

ALOUETTE **TOOL COMPANY** LTD.

**YOUR SOURCE FOR QUALITY
SWISS TURN TOOLING**

2025 Catalog

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Est. 1973



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**Thread Rolling Die & Revolving Guide Bushing Instructions available at www.abouettetool.com*

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**PDF Catalog and more information available at www.alouettetool.com*



SWISS BLUE – Swiss ISO Turning & Milling Inserts

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LIVE TOOLING

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SARIX

3D MICRO EDM MACHINING

SARIX.COM 

**HIGH PRECISION
MICRO EDM MACHINES**

FOR

**MICRO EDM DRILLING
HIGH SPEED DRILLING
3D MICRO EDM MILLING
MICRO EDM SINKING**



SARIX Micro EDM Technology

SARIX Micro EDM Drilling

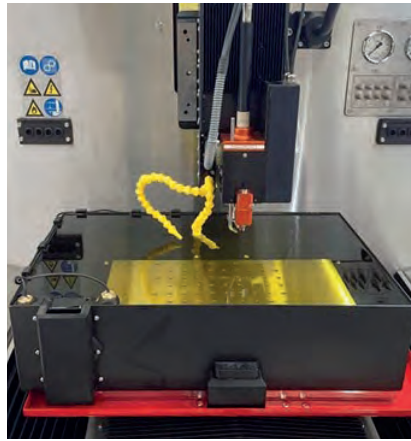
High precision drilling

We lead the way in high-precision drilling for small holes, with diameters ranging from 10 μm to 4.0 mm, delivering burr-free holes of the highest quality.

High speed drilling

With the **SX-HPS** generator, we offer solutions for rapid holes drilling of several materials as carbide, steel and special alloys.

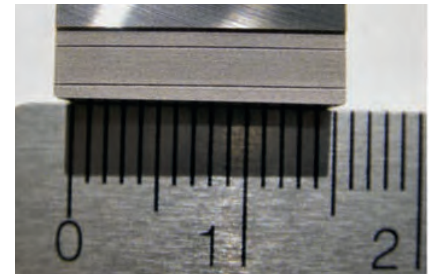
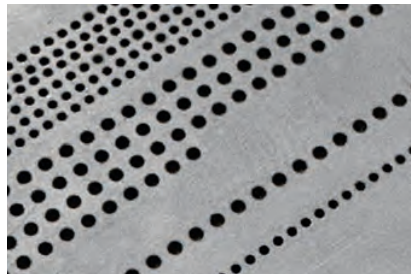
In aerospace as well as in stamping tools, it achieves high removal rates with minimal remelting layer and no cracks. Submerged tank solutions with high speed filling allow better drilling in safety conditions.



Deep Hole Drilling

We excel in extreme deep drilling across all diameters. Use our **SX-MDH** (Micro Deep Hole) for 0.10 mm holes up to 15 mm deep, and the **SX-HPS** generator to achieve 0.8 mm holes up to 230 mm deep.

We meet your most demanding micro drilling challenges!



SARIX 3D Micro EDM Milling

3D Micro EDM milling

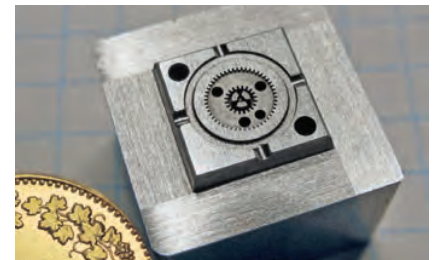
Our technology enables 3D cavity milling without requiring form electrodes. We use high-precision solid carbide micro-electrodes and CAM-generated milling paths to achieve machining accuracy superior to die sinking.

High finishing

The wide range of parameters and Micro erosion energies of the **PULSAR** generator achieves surface qualities down to Ra 0.05 μm .

Micro electrode shaping

Cylindrical or shaped electrodes can be formed and measured directly on the machine, eliminating any handling and clamping error.



SARIX Micro EDM Die Sinking

Micro cavity sinking

The **PULSAR** generator offers specific ultra-low wear technologies for the use of shaped micro-electrodes.

Corner finishing

Perfect control of electrode wear and use of high frequency generator pulses makes corners with extremely small radius down to 3 μm .

Micro-electrode form shaping

Indexed rotating spindle creates electrodes of different shapes on the **SX-Ariane** and measures them on the on board laser device.



SARIX Application markets



AUTOMOTIVE

Injection holes

Mass production high precision holes

- Perfect cylindrical hole with straightness control
- Reverse taper hole down to \varnothing 0.10 mm – depth up to 1.5 mm
- High repeatability multi-angle spray hole nozzle
- Mass production high precision and quality capability

injectors – nozzles – spray liners – flow controllers



MICRO MECHANICS

Tools – Micro holes

From simple hole up to high precision finished hole

- High speed and high precision start hole drilling without deviation
- Deep hole drilling with high aspect ratio, \varnothing 0.10 mm on 15-20 mm depth
- Step holes and complex forms with surface finishing down to Ra 0.05 μ m
- Micro hole down to \varnothing 0.010 mm

wire start holes – stamping tools – guiding tools – micro grippings – nozzles – micro dies



AEROSPACE

Injection and cooling holes

High speed drilling and precision holes

- High-speed hole drilling without entry angle limitation
- High-speed drilling quality without recast layer or cracks
- Perfect round holes without back wall touch
- Fan-shaped/diffuser holes drilled on the cooling holes

injection nozzles and ramps – swirlers – diffusers – blades – vanes – shrouds – flow valves



MICRO MOLD

Plastic and metal molding

High precision 3D multi-level complex micro-molding cavities

- ± 1 μ m tolerance using simple round precision electrode
- Perfect gear profile for micro modules with high surface wall finishing
- Shaped edges on wall/floor 3D forms without bottom radius
- Multi step injection points with smooth taper profile

gears – rotors – connectors – optical lens – spacers – leaf spring housings



MEDICAL

Surgical implants and instruments

Perfect holes without defects and alterations

- Micro hole down to \varnothing 0.010 mm
- Perfect round holes 5° entry angle
- Holes without entry/exit burrs on tubing cross section
- Holes without porosity and without heated zone

needles – tubings – instruments – medical devices – surgical components



TEXTILE

Spinnerets and textile tools

Form holes with high surface finishing

- High precision round and shaped holes
- Drilling with high surface finishing down to Ra 0.05 μ m
- Perfect hole entry without burrs and without overheating layer
- Production of unlimited holes sequence

spinneret dies – wire needles – wire guiding fingers

BEHIND INNOVATIVE MICRO-MACHINING TECHNOLOGY



Since 1993, **SARIX**, we have pursued an ongoing commitment to the development of ultra-precise micro-dimensioning technologies for medium-sized Micro-machining. This high precision philosophy, which underpins the design and modularity of **SARIX** machines, guarantees an innovative approach for our customers.

PULSAR generator

With the innovative **ADP®** Analog Digital Pulse, **DPM®** digital Direct Pulse Motion and fibre optic communication, ensure rapid response and precision in Micro-machining on the following generator modules covering all applications:

- SX-MPS** Micro Pulse Shape main generator for a wide range of Micro-machining tasks
- SX-MFPS** Micro Fine Pulse Shape generator for machining between $50 \div 30 \mu\text{m}$ and $Ra 0.15 \div 0.10 \mu\text{m}$
- SX-UFPS** Ultra Fine Pulse Shape generator for $Ra 0.10 \div 0.05 \mu\text{m}$
- SX-HPS** High Power pulse Shape generator up to 4.0 mm hole size

More options:

- SX-BTD** Advanced breakthrough detection for fast hole drilling
- SX-SLS** Wizard for automatic drilling/milling parameters search on new materials

ENTER INTO THE SARIX SMART CONNECTED INTERACTIVE INDUSTRY 4.0

The **SARIX** machines are ready for Industry 4.0. They improve efficiency of large structured companies and small workshops enabling them to reap the benefits of digitization.

SARIX DIGITAL SERVICES, SX-SDS, offers on-board customized instructions for preventive and prescriptive maintenance. It guides operators and maintenance technicians to keep the machine running optimally and reduce operating costs.

SARIX Industry 4.0 implements the **OPC-UA** protocol to connect with a Manufacturing Execution System (MES). This integration allows real-time monitoring and data driven decisions, optimizes production processes and ensures maximum efficiency and productivity.



SX-SH-WIRE Post-processor to program wire cutting starting holes directly from the wire cutting CAM (available for selected CAM).

PROTECT YOUR INVESTMENT – STAY AT THE CUTTING EDGE FOR YEARS TO COME

Choosing **SARIX** means investing in cutting-edge machinery and partnering with a proactive team focused on your long-term success. We recognize the need to keep machines current as technology progresses. Our **SARIX** machine upgrade packages ensure continuous evolution across all machines.

Customized updates are always available on request.

FREE LIFETIME CNC software updates with every service!

SX-CNC UPGRADE

Enhance your operations with the advanced **SX-HMI** touch-screen and an IP65 stainless steel keyboard. It includes program generation from DXF files and on-board editing.

UPGRADE WITH PULSAR GENERATOR

Replace older generators with **PULSAR** generator, optical fiber communication and the newest generator modules.



IMPROVE YOUR PROCESS WITH OUR TECHNOLOGY APPLICATION CENTER

Featuring a full range of **SARIX** machine configurations, our technology center is where our process engineers handle product sampling, craft turn-key solutions, host customized seminars on our technology, and provide dedicated support for all your processing challenges.

SARIX Machines

Table-top for
high speed drilling

SX80-hpm

Compact high
precision machining

SX100-hpm

Micropart production
on 3-5 axis

SX200-hpm



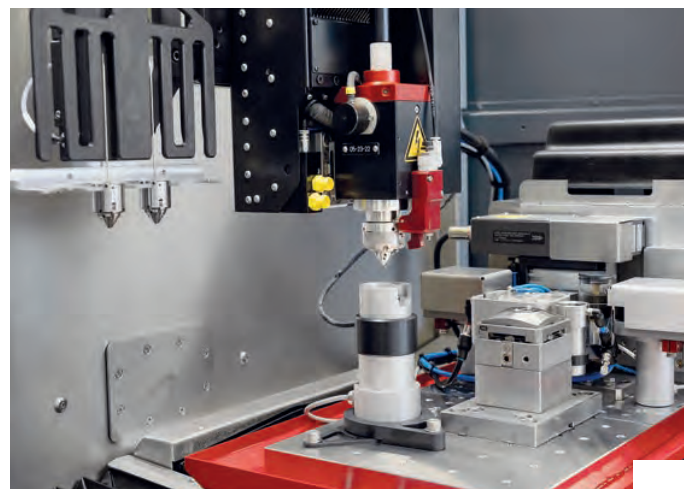
	TRAVEL AXIS (mm) X = 300, Y = 150, Z = 200	TRAVEL AXIS (mm) X = 300, Y = 150, Z = 200	TRAVEL AXIS (mm) X = 350, Y = 200, Z = 200
		POSITIONING PRECISION ± 2.0 µm, Resolution = 0.1 µm Linear axis 1200 mm/min	
AXIS FEED RATE			
	L = 510, l = 270 load of ~25 kg	L = 510, l = 270 load of ~25 kg	L = 700, l = 510 load of ~50 kg
DIELECTRIC UNIT		Deionized water or oil dielectric unit (with fire estinguishing) SX-DA capacity 75 liters – High capacity on request	
HIGH PRESSURE FLUSHING		70 bar through electrode tube	
POWER SUPPLY		400 V – 3 Ph/ 50 Hz Power 2 kVA	
	DIMENSIONS (mm) L = 850, l = 905, h = 1400 Bench L = 1800, l = 800, h = 2100 650 kg	DIMENSIONS (mm) L = 1300, l = 1300, h = 2200 1'000 kg	DIMENSIONS (mm) L = 1730, l = 1940, h = 2300 1'400 kg
OPTIONS	Rotary A/B axis, collect changer SP12-AC, wire dress electrode shaping SX-Arianne, W400 for SX100 and SX200		

Automatic electrode collet changer SP12-AC

The **SP12-AC** collet changer is a quick-change system for up to 4 collets of varying diameters, significantly cutting down machine setup time.

This system eliminates the need for realignment when switching collet types or electrode diameters.

A collet change for a different diameter electrode takes less than 30 seconds, while collet alignment remains intact throughout changes.



SARIX Machines

**Fast drilling
on 6–8 axis**
SX200-Aero

**Micro drilling on
long and heavy parts**
SX200L

**Micro drilling on
7–8 axis on large parts**
MACHline



X = 350, Y = 200, Z = 150 W = 400	TRAVEL AXIS (mm) X = 600, Y = 1100, Z = 150 W = 400	X = 850, Y = 500, Z = 100 W = 480, L (Z2) = 100
± 2.0 µm, Resolution = 0.1 µm	POSITIONING PRECISION ± 4.0 µm, Resolution = 0.1 µm	± 5.0 µm, Resolution = 0.1 µm
AXIS FEED RATE	Linear axis 1200 mm/min	
L = 700, l = 510 load of ~50 kg	TABLE SIZE AND LOAD L = 500, l = 500 load of ~1100 kg	A = ± 135°, B = 360° load of ~50 kg
DIELECTRIC UNIT	Deionized water or oil dielectric unit (with fire extinguishing) SX-DA capacity 75 liters – High capacity on request	
HIGH PRESSURE FLUSHING	70 bar through electrode tube	
POWER SUPPLY	400 V – 3 Ph/ 50 Hz Power 2 kVA	
L = 1730, l = 1940, h = 2400	DIMENSIONS (mm) L = 2600, l = 2680, h = 2520	L = 2500, l = 2000, h = 2200
1'600 kg	2'000 kg	3'000 kg
OPTIONS	Rotary A/B axis, SX-Cobot, part probing, laser micro-ablation	

Automation cell SX-COBOT for SX200, SX200L and MACH Line

The **SX-COBOT** automation cell integrates all process elements, including electrodes, guides, tools, and accessories. Beyond workpiece loading, the robot can switch drilling diameters, transition from guide-assisted drilling to **3D Micro EDM Milling**, load measurement equipment, or perform additional flushing operations.

Utilizing **RFID** tags on all components, the system minimizes machine downtime and enables round-the-clock operation, including unmanned night or weekend shifts.



SARIX Features

SARIX Rotations spindle and electrode holder



SX-ROT • Manual electrode feeding spindle – Internal high pressure flushing – 3R chuck – Roundness $\pm 1 \mu\text{m}$ – Speed max 850 rpm – For collets SP02, SP03 and SP04



SX-A344L • Automatic electrode feeding and wear compensation spindle – Internal high pressure flushing – 3R chuck – Roundness $\pm 1 \mu\text{m}$ – Speed max 850 rpm – For collets SP06, SP12 and SP-MDC



SX-C-A344L • Indexable automatic electrode feeding and wear compensation spindle – Internal high pressure flushing – 3R chuck – Speed max 600 rpm – For collets SP06, SP12 and SP-MDC



SX-Revolver • Automatic electrode changer system – 8 electrodes of length 300-600 mm – Compatible with automatic spindle serie SX-A344 – For collets SP06, SP12 and SP-MDC

SARIX Collets



SP02 • High precision manual electrode feeding collet – Internal high pressure flushing – Diameter range $\varnothing 0.05$ to $\varnothing 3.0$ mm



SP06 • High precision automatic electrode feeding collet – Runout adjustment – Internal high pressure flushing – Diameter range $\varnothing 0.05$ to $\varnothing 1.5$ mm – Up to $\varnothing 0.99$ it fits to clamping range of 0.04 mm



SP12 • High precision quick change automatic feeding collet – Runout/tilt adjustment – Internal high pressure flushing – Diameter range $\varnothing 0.05$ to $\varnothing 1.5$ mm – Up to $\varnothing 0.99$ it fits to clamping range of 0.04 mm

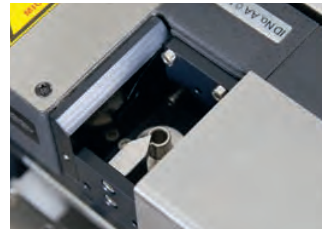


SP-MDC • Automatic multi diameter collet – Internal high pressure flushing – Diameter ranges $\varnothing 0.2$ to 1.0 mm, $\varnothing 0.5$ to 1.5 mm and $\varnothing 1.0$ to 4.0 mm

SARIX Features and devices



SX-Ariane • Wire Dress unit – Designed to produce micro-electrodes for micro-holes and micro-forms down to $\varnothing 10 \mu\text{m}$ – Wire $\varnothing 0.10$ and 0.20 mm



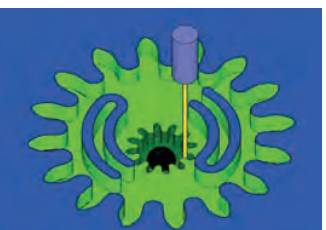
SX-Laser measuring • Laser for electrode diameter/profile measuring for SX-Ariane – Resolution of $0.10 \mu\text{m}$ – Minimum measurement of 0.005 mm

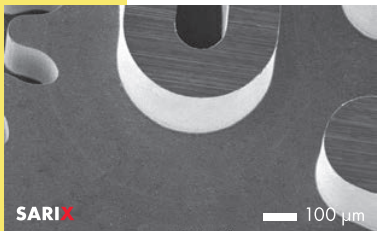
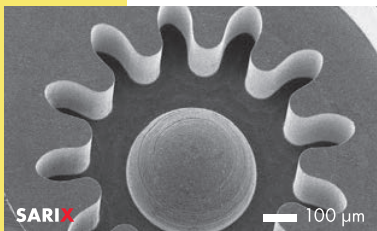
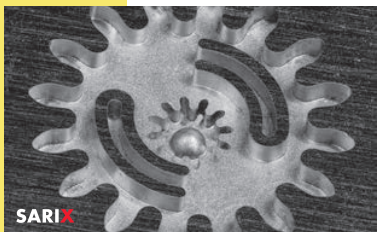
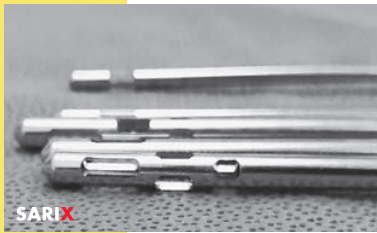
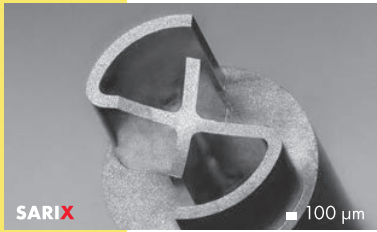
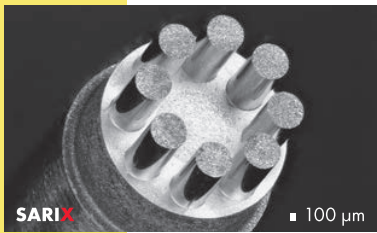


SX-Rotary A/B axis • High precision A/B axis – A rotary axis $\pm 115^\circ$ – B rotation axis 360° – Direct axis measurement – Designed for 3R or EROWA chuck – Resolution 0.0001 degrees – Workpiece holder internal flushing



SX-CAM software • 3D Micro EDM Milling CAM – Software package – SARIX post-processor – ESPRIT SolidMill licence: 2.5D, PROD, 3D and Freeform





SARIX

3D MICRO EDM MACHINING
SARIX.COM 



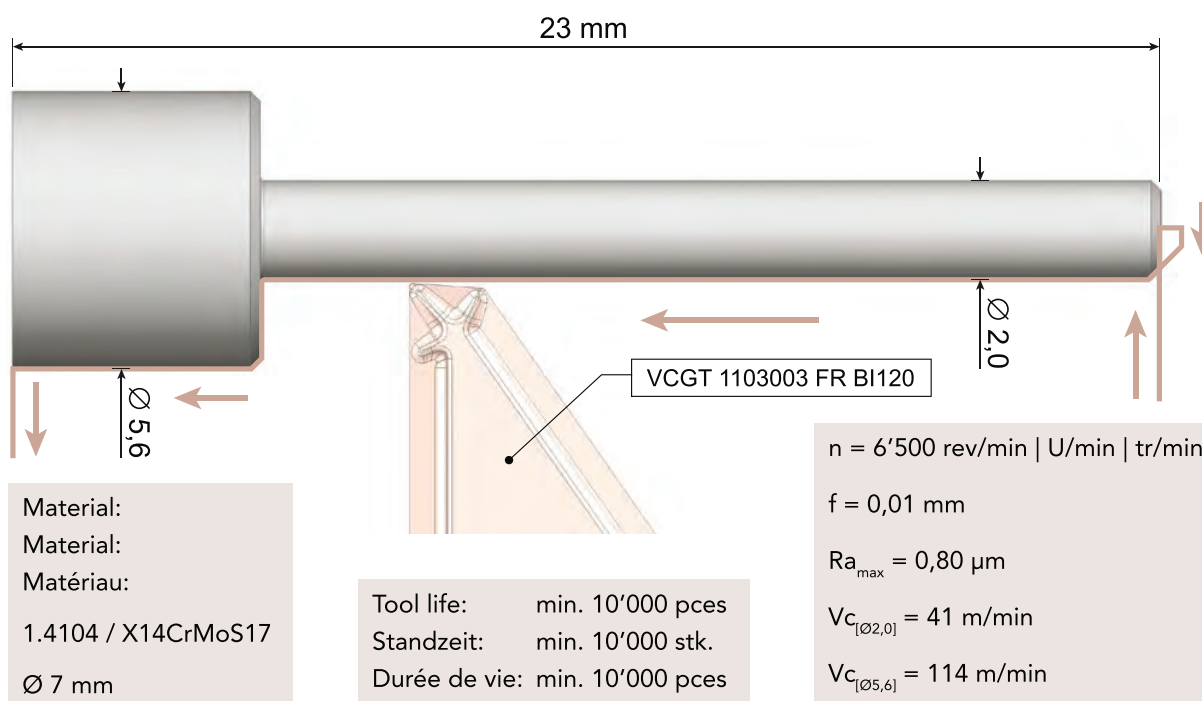
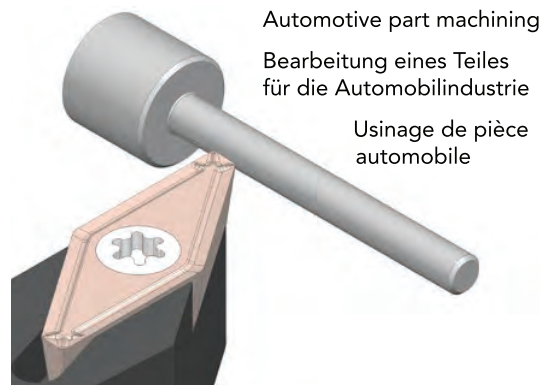
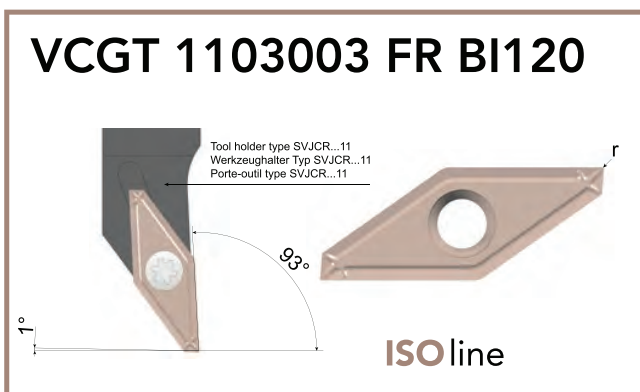
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Inserts
Wendeplatten
Plaquettes



Accessories
Zubehör
Accessoires



Challenge

Process-reliable chip breaking for large and small depths of cut, as well as a cutting material that is as wear-resistant as possible, in order to produce high-precision turned parts in large quantities.

