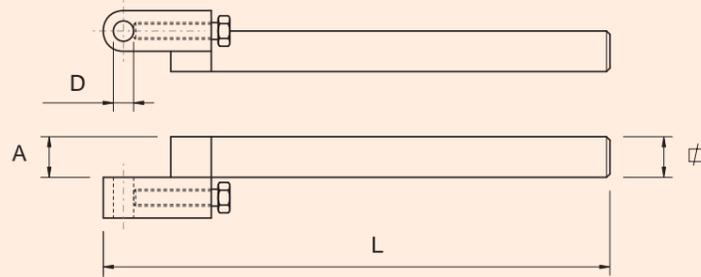
Porte-outils  
Werkzeughalter  
Tool holders

**Type 1400-J L**



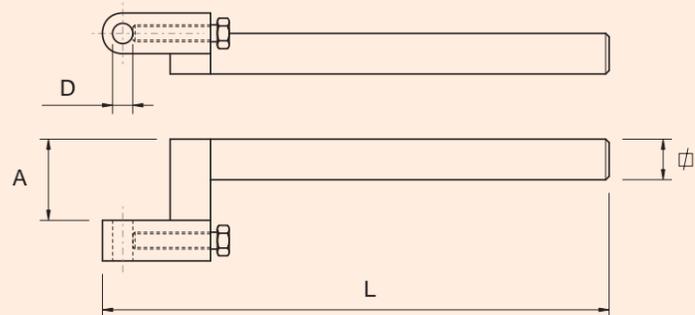
| φ     | L   | A | D   | Art. N°    |
|-------|-----|---|-----|------------|
| 6 x 6 | 132 | 3 | 1.5 | 1400-J-615 |
| 6 x 6 | 132 | 3 | 2.0 | 1400-J-620 |
| 6 x 6 | 132 | 3 | 3.0 | 1400-J-630 |
| 7 x 7 | 140 | 3 | 1.5 | 1400-J-715 |
| 7 x 7 | 140 | 3 | 2.0 | 1400-J-720 |
| 7 x 7 | 140 | 3 | 3.0 | 1400-J-730 |
| 8 x 8 | 140 | 4 | 1.5 | 1400-J-815 |
| 8 x 8 | 140 | 4 | 2.0 | 1400-J-820 |
| 8 x 8 | 140 | 4 | 3.0 | 1400-J-830 |

**Type 1401-K L**



| φ       | L   | A  | D   | Art. N°     |
|---------|-----|----|-----|-------------|
| 7 x 7   | 146 | 7  | 2.0 | 1401-K-720  |
| 7 x 7   | 146 | 7  | 3.0 | 1401-K-730  |
| 7 x 7   | 146 | 7  | 4.0 | 1401-K-740  |
| 8 x 8   | 146 | 8  | 2.0 | 1401-K-820  |
| 8 x 8   | 146 | 8  | 3.0 | 1401-K-830  |
| 8 x 8   | 146 | 8  | 4.0 | 1401-K-840  |
| 8 x 8   | 146 | 8  | 5.0 | 1401-K-850  |
| 8 x 8   | 146 | 8  | 6.0 | 1401-K-860  |
| 10 x 10 | 150 | 10 | 4.0 | 1401-K-1040 |
| 10 x 10 | 150 | 10 | 5.0 | 1401-K-1050 |
| 10 x 10 | 150 | 10 | 6.0 | 1401-K-1060 |
| 10 x 10 | 150 | 10 | 7.0 | 1401-K-1070 |
| 12 x 12 | 150 | 12 | 4.0 | 1401-K-1240 |
| 12 x 12 | 150 | 12 | 5.0 | 1401-K-1250 |
| 12 x 12 | 150 | 12 | 6.0 | 1401-K-1260 |
| 12 x 12 | 150 | 12 | 8.0 | 1401-K-1280 |
| 14 x 14 | 150 | 14 | 4.0 | 1401-K-1440 |
| 14 x 14 | 150 | 14 | 6.0 | 1401-K-1460 |
| 14 x 14 | 150 | 14 | 8.0 | 1401-K-1480 |

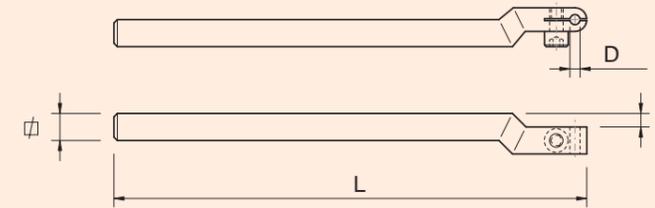
**Type 1420 L**



| φ       | L   | A  | D   | Art. N°    |
|---------|-----|----|-----|------------|
| 7 x 7   | 146 | 12 | 4.0 | 1420-7124  |
| 8 x 8   | 146 | 12 | 4.0 | 1420-8124  |
| 8 x 8   | 146 | 14 | 3.0 | 1420-8143  |
| 8 x 8   | 146 | 15 | 5.0 | 1420-8155  |
| 8 x 8   | 146 | 20 | 5.0 | 1420-8205  |
| 10 x 10 | 150 | 20 | 6.0 | 1420-10206 |
| 12 x 12 | 150 | 18 | 6.0 | 1420-12186 |
| 12 x 12 | 150 | 18 | 8.0 | 1420-12188 |
| 12 x 12 | 150 | 24 | 8.0 | 1420-12248 |
| 14 x 14 | 150 | 20 | 8.0 | 1420-14208 |
| 14 x 14 | 150 | 24 | 8.0 | 1420-14248 |

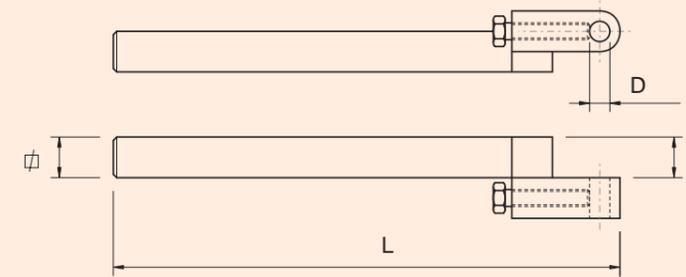
Porte-outils  
Werkzeughalter  
Tool holders

**Type 2400-J R**



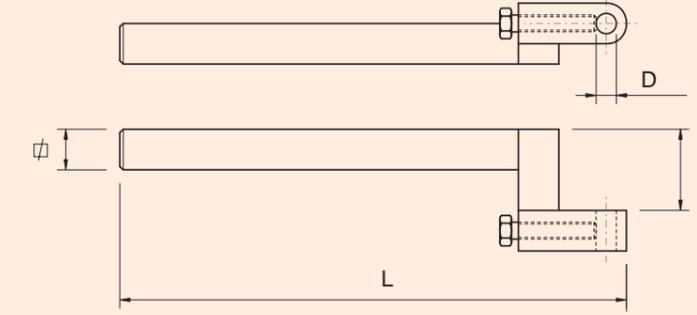
| φ     | L   | A | D   | Art. N°    |
|-------|-----|---|-----|------------|
| 6 x 6 | 132 | 3 | 1.5 | 2400-J-615 |
| 6 x 6 | 132 | 3 | 2.0 | 2400-J-620 |
| 6 x 6 | 132 | 3 | 3.0 | 2400-J-630 |
| 7 x 7 | 140 | 3 | 1.5 | 2400-J-715 |
| 7 x 7 | 140 | 3 | 2.0 | 2400-J-720 |
| 7 x 7 | 140 | 3 | 3.0 | 2400-J-730 |
| 8 x 8 | 140 | 4 | 1.5 | 2400-J-815 |
| 8 x 8 | 140 | 4 | 2.0 | 2400-J-820 |
| 8 x 8 | 140 | 4 | 3.0 | 2400-J-830 |

**Type 2401-K R**



| φ       | L   | A  | D   | Art. N°     |
|---------|-----|----|-----|-------------|
| 7 x 7   | 146 | 7  | 3.0 | 2401-K-730  |
| 7 x 7   | 146 | 7  | 4.0 | 2401-K-740  |
| 8 x 8   | 146 | 8  | 3.0 | 2401-K-830  |
| 8 x 8   | 146 | 8  | 4.0 | 2401-K-840  |
| 8 x 8   | 146 | 8  | 5.0 | 2401-K-850  |
| 8 x 8   | 146 | 8  | 6.0 | 2401-K-860  |
| 10 x 10 | 150 | 10 | 3.0 | 2401-K-1030 |
| 10 x 10 | 150 | 10 | 4.0 | 2401-K-1040 |
| 10 x 10 | 150 | 10 | 5.0 | 2401-K-1050 |
| 10 x 10 | 150 | 10 | 6.0 | 2401-K-1060 |
| 10 x 10 | 150 | 10 | 7.0 | 2401-K-1070 |
| 12 x 12 | 150 | 12 | 3.0 | 2401-K-1230 |
| 12 x 12 | 150 | 12 | 4.0 | 2401-K-1240 |
| 12 x 12 | 150 | 12 | 5.0 | 2401-K-1250 |
| 12 x 12 | 150 | 12 | 6.0 | 2401-K-1260 |
| 12 x 12 | 150 | 12 | 8.0 | 2401-K-1280 |
| 14 x 14 | 150 | 14 | 4.0 | 2401-K-1440 |
| 14 x 14 | 150 | 14 | 6.0 | 2401-K-1460 |
| 14 x 14 | 150 | 14 | 8.0 | 2401-K-1480 |