Herausforderung

Prozesssicherer Spanbruch bei grosser und kleiner Spantiefe, so wie ein möglichst verschleissfesten Schneidstoff, um hochpräzise Drehteile in grossen Stückzahlen produzieren zu können.

Défi

Avoir un bris de copeaux sûr pour les grandes et petites profondeurs de coupe, ainsi qu'un matériau de coupe le plus résistant possible à l'usure, afin de pouvoir produire des pièces de haute précision en grandes quantités.

Solution

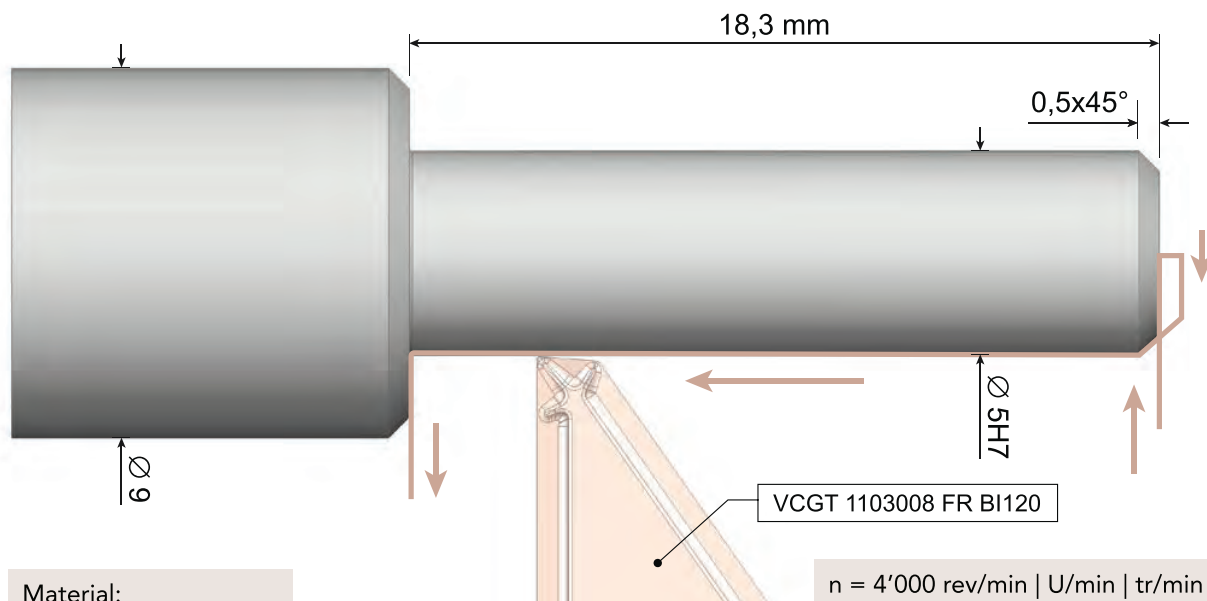
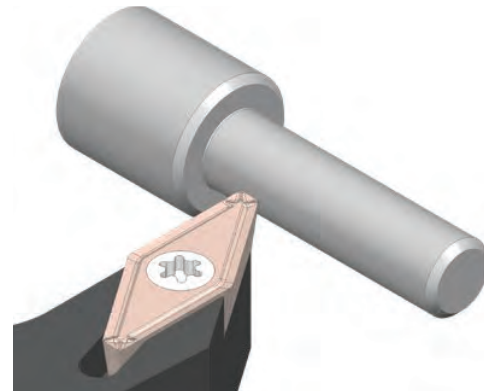
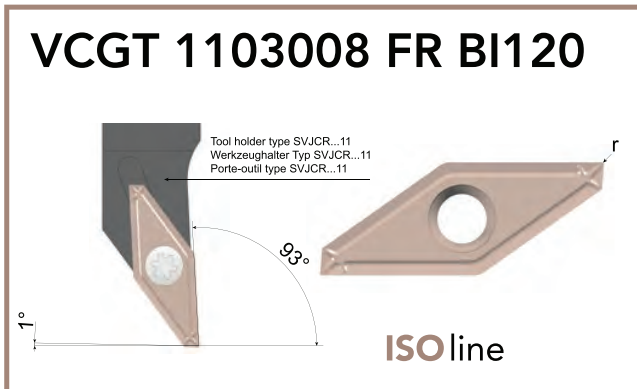
The novel chipbreaking geometry of the VCGT FR insert produces reliable chipbreaking in different chip depths and allows an enormous autonomous production time.

Lösung

Die neuartige Spanbruchgeometrie der VCGT FR Wendeplatte erzeugt einen sicheren Spanbruch in unterschiedlichen Spantiefen und erlaubt eine enorme autonome Produktionsdauer.

Solution

La nouvelle géométrie de brise-copeaux de la plaquette VCGT FR produit un bris du copeau sûr à différentes profondeurs de passe et permet une énorme autonomie de production.



Material:
Material:
Matériau:
ETG88
Ø 9 mm

Tool life: min. 1'200 pces
Standzeit: min. 1'200 stk.
Durée de vie: min. 1'200 pces

$n = 4'000 \text{ rev/min} \mid \text{U/min} \mid \text{tr/min}$
 $f = 0,02 \text{ mm}$
 $Rz = 6 \mu\text{m}$
 $V_{C[\text{Ø5}]} = 60 \text{ m/min}$

Challenge

The customer is not satisfied with the life of his current tool, which does not allow him to leave his machine in production without intervention during the night.

Herausforderung

Der Kunde ist unzufrieden mit der Lebensdauer seines aktuellen Werkzeugs, welches ihm nicht erlaubt, seine Maschine ohne Eingriff über Nacht laufen zu lassen.

Défi

Le client n'est pas satisfait de la durée de vie de son outil actuel qui ne lui permet pas de laisser sa machine en production sans intervention durant la nuit.

Solution

The use of the VCGT 1103008 FR BI120 insert has doubled the life of the tool, making night-time production possible.

Lösung

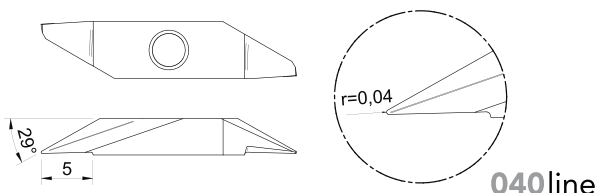
Durch die Verwendung der VCGT 1103008 FR BI120-Wendeschneidplatte konnte die Standzeit des Werkzeugs verdoppelt werden, sodass die Produktion auch während der ganzen Nacht autonom möglich ist.

Solution

L'utilisation de la plaquette VCGT 1103008 FR BI120 a permis de doubler la durée de vie de l'outil, rendant ainsi possible la production de nuit.

067R - 29° - r 0,04 - BI90

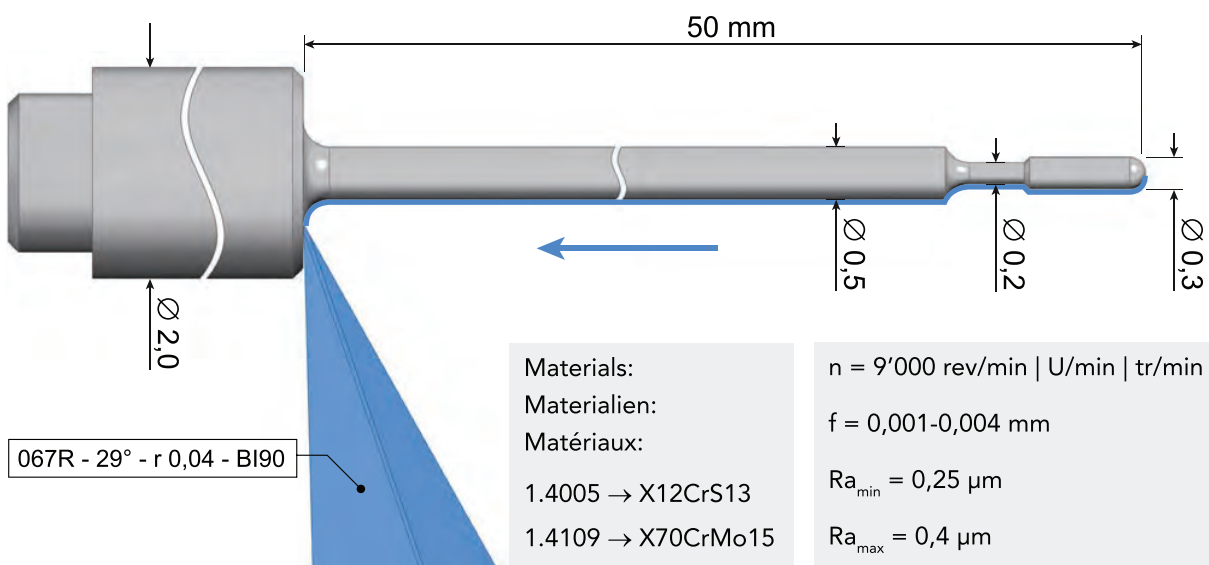
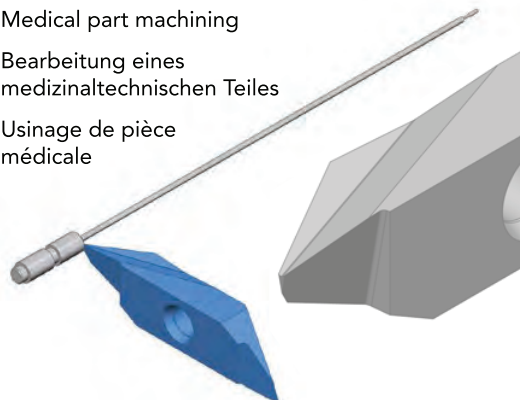
Front turning insert 29° with chip breaker and radius
Drehplatte vorne 29° mit Spanbrecher und Radius
Tourneur avant 29° avec brise-copeau et rayon



Medical part machining

Bearbeitung eines
medizintechnischen Teiles

Usinage de pièce
médicale



Challenge

Due to the unfavorable diameter-length ratio, lowest radial forces during longitudinal turning can cause a lack of coaxiality.

Herausforderung

Infolge des ungünstigen Durchmesser-Längenverhältnis können geringste radiale Kräfte beim Längsdrehen einen Co-Axialitätsfehler aller Durchmesser bewirken.

Défi

En raison du rapport diamètre/longueur défavorable, même de faibles forces radiales lors du chariotage peuvent provoquer un manque de coaxialité entre les diamètres.

Solution

Thanks to the very sharp full radius geometry of the Bimu insert «067R - 29° - r 0,04 - BI90» the cutting forces are reduced and the small 0,04 mm radius guarantees an excellent surface quality.

Lösung

Durch die sehr scharfe Vollradiusgeometrie der Bimu Wendepalte «067R - 29° - r 0,04 - BI90» werden die Schnittkräfte verringert und der kleine 0,04 mm Radius garantiert eine hervorragende Oberflächengüte.

Solution

Grâce au profil de rayon complet très affûté de la plaquette Bimu «067R - 29° - r 0,04 - BI90» les efforts de coupe sont réduits et le faible rayon de 0,04 mm garantit un excellent état de surface.

TGP50N3,0 - r 0,2 - QM4

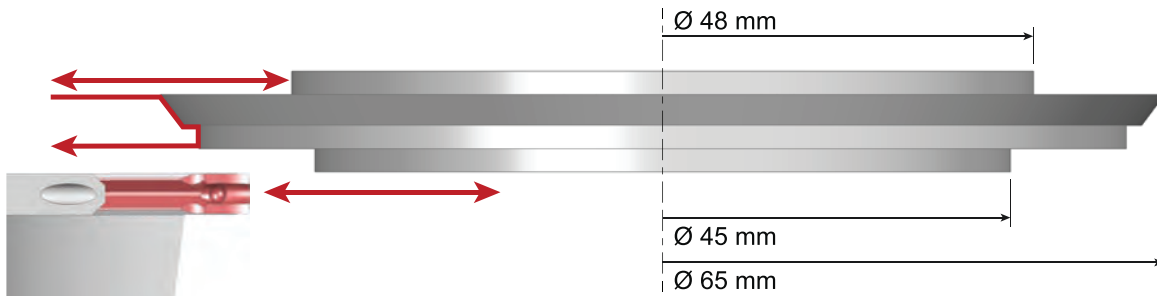
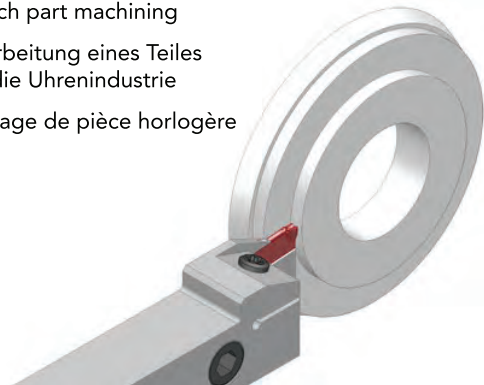


TGPline

Watch part machining

Bearbeitung eines Teiles
für die Uhrenindustrie

Usinage de pièce horlogère



Material: EN 1.4404
Material: DIN X2CrNiMo17-12-2
Matériau: AISI 316L

$V_c = 120 \text{ m/min}$
 $f = 0,08 \text{ mm}$

Challenge

The customer is machining watch cases off the bar and is not satisfied with the current tool life of his parting-off tools. Therefore, he compares different suppliers in the field of parting-off for tool life, chip formation and ease of use.

Herausforderung

Der Kunde bearbeitet Uhrengeläuse ab Stange und ist mit der aktuellen Standzeit seiner Abstechwerkzeuge nicht zufrieden. Daher vergleicht er verschiedene Anbieter im Bereich Abstechen auf die Standzeit, Spanbildung und Bedienbarkeit.

Défi

Le client usine des boîtes de montres à partir de barres et n'est pas satisfait de la durée de vie actuelle de ses outils de tronçonnage. Il compare donc la durée de vie, la gestion du copeau et la facilité d'utilisation d'outils de différents fournisseurs dans le domaine du tronçonnage.

Solution

With the TGP system from Bimu, the customer achieves at least 3 times the tool life of all comparable and tested grooving systems. The tool handling and chip formation function equally well, so that the customer has a more efficient process.

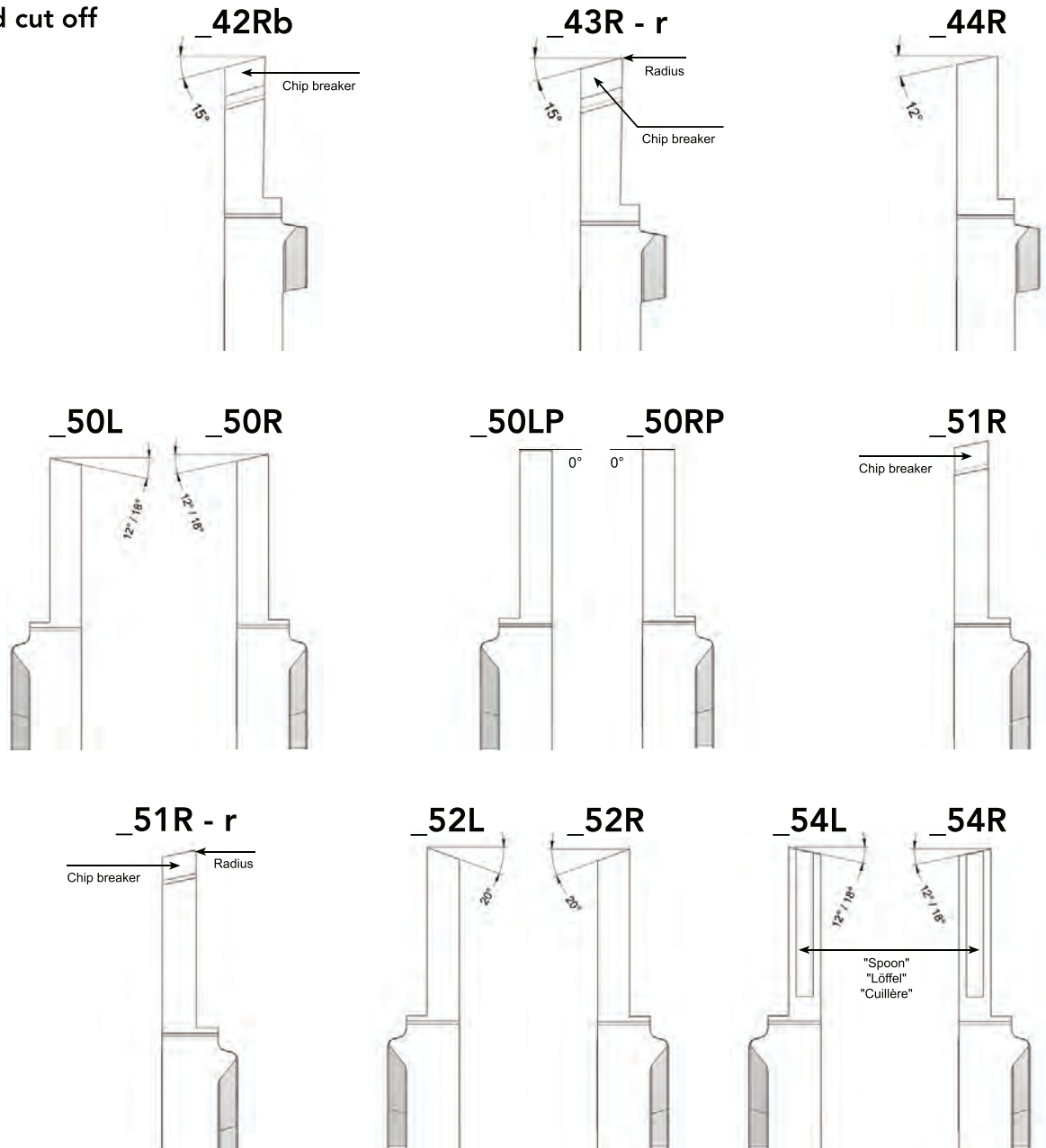
Lösung

Mit dem TGP-System von Bimu erreicht der Kunde min. die 3-fache Standzeit gegenüber allen vergleichbaren und getesteten Stech-Systemen. Die Werkzeug-Handhabung und die Spanbildung funktionieren ebenfalls, so dass der Kunde mit dem Bimu Werkzeug prozesssicher arbeiten kann.

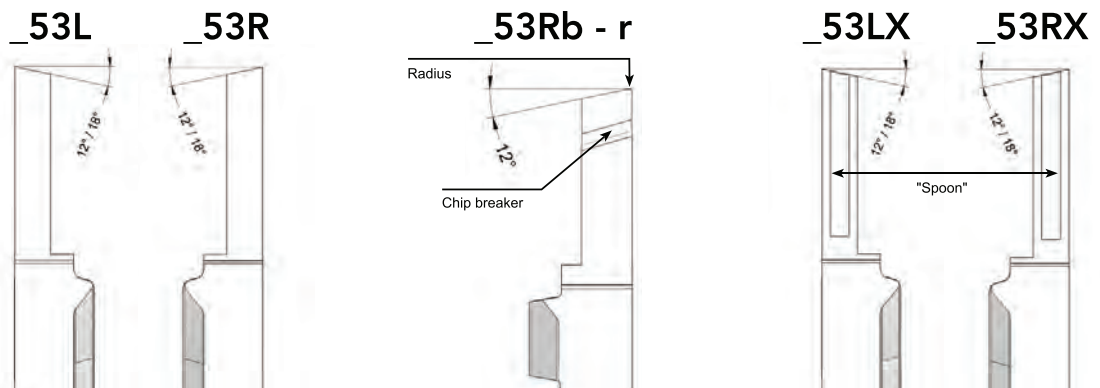
Solution

Avec le système TGP de Bimu, le client obtient une durée de vie de l'outil au moins trois fois supérieure à celle de tous les autres systèmes de tronçonnage comparables testés. Le maniement de l'outil Bimu ainsi que la maîtrise du copeau permettent maintenant au client de nettement améliorer le processus d'usinage.