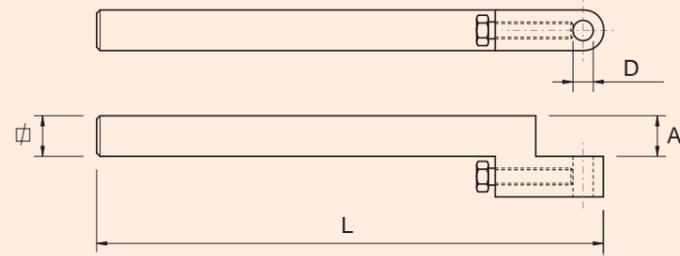
**Type 2420 R**



| φ       | L   | A  | D   | Art. N°    |
|---------|-----|----|-----|------------|
| 7 x 7   | 146 | 12 | 4.0 | 2420-7124  |
| 8 x 8   | 146 | 12 | 4.0 | 2420-8124  |
| 8 x 8   | 146 | 14 | 3.0 | 2420-8143  |
| 8 x 8   | 146 | 15 | 5.0 | 2420-8155  |
| 8 x 8   | 146 | 20 | 5.0 | 2420-8205  |
| 10 x 10 | 150 | 20 | 6.0 | 2420-10206 |
| 12 x 12 | 150 | 18 | 6.0 | 2420-12186 |
| 12 x 12 | 150 | 24 | 8.0 | 2420-12248 |
| 14 x 14 | 150 | 20 | 8.0 | 2420-14208 |
| 14 x 14 | 150 | 24 | 8.0 | 2420-14248 |

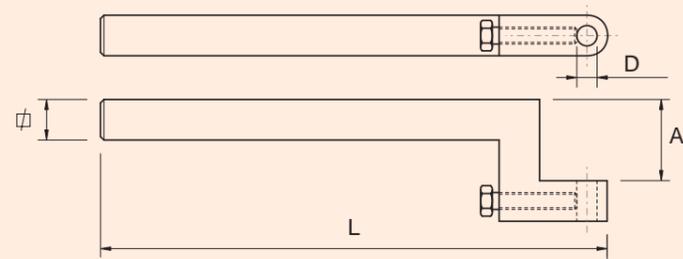
Porte-outils  
Werkzeughalter  
Tool holders

**Type 2405**



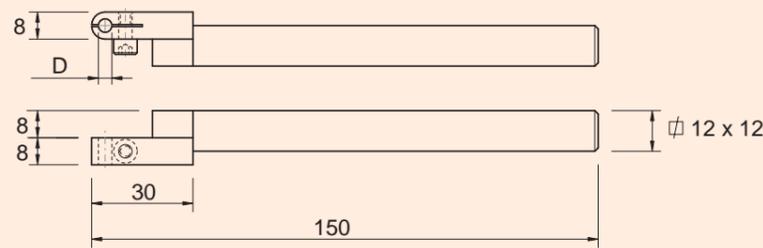
| ∅       | L   | A  | D   | Art. N°     |
|---------|-----|----|-----|-------------|
| 8 x 8   | 120 | 8  | 3.0 | 2405-K-830  |
| 8 x 8   | 120 | 8  | 4.0 | 2405-K-840  |
| 8 x 8   | 120 | 8  | 5.0 | 2405-K-850  |
| 8 x 8   | 120 | 8  | 6.0 | 2405-K-860  |
| 10 x 10 | 100 | 10 | 4.0 | 2405-K-1040 |
| 10 x 10 | 100 | 10 | 5.0 | 2405-K-1050 |
| 10 x 10 | 100 | 10 | 6.0 | 2405-K-1060 |
| 12 x 12 | 150 | 12 | 4.0 | 2405-K-1240 |
| 12 x 12 | 150 | 12 | 6.0 | 2405-K-1260 |
| 12 x 12 | 150 | 12 | 8.0 | 2405-K-1280 |

**Type 2425**



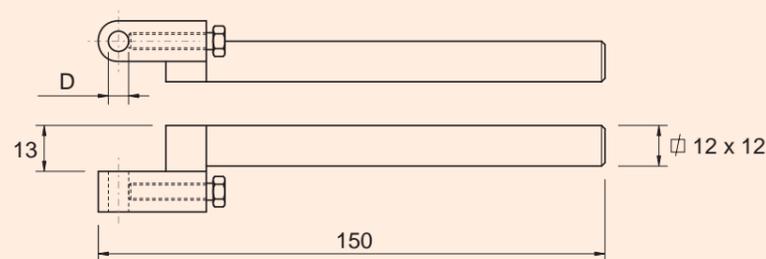
| ∅       | L   | A  | D   | Art. N°    |
|---------|-----|----|-----|------------|
| 8 x 8   | 120 | 12 | 4.0 | 2425-8124  |
| 8 x 8   | 120 | 15 | 5.0 | 2425-8155  |
| 8 x 8   | 120 | 20 | 5.0 | 2425-8205  |
| 10 x 10 | 100 | 15 | 6.0 | 2425-10156 |
| 10 x 10 | 100 | 20 | 6.0 | 2425-10206 |
| 12 x 12 | 150 | 18 | 6.0 | 2425-12186 |
| 12 x 12 | 150 | 24 | 8.0 | 2425-12248 |

**Type 1450** special ENC 16/164 **L** ∅ 12 x 12



| D   | Art. N° |
|-----|---------|
| 4.0 | 1450-4  |
| 5.0 | 1450-5  |

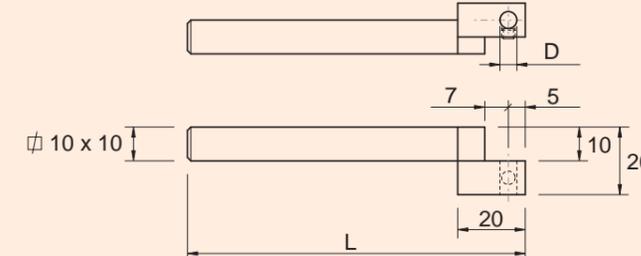
**Type 1460** special ENC 16/164 **L** ∅ 12 x 12



| D   | Art. N° |
|-----|---------|
| 4.0 | 1460-4  |
| 5.0 | 1460-5  |
| 6.0 | 1460-6  |
| 8.0 | 1460-8  |

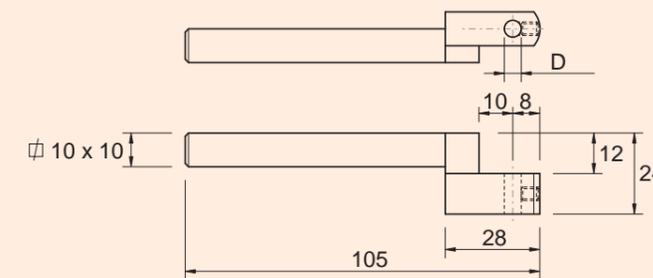
Porte-outils  
Werkzeughalter  
Tool holders

**Type 2450-SP** **R** ∅ 10 x 10



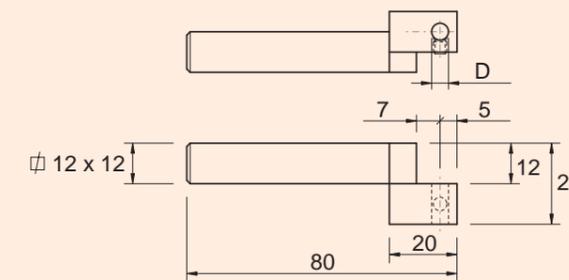
| D   | L   | Art. N°       |
|-----|-----|---------------|
| 3.0 | 100 | 2450-SP-3     |
| 4.0 | 100 | 2450-SP-4     |
| 5.0 | 100 | 2450-SP-5     |
| 6.0 | 100 | 2450-SP-6     |
| 3.0 | 120 | 2450-SP-3-120 |
| 4.0 | 120 | 2450-SP-4-120 |
| 5.0 | 120 | 2450-SP-5-120 |
| 6.0 | 120 | 2450-SP-6-120 |

**Type 2470** **R** ∅ 10 x 10



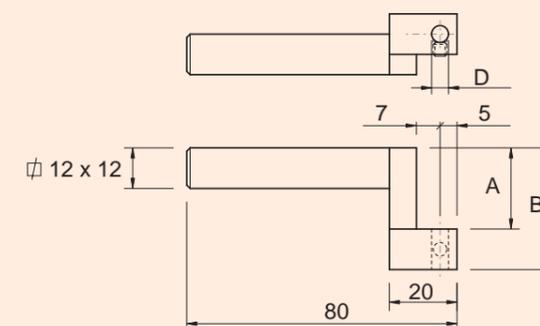
| D   | Art. N° |
|-----|---------|
| 3.0 | 2470-3  |
| 4.0 | 2470-4  |
| 5.0 | 2470-5  |
| 6.0 | 2470-6  |
| 7.0 | 2470-7  |

**Type 2450** **R** ∅ 12 x 12



| D   | Art. N° |
|-----|---------|
| 3.0 | 2450-3  |
| 4.0 | 2450-4  |
| 5.0 | 2450-5  |
| 6.0 | 2450-6  |
| 8.0 | 2450-8  |

**Type 2460** **R** ∅ 12 x 12



| A  | B  | D   | Art. N°  |
|----|----|-----|----------|
| 16 | 28 | 4.0 | 2460-284 |
| 16 | 28 | 6.0 | 2460-286 |
| 16 | 28 | 8.0 | 2460-288 |
| 20 | 32 | 4.0 | 2460-324 |
| 20 | 32 | 6.0 | 2460-326 |
| 20 | 32 | 8.0 | 2460-328 |
| 24 | 36 | 4.0 | 2460-364 |
| 24 | 36 | 6.0 | 2460-366 |
| 24 | 36 | 8.0 | 2460-388 |

Porte-outils  
Werkzeughalter  
Tool holders

Type 2441

Pour usinage côté contre-broche  
Für die Bearbeitung auf der Gegenspindel-Seite  
For machining on subspindle side

∅ 12 x 16

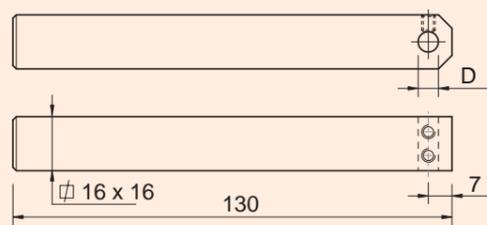


| D   | Art. N°  |
|-----|----------|
| 3.0 | 2441-0-3 |
| 4.0 | 2441-0-4 |
| 5.0 | 2441-0-5 |
| 6.0 | 2441-0-6 |