Standard cut off



Opposite cut off



Opposite
cut off

_53LP



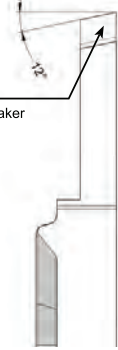
_53RP



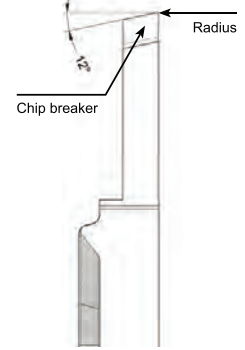
_56L



_56R

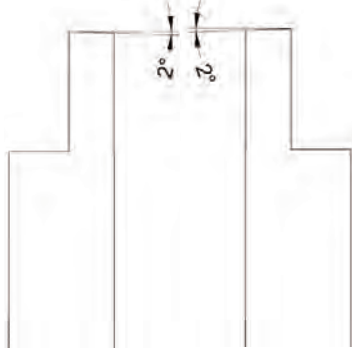


_56R - r



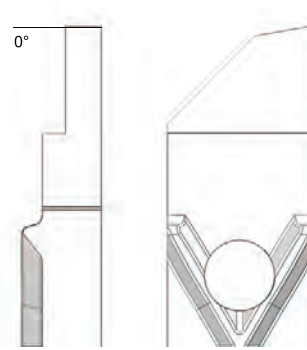
Back turning

_60L

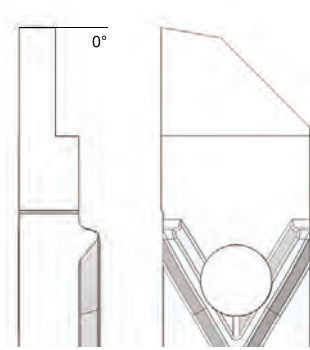


_60R

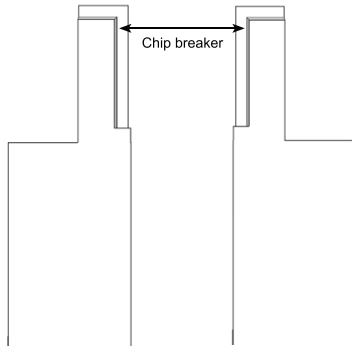
_60LP



_60RP

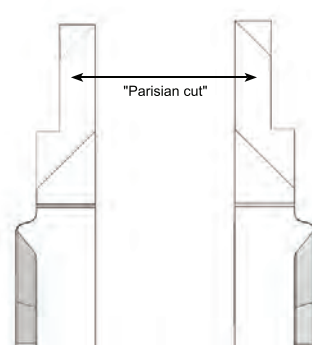


_60LPX



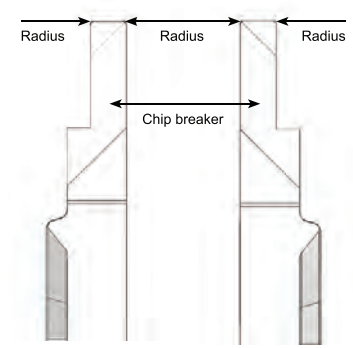
_60RPX

_61L

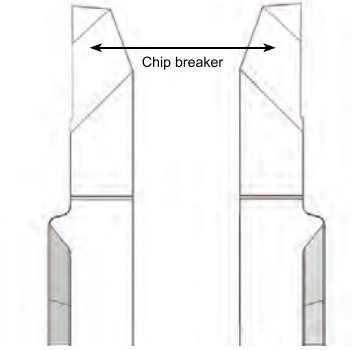


_61R

_61L - r **_61R - r**

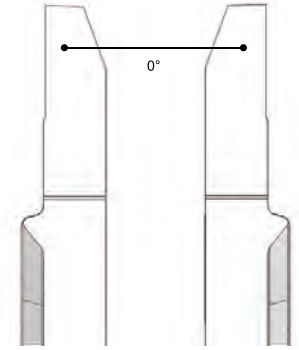


_62L



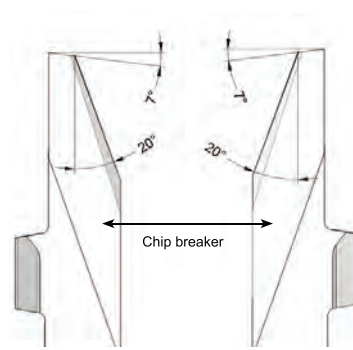
_62R

_62LO



_62RO

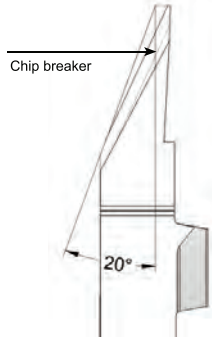
_63L



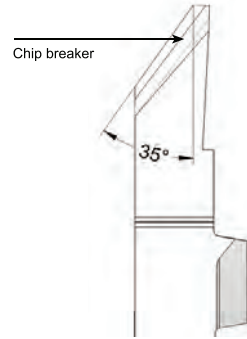
_63R

Back turning

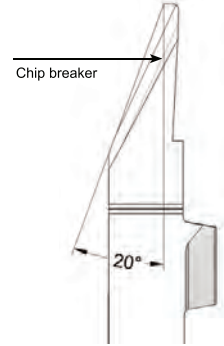
_63R - 20°



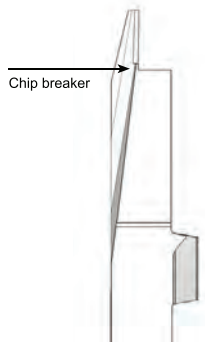
_63R - 35°



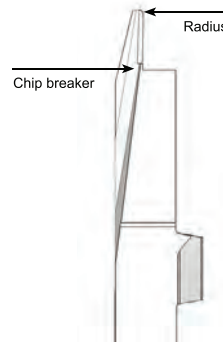
_63R - r - 20°



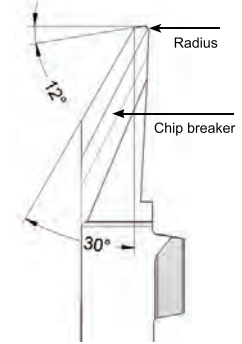
_66R



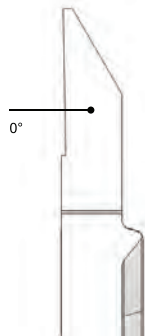
_66R - r



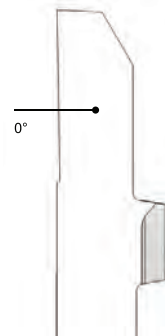
_69Rb - r - 30°



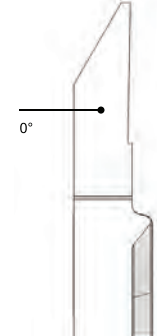
_67RO



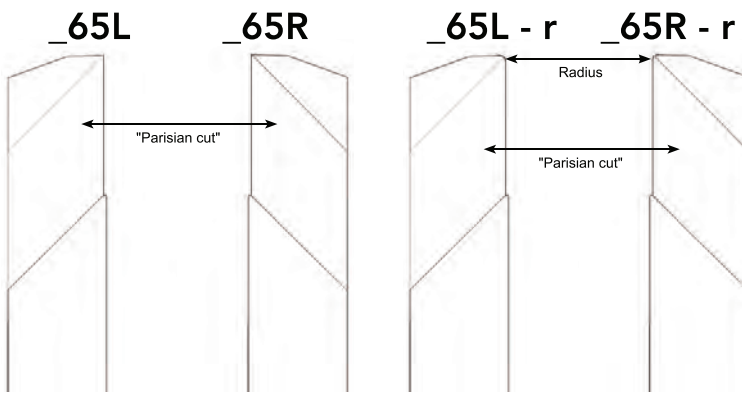
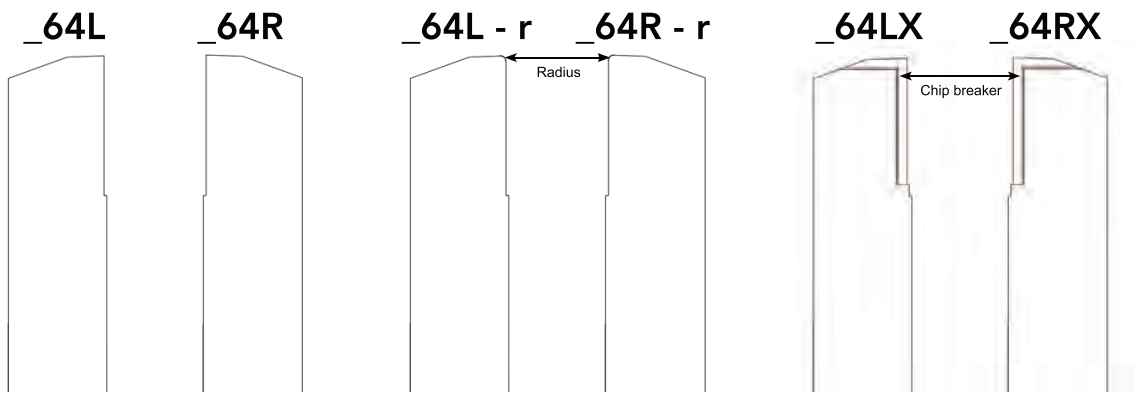
_68R



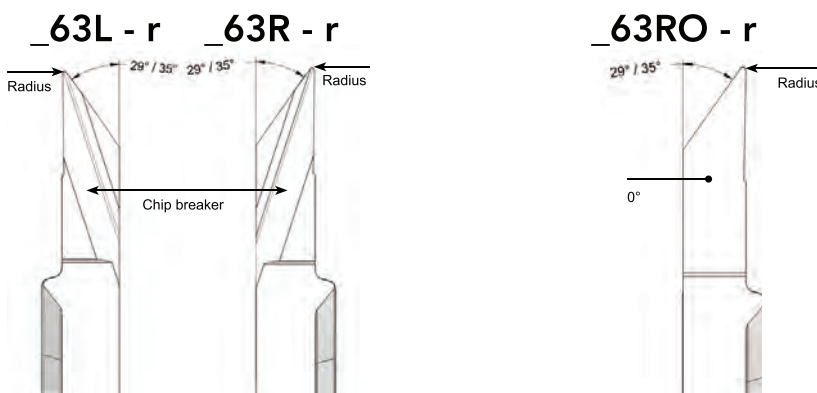
_68RO



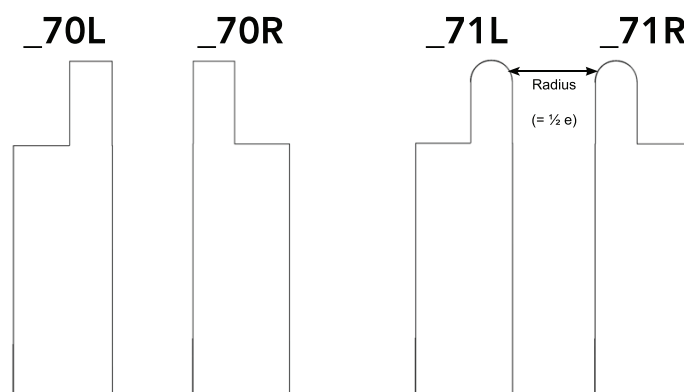
Front turning

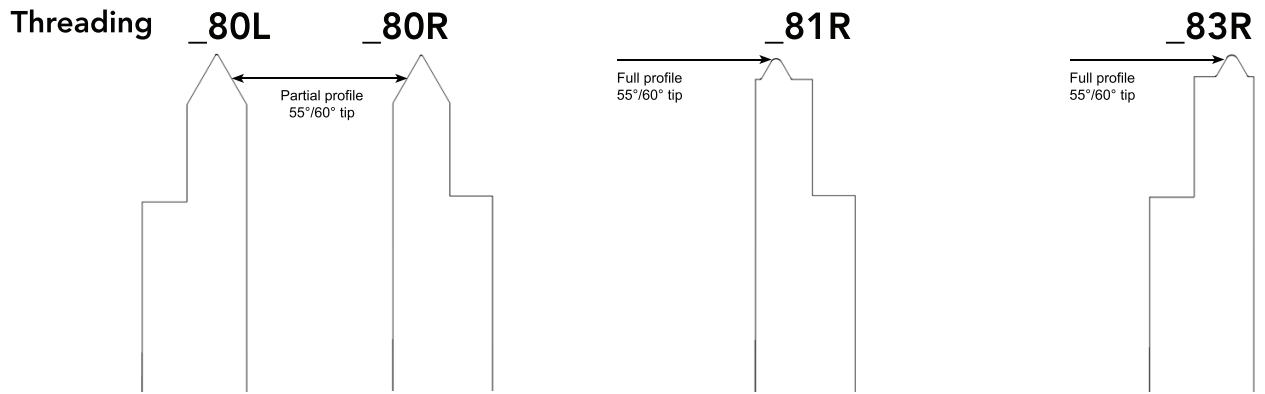


Prdlini

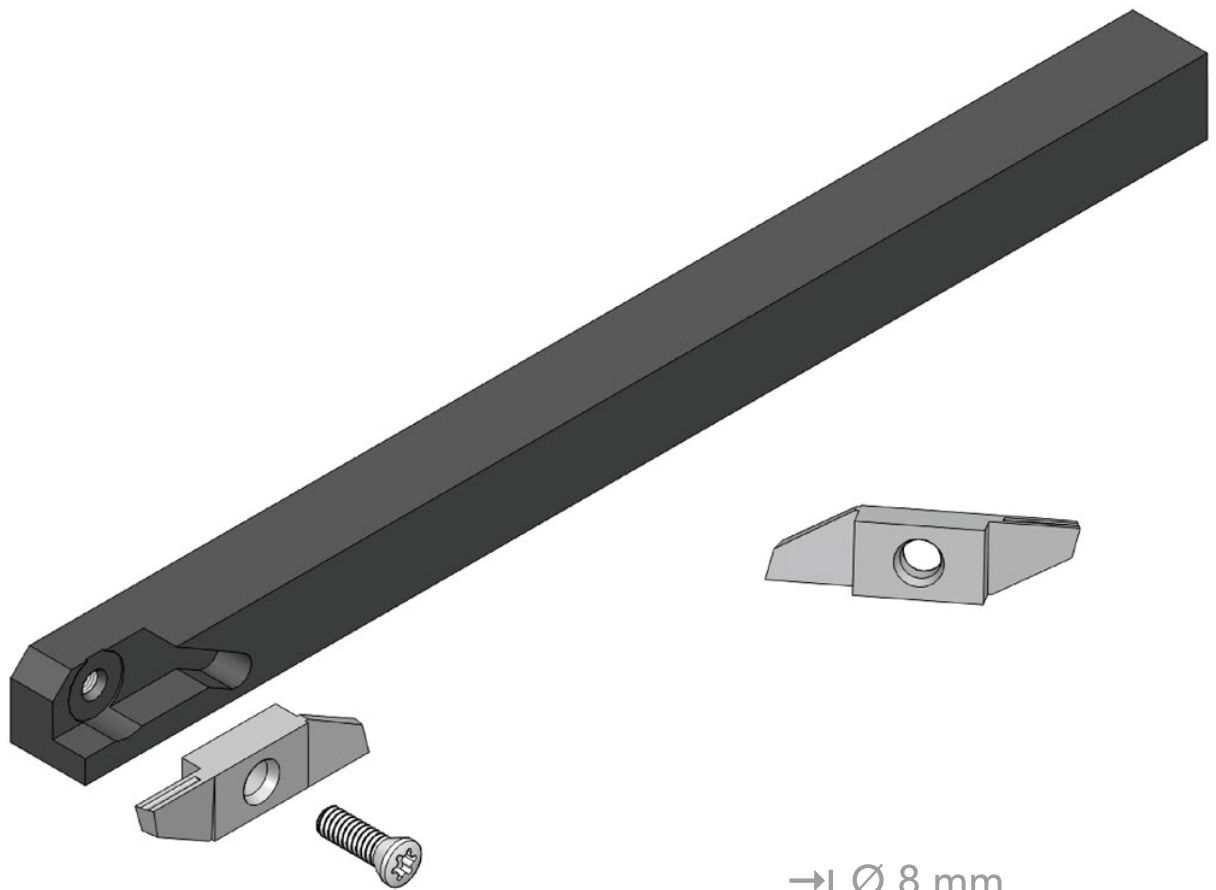


Grooving





040 line

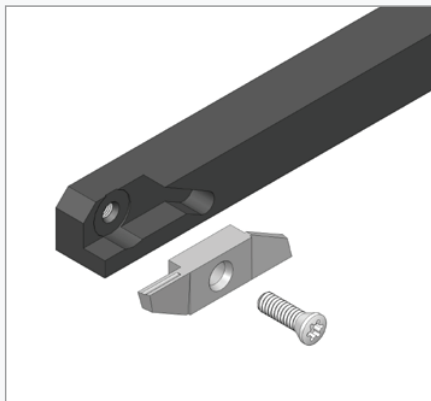


Presentation of 040 line
Vorstellung der 040 line
Présentation de la 040 line



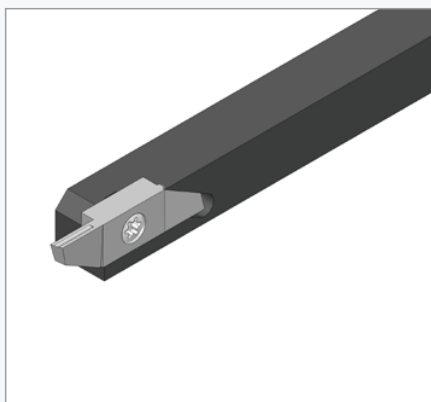
Advantages of 040 line

- Positioning of the insert garanted by the «V» shaped seating.
- 2 cutting edges available.
- Vast choice of inserts.



Vorteile der 040 line

- Exakte Positionierung der Wendeplatte dank der «V» Form des Wendeplattensitzes.
- 2 verfügbare Schneidkanten.
- Große Auswahl von Wendeplattengeometrien.



Avantages de la ligne 040 line

- Référencement de la plaquette assuré par le siège en «V».
- 2 arêtes de coupe disponibles.
- Large choix de plaquettes.

Coating of inserts

Beschichtung der Wendepplatten

Revêtement des plaquettes

✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible

Designation Bezeichnung Désignation	Description Beschreibung Description
K18	<p>Without coating | K18 carbide</p> <p>Ohne Beschichtung | K18 Hartmetall</p> <p>Sans revêtement | Carbure K18</p>
B120	<p>AlTi(Cr)N-based</p> <ul style="list-style-type: none"> • Very smooth surface finish. • For the machining of sticky materials. <p>AlTi(Cr)N-Basis</p> <ul style="list-style-type: none"> • Sehr glatte Oberfläche. • Zur Bearbeitung von Werkstoffen mit Tendenz zur Aufbauschneidenbildung. <p>BaseAlTi(C)N</p> <ul style="list-style-type: none"> • Bon glissement du copeau. • Pour usinage des matériaux ayant une tendance au collage.
B130	<p>AlTiN-based + Micro finish</p> <ul style="list-style-type: none"> • Very sharp cutting edges. • Very smooth surface finish, ideal for non-ferrous materials. <p>AlTiN-Basis + «Micro finish»</p> <ul style="list-style-type: none"> • Sehr scharfe Schneidkanten. • Sehr glatte Oberfläche, ideal für Nichteisenwerkstoffe. <p>Base AlTiN + «Micro finish»</p> <ul style="list-style-type: none"> • Arêtes de coupe très vives. • Bon glissement du copeau, idéal pour les matériaux non ferreux.
B140	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.

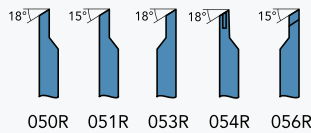
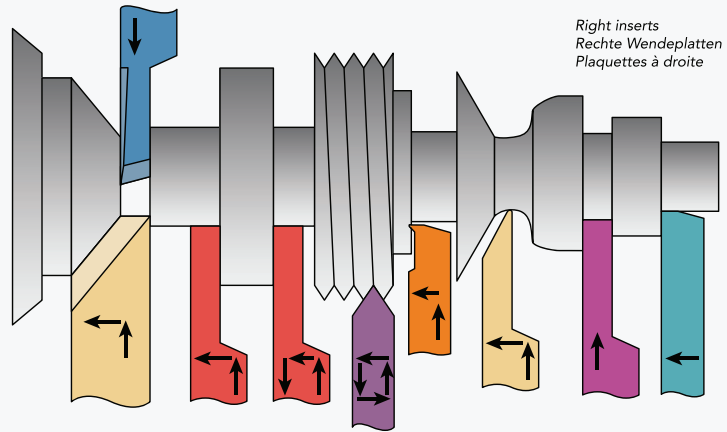
Designation Bezeichnung Désignation	Description Beschreibung Description
BI70	<p>AlTiSiN-based</p> <ul style="list-style-type: none"> • Very smooth surface finish. • High wear resistance. • Ideal for hard machining. • Perfect for stainless steels and high-temperature alloys. <p>AlTiSiN-Basis</p> <ul style="list-style-type: none"> • Sehr glatte Oberfläche. • Hohe Verschleissfestigkeit. • Ideal für die Hartbearbeitung. • Perfekt für rostfreie Stähle und hochwarmfeste Legierungen. <p>Base AlTiSiN</p> <ul style="list-style-type: none"> • Très bon glissement du copeau. • Haute résistance à l'usure. • Idéal pour l'usinage dur. • Parfait pour l'inox et les alliages à haute température.
BI71	<p>AlCrN-based</p> <ul style="list-style-type: none"> • Ultra-thin layer. • Very smooth surface finish. • High heat resistance. • High wear resistance. <p>AlCrN-Basis</p> <ul style="list-style-type: none"> • Ultradünne Schicht. • Sehr glatte Oberfläche. • Hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. <p>Base AlCrN</p> <ul style="list-style-type: none"> • Couche ultra fine. • Très bon glissement du copeau. • Haute résistance à la chaleur. • Haute résistance à l'usure.
BI80	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Ultra-thin layer version of BI90. • Perfect for small tools with sharp cutting edges. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Ultradünne Schicht der Version BI90. • Perfekt für kleine Werkzeuge mit scharfen Schneidkanten. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Version du BI90 avec couche ultra fine. • Parfait pour les petits outils avec des arêtes de coupe vives.

Designation Bezeichnung Désignation	Description Beschreibung Description
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.
BI100	<p>AlCrN-based</p> <ul style="list-style-type: none"> • Very high heat resistance. • High wear resistance. • Ideal for high speed machining of stainless steel. <p>AlCrN-Basis</p> <ul style="list-style-type: none"> • Sehr hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. • Ideal für das Bearbeiten von Edelstahl mit hoher Schnittgeschwindigkeit. <p>Base AlCrN</p> <ul style="list-style-type: none"> • Très haute résistance à la chaleur. • Haute résistance à l'usure. • Idéal pour l'usinage à haute vitesse de coupe de l'acier inox.
BI110	<p>AlTiCrN-based</p> <ul style="list-style-type: none"> • Very smooth surface finish. • High heat resistance. • High wear resistance. • Especially suitable for machining pure copper, CuBe, CoCr and aluminium. <p>AlTiCrN-Basis</p> <ul style="list-style-type: none"> • Sehr glatte Oberfläche. • Hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. • Besonders geeignet für die Bearbeitung von reinem Kupfer, CuBe, CoCr und Aluminium. <p>Base AlTiCrN</p> <ul style="list-style-type: none"> • Très bon glissement du copeau. • Haute résistance à la chaleur. • Haute résistance à l'usure. • Particulièrement adapté à l'usinage du cuivre pur, du CuBe, du CoCr et de l'aluminium.

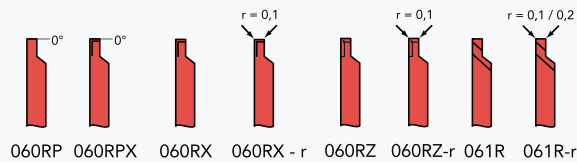
Designation Bezeichnung Désignation	Description Beschreibung Description
TIN	TiN <ul style="list-style-type: none">• Universal coating. TiN <ul style="list-style-type: none">• Universalbeschichtung. TiN <ul style="list-style-type: none">• Revêtement universel.

Field of application of 040 line
Anwendungsbereiche der 040 line
Champ d'application de la 040 line

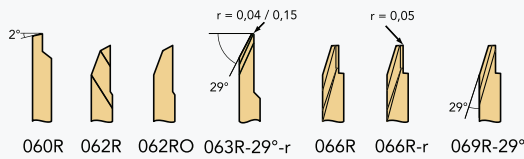
Maximum cutting-off
Maximaler Abstechdurchmesser
Tronçonnage maximum
Ø 8 mm



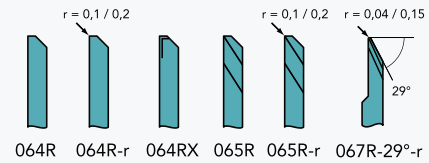
Cutting off
Abstechen
Tronçonnage



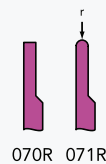
Plunging-Turning
Einstecken-Drehen
Fonçage-Tournage



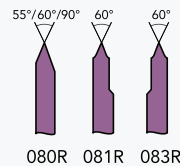
Plunging-Turning
Einstecken-Drehen
Fonçage-Tournage



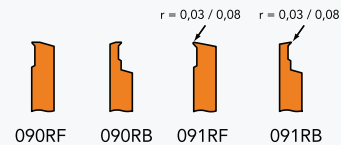
Turning
Drehen
Tournage




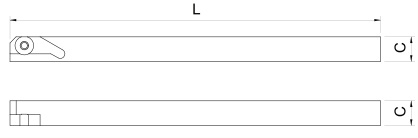
Grooving
Einstechen
Rainurage


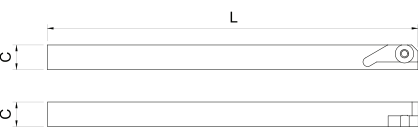



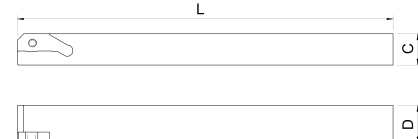
Threading
Gewindestrehlen
Filetage


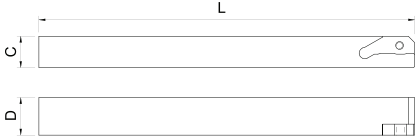


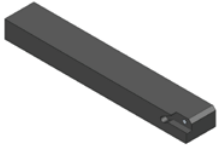
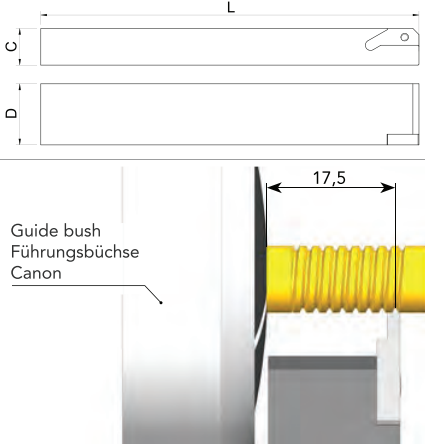
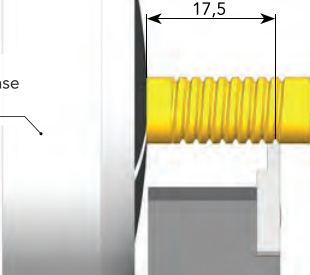
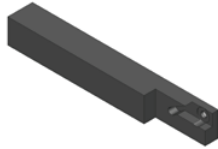
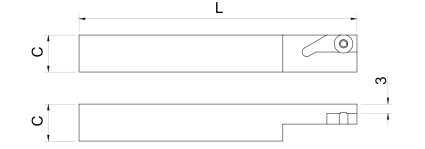
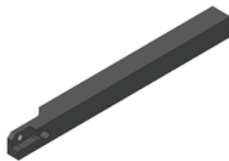
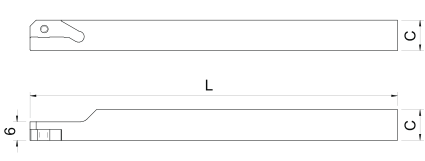
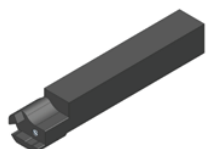
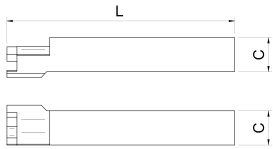
Axial grooving
Axial Einstichplatte
Piqure

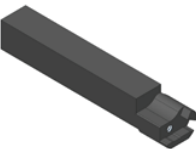
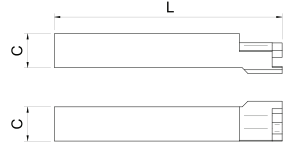
0xxR	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		7 x 7	120	007R
		8 x 8	120	008R
		10 x 10	120	010R
		12 x 12	120	012R
		16 x 16	100	016R
		20 x 20	100	020R
		9,52 x 9,52 (3/8")	120	0952R
		12,7 x 12,7 (1/2")	120	0127R

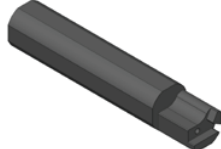
0xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		7 x 7	140	007L
		8 x 8	140	008L
		10 x 10	120	010L
		12 x 12	120	012L
		16 x 16	100	016L
		20 x 20	100	020L
		12,7 x 12,7 (1/2")	120	0127L


0xx-12R	Reinforced right tool holder Verstärkter Werkzeughalter rechts Porte-outil à droite renforcé	Section C Querschnitt C Section C	Section D Querschnitt D Section D	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8	12	120	008-12R
		10	12	120	010-12R

0xx-12L	Reinforced left tool holder Verstärkter Werkzeughalter links Porte-outil à gauche renforcé	Section C Querschnitt C Section C	Section D Querschnitt D Section D	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10	12	120	010-12L

0xx-2xL	Left offset threading tool holder Versetzter linker Gewindehalter zum Gewindestrehlen Porte-outil à gauche décalé pour filetage	Section C Querschnitt C Section C	Section D Querschnitt D Section D	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
	 <p>Guide bush Führungsbüchse Canon</p>	8 10 12 16	20 20 20 25	120 120 120 120	008-20L 010-20L 012-20L 016-25L
 <p>Use with 080R, 081R and 083R inserts Verwendung mit 080R, 081R und 083R Wendepplatten Utilisation avec les plaquettes 080R, 081R et 083R</p>					
0xxR3	«Pick-up» tool holder «Pick-up» Werkzeughalter Porte-outil «pick-up»	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article	
		12 x 12 9,52 x 9,52 (3/8") 12,7 x 12,7 (1/2")	98 98 98	012R3 0952R3 0127R3	
<p>Use with 053R and 056R inserts Verwendung mit 053R und 056R Wendepplatten Utilisation avec les plaquettes 053R et 056R</p>					
0xxRP6	Right «Pick-up» tool holder «Pick-up» Werkzeughalter rechts Porte-outil «pick-up» à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article	
		8 x 8 10 x 10 12 x 12	120 120 120	008RP6 010RP6 012RP6	
<p>Use with R inserts Verwendung mit R Wendepplatten Utilisation avec les plaquettes R</p>					
0xxRF	Right tool holder for frontal machining Werkzeughalter rechts für Frontbearbeitung Porte-outil à droite pour usinage frontal	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article	
		12 x 12	80	012RF	

0xxLF	Left tool holder for frontal machining Werkzeughalter links für Frontbearbeitung Porte-outil à gauche pour usinage frontal	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		12 x 12	80	012LF

Cylindrical turning tool holders for counter-operation Zylindrische Drehwerkzeughalter zur Rückseitenbearbeitung Porte-outils de tournage cylindriques pour contre-opération	
	<p>See the «Cylindrical turning tool holders» documentation for further information. Siehe die «Zylindrische Drehwerkzeughalter» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils de tournage cylindriques» pour plus d'informations.</p>

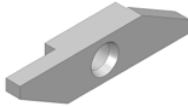
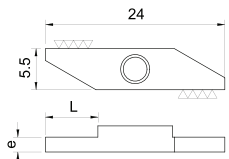
Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage intégré	
	<p>See the «Tool holders with internal coolant» documentation for further information. Siehe die «Werkzeughalter mit Innenkühlung» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils avec arrosage intégré» pour plus d'informations.</p>

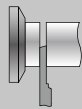
001-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 8	001-1

001-2	Screw for standard tool holder Schraube für Standard-Werkzeughalter Vis pour porte-outil standard	Article nr. Artikel Nr. N° Article
	M2,5 x 7,5	001-2

Blank
Rohling
Ebauche


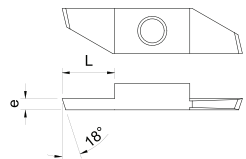
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite


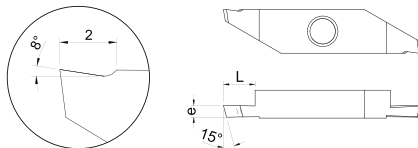
040R	Blank insert Rohling Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	K18	BI40	BI70	BI71	BI90	BI100	BI110	TIN	
		1,2	5,0	040R1,2	✓			✓	✓				
		1,4	6,0	040R1,4	✓			✓	✓				
		1,5	6,0	040R1,5	✓			✓	✓				
		1,7	6,0	040R1,7	✓				✓	✓			
		2,0	6,0	040R2,0	✓	✓		✓	✓				
		2,2	6,0	040R2,2	✓					✓			
		2,7	6,0	040R2,7	✓								
		3,5	—	040R3,5	✓	✓	✓	✓	✓	✓	✓	✓	✓

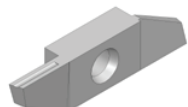
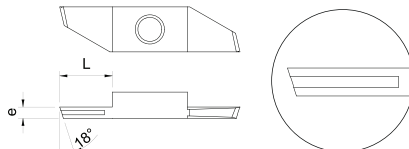


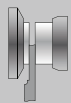
Guide bush cut off \varnothing 8 mm
Abstechen an der Führungsbüchse \varnothing 8 mm
Tronçonnage côté canon \varnothing 8 mm

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

050R	Cutting insert 18° Abstechplatte 18° Tronçonneur 18°	e	L	Article nr. Artikel Nr. N° Article		BI20	BI40	BI90	BI100	BI110	TIN	
		0,5	2,5	050R0,5		✓	✓					
		0,7	2,5	050R0,7							✓	
		0,8	4,0	050R0,8		✓	✓	✓				
		1,0	4,0	050R1,0		✓	✓	✓	✓			✓
		1,2	5,0	050R1,2		✓	✓	✓				✓
		1,5	6,5	050R1,5		✓	✓		✓	✓		✓
		1,8	6,5	050R1,8		✓	✓					✓
		2,0	6,5	050R2,0		✓	✓	✓				✓

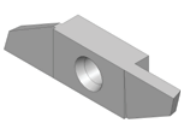
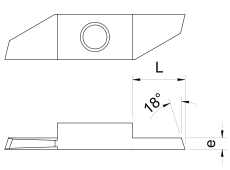
051R	Cutting insert 15° with chip roller Abstechplatte 15° mit Spanroller Tronçonneur 15° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article			BI40	BI90	BI110
		0,8	4,0	051R0,8			✓		✓
		1,0	4,0	051R1,0			✓	✓	✓
		1,2	5,0	051R1,2			✓	✓	✓
		1,5	6,5	051R1,5			✓	✓	✓
		2,0	6,5	051R2,0			✓	✓	✓

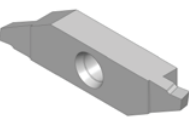
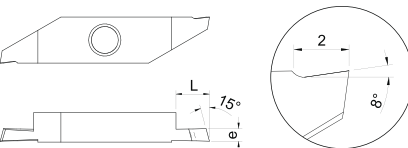
054R	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article			BI20	BI40
		1,0	4,0	054R1,0			✓	✓
		1,2	5,0	054R1,2			✓	✓
		1,5	6,5	054R1,5			✓	✓
		1,8	6,5	054R1,8				✓
		2,0	6,5	054R2,0			✓	✓

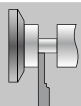


Sub spindle cut off \varnothing 8 mm
 Abstechen an der Abgreifzange \varnothing 8 mm
 Tronçonnage côte prise de pièce \varnothing 8 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

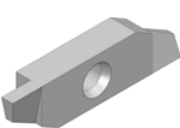
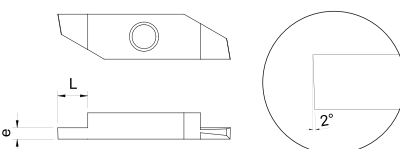
053R	Opposite cutting insert 18° Umgekehrte Abstechplatte 18° Tronçonneur inversé 18°	e	L	Article nr. Artikel Nr. N° Article	B/20	B/40	B/100	B/110
		0,5	3,0	053R0,5		✓		
		0,8	3,0	053R0,8		✓		
		1,0	4,0	053R1,0		✓		✓
		1,2	5,0	053R1,2	✓	✓	✓	
		1,5	6,5	053R1,5	✓	✓	✓	
		1,8	6,5	053R1,8	✓	✓		
		2,0	6,5	053R2,0	✓	✓		
<i>Use with 0xxL tool holders Verwendung mit 0xxL Werkzeughalter Utilisation avec les porte-outils 0xxL</i>								

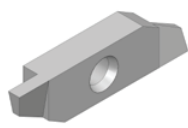
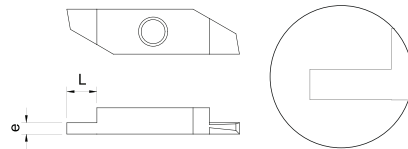
056R	Opposite cutting insert 15° with chip breaker Umgekehrte Abstechplatte 15° mit Spanbrecher Tronçonneur inversé 15° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	B/40	B/90	B/110	
		1,0	4,0	056R1,0	✓	✓	✓	
		1,2	5,0	056R1,2	✓	✓	✓	
		1,5	6,5	056R1,5	✓	✓	✓	
		2,0	6,5	056R2,0	✓	✓	✓	
		<i>Use with 0xxL tool holders Verwendung mit 0xxL Werkzeughalter Utilisation avec les porte-outils 0xxL</i>						

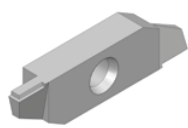
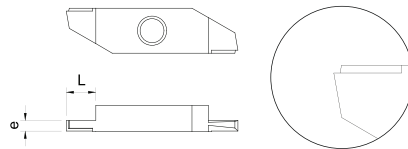


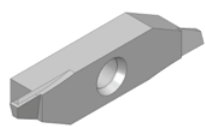
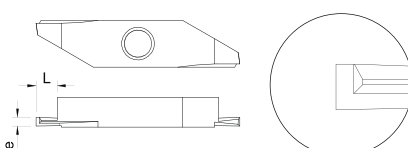
Back turning
 Drehen hinten
 Tournage arrière

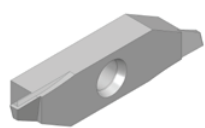
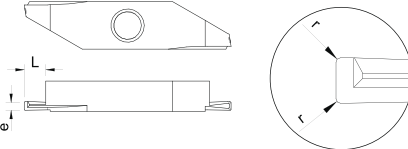
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

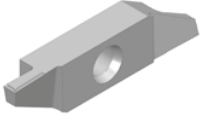
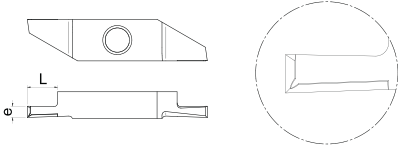
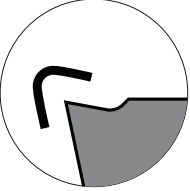
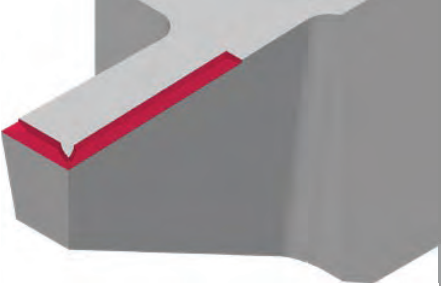
060R	Back turning insert 2° Drehplatte hinten 2° Tourneur arrière 2°	e	L	Article nr. Artikel Nr. N° Article	B/20	B/40	T/1
		0,5	2,5	060R0,5	✓	✓	
		0,6	2,5	060R0,6			✓
		0,7	2,5	060R0,7	✓		✓
		1,0	2,5	060R1,0	✓	✓	✓
		1,2	3,0	060R1,2	✓	✓	✓
		1,5	3,0	060R1,5	✓	✓	✓
		1,8	4,5	060R1,8	✓	✓	✓
		2,0	4,5	060R2,0	✓	✓	✓

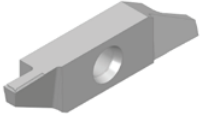
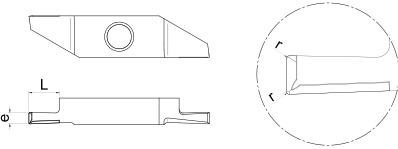
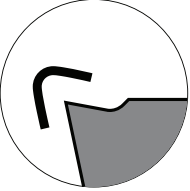
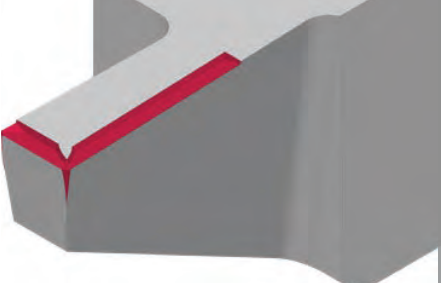
060RP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	B120	B140	B190	B1100	B1110	TIN	
		0,45	2,5	060RP0,45						✓	
		0,5	2,5	060RP0,5		✓					✓
		0,6	2,5	060RP0,6				✓			✓
		0,75	2,5	060RP0,75	✓						
		0,8	2,5	060RP0,8	✓	✓					
		0,9	2,5	060RP0,9				✓			
		1,0	2,5	060RP1,0	✓	✓				✓	✓
		1,2	3,0	060RP1,2	✓	✓					✓
		1,5	3,0	060RP1,5	✓	✓			✓		✓
		1,8	4,5	060RP1,8	✓						
		2,0	4,5	060RP2,0	✓	✓					✓
		2,5	4,5	060RP2,5		✓					

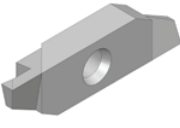
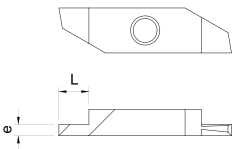
060RPX	Back turning insert 0° with chip breaker Drehplatte hinten 0° mit Spanbrecher Tourneur arrière 0° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	B130	B190
		1,0	2,5	060RPX1,0		✓
		1,2	3,0	060RPX1,2	✓	✓
		1,5	3,0	060RPX1,5	✓	✓
		1,8	4,5	060RPX1,8	✓	✓

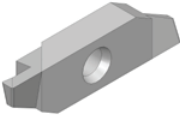
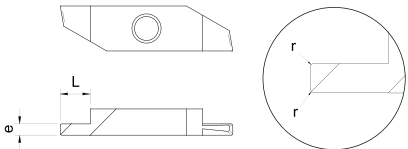
060RX	Back turning insert with chip breaker Drehplatte hinten mit Spanbrecher Tourneur arrière avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	B1110
		1,0	2,5	060RX1,0	✓
		1,5	4,0	060RX1,5	✓
		2,0	4,0	060RX2,0	✓

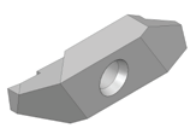
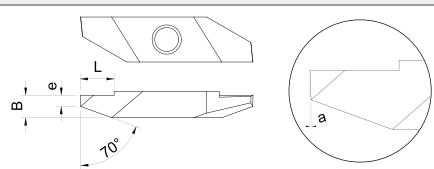
060RX - r	Back turning insert with chip breaker and radii Drehplatte hinten mit Spanbrecher and Radien Tourneur arrière avec brise-copeau et rayons	e	L	Article nr. Artikel Nr. N° Article	B1110
		1,0	2,5	060RX1,0 - r 0,1 -	✓
		1,5	4,0	060RX1,5 - r 0,1 -	✓
		2,0	4,0	060RX2,0 - r 0,1 -	✓

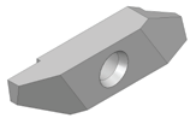
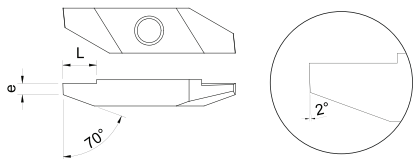
060RZ		Back turning insert with chip breaker Drehplatte hinten mit Spanbrecher Tourneur arrière avec brise-copeau		e	L	Article nr. Artikel Nr. N° Article	BI90	BI110
		1,0	2,5	060RZ1,0	✓	✓		
		1,5	4,0	060RZ1,5	✓	✓		
		2,0	4,0	060RZ2,0	✓	✓		
								

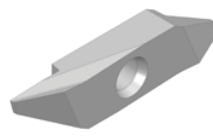
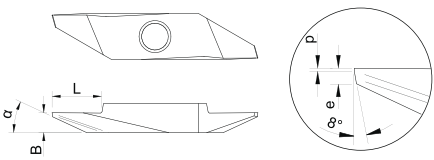
060RZ - r		Back turning insert with chip breaker and radii Drehplatte hinten mit Spanbrecher und Radien Tourneur arrière avec brise-copeau et rayons		e	L	r	Article nr. Artikel Nr. N° Article	BI90	BI110
		1,0	2,5	0,1	060RZ1,0 - r 0,1 -	✓	✓		
		1,2	3,0	0,1	060RZ1,2 - r 0,1 -	✓	✓		
		1,5	4,0	0,1	060RZ1,5 - r 0,1 -	✓	✓		
		2,0	4,0	0,1	060RZ2,0 - r 0,1 -	✓	✓		
									