Type 2440-0

Pour usinage côté contre-broche  
Für die Bearbeitung auf der Gegenspindel-Seite  
For machining on subspindle side

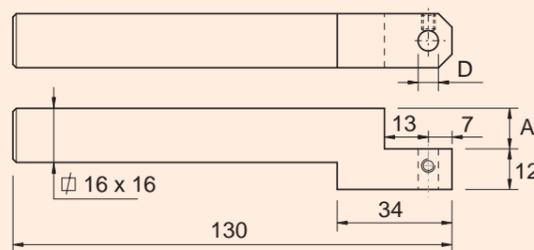
∅ 16 x 16



| D   | Art. N°  |
|-----|----------|
| 3.0 | 2440-0-3 |
| 4.0 | 2440-0-4 |
| 5.0 | 2440-0-5 |
| 6.0 | 2440-0-6 |
| 8.0 | 2440-0-8 |

Types 2440-8  
2440-12

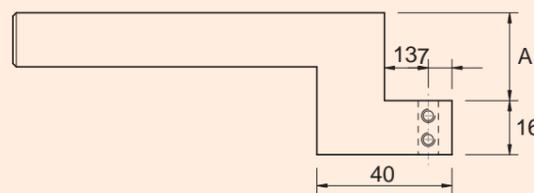
∅ 16 x 16



| A  | D   | Art. N°   |
|----|-----|-----------|
| 8  | 3.0 | 2440-8-3  |
| 8  | 4.0 | 2440-8-4  |
| 8  | 5.0 | 2440-8-5  |
| 8  | 6.0 | 2440-8-6  |
| 8  | 8.0 | 2440-8-8  |
| 12 | 3.0 | 2440-12-3 |
| 12 | 4.0 | 2440-12-4 |
| 12 | 5.0 | 2440-12-5 |
| 12 | 6.0 | 2440-12-6 |
| 12 | 8.0 | 2440-12-8 |

Types 2440-18  
2240-26

∅ 16 x 16

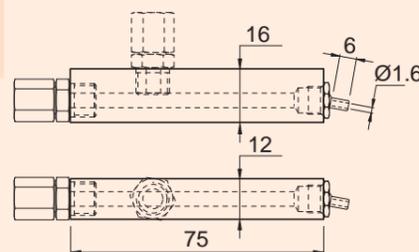


|    |     |           |
|----|-----|-----------|
| 18 | 4.0 | 2440-18-4 |
| 18 | 5.0 | 2440-18-5 |
| 18 | 6.0 | 2440-18-6 |
| 18 | 8.0 | 2440-18-8 |
| 26 | 4.0 | 2440-26-4 |
| 26 | 5.0 | 2440-26-5 |
| 26 | 6.0 | 2440-26-6 |
| 26 | 8.0 | 2440-26-8 |

Outil d'arrosage  
Werkzeug für Kühlmittel-Zufuhr  
Tool for coolant supply

Type 2490  
∅ 12 x 16

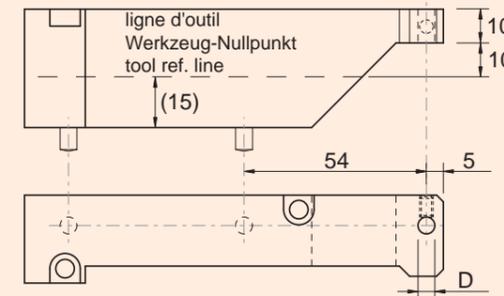
Raccord  
Anschluss  
connection  
Ø 6 - G1/8



Art. N°  
2490

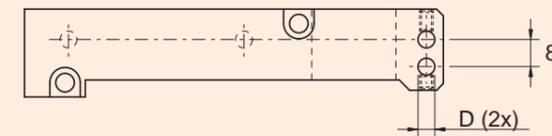
Porte-outils monoblocs pour machine TORNOS DECO 7/10  
Monoblock-werkzeughalter für TORNOS DECO 7/10 Maschine  
Monobloc tool holders for machine TORNOS DECO 7/10

Type 2435



| D   | Art. N° |
|-----|---------|
| 3.0 | 2435-3  |
| 4.0 | 2435-4  |
| 5.0 | 2435-5  |
| 6.0 | 2435-6  |

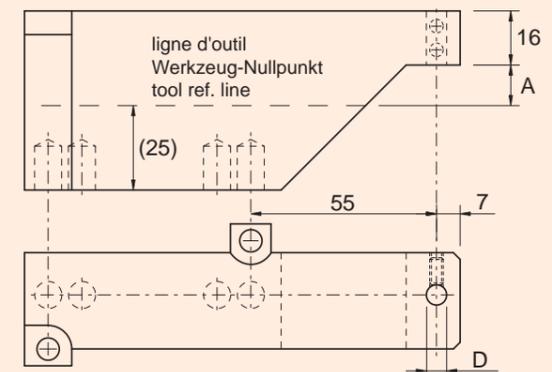
Type 2435-T



| D (2x) | Art. N°  |
|--------|----------|
| 3.0    | 2435-3-T |
| 4.0    | 2435-4-T |
| 5.0    | 2435-5-T |
| 6.0    | 2435-6-T |

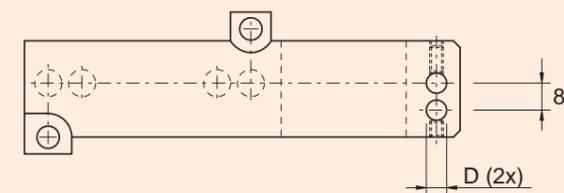
Porte-outils monoblocs pour machine TORNOS DECO 13  
Monoblock-Werkzeughalter für TORNOS DECO13 Maschine  
Monobloc tool holders for machine TORNOS DECO13

Type 2436



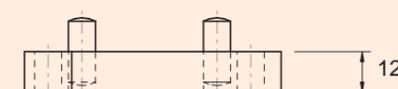
| A  | D   | Art. N°   |
|----|-----|-----------|
| 12 | 3.0 | 2436-12-3 |
| 12 | 4.0 | 2436-12-4 |
| 12 | 5.0 | 2436-12-5 |
| 12 | 6.0 | 2436-12-6 |
| 12 | 8.0 | 2436-12-8 |
| 18 | 3.0 | 2436-18-3 |
| 18 | 4.0 | 2436-18-4 |
| 18 | 5.0 | 2436-18-5 |
| 18 | 6.0 | 2436-18-6 |
| 18 | 8.0 | 2436-18-8 |

Type 2436-T



| A  | D (2x) | Art. N°    |
|----|--------|------------|
| 12 | 3.0    | 2436T-12-3 |
| 12 | 4.0    | 2436T-12-4 |
| 12 | 5.0    | 2436T-12-5 |
| 12 | 6.0    | 2436T-12-6 |
| 18 | 3.0    | 2436T-18-3 |
| 18 | 4.0    | 2436T-18-4 |
| 18 | 5.0    | 2436T-18-5 |
| 18 | 6.0    | 2436T-18-6 |

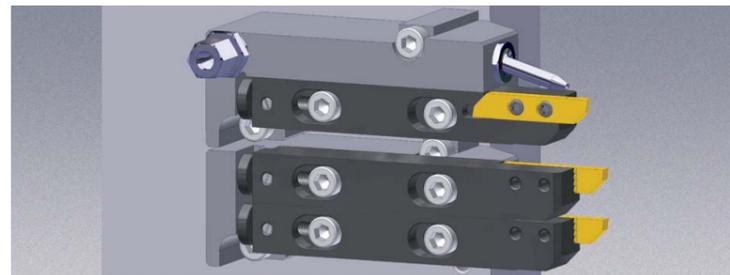
Entretoise  
Erhöhungsplatte  
Spacer



Type 2436-S12

Art. N°  
2436-S12

# MODU-LINE



|   | page<br>Seite<br>page |
|---|-----------------------|
| INFO  | 6.02                  |
|   | 6.03<br>-<br>6.09     |
|   | 6.10<br>-<br>6.12     |
|   | 6.12                  |
|   | 6.13                  |
|   | 6.14                  |
| <p>pièces de rechange<br/>Ersatzteile<br/>spare parts</p> | 6.15                  |

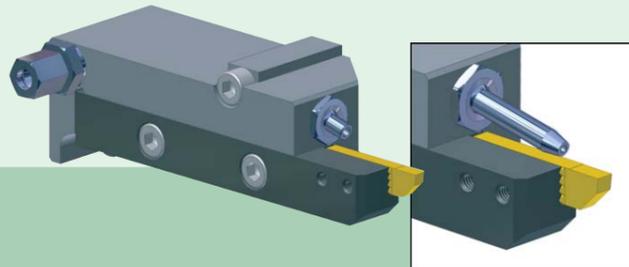
Système d'outils modulaire  
Vielseitiges Werkzeugsystem  
Modular tooling system

Les avantages  
die Vorteile  
the advantages

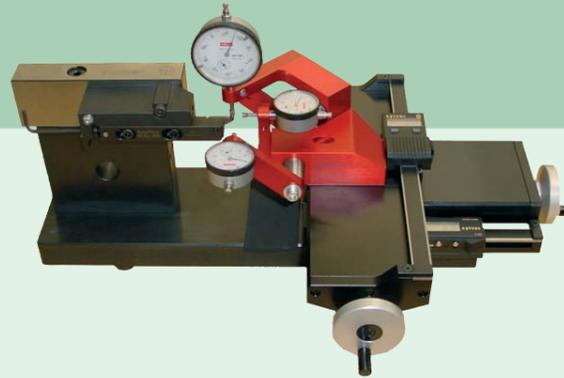
plus d'outils disponibles  
höhere Werkzeuganzahl  
more tools available



système d'arrosage efficace  
effizientes Kühlmittelzufuhr System  
efficient coolant supply system