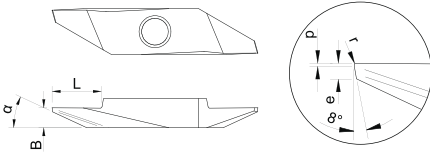
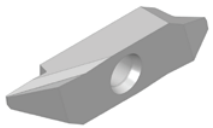
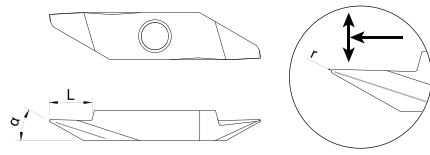
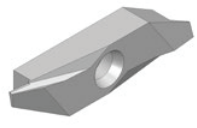
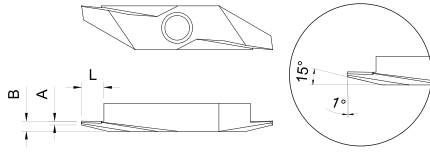
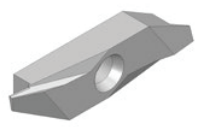
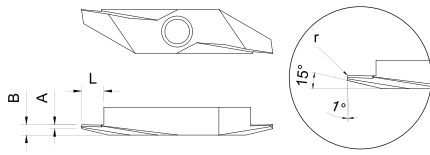
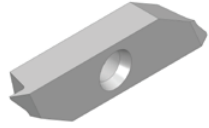
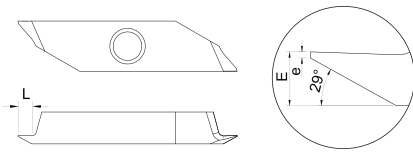
061R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	B/20	B/40	B/100	B/110	TIN
				0,7	1,5	061R0,7	✓	✓	
		0,8	2,0	061R0,8	✓	✓		✓	
		1,0	2,5	061R1,0	✓	✓	✓		
		1,2	3,0	061R1,2	✓	✓	✓		✓
		1,5	3,0	061R1,5	✓	✓	✓		✓
		1,8	4,5	061R1,8	✓	✓	✓		✓
		2,0	4,5	061R2,0	✓	✓	✓	✓	✓
		2,5	4,5	061R2,5	✓	✓			✓

061R - r	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	r	Article nr. Artikel Nr. N° Article	B/20	B/40	B/90	B/100
				0,7	1,5	0,05	061R0,7 - r 0,05 -		
		0,8	2,0	0,05	061R0,8 - r 0,05 -			✓	
		1,0	2,5	0,05	061R1,0 - r 0,05 -				✓
		1,0	2,5	0,1	061R1,0 - r 0,1 -	✓	✓		
		1,0	2,5	0,15	061R1,0 - r 0,15 -			✓	
		1,2	3,0	0,1	061R1,2 - r 0,1 -		✓	✓	✓
		1,2	3,0	0,2	061R1,2 - r 0,2 -	✓	✓		
		1,5	3,0	0,1	061R1,5 - r 0,1 -	✓	✓	✓	✓
		1,5	3,0	0,2	061R1,5 - r 0,2 -	✓	✓		
		2,0	4,5	0,1	061R2,0 - r 0,1 -	✓	✓	✓	✓
		2,0	4,5	0,2	061R2,0 - r 0,2 -	✓	✓		

062R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	B	a	Article nr. Artikel Nr. N° Article	B/20	B/40
				0,5	4,5	3,0	2°	062R0,5
		1,5	4,5	3,0	2°	062R1,5		✓
		0,5	4,5	1,6	5°	062R1,6		✓

062RO	Back turning insert Drehplatte hinten Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article	B/20	B/40	B/100	TIN
				0,5	4,5	062RO0,5		✓
		0,8	4,5	062RO0,8				✓
		1,0	4,5	062RO1,0		✓	✓	
		1,5	4,5	062RO1,5	✓	✓		
		2,0	4,5	062RO2,0	✓			

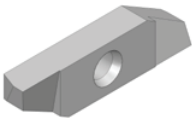
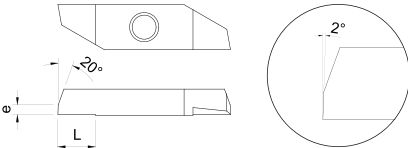
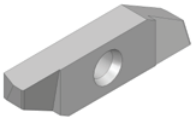
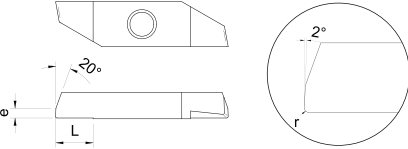
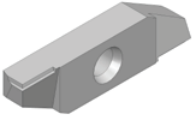
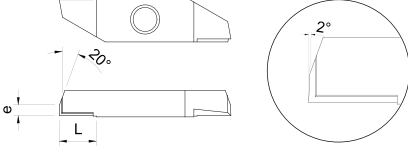
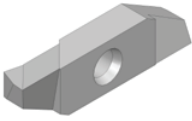
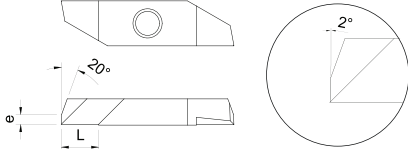
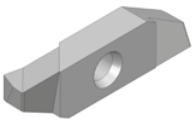
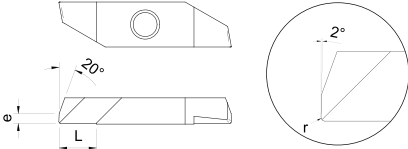
063R - 25°	Back turning insert 25° with chip breaker Drehplatte hinten 25° mit Spanbrecher Tourneur arrière 25° avec brise-copeau	e	p	L	B	α	Article nr. Artikel Nr. N° Article	B/71	B/100	B/110
				0,5	0,1	6,0	2,4	25°	063R0,5 - 0,1 - 25° -	✓

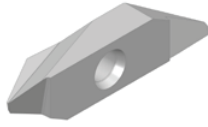


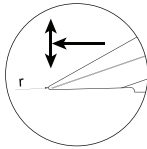
063R - 25° - r	Back turning insert 25° with chip breaker and radius Drehplatte hinten 25° mit Spanbrecher und Radius Tourneur arrière 25° avec brise-copeau et rayon	e	p	L	B	α	r	Article nr. Artikel Nr. N° Article							
		0,5	0,1	6,0	2,4	25°	0,04	063R0,5 - 0,1 - 25° - r 0,04 -						✓	
		0,5	0,1	6,0	2,4	25°	0,08	063R0,5 - 0,1 - 25° - r 0,08 -							✓
063R - 29° - r	Back turning insert 29° with chip breaker and radius Drehplatte hinten 29° mit Spanbrecher und Radius Tourneur arrière 29° avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article										
		5,0	29°	0,04	063R - 29° - r 0,04 -	✓	✓	✓						✓	
		5,0	29°	0,08	063R - 29° - r 0,08 -				✓	✓					✓
		5,0	29°	0,1	063R - 29° - r 0,1 -						✓				✓
		5,0	29°	0,15	063R - 29° - r 0,15 -	✓			✓	✓					✓
		5,0	29°	0,2	063R - 29° - r 0,2 -						✓	✓			✓
066R	Back turning insert with «W» chip roller Drehplatte hinten mit «W» Spanroller Tourneur arrière avec roule-copeau «W»	A	B	L	Article nr. Artikel Nr. N° Article										
		0,5	1,3	2,5	066R2,5		✓	✓	✓					✓	
066R - r	Back turning insert with «W» chip roller and radius Drehplatte hinten mit «W» Spanroller und Radius Tourneur arrière avec roule-copeau «W» et rayon	A	B	L	r	Article nr. Artikel Nr. N° Article									
		0,5	1,3	2,5	0,05	066R2,5 - r 0,05 -		✓	✓					✓	
		0,5	1,3	2,5	0,1	066R2,5 - r 0,1 -				✓					✓
		0,7	2,0	3,5	0,05	066R3,5 - r 0,05 -		✓							✓
069R - 29°	Insert 29° for fine back turning Wendeplatte 29° für das feine Drehen hinten Plaquette 29° pour le tournage arrière fin	e	L	E	Article nr. Artikel Nr. N° Article										
		0,1	0,9	0,6	069R0,1 - 29° - 0,6 -									✓	
		0,1	1,6	1,0	069R0,1 - 29° - 1,0 -										✓
		0,1	4,3	2,5	069R0,1 - 29° - 2,5 -										✓

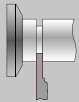


Front turning
 Drehen vorne
 Tournage avant

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

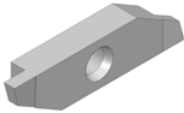

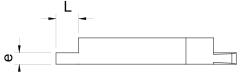
064R	Front turning insert Drehplatte vorne Tourneur avant	e	L	Article nr. Artikel Nr. N° Article	B120	B140	B190	B1100	B1110	TIN
		1,5	5,0	064R3,5	✓	✓	✓	✓	✓	✓
064R - r	Front turning insert with radius Drehplatte vorne mit Radius Tourneur avant avec rayon	e	L	r	Article nr. Artikel Nr. N° Article	B120	B140			
		1,5	5,0	0,1	064R3,5 - r 0,1 -	✓	✓			
		1,5	5,0	0,2	064R3,5 - r 0,2 -			✓	✓	✓
064RX	Front turning insert with chip breaker Drehplatte vorne mit Spanbrecher Tourneur avant avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	B120	B130	B140	B1100		
		1,5	5,0	064RX3,5	✓	✓	✓	✓		
065R	Front turning insert with «parisian cut» Drehplatte vorne mit «Pariserschliff» Tourneur avant avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	B120	B140	B190	B1100	TIN	
		1,5	5,0	065R3,5	✓	✓	✓	✓	✓	
065R - r	Front turning insert with «parisian cut» and radius Drehplatte vorne mit «Pariserschliff» und Radius Tourneur avant avec «coupe parisienne» et rayon	e	L	r	Article nr. Artikel Nr. N° Article	B120	B140			
		1,5	5,0	0,1	065R3,5 - r 0,1 -			✓	✓	
		1,5	5,0	0,2	065R3,5 - r 0,2 -			✓	✓	

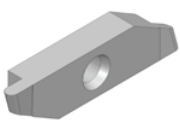
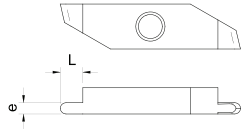
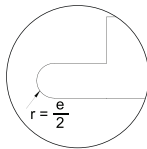
067R - 29° - r	Front turning insert 29° with chip breaker and radius Drehplatte vorne 29° mit Spanbrecher und Radius Tourneur avant 29° avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article	B180	B190	B1100	B1110
   		5,0	29°	0,04	067R - 29° - r 0,04 -	✓	✓		✓
		5,0	29°	0,08	067R - 29° - r 0,08 -		✓		
		5,0	29°	0,1	067R - 29° - r 0,1 -				✓
		5,0	29°	0,15	067R - 29° - r 0,15 -		✓	✓	✓
		5,0	29°	0,2	067R - 29° - r 0,2 -				✓

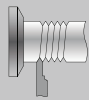


Grooving
Einstechen
Rainurage

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

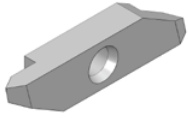
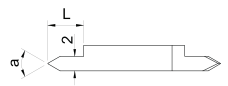
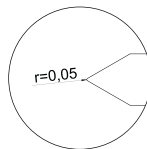
070R	Grooving insert Einstechplatte Plaquette de rainurage	e	L	Article nr. Artikel Nr. N° Article	B120	B140	B1100
  		0,2	1,0	070R0,2		✓	
		0,25	1,0	070R0,25	✓	✓	
		0,3	1,0	070R0,3	✓	✓	
		0,35	1,0	070R0,35	✓	✓	
		0,4	2,0	070R0,4	✓	✓	
		0,45	2,0	070R0,45	✓	✓	
		0,5	2,0	070R0,5	✓	✓	
		0,6	2,0	070R0,6	✓	✓	
		0,7	2,5	070R0,7	✓	✓	
		0,8	2,0	070R0,8	✓	✓	
		0,85	2,0	070R0,85	✓		
		0,9	2,5	070R0,9	✓	✓	✓
		0,95	2,5	070R0,95	✓		
		1,0	3,0	070R1,0	✓	✓	
		1,1	3,0	070R1,1	✓	✓	✓
		1,2	3,0	070R1,2	✓	✓	
		1,3	3,0	070R1,3	✓	✓	
		1,4	3,0	070R1,4	✓	✓	
	1,5	3,0	070R1,5	✓	✓		
	1,6	3,0	070R1,6	✓			
	1,7	3,0	070R1,7		✓		
	1,8	3,0	070R1,8	✓	✓		
	2,0	3,0	070R2,0	✓	✓		
	2,1	3,0	070R2,1		✓		


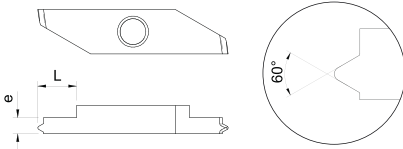
071R	Grooving insert with radius Einstechplatte mit Radius Plaquette de rainurage avec rayon	e	L	r	Article nr.	BI40
					Artikel Nr. N° Article	
  		0,3	1,5	0,15	071R0,3 - r 0,15 -	✓
		0,4	1,5	0,2	071R0,4 - r 0,2 -	✓
		0,5	2,0	0,25	071R0,5 - r 0,25 -	✓
		0,6	2,0	0,3	071R0,6 - r 0,3 -	✓
		0,7	2,0	0,35	071R0,7 - r 0,35 -	✓
		0,8	2,0	0,4	071R0,8 - r 0,4 -	✓
		1,0	3,0	0,5	071R1,0 - r 0,5 -	✓
		1,1	3,0	0,55	071R1,1 - r 0,55 -	✓
		1,2	3,0	0,6	071R1,2 - r 0,6 -	✓
		1,3	3,0	0,65	071R1,2 - r 0,65 -	✓
		1,4	3,0	0,7	071R1,4 - r 0,7 -	✓
		1,5	3,0	0,75	071R1,5 - r 0,75 -	✓
		1,6	3,0	0,8	071R1,6 - r 0,8 -	✓
		2,0	3,0	1,0	071R2,0 - r 1,0 -	✓
		2,5	3,0	1,25	071R2,5 - r 1,25 -	✓
		3,0	3,5	1,5	071R3,0 - r 1,5 -	✓


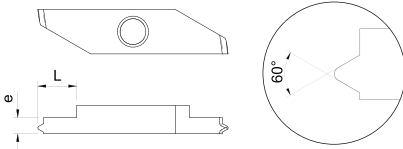

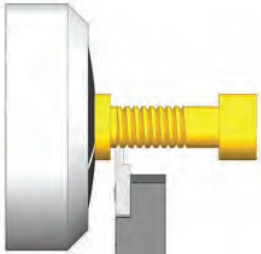


Threading
Gewindestrehlen
Filetage

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

080R	Threading insert with partial profile Gewindeplatte mit Teilprofil Fileteur avec profil partiel	L	a	Article nr. Artikel Nr. N° Article	BI20	BI40	BI90	BI100	BI110
					✓	✓	✓	✓	✓
  		5,0	55°	080R - 55° -	✓	✓			
		5,0	60°	080R - 60° -	✓	✓	✓	✓	✓
		5,0	90°	080R - 90° -	✓	✓			

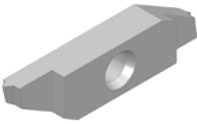
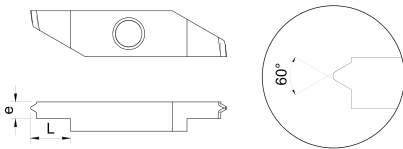
081R	Threading insert with full profile Gewindeplatte mit Vollprofil Fileteur avec profil complet	e	L	Pitch Steigung Pas	M	Article nr. Artikel Nr. N° Article	BI40	BI110
				1,0	3,0	0,20	-	081R0,2
		1,0	3,0	0,25	1/1,2	081R0,25	✓	
		1,0	3,0	0,30	1,4	081R0,3	✓	
		1,0	3,0	0,35	1,6	081R0,35	✓	✓
		1,0	3,0	0,40	2,0	081R0,4	✓	✓
		1,0	3,0	0,45	2,5	081R0,45	✓	✓
		1,0	3,0	0,50	3,0	081R0,5	✓	✓
		1,0	3,0	0,60	3,5	081R0,6	✓	✓
		1,0	3,0	0,70	4,0	081R0,7	✓	✓
		1,0	3,0	0,75	4,5	081R0,75	✓	✓
		1,5	4,5	0,80	5,0	081R0,8	✓	✓
		1,5	4,5	1,00	6,0	081R1,0	✓	
		1,5	4,5	1,25	8,0	081R1,25	✓	
		2,0	5,0	1,50	10	081R1,5	✓	

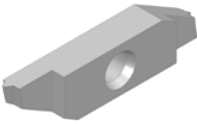
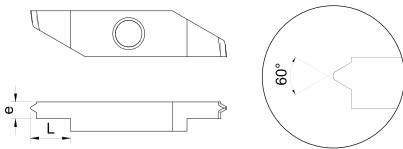
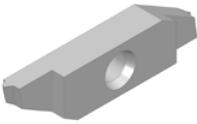
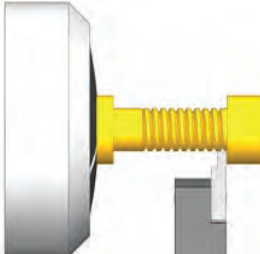
								
								

Threading on side «screw point»
Use with 0xxR tool holders

Gewindestrehlen Seite «Schraubenspitze»
Verwendung mit 0xxR Werkzeughalter

Filetage côté «pointe de vis»
Utilisation avec les porte-outils 0xxR

083R	Threading insert with full profile Gewindeplatte mit Vollprofil Fileteur avec profil complet	e	L	Pitch Steigung Pas	M	Article nr. Artikel Nr. N° Article	BI40
				1,0	3,0	0,25	1/1,2	083R0,25	✓
		1,0	3,0	0,30	1,4	083R0,3	✓
		1,0	3,0	0,35	1,6	083R0,35	✓
		1,0	3,0	0,40	2,0	083R0,4	✓
		1,0	3,0	0,45	2,5	083R0,45	✓
		1,0	3,0	0,50	3,0	083R0,5	✓
		1,0	3,0	0,60	3,5	083R0,6	✓
		1,0	3,0	0,70	4,0	083R0,7	✓
		1,0	3,0	0,75	4,5	083R0,75	✓
		1,5	4,5	0,80	5,0	083R0,8	✓
		1,5	4,5	1,00	6,0	083R1,0	✓
		1,5	4,5	1,25	8,0	083R1,25	✓

Threading on side «screw head»
Use with 0xxL tool holders

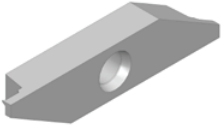
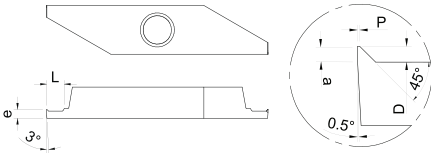

Gewindestrehlen Seite «Schraubenkopf»
Verwendung mit 0xxL Werkzeughalter

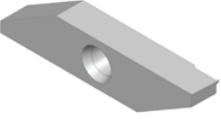
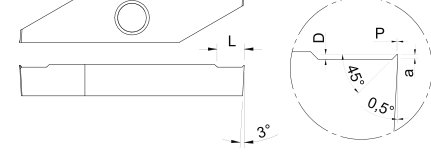

Filetage côté «tête de vis»
Utilisation avec les porte-outils 0xxL

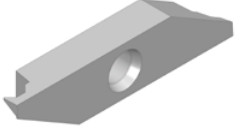
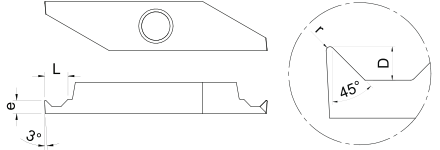



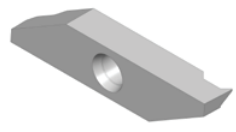
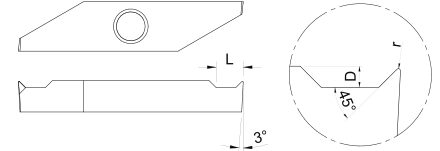

Axial grooving
 Axial Einstichplatte
 Piqûre

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

090RB	Back axial grooving insert with flat plan Rückseite Axial Einstichplatte mit Fläche Plaquette à piqûre arrière avec plat	e	L	P	D	a	Article nr. Artikel Nr. N° Article	B171
		1,0	2,0	0,03	0,2	0,15	090RB - 45° - 0,03 - 0,2 -	✓
		1,2	2,0	0,05	0,4	0	090RB - 45° - 0,05 - 0,4 -	✓
		1,4	3,0	0,1	0,6	0	090RB - 45° - 0,1 - 0,6 -	✓
								


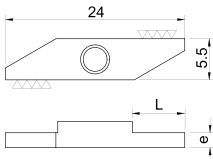
090RF	Front axial grooving insert with flat plan Hauptseite Axial Einstichplatte mit Fläche Plaquette à piqûre avant avec plat	e	L	P	D	a	Article nr. Artikel Nr. N° Article	B171
		-	2,0	0,03	0,1	0,15	090RF - 45° - 0,03 - 0,2 -	✓
		-	2,0	0,05	0,4	0	090RF - 45° - 0,05 - 0,4 -	✓
		-	3,0	0,1	0,6	0	090RF - 45° - 0,1 - 0,6 -	✓
								

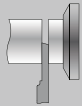
091RB	Back axial grooving insert with radius Rückseite Axial Einstichplatte mit Radius Plaquette à piqûre arrière avec rayon	e	L	r	D	Article nr. Artikel Nr. N° Article	BI71
		1,2	1,9	0,03	0,4	091RB - 45° - r 0,03 - 0,4 -	✓
		1,5	2,6	0,08	0,7	091RB - 45° - r 0,08 - 0,7 -	✓
							

091RF	Front axial grooving insert with radius Hauptseite Axial Einstichplatte mit Radius Plaquette à piqûre avant avec rayon	e	L	r	D	Article nr. Artikel Nr. N° Article	BI71
		-	3,0	0,03	0,7	091RF - 45° - r 0,03 - 0,7 -	✓
		-	3,0	0,08	0,7	091RF - 45° - r 0,08 - 0,7 -	✓
							

Blank
Rohling
Ebauche

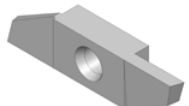
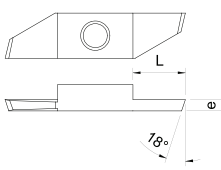
L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche