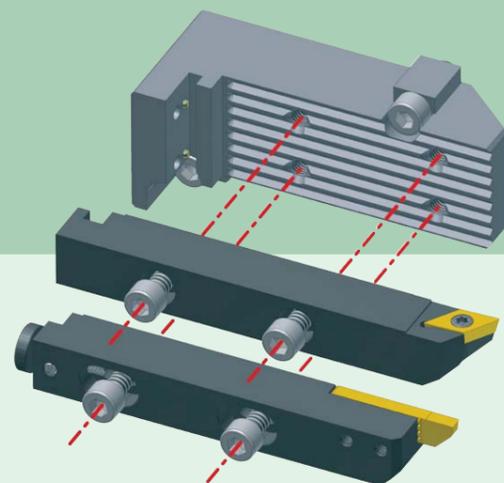


changement d'outil simple et rapide  
einfacher und schneller Werkzeugwechsel  
easy and quick tool replacement

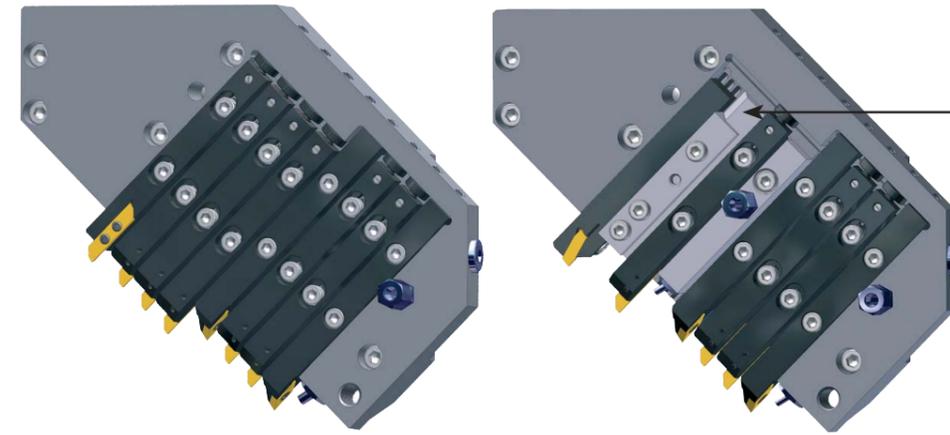


possibilité de préréglage et de réglage de la longueur  
des outils  
voreinstellbar auf feste oder einstellbare Länge  
presetting on fixed or adjustable length

système de fixation robuste et rigide  
robustes und starres Spannsystem  
strong and stable clamping system

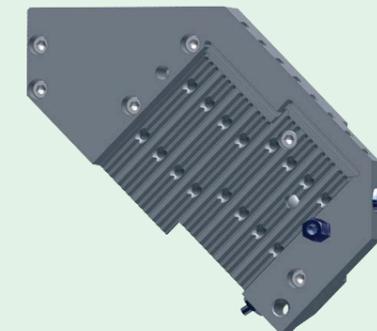
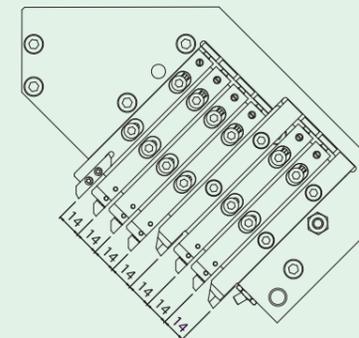


système compatible avec d'autres fabricants  
Werkzeugsystem kompatibel zu anderen Lieferanten  
standard system compatible with other suppliers

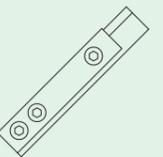


Module de serrage pour outil  
standard de section carrée  
Spannelement für standard  
Vierkant-Werkzeug  
Clamping unit for standard  
square shank tool

Plaque porte-outils  
Werkzeugplatte  
Tool holder plate  
**Citizen-Cincom  
C12 / C16**  
max  
bis  
up to **8** outils  
Werkzeuge  
tools  
**ML12**  
Module de serrage  
Spannelement  
clamping unit

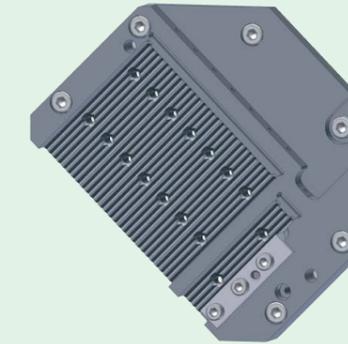
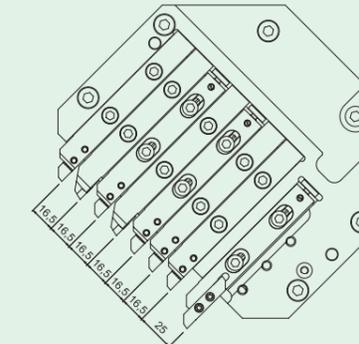


Art. N°  
ML12-CITIZEN-C16

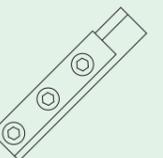


Art. N°  
ML12-FIX-12/14

Plaque porte-outils  
Werkzeugplatte  
Tool holder plate  
**Citizen-Cincom  
K12 / K16 type VII**  
max  
bis  
up to **8** outils  
Werkzeuge  
tools  
**ML16**  
Module de serrage  
Spannelement  
clamping unit

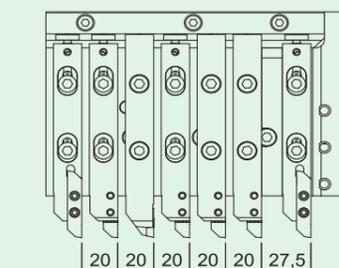


Art. N°  
ML16-CITIZEN-K16



Art. N°  
ML16-FIX-16/16.5

Plaque porte-outils  
Werkzeugplatte  
Tool holder plate  
**Citizen-Cincom  
L16 / L20  
type VII / VIII**  
max  
bis  
up to **7** outils  
Werkzeuge  
tools  
**ML16**



Art. N°  
ML16-CITIZEN-L20



Module de serrage pour outil standard de section carrée  
Spannelement für standard Vierkant-Werkzeug  
Clamping unit for standard square shank tool

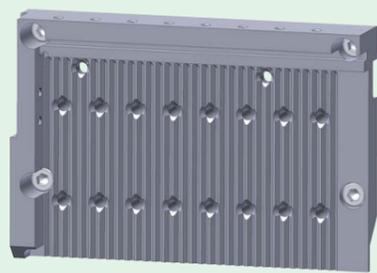
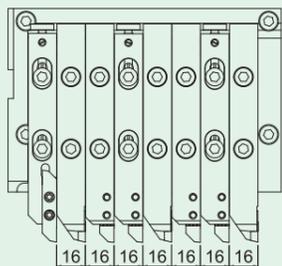
Plaque porte-outils  
Werkzeugplatte  
Tool holder plate

Star  
SA-12 / SA-16 / SA-16R

max bis up to **8** outils  
Werkzeuge tools

**ML16**

Module de serrage  
Spannelement  
clamping unit



Art. N°  
ML16-STAR-SA16



Art. N°  
ML16-FIX-16/16

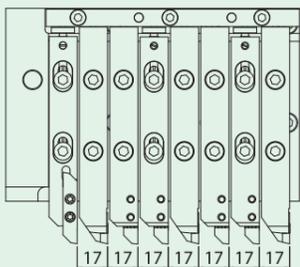
Plaque porte-outils  
Werkzeugplatte  
Tool holder plate

Star  
SB-16

max bis up to **8** outils  
Werkzeuge tools

**ML16**

Module de serrage  
Spannelement  
clamping unit



Art. N°  
ML16-STAR-SB16



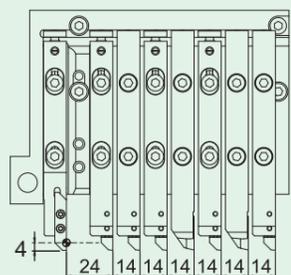
Art. N°  
ML16-FIX-16/17

Plaque porte-outils  
Werkzeugplatte  
Tool holder plate

Star  
SR10J

max bis up to **8** outils  
Werkzeuge tools

**ML12**



Art. N°  
ML12-STAR-SR10J



Module de serrage pour outil standard de section carrée  
Spannelement für standard Vierkant-Werkzeug  
Clamping unit for standard square shank tool

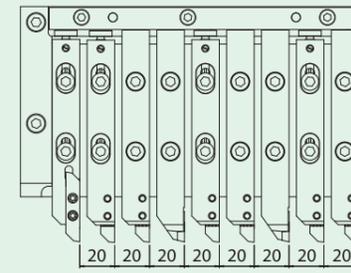
Plaque porte-outils  
Werkzeugplatte  
Tool holder plate

Star  
SR-16R / SR-20R / SR-20RII

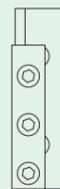
max bis up to **9** outils  
Werkzeuge tools

**ML16**

Module de serrage  
Spannelement  
clamping unit



Art. N°  
ML16-STAR-SR20R



Art. N°  
ML16-FIX-16/20

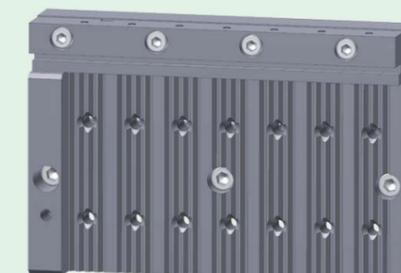
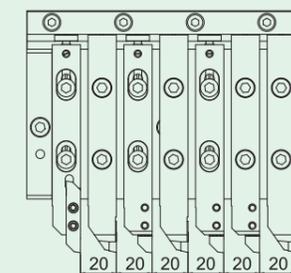
Plaque porte-outils  
Werkzeugplatte  
Tool holder plate

Star  
SV12 / 20

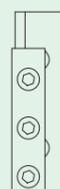
max bis up to **7** outils  
Werkzeuge tools

**ML16**

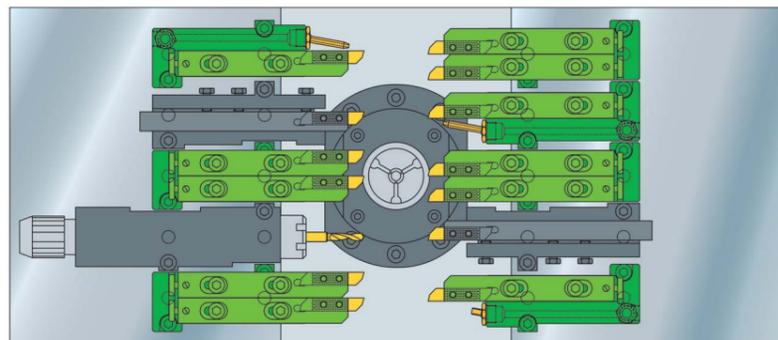
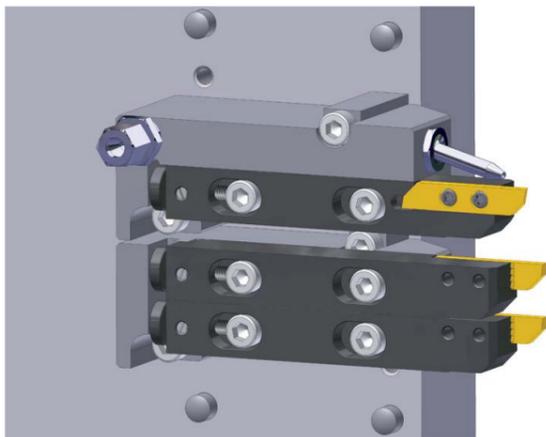
Module de serrage  
Spannelement  
clamping unit



Art. N°  
ML16-STAR-SV12/20



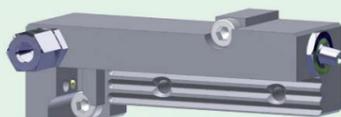
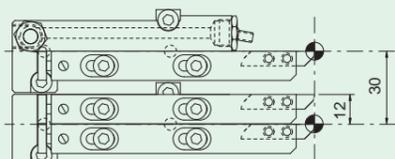
Art. N°  
ML16-FIX-16/20



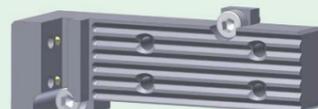
**TORNOS DECO 7 / 10 ML12**

base porte-outils avec arrosage  
Grundhalter mit Kühlmittel-Zufuhr  
Tool holder base with coolant supply

Base porte-outils double  
Doppel-Grundhalter  
Twin tool holder base



Art. N°  
ML12-DECO10-JET

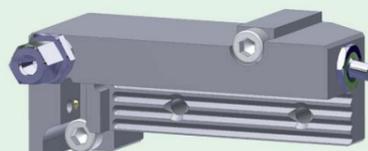
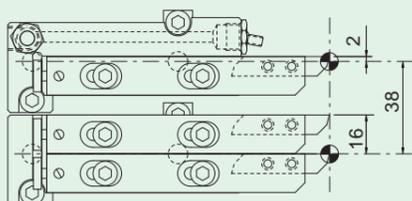


Art. N°  
ML12-DECO10-DUO

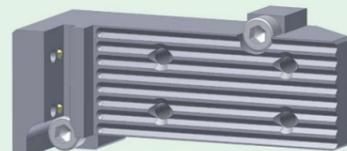
**TORNOS DECO 13 ML16**

base porte-outils avec arrosage  
Grundhalter mit Kühlmittel-Zufuhr  
Tool holder base with coolant supply

Base porte-outils double  
Doppel-Grundhalter  
Twin tool holder base



Art. N°  
ML16-DECO13-JET

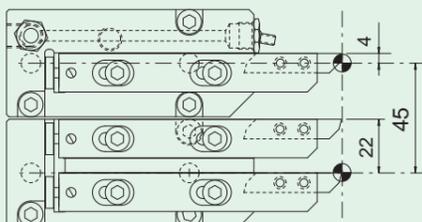


Art. N°  
ML16-DECO13-DUO

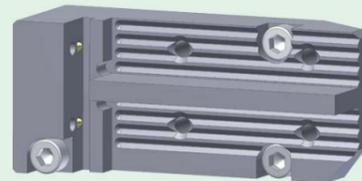
**TORNOS DECO 20 / 26 ML16**

base porte-outils avec arrosage  
Grundhalter mit Kühlmittel-Zufuhr  
Tool holder base with coolant supply

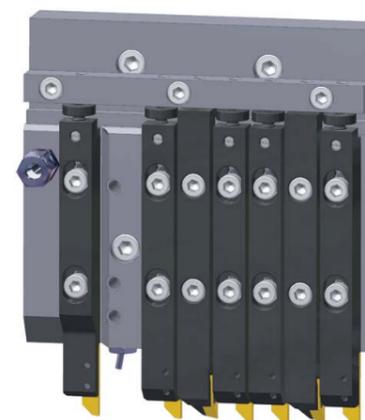
Base porte-outils double  
Doppel-Grundhalter  
Twin tool holder base



Art. N°  
ML16-DECO20-JET



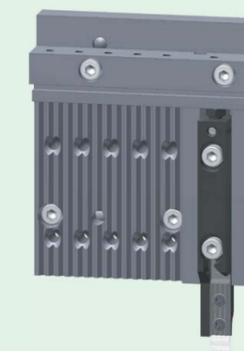
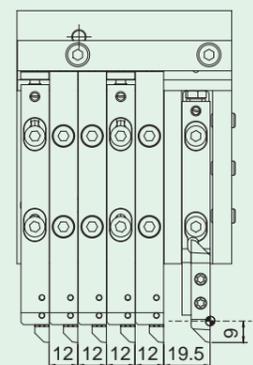
Art. N°  
ML16-DECO20-DUO



**Plaque porte-outils  
Werkzeugplatte  
Tool holder plate TORNOS MICRO 7**

max  
bis  
up to **6** outils  
Werkzeuge  
tools

**ML12**



Art. N°  
ML12-MICRO-7

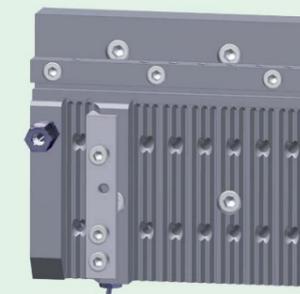
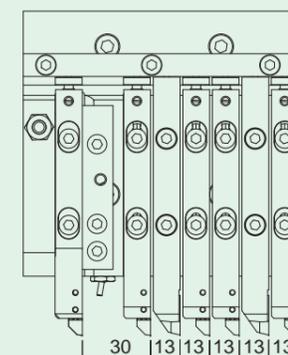
outil de tronçonnage pour plaquette type 750R fourni  
Abstechwerkzeug für WSP Typ 750R mitgeliefert  
Parting off tool for insert type 750R included

voir pages  
siehe Seiten  
see pages 1.71  
(1.45 / 1.47)

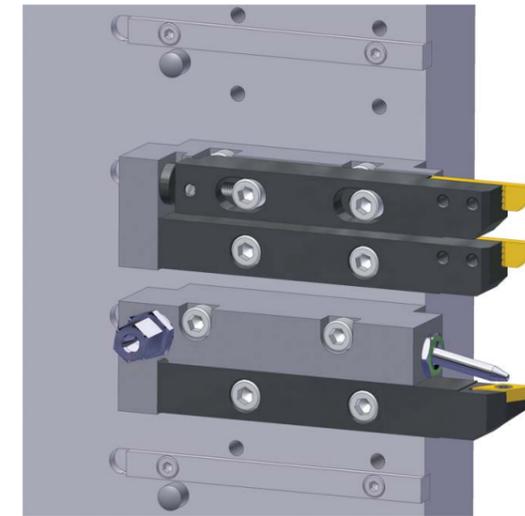
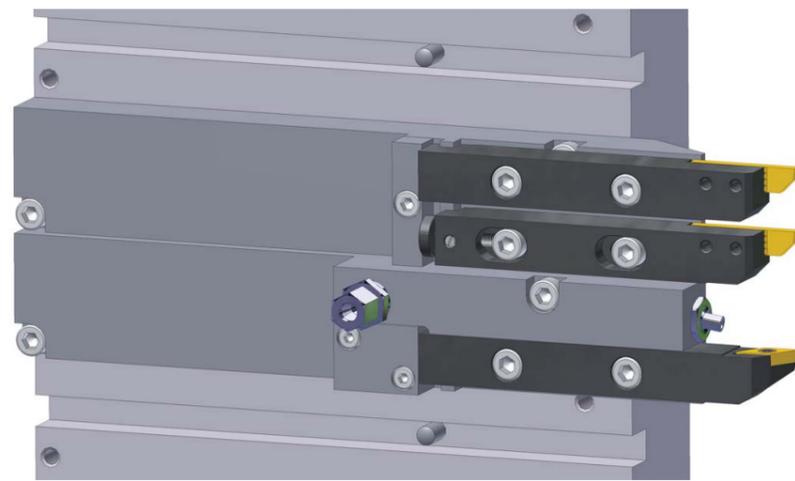
**Plaque porte-outils  
Werkzeugplatte  
Tool holder plate TORNOS MICRO 8**

max  
bis  
up to **7** outils  
Werkzeuge  
tools

**ML12**



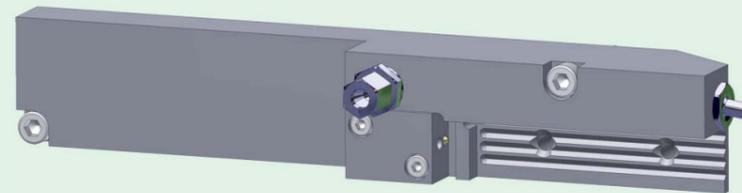
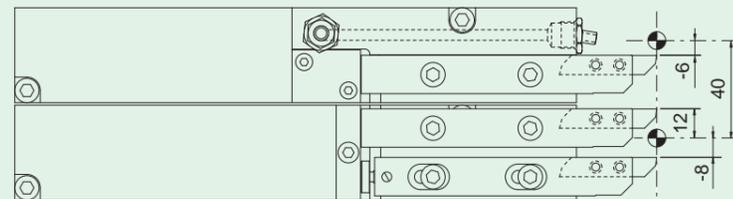
Art. N°  
ML12-MICRO-8