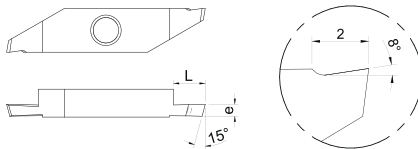
040L	Blank insert Rohling Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	K18	BI40	BI70	BI71	BI90	BI100	BI110	TIN	
		1,4	6,0	040L1,4	✓			✓					
		1,5	6,0	040L1,5	✓								
		1,7	6,0	040L1,7	✓								
		2,0	6,0	040L2,0	✓	✓		✓				✓	
		2,2	6,0	040L2,2	✓	✓							
		3,5	—	040L3,5	✓	✓	✓	✓	✓	✓	✓	✓	✓

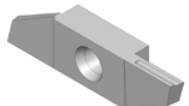
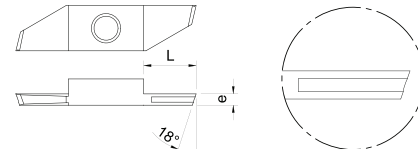


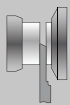
Guide bush cut off \varnothing 8 mm
Abstechen an der Führungsbüchse \varnothing 8 mm
Tronçonnage côté canon \varnothing 8 mm

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

050L	Cutting insert 18° Abstechplatte 18° Tronçonneur 18°	e	L	Article nr. Artikel Nr. N° Article	BI20	BI40	TIN
		0,5	2,5	050L0,5	✓	✓	
		0,7	2,5	050L0,7		✓	
		0,8	4,0	050L0,8		✓	
		1,0	4,0	050L1,0	✓	✓	✓
		1,2	5,0	050L1,2	✓	✓	✓
		1,5	6,5	050L1,5	✓	✓	✓
		1,6	6,5	050L1,6	✓		✓
		1,8	6,5	050L1,8	✓	✓	✓
2,0	6,5	050L2,0	✓	✓	✓		

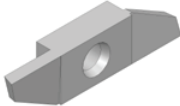
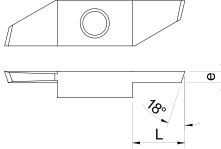
051L	Cutting insert 15° with chip roller Abstechplatte 15° mit Spanroller Tronçonneur 15° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	BI110
		1,0	4,0	051L1,0	✓	✓	✓
		1,2	5,0	051L1,2	✓	✓	✓
		1,5	6,5	051L1,5	✓	✓	✓
		2,0	6,5	051L2,0	✓	✓	✓

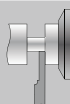
054L	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI20	BI40	TIN
		1,0	4,0	054L1,0	✓	✓	
		1,2	5,0	054L1,2	✓	✓	
		1,5	6,5	054L1,5	✓	✓	✓
		2,0	6,5	054L2,0	✓	✓	



Sub spindle cut off \varnothing 8 mm
 Abstechen an der Abgreifzange \varnothing 8 mm
 Tronçonnage côte prise de pièce \varnothing 8 mm

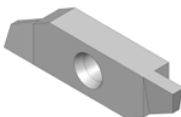
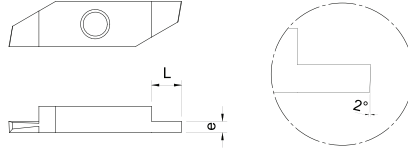
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

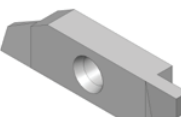
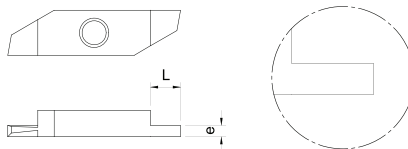
053L	Opposite cutting insert 18° Umgekehrte Abstechplatte 18° Tronçonneur inversé 18°	e	L	Article nr. Artikel Nr. N° Article	BI20	BI40
		1,0	4,0	053L1,0	✓	✓
		1,2	4,0	053L1,2	✓	✓
		1,5	6,5	053L1,5	✓	✓
Use with 0xxR tool holders Verwendung mit 0xxR Werkzeughalter Utilisation avec les porte-outils 0xxR						

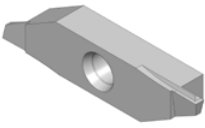
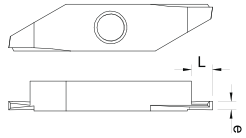


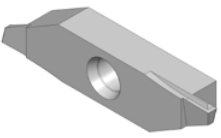
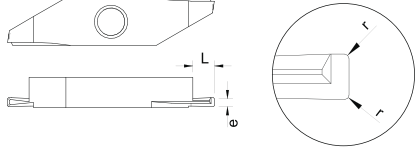
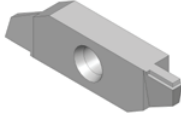
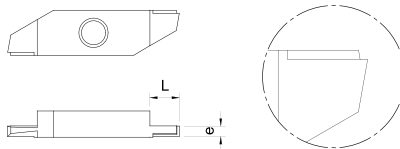
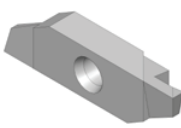
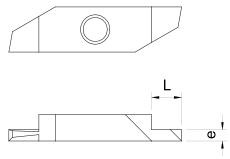
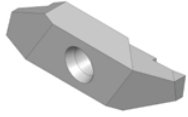
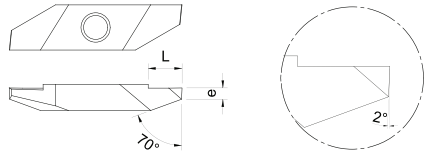
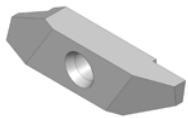
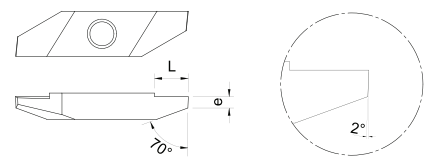
Back turning
 Drehen hinten
 Tournage arrière

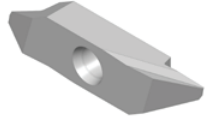
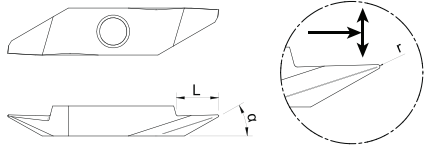
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

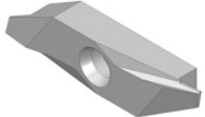
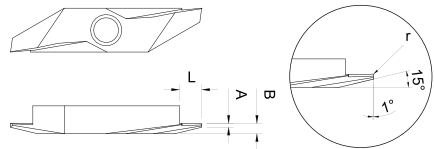
060L	Back turning insert 2° Drehplatte hinten 2° Tourneur arrière 2°	e	L	Article nr. Artikel Nr. N° Article	BI20	BI40	TIN
		1,0	2,5	060L1,0	✓	✓	
		1,2	3,0	060L1,2	✓	✓	✓
		1,5	3,0	060L1,5	✓	✓	✓
		1,8	4,5	060L1,8	✓	✓	
		2,0	4,5	060L2,0	✓	✓	✓

060LP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI20	BI40	BI90
		1,0	2,5	060LP1,0	✓	✓	✓
		1,2	3,0	060LP1,2	✓	✓	✓
		1,5	3,0	060LP1,5	✓	✓	
		1,8	4,5	060LP1,8	✓	✓	
		2,0	4,5	060LP2,0	✓	✓	

060LX	Back turning insert with chip breaker Drehplatte hinten mit Spanbrecher Tourneur arrière avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI110
		1,5	4,0	060LX1,5	✓

060LX - r	Back turning insert with chip breaker and radii Drehplatte hinten mit Spanbrecher and Radien Tourneur arrière avec brise-copeau et rayons	e	L	Article nr. Artikel Nr. N° Article		BI110
		1,5	4,0	060LX1,5 - r 0,1 -		✓
060LPX	Back turning insert 0° with chip breaker Drehplatte hinten 0° mit Spanbrecher Tourneur arrière 0° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article		BI30 BI90
		0,8	2,5	060LPX0,8	✓	
		1,0	2,5	060LPX1,0	✓	
		1,2	3,0	060LPX1,2	✓	✓
		1,5	3,0	060LPX1,5	✓	✓
		1,8	4,5	060LPX1,8	✓	✓
061L	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article		BI20 BI40 TIN
		0,5	1,5	061L0,5		✓
		0,8	2,0	061L0,8		✓
		1,0	2,5	061L1,0	✓	✓
		1,2	3,0	061L1,2	✓	✓
		1,5	3,0	061L1,5	✓	✓
		1,8	4,5	061L1,8	✓	✓
		2,0	4,5	061L2,0	✓	✓
2,5	4,5	061L2,5	✓	✓		
062L	Back turning insert 0° with «parisian cut» Drehplatte hinten 0° mit «Pariserschliff» Tourneur arrière 0° avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article		BI20 BI40
		1,5	4,5	062L1,5	✓	✓
062LO	Back turning insert 2° Drehplatte hinten 2° Tourneur arrière 2°	e	L	Article nr. Artikel Nr. N° Article		BI20 BI40
		1,5	4,0	062LO1,5	✓	✓

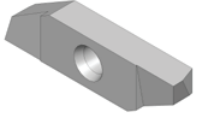
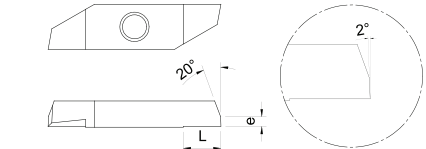
063L - 29° - r	Back turning insert 29° with chip breaker and radius Drehplatte hinten 29° mit Spanbrecher und Radius Tourneur arrière 29° avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article	B190
		5,0	29°	0,04	063L - 29° - r 0,04 -	✓

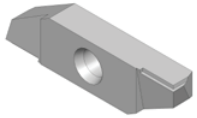
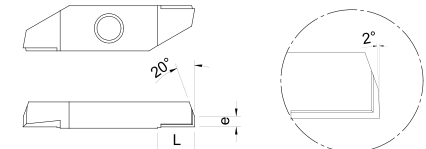
066L - r	Back turning insert with «W» chip roller and radius Drehplatte hinten mit «W» Spanroller und Radius Tourneur arrière avec roule-copeau «W» et rayon	A	B	L	r	Article nr. Artikel Nr. N° Article	B190
		0,5	1,3	2,5	0,05	066L2,5 - r 0,05 -	✓

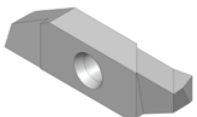
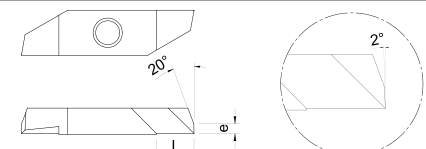


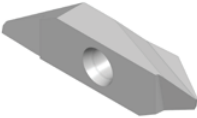
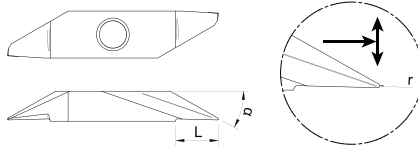
Front turning
Drehen vorne
Tournage avant

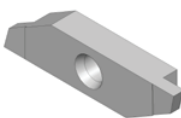
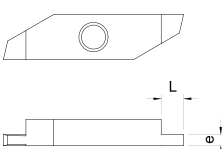
L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

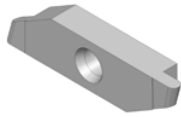
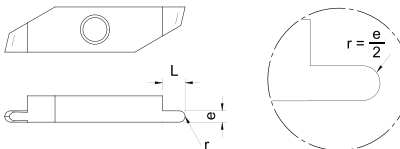
064L	Front turning insert Drehplatte vorne Tourneur avant	e	L	Article nr. Artikel Nr. N° Article	B120	B140	TIN
		1,5	5,0	064L3,5	✓	✓	✓

064LX	Front turning insert with chip breaker Drehplatte vorne mit Spanbrecher Tourneur avant avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	B130	B140
		1,5	5,0	064LX3,5	✓	✓

065L	Front turning insert with chip roller Drehplatte vorne mit Spanroller Tourneur avant avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	B120	B140	TIN
		1,5	5,0	065L3,5	✓	✓	✓

067L - 29° - r	Front turning insert 29° with chip breaker and radius Drehplatte vorne 29° mit Spanbrecher und Radius Tourneur avant 29° avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article	B190
		5,0	29°	0,04	067L - 29° - r 0,04 -	✓

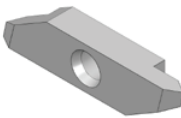
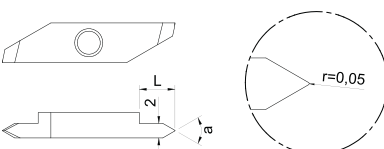
070L	Grooving insert Einstechplatte Plaquette de rainage	e	L	Article nr. Artikel Nr. N° Article	B120	B140
		0,3	1,0	070L0,3	✓	
		0,35	1,0	070L0,35	✓	✓
		0,4	2,0	070L0,4	✓	✓
		0,5	2,0	070L0,5	✓	✓
		0,6	2,0	070L0,6	✓	
		0,7	2,5	070L0,7	✓	
		0,8	2,0	070L0,8	✓	✓
		0,9	2,5	070L0,9	✓	✓
		1,0	3,0	070L1,0	✓	✓
		1,1	3,0	070L1,1	✓	✓
		1,2	3,0	070L1,2	✓	✓
		1,3	3,0	070L1,3	✓	✓
1,4	3,0	070L1,4	✓	✓		
1,5	3,0	070L1,5	✓	✓		

071L	Grooving insert with radius Einstechplatte mit Radius Plaquette de rainage avec rayon	e	L	r	Article nr. Artikel Nr. N° Article	B120	B140
		0,3	1,5	0,15	071L0,3 - r 0,15 -		✓
		0,4	1,5	0,2	071L0,4 - r 0,2 -		✓
		0,5	2,0	0,25	071L0,5 - r 0,25 -		✓
		0,6	2,0	0,3	071L0,6 - r 0,3 -	✓	✓
		0,8	2,0	0,4	071L0,8 - r 0,4 -		✓
		1,0	3,0	0,5	071L1,0 - r 0,5 -		✓
		1,2	3,0	0,6	071L1,2 - r 0,6 -		✓
		1,5	3,0	0,75	071L1,5 - r 0,75 -		✓
		2,0	3,0	1,0	071L2,0 - r 1,0 -		✓
		2,5	3,5	1,25	071L2,5 - r 1,25 -		✓



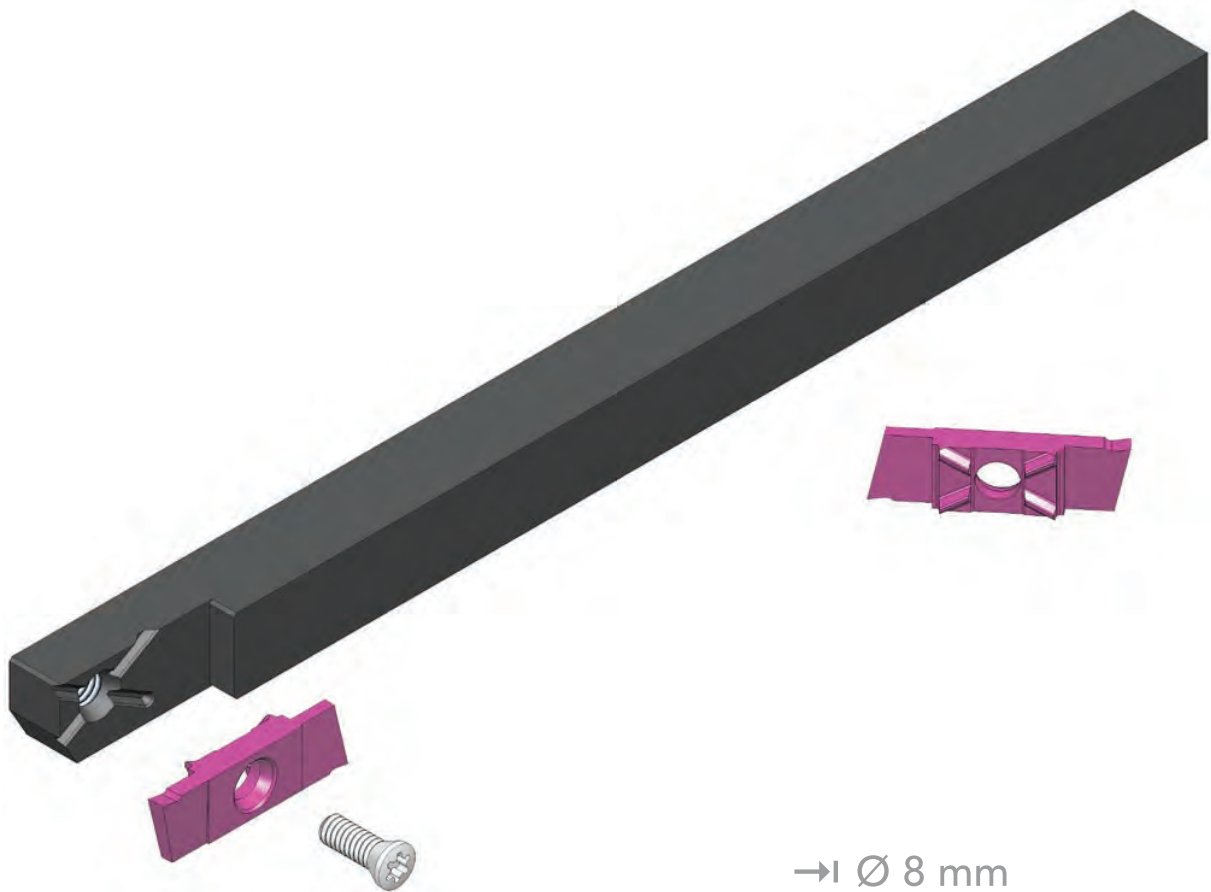
Threading
Gewindestrehlen
Filetage

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

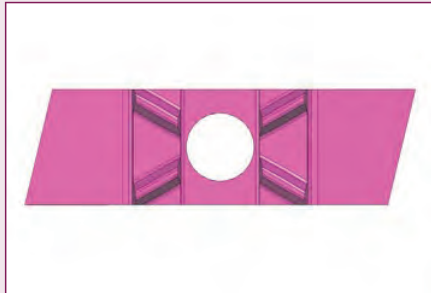
080L	Threading insert with partial profile Gewindeplatte mit Teilprofil Fileteur avec profil partiel	L	a	Article nr. Artikel Nr. N° Article	B120	B140
		5,0	55°	080L - 55° -	✓	✓
		5,0	60°	080L - 60° -	✓	✓



400 line



Presentation of 400 line
Vorstellung der 400 line
Présentation de la 400 line



Advantages of 400 line

- X-Centering technology :
 - Repetitiveness of the cutting edge $\pm 0,01$ mm.
 - Positioning in all axes.
 - Insert turning without having to remove the screw.
 - The screw is free of all radial stress.
- 2 cutting edges available.

Vorteile der 400 line

- X-Centering Technologie.
 - Wiederholgenauigkeit der Schneidkante $\pm 0,01$ mm.
 - Positionierung in allen Achsen.
 - Wenden der Wendeplatte ohne Entfernen der Schraube.
 - Keine radialen Spannungen.
- 2 verfügbare Schneidkanten.

Avantages de la 400 line

- Technologie X-Centering.
 - Répétitivité de l'arête de coupe $\pm 0,01$ mm.
 - Positionnement dans tous les axes.
 - Retournement de la plaquette sans enlever la vis.
 - La vis est libre de toute tension radiale.
- 2 arêtes de coupe.

Coating of inserts

Beschichtung der Wendepplatten

Revêtement des plaquettes

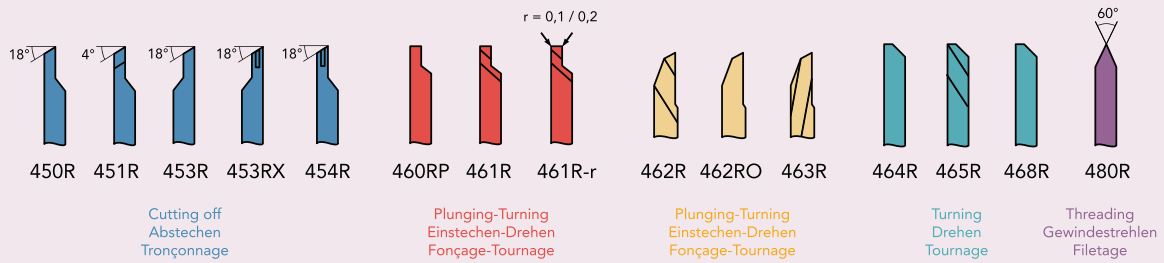
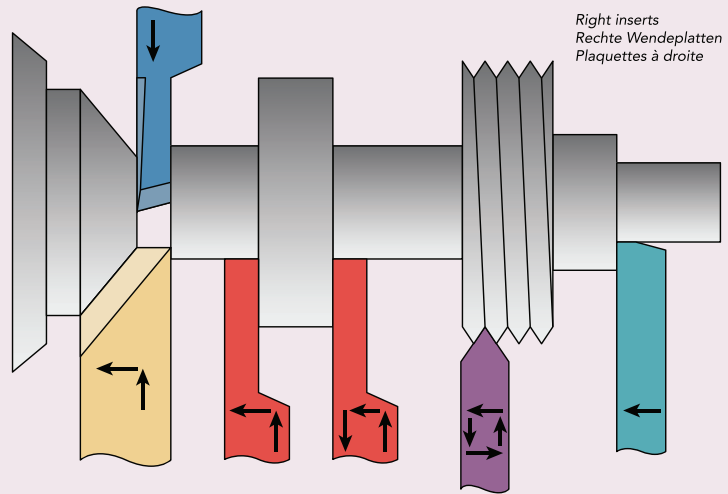
✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible

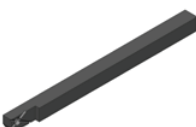
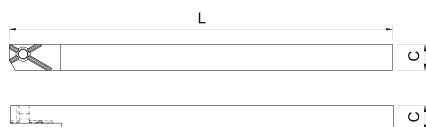
Designation Bezeichnung Désignation	Description Beschreibung Description
K12	<p>Without coating | K12 carbide Available only for blank inserts.</p> <p>Ohne Beschichtung | K12 Hartmetall Nur für Rohling Wendepplatten verfügbar.</p> <p>Sans revêtement | Carbure K12 Disponible uniquement pour les plaquettes ébauchées.</p>
K18	<p>Without coating | K18 carbide Available only for blank inserts.</p> <p>Ohne Beschichtung | K18 Hartmetall Nur für Rohling Wendepplatten verfügbar.</p> <p>Sans revêtement | Carbure K18 Disponible uniquement pour les plaquettes ébauchées.</p>
K20	<p>Without coating | K20 carbide. Standard carbide for the 400line.</p> <p>Ohne Beschichtung | K20 Hartmetall. Standard Hartmetall für die 400line.</p> <p>Sans revêtement | Carbure K20. Carbure standard pour la gamme 400line.</p>
B140	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.