DECO  
SIGMA 20

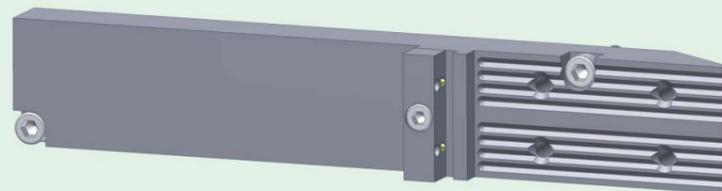
ML16

Bases porte-outils  
Grundhalter  
Tool holder bases



base porte-outils avec arrosage  
Grundhalter mit Kühlmittel-Zufuhr  
Tool holder base with coolant supply

Art. N°  
ML16-S20-JET



Base porte-outils double  
Doppel-Grundhalter  
Twin tool holder base

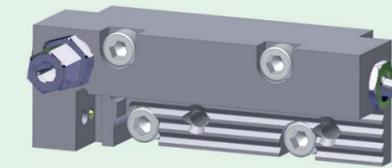
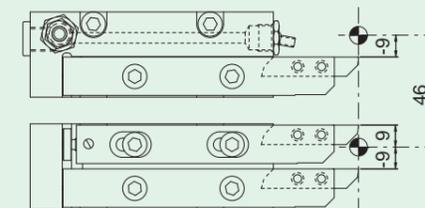
Art. N°  
ML16-S20-DUO

KMX 426 / 526 / 626  
SWING 20 - 26 mm

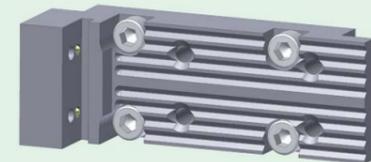
ML16

base porte-outils avec arrosage  
Grundhalter mit Kühlmittel-Zufuhr  
Tool holder base with coolant supply

Base porte-outils double  
Doppel-Grundhalter  
Twin tool holder base



Art. N°  
ML16-KMX26-JET



Art. N°  
ML16-KMX26-DUO

Porte-plaquettes  
WSP-Halter  
Insert holders

| f = longueur fixe<br>Fixlänge<br>fixed length | a = réglable<br>einstellbar<br>adjustable | ML12<br>12 x 15 mm                | ML16<br>16 x 16 mm                | Pour plaquettes<br>type...<br>Für WSP-Type...<br>For inserts type... | page<br>Seite<br>page |
|---|---|-----------------------------------|-----------------------------------|--|-----------------------|
|   |   | Art. N°<br>ML12a-340<br>ML12f-340 | Art. N°<br>ML16a-340<br>ML16f-340 | TOP-LINE<br>type 347 - 349   | 1.13<br>1.15          |
|   |   | ML12a-740<br>ML12f-740            | ML16a-740<br>ML16f-740            | TOP-LINE<br>type 741 - 747   | 1.25<br>1.35          |
|   |   | ML12a-740-C<br>ML12f-740-C        |                                   | TOP-LINE<br>type 741 - 747   | 1.25<br>1.35          |
|   |   | ML12a-760<br>ML12f-760            | ML16a-760<br>ML16f-760            | TOP-LINE<br>type 761 - 767   | 1.41<br>1.57          |
|   |   |                                   | ML16a-760-C<br>ML16f-760-C        | TOP-LINE<br>type 761 - 767   | 1.41<br>1.57          |
|   |   | ML12a-SCLCR09<br>ML12f-SCLCR09    | ML16a-SCLCR09<br>ML16f-SCLCR09    | ISO-LINE<br>CC..-09T03..<br>(type 12..)                              | 3.12<br>3.13          |
|   |   | ML12a-SDJCR07<br>ML12f-SDJCR07    | ML16a-SDJCR07<br>ML16f-SDJCR07    | ISO-LINE<br>DC..-0702..<br>(type 13..)                               | 3.18<br>3.19          |
|   |   | ML12a-SDJCR11<br>ML12f-SDJCR11    | ML16a-SDJCR11<br>ML16f-SDJCR11    | ISO-LINE<br>DC..11T3..<br>(type 14..)                                | 3.18<br>3.19          |
|   |   | ML12a-SVJCR11<br>ML12f-SVJCR11    | ML16a-SVJCR11<br>ML16f-SVJCR11    | ISO-LINE<br>VC..-1103..<br>(type 16..)                               | 3.24<br>3.25          |
|   |   | ML12a-260<br>ML12f-260            | ML16a-260<br>ML16f-260            | ECO-LINE<br>type 261 - 266   | 4.05<br>4.09          |

Porte-plaquettes  
WSP-Halter  
Insert holders

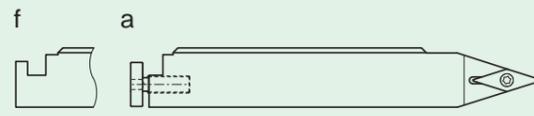
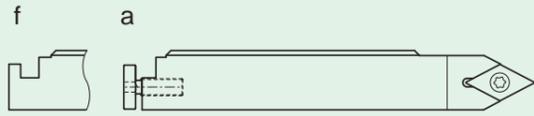
coupe à droite déportée ou usinage à gauche sur contre-broche  
rechtsschneidend versetzt oder linksschneidend auf Gegenspindel  
right hand cut off line or left hand cut on subspindle

| a = réglable<br>einstellbar<br>adjustable | ML12<br>12 x 15 mm     | ML16<br>16 x 16 mm     | Pour plaquettes<br>type...<br>Für WSP-Typ...<br>For inserts type... | page<br>Seite<br>page  |
|---|------------------------|------------------------|---|------------------------|
|   | Art. N°<br>ML12a-330-V | Art. N°<br>ML16a-330-V | TOP-LINE<br>type 337 - 339  | 1.12<br>1.14           |
|   | ML12a-730-V            | ML16a-730-V            | TOP-LINE<br>type 731R<br>731 - 737                                  | 1.29<br>1.26-1.34      |
|   | ML12a-730RC            |                        | TOP-LINE<br>type 731R   | 1.29                   |
|   | ML12a-750-V            | ML16a-750-V            | TOP-LINE<br>type 751R<br>751 - 757                                  | 1.45/1.47<br>1.40-1.56 |
|   |                        | ML16a-750RC            | TOP-LINE<br>type 751R   | 1.45<br>1.47           |
|   | ML12a-SDJCL11-V        | ML16a-SDJCL11-V        | ISO-LINE<br>DC..-11T3..<br>(type 14..)                              | 3.18<br>3.19           |
|   | ML12a-SVJCL11-V        | ML16a-SVJCL11-V        | ISO-LINE<br>VC..-1103..<br>(type 16..)                              | 3.24<br>3.25           |
|   | ML12a-250-V            | ML16a-250-V            | ECO-LINE<br>type 251 R /<br>251 - 256                               | 4.04<br>4.08           |

## Porte-plaquettes WSP-Halter Insert holders

f = longueur fixe  
Fixlänge  
fixed length

a = réglable  
einstellbar  
adjustable



**ML16**

16 x 16 mm

Pour plaquettes  
type...

Für WSP-Type...

For inserts type...

page  
Seite  
page

Art. N°

ML16a-SDNCN11

ISO-LINE  
DC..-11T3..

3.18

ML16f-SDNCN11

(type 14..)

3.19

ML16a-SVVCN11

ISO-LINE  
VC..-1103

3.24

ML16f-SVVCN11

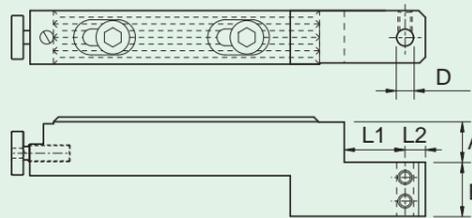
(type 16..)

3.25

## Porte-outils Werkzeughalter Tool holders

a = réglable  
einstellbar  
adjustable

L / R

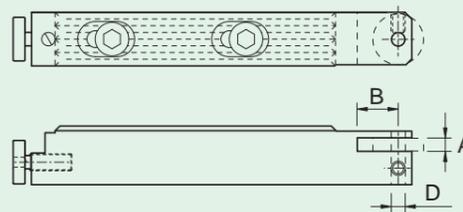


| A  | D | E  | L1 | L2 | Art. N°         |
|----|---|----|----|----|-----------------|
| 8  | 3 | 12 | 13 | 6  | ML12a-2440-8-3  |
| 8  | 4 | 12 | 13 | 6  | ML12a-2440-8-4  |
| 8  | 5 | 12 | 13 | 6  | ML12a-2440-8-5  |
| 12 | 6 | 12 | 13 | 6  | ML12a-2440-12-6 |
| 12 | 3 | 16 | 18 | 6  | ML16a-2440-12-3 |
| 12 | 4 | 16 | 18 | 6  | ML16a-2440-12-4 |
| 12 | 5 | 16 | 18 | 6  | ML16a-2440-12-5 |
| 12 | 6 | 16 | 18 | 6  | ML16a-2440-12-6 |
| 18 | 8 | 16 | 18 | 6  | ML16a-2440-18-8 |

## Porte-molettes Rändelhalter Knurl holders

a = réglable  
einstellbar  
adjustable

L / R



| A | D | B  | Art. N°       |
|---|---|----|---------------|
| 4 | 4 | 8  | ML12a-2402-44 |
| 4 | 4 | 11 | ML16a-2402-44 |

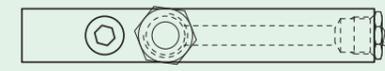
## ML12

## Module d'arrosage Kühlmittel-Zufuhr element Coolant supply unit

## ML16

Raccord  
Anschluss  
connection

Ø 6 - G1/8



Art. N°

ML12-JET-5/16

buse d'arrosage  
Kühlmitteldüse  
coolant nozzle

5/16"

Ø 1.6 x 6

Raccord  
Anschluss  
connection

Ø 6 - G1/8



Art. N°

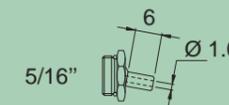
ML16-JET-7/16

## buse d'arrosage Kühlmitteldüse coolant nozzle

5/16"

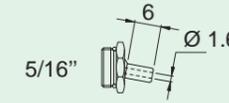
Art. N°

Références compatibles  
kompatible Artikeln  
compatible items



ML-JET 5/16 1.0x6

ML12-MICRO-8  
ML12-JET-5/16



ML-JET 5/16 1.6x6

une buse ML-JET 5/16 1.6x6 est comprise  
avec chacun de ces articles.

eine Düse ML-JET 5/16 1.6x6 ist mit jedem  
Artikel inbegriffen.



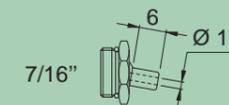
ML-JET 5/16 2.2x0

a nozzle ML-JET 5/16 1.6x6 is included with  
each item.

7/16"

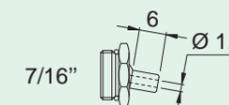
Art. N°

Références compatibles  
kompatible Artikeln  
compatible items



ML-JET 7/16 1.0x6

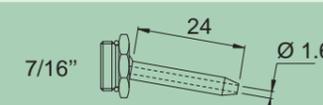
ML12-CITIZEN-C16  
ML12-DECO10-JET  
ML16-DECO13-JET  
ML16-DECO20-JET  
ML16-S20-JET  
ML16-KMX26-JET  
ML16-JET-7/16



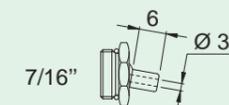
ML-JET 7/16 1.6x6

une buse ML-JET 7/16 3.0x6 est comprise  
avec chacun de ces articles.

eine Düse ML-JET 7/16 3.0x6 ist mit jedem  
Artikel inbegriffen.



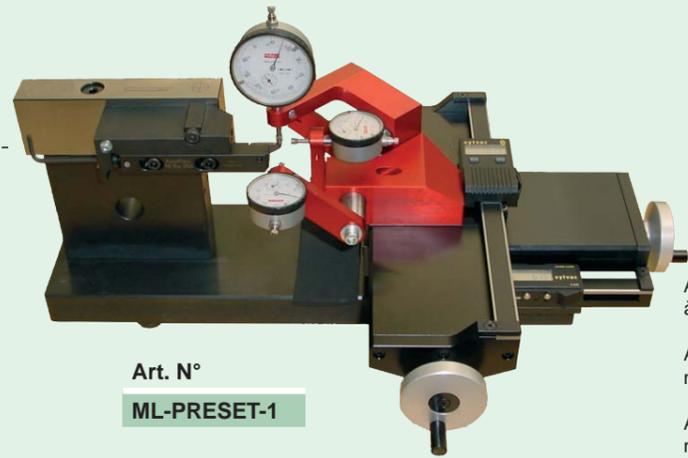
ML-JET 7/16 1.6x24



ML-JET 7/16 3.0x6

a nozzle ML-JET 7/16 3.0x6 is included with  
each item.

Banc de pré réglage  
Voreinstellgerät  
Presetting device



Art. N°  
ML-PRESET-1

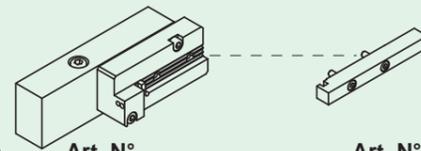
Adaptateurs et jauges d'étalonnage à commander séparément

Adapter und Einstell-Lehren müssen separat bestellt werden

Adaptors and master gauges must be ordered separately

Adaptateurs et jauges d'étalonnage  
Adapter und Einstell-Lehren  
Adaptors and master gauges

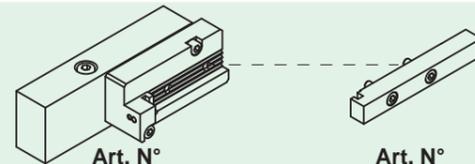
ML12



Art. N°  
ML12-ADAPT

Art. N°  
ML12-MASTER

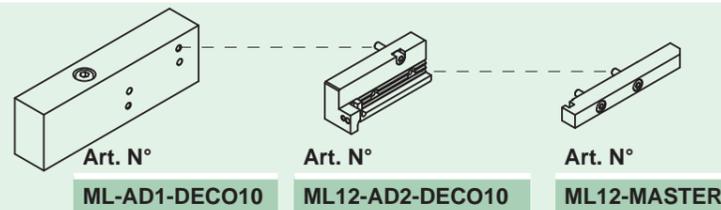
ML16



Art. N°  
ML16-ADAPT

Art. N°  
ML12-MASTER

TORNOS DECO 10  
+ ML12

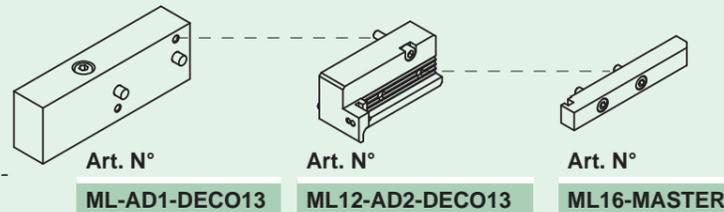


Art. N°  
ML-AD1-DECO10

Art. N°  
ML12-AD2-DECO10

Art. N°  
ML12-MASTER

TORNOS DECO 13  
+ ML16

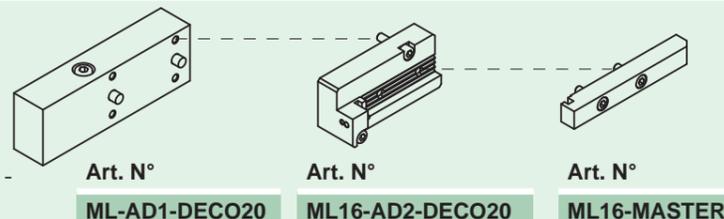


Art. N°  
ML-AD1-DECO13

Art. N°  
ML12-AD2-DECO13

Art. N°  
ML16-MASTER

TORNOS DECO 20/26  
+ ML16



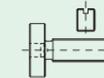
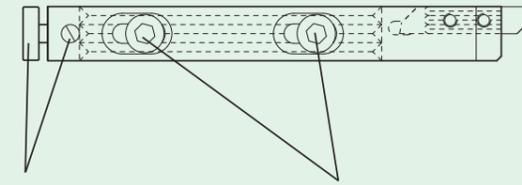
Art. N°  
ML-AD1-DECO20

Art. N°  
ML16-AD2-DECO20

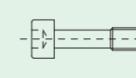
Art. N°  
ML16-MASTER

pièces de rechange  
Ersatzteile  
spare parts

ML12



vis de réglage  
Einstellungsschraube  
setting screw

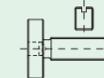
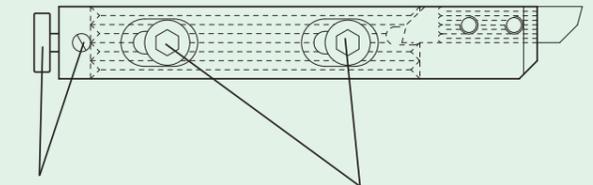


vis de fixation  
Befestigungsschraube  
fixing screw

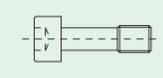
Art. N°  
ML12a-M5x0.5

Art. N°  
ML12-M5xL20

ML16



vis de réglage  
Einstellungsschraube  
setting screw

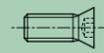
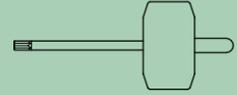


vis de fixation  
Befestigungsschraube  
fixing screw

Art. N°  
ML16a-M5x0.5

Art. N°  
ML16-M6xL20

Vis et clés pour le serrage des plaquettes  
Schrauben und Schlüssel für WSP-Befestigung  
screws and keys for insert clamping

| porte-outils<br>Halter<br>holders |  |  |
|-----------------------------------|---|---|
| ML...-250                         | V-M4x9-T15  | T15   |
| ML...-260                         | V-M4x9-T15  | T15   |
| ML...-330                         | V-M2.5x7.8-T8   | T8  |
| ML...-340                         | V-M2.5x7.8-T8   | T8  |
| ML...-730                         | V-M3x7-T8   | T8  |
| ML...-730RC                       | V-M3x5.5-T8   | T8  |
| ML...-740                         | V-M3x7-T8   | T8  |
| ML...-750                         | V-M4x9-T15  | T15   |
| ML...-750RC                       | V-M4x7.3-T15  | T15   |
| ML...-760                         | V-M4x9-T15  | T15   |
| ML...-SC...09                     | V-M4x9-T15-ISO  | T15   |
| ML...-SD...07                     | V-M2.5x7.8-T8   | T8  |
| ML...-SD...11                     | V-M4x9-T15-ISO  | T15   |
| ML...-SV...11                     | V-M2.5x7.8-T8   | T8  |