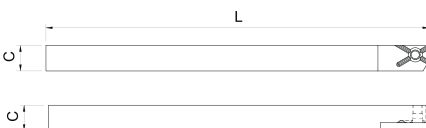
Designation Bezeichnung Désignation	Description Beschreibung Description
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.

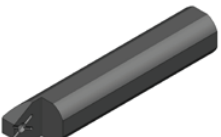
Field of application of 400 line
Anwendungsbereich der 400 line
Champ d'application de la 400 line


Maximum cutting-off
Maximaler Abstechdurchmesser
Tronçonnage maximum
Ø 8 mm




4xxR	Right tool-holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		7 x 7	120	407R
		8 x 8	120	408R
		8 x 8	100	408R-100
		10 x 10	120	410R
		12 x 12	120	412R
		16 x 16	120	416R
		9,52 x 9,52 (3/8")	120	4952R
		12,7 x 12,7 (1/2")	120	4127R

4xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		6 x 6	120	406L
		7 x 7	120	407L
		8 x 8	120	408L
		10 x 10	120	410L
		12 x 12	120	412L
		16 x 16	120	416L
		12,7 x 12,7 (1/2")	120	4127L


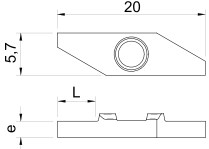
Cylindrical turning tool holders for counter-operation Zylindrische Drehwerkzeughalter zur Rückseitenbearbeitung Porte-outils de tournage cylindriques pour contre-opération	
	<p>See the «Cylindrical turning tool holders» documentation for further information. Siehe die «Zylindrische Drehwerkzeughalter» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils de tournage cylindriques» pour plus d'informations.</p>

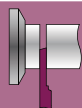
001-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 8	001-1

001-4	Screw for standard tool holder Schraube für Standard-Werkzeughalter Vis pour porte-outil standard	Article nr. Artikel Nr. N° Article
	M3,0 x 7,5	001-4


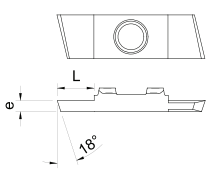
**Blank
Rohling
Ebauche**


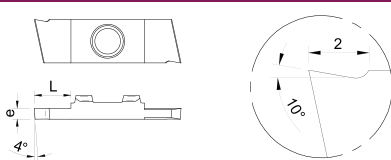
 R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


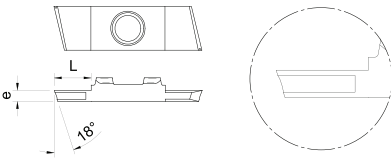
440R	Blank insert Rohling Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	K12	K18	K20	BI40	BI90
		0,7	2,5	440R0,7	✓	✓	✓	✓	✓
		1,2	3,0	440R1,2	✓	✓	✓	✓	✓
		1,5	4,0	440R1,5	✓	✓	✓	✓	✓
		1,7	5,0	440R1,7	✓	✓	✓	✓	✓
		2,2	—	440R2,2	✓	✓	✓	✓	✓

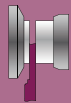

**Guide bush cut off \varnothing 8 mm
Abstechen an der Führungsbüchse \varnothing 8 mm
Tronçonnage côté canon \varnothing 8 mm**

 R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

450R	Cutting insert 18° Abstechplatte 18° Tronçonneur 18°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,5	3,0	450R0,5	✓	✓
		0,7	4,0	450R0,7	✓	✓
		0,8	4,0	450R0,8	✓	✓
		1,0	4,0	450R1,0	✓	✓
		1,2	5,0	450R1,2	✓	✓
		1,5	5,0	450R1,5	✓	✓
2,0	5,0	450R2,0	✓	✓		


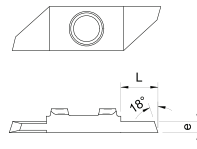
451R	Cutting insert with chip breaker Abstechplatte mit Spanbrecher Tronçonneur avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI90
		1,0	4,0	451R1,0	✓
		1,2	4,0	451R1,2	✓
		1,5	4,0	451R1,5	✓


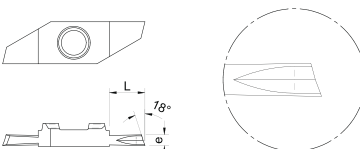
454R	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	4,0	454R0,8	✓	✓
		1,0	4,0	454R1,0	✓	✓
		1,2	5,0	454R1,2	✓	✓
		1,5	5,0	454R1,5	✓	✓
		1,8	5,0	454R1,8	✓	✓
		2,0	5,0	454R2,0	✓	✓

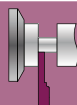


Sub spindle cut off \varnothing 8 mm
 Abstechen an der Abgreifzange \varnothing 8 mm
 Tronçonnage côte prise de pièce \varnothing 8 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


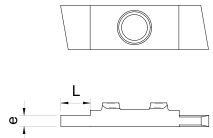
453R	Opposite cutting insert 18° Umgekehrte Abstechplatte 18° Tronçonneur inversé 18°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
					✓	✓
		0,5	3,0	453R0,5	✓	✓
		0,8	4,0	453R0,8	✓	✓
		1,0	4,0	453R1,0	✓	✓
		1,2	5,0	453R1,2	✓	✓
		1,5	5,0	453R1,5	✓	✓
		2,0	5,0	453R2,0	✓	
Use with 4xxL tool holders Verwendung mit 4xxL Werkzeughalter Utilisation avec les porte-outils 4xxL						


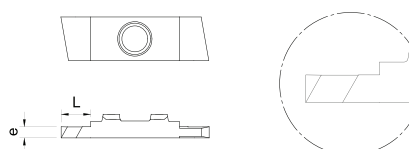
453RX	Opposite cutting insert 18° with chip roller Umgekehrte Abstechplatte 18° mit Spanroller Tronçonneur inversé 18° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40
					✓
		0,8	4,0	453R0,8	✓
		1,2	5,0	453R1,2	✓
		1,5	5,0	453R1,5	✓
Use with 4xxL tool holders Verwendung mit 4xxL Werkzeughalter Utilisation avec les porte-outils 4xxL					


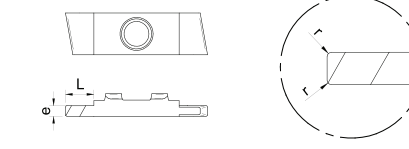



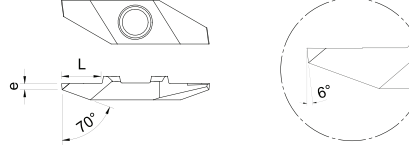
Back turning
 Drehen hinten
 Tournage arrière


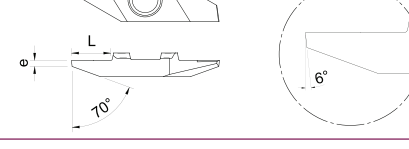
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


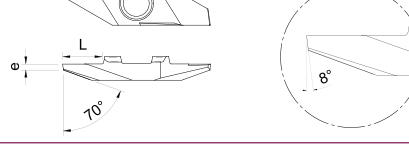
460RP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
					✓	✓
		0,4	2,0	460RP0,4	✓	✓
		0,5	2,0	460RP0,5	✓	✓
		0,6	2,0	460RP0,6	✓	✓
		0,7	2,0	460RP0,7	✓	✓
		0,8	2,0	460RP0,8	✓	✓
		1,0	2,0	460RP1,0	✓	✓
		1,2	3,0	460RP1,2	✓	✓
		1,5	3,0	460RP1,5	✓	✓
		2,0	4,0	460RP2,0	✓	✓

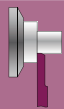
461R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,5	1,5	461R0,5	✓	
		0,6	1,5	461R0,6	✓	✓
		0,7	1,5	461R0,7	✓	
		0,8	1,7	461R0,8	✓	✓
		0,9	1,7	461R0,9	✓	
		1,0	1,7	461R1,0	✓	✓
		1,2	2,0	461R1,2	✓	✓
		1,5	3,0	461R1,5	✓	✓
		2,0	3,5	461R2,0	✓	✓

461R - r	Back turning insert with «parisian cut» and radii Drehplatte hinten mit «Pariserschliff» und Radius Tourneur arrière avec «coupe parisienne» et rayons	e	L	r	Article nr. Artikel Nr. N° Article	BI40
		1,0	1,7	0,1	461R1,0 - r - 0,1	✓
		1,3	2,5	0,1	461R1,3 - r - 0,1	✓
		1,5	3,0	0,1	461R1,5 - r - 0,1	✓
		1,5	3,0	0,2	461R1,5 - r - 0,2	✓

462R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40
		0,5	3,0	462R0,5	✓
		0,8	3,0	462R0,8	✓


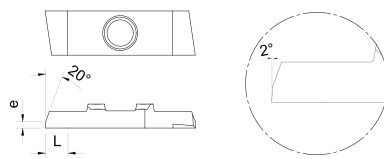
462RO	Back turning insert Drehplatte hinten Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,2	3,0	462RO0,2	✓	✓
		0,3	3,0	462RO0,3		✓
		0,5	3,0	462RO0,5	✓	✓


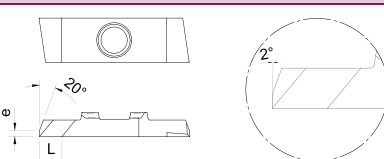
463R	Back turning insert with chip breaker Drehplatte hinten mit Spanbrecher Tourneur arrière avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,5	4,0	463R0,5	✓	✓


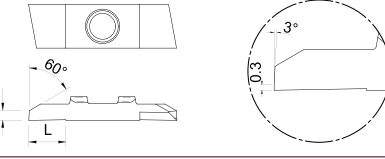


Front turning Drehen vorne Tournage avant

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

464R	Front turning insert Drehplatte vorne Tourneur avant	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	5,0	464R	✓	✓


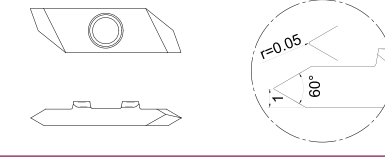
465R	Front turning insert with «parisian cut» Drehplatte vorne mit «Pariserschliff» Tourneur avant avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	5,0	465R	✓	✓

468R	Front turning insert Drehplatte vorne Tourneur avant	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		5,0	468R	✓	✓




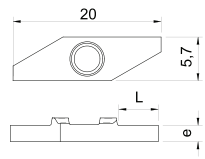
Threading Gewindestrehlen Filetage

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

480R	Threading insert with partial profile Gewindeplatte mit Teilprofil Fileteur avec profil partiel	Article nr. Artikel Nr. N° Article	BI40	BI90
		480R - 60° -	✓	✓

Blank
Rohling
Ebauche


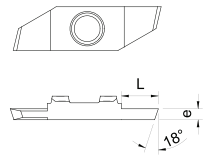
L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche


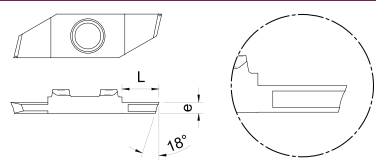
440L	Blank insert Rohling Plaquette ébauche	 	e	L	Article nr. Artikel Nr. N° Article	K12	K18	K20	BI40	BI90
			0,7	2,5	440L0,7	✓	✓	✓	✓	✓
1,2	3,0	440L1,2	✓	✓	✓	✓	✓	✓	✓	
1,7	5,0	440L1,7	✓	✓	✓	✓	✓	✓	✓	
2,2	—	440L2,2	✓	✓	✓	✓	✓	✓	✓	



Guide bush cut off \varnothing 8 mm
Abstechen an der Führungsbüchse \varnothing 8 mm
Tronçonnage côté canon \varnothing 8 mm

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche


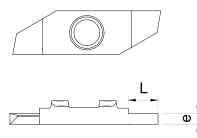

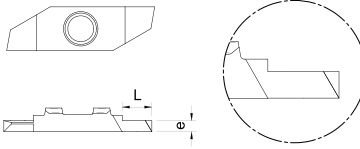

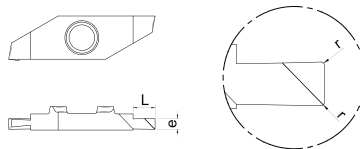

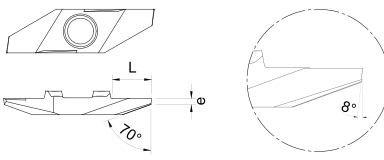
450L	Cutting insert 18° Abstechplatte 18° Tronçonneur 18°	 	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
			0,8	4,0	450L0,8	✓	✓
1,0	4,0	450L1,0	✓	✓			
1,2	5,0	450L1,2	✓	✓			
1,5	5,0	450L1,5	✓	✓			
1,8	5,0	450L1,8	✓	✓			
2,0	5,0	450L2,0	✓	✓			

454L	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	 	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
			1,0	4,0	454L1,0	✓	✓
1,2	5,0	454L1,2	✓	✓			
1,5	5,0	454L1,5	✓	✓			
1,8	5,0	454L1,8	✓	✓			
2,0	5,0	454L2,0	✓	✓			



Back turning
 Drehen hinten
 Tournage arrière


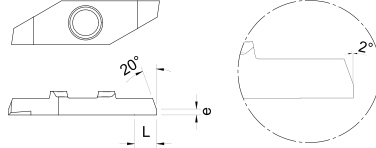
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

460LP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,4	2,0	460LP0,4	✓	
		0,5	2,0	460LP0,5	✓	
		0,6	2,0	460LP0,6	✓	
		0,8	2,0	460LP0,8	✓	
		1,0	2,0	460LP1,0	✓	✓
		1,2	3,0	460LP1,2	✓	
		1,5	3,0	460LP1,5	✓	
2,0	4,0	460LP2,0	✓			
461L	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,7	1,5	461L0,7		✓
		1,0	1,7	461L1,0	✓	✓
		1,2	2,0	461L1,2	✓	✓
		1,5	3,0	461L1,5	✓	
		2,0	3,5	461L2,0	✓	
461L - r	Back turning insert with «parisian cut» and radii Drehplatte hinten mit «Pariserschliff» und Radien Tourneur arrière avec «coupe parisienne» et rayons	e	L	r	Article nr. Artikel Nr. N° Article	BI40
		1,0	1,7	0,1	461L1,0 - r 0,1 -	✓
		1,2	2,0	0,1	461L1,2 - r 0,1 -	✓
		1,3	2,5	0,1	461L1,3 - r 0,1 -	✓
		1,5	3,0	0,1	461L1,5 - r 0,1 -	✓
		1,6	3,0	0,1	461L1,6 - r 0,1 -	✓
463L	Back turning insert with chip breaker Drehplatte hinten mit Spanbrecher Tourneur arrière avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,5	4,0	463L0,5	✓	✓



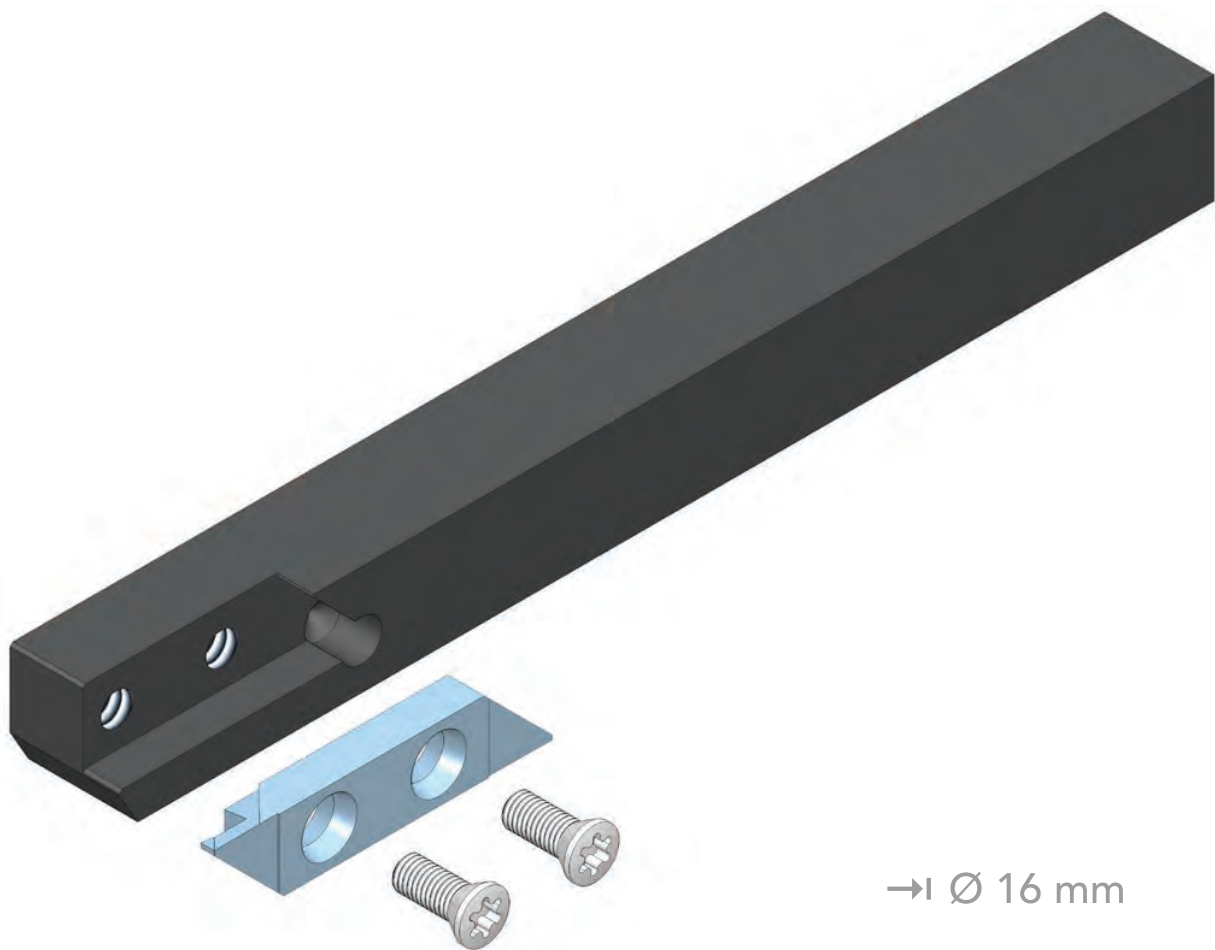
Front turning
Drehen vorne
Tournage avant

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

464L	Front turning insert Drehplatte vorne Tourneur avant	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	5,0	464L	✓	✓



700 line




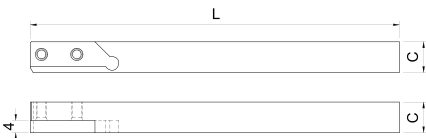
Coating of inserts


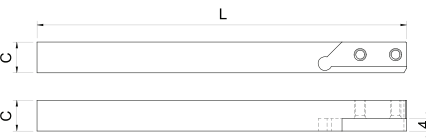
Beschichtung der Wendepplatten


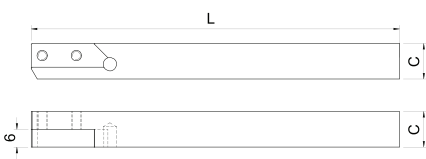
Revêtement des plaquettes


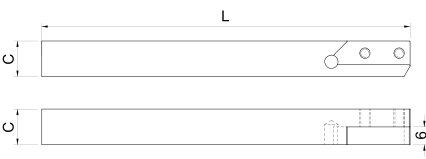
✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible


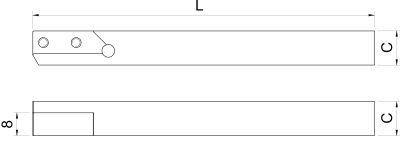

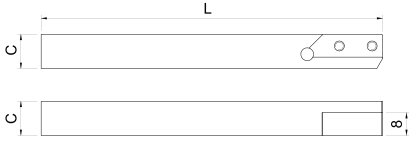




Designation Bezeichnung Désignation	Description Beschreibung Description
K20	<p>Without coating | K20 carbide</p> <p>Ohne Beschichtung | K20 Hartmetall</p> <p>Sans revêtement | Carbure K20</p>
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.
TiN	<p>TiN</p> <ul style="list-style-type: none"> • Universal coating. <p>TiN</p> <ul style="list-style-type: none"> • Universalbeschichtung. <p>TiN</p> <ul style="list-style-type: none"> • Revêtement universel.