|        |             |           |      |             |             |
|--------|-------------|-----------|------|-------------|-------------|
| 000    | 5.23        | 260       | 4.03 | 3383        | 5.22        |
| 0010   | 5.23        | 260/250-D | 4.02 | 339         | 1.14        |
|        |             | 261       | 4.05 | 342         | 1.13        |
| 1005   | 5.10        | 261-E     | 4.03 | 343         | 1.13        |
| 1006   | 5.12        | 261L      | 4.04 | 3431        | 5.21        |
| 1010   | 5.09        | 262       | 4.07 | 344         | 1.13        |
| 1101   | 5.24        | 2620      | 5.17 | 3441        | 5.21        |
| 1102   | 5.25        | 263       | 4.07 | 345         | 1.13        |
| 1103   | 5.26 - 5.27 | 2630      | 5.17 | 346         | 1.13        |
| 1107   | 5.30        | 264       | 4.09 | 347         | 1.15        |
| 1200   | 5.04        | 266       | 4.09 | 347-EN      | 1.13        |
| 1400-J | 5.32        | 2680      | 5.07 | 348         | 1.15        |
| 1401-K | 5.32        | 2810      | 5.28 | 349         | 1.15        |
| 1402   | 5.31        | 2815      | 5.28 | 3801        | 5.23        |
| 1420   | 5.32        | 2820      | 5.29 | 3802        | 5.23        |
| 1450   | 5.34        |           |      | 3803        | 5.23        |
| 1460   | 5.34        | 311       | 1.08 | 3812        | 5.23        |
| 1500   | 5.04        | 312       | 1.08 | 3813        | 5.23        |
| 1510   | 5.04        | 313       | 1.08 | 3821        | 5.23        |
| 1600   | 5.16        | 314       | 1.08 | 3822        | 5.23        |
| 1610   | 5.16        | 315       | 1.08 | 3831        | 5.23        |
| 1680   | 5.06        | 316       | 1.08 | 3832        | 5.23        |
| 1820   | 5.29        | 317       | 1.10 | 3833        | 5.23        |
| 1901   | 5.16        | 318       | 1.10 | 3834        | 5.23        |
|        |             | 319       | 1.10 | 3835        | 5.23        |
| 2000   | 5.14        | 322       | 1.09 | 3901        | 5.17        |
| 2001   | 5.15        | 323       | 1.09 | 3911        | 5.17        |
| 2005   | 5.11        | 3231      | 5.21 |             |             |
| 2006   | 5.13        | 3238      | 5.21 | 7050        | 1.62        |
| 2010   | 5.09        | 324       | 1.09 | 7051        | 1.62        |
| 2012   | 5.08        | 325       | 1.09 | 7051R       | 1.65        |
| 2013   | 5.08        | 326       | 1.09 | 7060        | 1.63        |
| 2014   | 5.08        | 327       | 1.11 | 7061        | 1.63        |
| 2100   | 5.18        | 3271      | 5.19 | 7061L       | 1.64        |
| 2200   | 5.05        | 3274      | 5.19 | 710         | 1.16        |
| 2400-J | 5.33        | 3278      | 5.20 | 711         | 1.16        |
| 2401-K | 5.33        | 3279      | 5.20 | 712         | 1.18        |
| 2402   | 5.31        | 328       | 1.11 | 713         | 1.18        |
| 2405   | 5.34        | 3281      | 5.22 | 714         | 1.20        |
| 2420   | 5.33        | 3282      | 5.22 | 716         | 1.20        |
| 2425   | 5.34        | 3283      | 5.22 | 720         | 1.17        |
| 2435   | 5.37        | 329       | 1.11 | 721         | 1.17        |
| 2436   | 5.37        | 332       | 1.12 | 722         | 1.19        |
| 2440   | 5.36        | 333       | 1.12 | 723         | 1.19        |
| 2441   | 5.36        | 3331      | 5.21 | 724         | 1.21        |
| 2450   | 5.35        | 3335      | 5.20 | 726         | 1.21        |
| 2460   | 5.35        | 3336      | 5.21 | 730         | 1.22        |
| 2470   | 5.35        | 3337      | 5.21 | 730-DECO10  | 1.68        |
| 2490   | 5.36        | 3338      | 5.21 | 730RC       | 1.23        |
| 250    | 4.02        | 334       | 1.12 | 730R-DECO10 | 1.69        |
| 250RC  | 4.03        | 3341      | 5.21 | 731         | 1.24 / 1.26 |
| 251    | 4.04        | 335       | 1.12 | 731R        | 1.29        |
| 251-E  | 4.02        | 336       | 1.12 | 732         | 1.30        |
| 251R   | 4.05        | 3361      | 5.21 | 733         | 1.30 / 1.32 |
| 252    | 4.06        | 337       | 1.14 | 734         | 1.32        |
| 2520   | 5.05        | 337-EN    | 1.12 | 736         | 1.34        |
| 253    | 4.06        | 3371      | 5.19 | 737         | 1.34        |
| 2530   | 5.05        | 3374      | 5.19 | 740         | 1.23        |
| 254    | 4.08        | 338       | 1.14 | 740/730-D   | 1.22        |
| 256    | 4.08        | 3381      | 5.22 | 740-DECO10  | 1.69        |
|        |             | 3382      | 5.22 | 740L-DECO10 | 1.68        |

|             |             |
|-------------|-------------|
| 740Z        | 1.74        |
| 741         | 1.25 / 1.27 |
| 741L        | 1.28        |
| 742         | 1.31        |
| 743         | 1.31 / 1.33 |
| 744         | 1.33        |
| 746         | 1.35        |
| 747         | 1.35        |
| 750         | 1.36        |
| 750RAS      | 1.39        |
| 750RC       | 1.39        |
| 750R-DECO10 | 1.71        |
| 751         | 1.40 / 1.42 |
| 751-E       | 1.40        |
| 751R        | 1.45 / 1.47 |
| 751RAS      | 1.39        |
| 751RD       | 1.39 / 1.71 |
| 752         | 1.48        |
| 753         | 1.50 / 1.52 |
| 754         | 1.52 / 1.54 |
| 756         | 1.56        |
| 757         | 1.56        |
| 760         | 1.37        |
| 760/750-D   | 1.38        |
| 760LC       | 1.38        |
| 760L-DECO10 | 1.70        |
| 760Z        | 1.74        |
| 761         | 1.41 / 1.43 |
| 761-E       | 1.41        |
| 761L        | 1.44 / 1.46 |
| 761LD       | 1.70        |
| 762         | 1.49        |
| 763         | 1.51 / 1.53 |
| 764         | 1.53 / 1.55 |
| 766         | 1.57        |
| 767         | 1.57        |
| 770         | 1.58        |
| 770R-DECO13 | 1.72        |
| 770R-DECO20 | 1.72        |
| 771         | 1.58        |
| 771R        | 1.61        |
| 780         | 1.59        |
| 781         | 1.59        |
| 781L        | 1.60        |

|               |             |
|---------------|-------------|
| CC...         | 3.12 - 3.13 |
| CUT16H        | 2.02        |
| CUT16-LP      | 2.03        |
| CUT16-NG      | 2.05        |
| CUT16-RP      | 2.03        |
| CUT22H        | 2.02        |
| CUT22-LP      | 2.03        |
| CUT22-NG      | 2.05        |
| CUT22-NP-U    | 2.04        |
| CUT22-RP      | 2.03        |
| CUT31H        | 2.02        |
| CUT31-LP      | 2.03        |
| CUT31-NG      | 2.05        |
| CUT31-NP-U    | 2.04        |
| CUT31-RP      | 2.03        |
|               |             |
| D16-L55       | 1.73        |
| D16-L50F-ER11 | 1.73        |
| DC...         | 3.18 - 3.19 |
|               |             |
| ISO-11..      | 3.12 - 3.13 |
| ISO-12..      | 3.12 - 3.13 |
| ISO-13..      | 3.18 - 3.19 |
| ISO-14..      | 3.18 - 3.19 |
| ISO-16..      | 3.24 - 3.25 |
| ISO-17..      | 3.24 - 3.25 |
| ISO-21..      | 3.10 - 3.11 |
| ISO-22..      | 3.10 - 3.11 |
| ISO-23..      | 3.14 - 3.17 |
| ISO-24..      | 3.14 - 3.17 |
| ISO-26..      | 3.20 - 3.23 |
| ISO-27..      | 3.20 - 3.23 |
|               |             |
| ML12a         | 6.10 - 6.12 |
| ML12-AD2      | 6.14        |
| ML12-ADAPT    | 6.14        |
| ML12-CITIZEN  | 6.03        |
| ML12-DECO10   | 6.06        |
| ML12f         | 6.10        |
| ML12-JET      | 6.13        |
| ML12-MASTER   | 6.14        |
| ML12-MICRO    | 6.07        |
| ML12-STAR     | 6.04        |
| ML16a         | 6.10 - 6.12 |
| ML16-AD2      | 6.14        |
| ML16-ADAPT    | 6.14        |
| ML16-CITIZEN  | 6.03        |
| ML16-DECO     | 6.06        |
| ML16f         | 6.10 - 6.12 |
| ML16-JET      | 6.13        |
| ML16-KMX26    | 6.09        |
| ML16-MASTER   | 6.14        |
| ML16-S20      | 6.08        |
| ML16-STAR     | 6.04 - 6.05 |
| ML-AD1        | 6.14        |
| ML-JET        | 6.13        |
| ML-PRESET-1   | 6.14        |
|               |             |
| S8-0808       | 1.73        |
| S8-730        | 1.73        |
| S8-740        | 1.73        |

|        |             |
|--------|-------------|
| SC...  | 3.10 - 3.11 |
| SD...  | 3.14 - 3.17 |
| SV...  | 3.20 - 3.23 |
|        |             |
| THOR   | 5.14 - 5.15 |
|        |             |
| VC...  | 3.24 - 3.25 |
|        |             |
| W750   | 1.66        |
| W751   | 1.66        |
| W760   | 1.67        |
| W761   | 1.67        |
| WINNER | 5.10 - 5.13 |

|   |                           |
|---|---------------------------|
| <b>Outils spécifiques pour machines :<br/>Sonderwerkzeuge für Maschine :<br/>Special tools for machines :</b> |                           |
| Citizen-Cincom  | 6.03                      |
| Manurhin  | 6.09                      |
| Star  | 6.04 - 6.05               |
| Tornos Deco   | 1.68 - 1.72 / 5.37 / 6.06 |
| Tornos Micro  | 1.73 / 6.07               |
| Tornos Sigma  | 6.08                      |