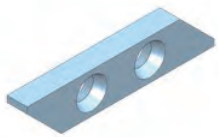
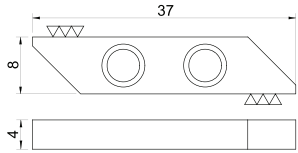
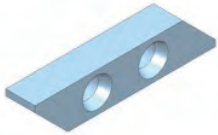
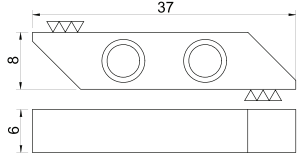
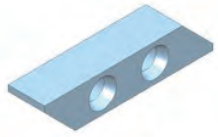
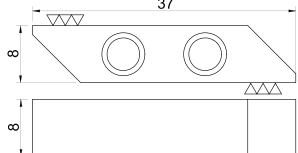
100BH3-1xxR	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	100BH3-110R
		12 x 12	120	100BH3-112R
		14 x 14	150	100BH3-114R
		16 x 16	120	100BH3-116R
		20 x 20	120	100BH3-120R
		25 x 25	100	100BH3-125R

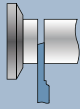
100BH3-1xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	100BH3-110L
		12 x 12	120	100BH3-112L
		14 x 14	150	100BH3-114L
		16 x 16	120	100BH3-116L
		20 x 20	120	100BH3-120L
		25 x 25	100	100BH3-125L

100BH3-1xxR-6	Right tool holder for 6 mm inserts Werkzeughalter rechts für 6 mm Wendeplatten Porte-outil à droite pour plaquettes 6 mm	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	100BH3-110R-6
		12 x 12	120	100BH3-112R-6
		16 x 16	120	100BH3-116R-6
		20 x 20	120	100BH3-120R-6
		<i>Use only with 715R/L-6 inserts Verwendung nur mit 715R/L-6 Wendeplatten Utilisation uniquement avec les plaquettes 715R/L-6</i>		

100BH3-1xxL-6	Left tool holder for 6 mm inserts Werkzeughalter links für 6 mm Wendeplatten Porte-outil à gauche pour plaquettes 6 mm	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		12 x 12	120	100BH3-112L-6
		16 x 16	120	100BH3-116L-6
		20 x 20	120	100BH3-120L-6
		25 x 25	120	100BH3-125L-6
		<i>Use only with 715R/L-6 inserts Verwendung nur mit 715R/L-6 Wendeplatten Utilisation uniquement avec les plaquettes 715R/L-6</i>		

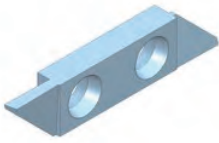
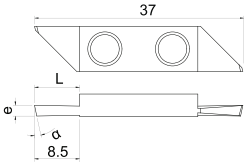
100BH3-1xxR-8	Right tool holder for 8 mm inserts Werkzeughalter rechts für 8 mm Wendeplatten Porte-outil à droite pour plaquettes 8 mm	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		12 x 12 16 x 16 20 x 20	120 120 120	100BH3-112R-8 100BH3-116R-8 100BH3-120R-8
<i>Use only with 715R/L-8 inserts</i> <i>Verwendung nur mit 715R/L-8 Wendeplatten</i> <i>Utilisation uniquement avec les plaquettes 715R/L-8</i>				
100BH3-1xxL-8	Left tool holder for 8 mm inserts Werkzeughalter links für 8 mm Wendeplatten Porte-outil à gauche pour plaquettes 8 mm	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		12 x 12 16 x 16	120 120	100BH3-112L-8 100BH3-116L-8
<i>Use only with 715R/L-8 inserts</i> <i>Verwendung nur mit 715R/L-8 Wendeplatten</i> <i>Utilisation uniquement avec les plaquettes 715R/L-8</i>				
Cylindrical turning tool holders for counter-operation Zylindrische Drehwerkzeughalter zur Rückseitenbearbeitung Porte-outils de tournage cylindriques pour contre-opération				
	<i>See the «Cylindrical turning tool holders» documentation for further information.</i> <i>Siehe die «Zylindrische Drehwerkzeughalter» Dokumentation für weitere Informationen.</i> <i>Voir la documentation «Porte-outils de tournage cylindriques» pour plus d'informations.</i>			
100-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article		
	Torx 15	100-1		
100-2	Screw for standard tool holders 100BH3-1xxR and 100BH3-1xxL Schraube für standard Werkzeughalter 100BH3-1xxR und 100BH3-1xxL Vis pour porte-outil standard 100BH3-1xxR et 100BH3-1xxL	Article nr. Artikel Nr. N° Article		
	M3,5 x 9	100-2		
001-11	Screw for tool holders 100BH3-1xxR-6, 100BH3-1xxL-6, 100BH3-1xxR-8 and 100BH3-1xxL-8 Schraube für Werkzeughalter 100BH3-1xxR-6, 100BH3-1xxL-6, 100BH3-1xxR-8 und 100BH3-1xxL-8 Vis pour porte-outils 100BH3-1xxR-6, 100BH3-1xxL-6, 100BH3-1xxR-8 et 100BH3-1xxL-8	Article nr. Artikel Nr. N° Article		
	M3,5 x 11,5	001-11		

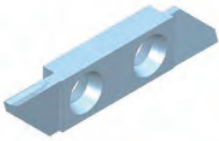
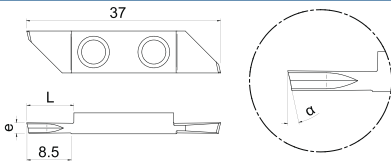
		Blank Rohling Ebauche	L/R : Left or right machining L/R : Linke oder rechte Bearbeitung L/R : Usinage à gauche ou à droite
715R/L 4 mm	Standard blank insert 4 mm (left and right) Standard Rohling 4 mm (links und rechts) Plaquette ébauche standard 4 mm (gauche et droite)	Article nr. Artikel Nr. N° Article	K20
		715R/L	✓
		Use with 100BH3-1xxL or 100BH3-1xxR tool holders Verwendung mit 100BH3-1xxL oder 100BH3-1xxR W.-halter Utilisation avec les porte-outils 100BH3-1xxL ou 100BH3-1xxR	
715R/L-6 6 mm	Blank insert 6 mm (left and right) Rohling 6 mm (links und rechts) Plaquette ébauche 6 mm (gauche et droite)	Article nr. Artikel Nr. N° Article	K20
		715R/L-6	✓
		Use with 100BH3-1xxL-6 or 100BH3-1xxR-6 tool holders Verwendung mit 100BH3-1xxL-6 oder 100BH3-1xxR-6 W.-halter Utilisation avec les porte-outils 100BH3-1xxL-6 ou 100BH3-1xxR-6	
715R/L-8 8 mm	Blank insert 8 mm (left and right) Rohling 8 mm (links und rechts) Plaquette ébauche 8 mm (gauche et droite)	Article nr. Artikel Nr. N° Article	K20
		715R/L-8	✓
		Use with 100BH3-1xxL-8 or 100BH3-1xxR-8 tool holders Verwendung mit 100BH3-1xxL-8 oder 100BH3-1xxR-8 W.-halter Utilisation avec les porte-outils 100BH3-1xxL-8 ou 100BH3-1xxR-8	

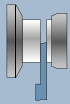


Guide bush cut off \varnothing 16 mm
Abstechen an der Führungsbüchse \varnothing 16 mm
Tronçonnage côté canon \varnothing 16 mm

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

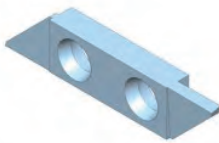
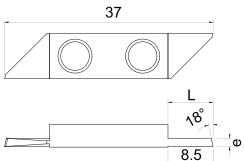
718Ra	Cutting insert Abstechplatte Tronçonneur	e	L	α	Article nr. Artikel Nr. N° Article	BI90	TIN
		1,0	7,0	18°	718Ra1,0	✓	✓
		1,2	7,0	18°	718Ra1,2	✓	✓
		1,5	8,0	18°	718Ra1,5	✓	✓
		1,8	8,0	18°	718Ra1,8	✓	✓
		2,0	8,0	12°	718Ra2,0	✓	✓
		2,5	8,0	12°	718Ra2,5	✓	✓
		3,0	8,0	12°	718Ra3,0	✓	✓

718RRC	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	α	Article nr. Artikel Nr. N° Article	BI90	TIN
		1,5	7,0	18°	718RRC1,5	✓	✓
		2,0	9,0	12°	718RRC2,0	✓	✓
		2,5	9,0	12°	718RRC2,5	✓	✓
		3,0	9,0	12°	718RRC3,0	✓	✓

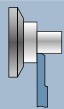


Sub spindle cut off \varnothing 16 mm
Abstechen an der Abgreifzange \varnothing 16 mm
Tronçonnage côté prise de pièce \varnothing 16 mm

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

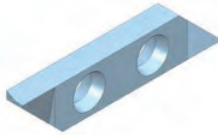
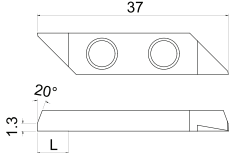
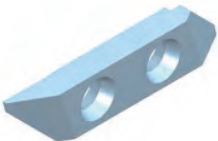
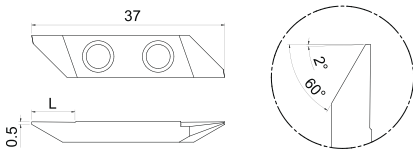
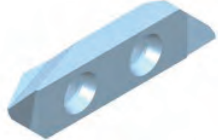
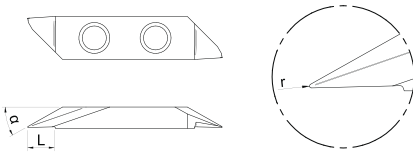
718La-op	Opposite cutting insert 18° Umgekehrte Abstechplatte 18° Tronçonneur inversé 18°	e	L	Article nr. Artikel Nr. N° Article	BI90	TIN
		1,0	6,0	718La-op-1,0 - 18° -	✓	
		1,2	7,0	718La-op-1,2 - 18° -	✓	✓
		1,5	8,0	718La-op-1,5 - 18° -	✓	✓
		1,8	8,0	718La-op-1,8 - 18° -	✓	✓
		2,0	8,0	718La-op-2,0 - 18° -	✓	✓
		2,5	8,0	718La-op-2,5 - 18° -	✓	✓
		3,0	8,0	718La-op-3,0 - 18° -	✓	✓

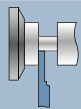
Use with 100BH3-1xxL tool holders
Verwendung mit 100BH3-1xxL Werkzeughalter
Utilisation avec les porte-outils 100BH3-1xxL



Front turning
 Drehen vorne
 Tournage avant

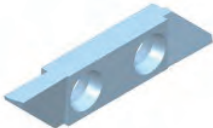
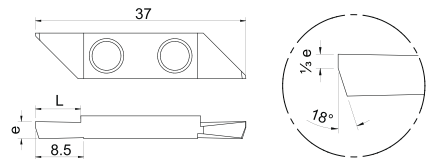
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

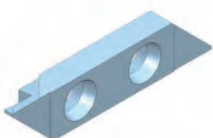
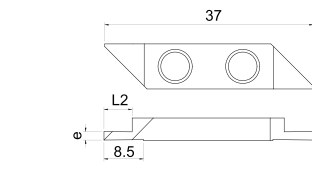
716Ra	Front turning insert Drehplatte vorne Tourneur avant	L	Article nr. Artikel Nr. N° Article	BI90	TIN	
		8,5	716Ra	✓	✓	
716Ra0,5	Front turning insert Drehplatte vorne Tourneur avant	L	Article nr. Artikel Nr. N° Article	BI90	TIN	
		8,5	716Ra0,5	✓	✓	
767R - 29° - r	Front turning insert 29° with chip breaker and radius Drehplatte vorne 29° mit Spanbrecher und Radius Tourneur avant 29° avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article	BI90
		6,5	29°	0,08	767R - 29° - r 0,08 -	✓
		6,5	29°	0,15	767R - 29° - r 0,15 -	✓

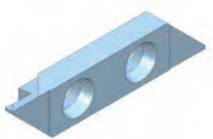
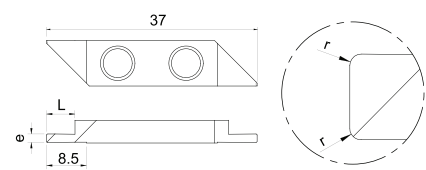


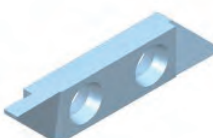
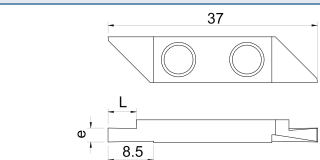
Back turning
Drehen hinten
Tournage arrière

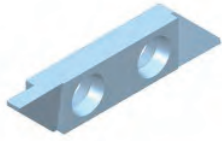
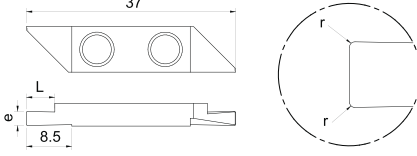
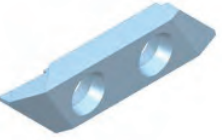
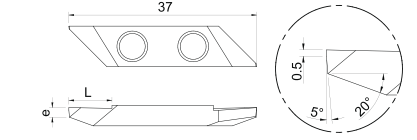
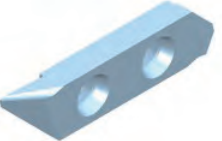
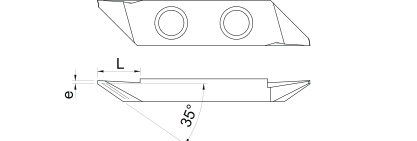

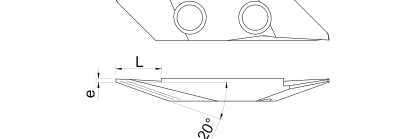

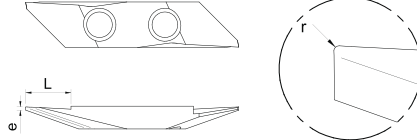
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

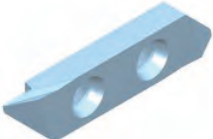
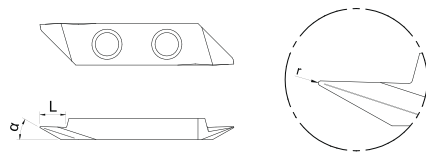
717Ra	Back turning Hinten Drehplatte Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article	B190
		1,0	5,0	717Ra1,0	✓
		1,5	5,0	717Ra1,5	✓
		2,0	6,0	717Ra2,0	✓
		2,5	8,0	717Ra2,5	✓
		3,0	8,0	717Ra3,0	✓

717RaX	Back turning insert with «parisian cut» Hinten Drehplatte mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	B190	T1N
		0,5	2,0	717RaX0,5	✓	✓
		0,8	2,0	717RaX0,8	✓	✓
		1,0	3,0	717RaX1,0	✓	✓
		1,5	4,0	717RaX1,5	✓	✓
		2,0	5,0	717RaX2,0	✓	✓
		2,5	5,0	717RaX2,5	✓	✓
		3,0	6,0	717RaX3,0	✓	✓
		3,9	6,0	717RaX3,9	✓	✓

717RaX - r	Back turning insert with «parisian cut» and radii Hinten Drehplatte mit «Pariserschliff» und Radius Tourneur arrière avec «coupe parisienne» et rayons	e	L	r	Article nr. Artikel Nr. N° Article	B190	T1N
		1,0	3,0	0,1	717RaX1,0 - r 0,1 -	✓	✓
		1,0	3,0	0,2	717RaX1,0 - r 0,2 -	✓	✓
		1,5	4,0	0,1	717RaX1,5 - r 0,1 -	✓	✓
		1,5	4,0	0,2	717RaX1,5 - r 0,2 -	✓	✓
		2,0	5,0	0,1	717RaX2,0 - r 0,1 -	✓	✓
		2,0	5,0	0,2	717RaX2,0 - r 0,2 -	✓	✓
		2,0	5,0	0,4	717RaX2,0 - r 0,4	✓	✓
		2,5	5,0	0,1	717RaX2,5 - r 0,1 -	✓	✓
		2,5	5,0	0,2	717RaX2,5 - r 0,2 -	✓	✓
		2,5	5,0	0,4	717RaX2,5 - r 0,4 -	✓	✓
		3,0	6,0	0,1	717RaX3,0 - r 0,1 -	✓	✓
		3,0	6,0	0,2	717RaX3,0 - r 0,2 -	✓	✓
		3,0	6,0	0,4	717RaX3,0 - r 0,4 -	✓	✓

717RO	Back turning insert Hinten Drehplatte Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article	B190	T1N
		1,0	4,0	717RO1,0	✓	✓
		1,5	4,0	717RO1,5	✓	✓
		2,0	5,0	717RO2,0	✓	✓
		2,5	5,0	717RO2,5	✓	✓
		3,0	6,0	717RO3,0	✓	✓

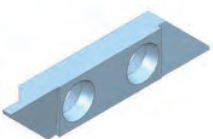
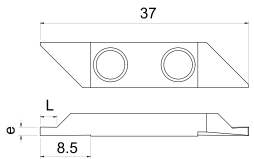
717RO - r	Back turning insert with radii Hinten Drehplatte mit Radien Tourneur arrière avec rayons	e L r	Article nr. Artikel Nr. N° Article	BI90 TIN
		1,0 4,0 0,1	717RO1,0 - r 0,1	✓ ✓
		1,5 4,0 0,1	717RO1,5 - r 0,1	✓ ✓
		1,5 4,0 0,2	717RO1,5 - r 0,2	✓ ✓
		2,0 5,0 0,1	717RO2,0 - r 0,1	✓ ✓
		2,0 5,0 0,2	717RO2,0 - r 0,2	✓ ✓
		2,5 5,0 0,1	717RO2,5 - r 0,1	✓ ✓
		2,5 5,0 0,2	717RO2,5 - r 0,2	✓ ✓
		3,0 6,0 0,2	717RO3,0 - r 0,2	✓ ✓
719RaX	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e L	Article nr. Artikel Nr. N° Article	BI90 TIN
		1,9 8,5	719RaX	✓ ✓
763R	Back turning insert 35° with chip roller Drehplatte hinten 35° mit Spanroller Tourneur arrière 35° avec roule-copeau	e L	Article nr. Artikel Nr. N° Article	BI90
		0,6 7,5	763R0,6	✓
763Rb	Back turning insert 20° with chip roller Drehplatte hinten 20° mit Spanroller Tourneur arrière 20° avec roule-copeau	e L	Article nr. Artikel Nr. N° Article	BI90
		0,6 7,5	763Rb0,6 - 20° -	✓
763Rb - r	Back turning insert 20° with chip roller and radius Drehplatte hinten 20° mit Spanroller und Radius Tourneur arrière 20° avec roule-copeau et rayon	e L r	Article nr. Artikel Nr. N° Article	BI90
		0,6 7,5 0,05	763Rb0,6 - 20° - r 0,05	✓

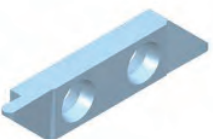
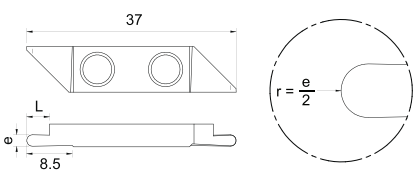
763R - 29° - r	Back turning insert 29° with chip breaker and radius Drehplatte hinten 29° mit Spanbrecher und Radius Tourneur arrière 29° avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article	BI90
		6,5	29°	0,08	763R - 29° - r 0,08 -	✓
		6,5	29°	0,15	763R - 29° - r 0,15 -	✓



Grooving
Einstecken
Rainurage

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

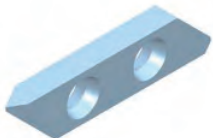
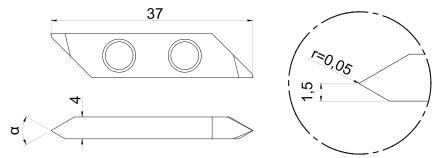
752R	Grooving insert Einsteckplatte Plaquette de rainurage	e	L	Article nr. Artikel Nr. N° Article	BI90	TIN
		0,3	1,5	752R0,3	✓	
		0,4	1,5	752R0,4	✓	
		0,45	2,0	752R0,45	✓	
		0,5	2,0	752R0,5	✓	
		0,55	2,0	752R0,55	✓	
		0,6	2,0	752R0,6	✓	
		0,65	2,0	752R0,65	✓	✓
		0,7	2,0	752R0,7	✓	
		0,75	2,0	752R0,75	✓	
		0,8	2,0	752R0,8	✓	
		0,9	2,5	752R0,9	✓	
		0,95	2,5	752R0,95	✓	
		1,0	3,5	752R1,0	✓	
		1,1	3,5	752R1,1	✓	
		1,2	3,5	752R1,2	✓	
		1,3	3,5	752R1,3	✓	
1,5	4,0	752R1,5	✓			
2,0	4,0	752R2,0	✓			

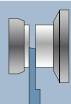
771R	Grooving insert with radius Einsteckplatte mit Radius Plaquette de rainurage avec rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
		0,5	2,0	0,25	771R0,5 - r 0,25	✓
		0,7	3,0	0,35	771R0,7 - r 0,35	✓
		0,8	3,0	0,4	771R0,8 - r 0,4	✓
		1,0	4,0	0,5	771R1,0 - r 0,5	✓
		2,0	6,0	1,0	771R2,0 - r 1,0	✓



Threading
Gewindestrehlen
Filetage

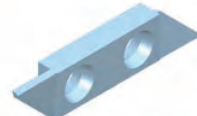
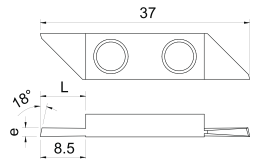
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

753Ra	Threading Gewindestrehlen Filetage	α	Article nr. Artikel Nr. N° Article	BI90	TIN
		55°	753Ra - 55° -	✓	✓
		60°	753Ra - 60° -	✓	
		90°	753Ra - 90° -	✓	



Sub spindle cut off \varnothing 16 mm
Abstechen an der Abgreifzange \varnothing 16 mm
Tronçonnage côte prise de pièce \varnothing 16 mm

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

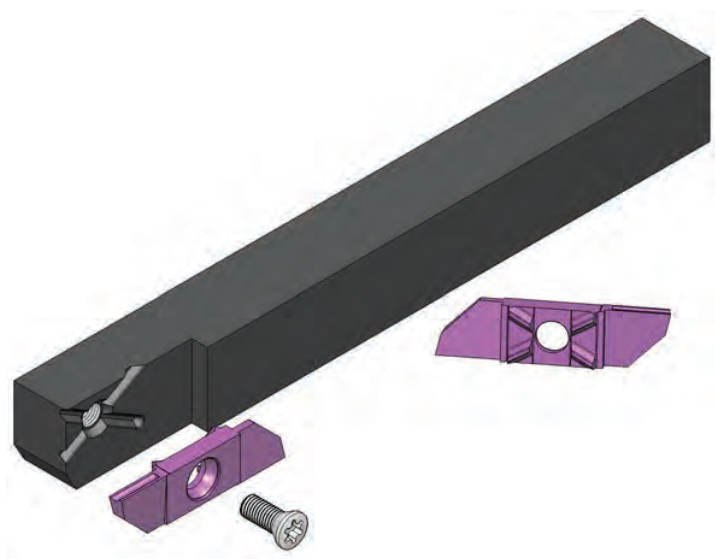
718Ra-op	Opposite cutting insert 18° Umgekehrte Abstechplatte 18° Tronçonneur inversé 18°	e	L	Article nr. Artikel Nr. N° Article	BI90	TIN
		1,5	8,0	718Ra-op-1,5	✓	✓
		2,0	8,0	718Ra-op-2,0	✓	✓
		2,5	8,0	718Ra-op-2,5	✓	✓

Use with 100BH3-1xxR tool holders
Verwendung mit 100BH3-1xxR Werkzeughalter
Utilisation avec les porte-outils 100BH3-1xxR

Other geometries available on request
Andere Geometrien auf Anfrage erhältlich
Autres géométries disponibles sur demande



800 line



800

Inserts for 10x10, 12x12, 16x16 mm section tool holders.

Wendeplatten für Werkzeughalter mit Querschnitt 10x10, 12x12, 16x16 mm.

Plaquettes pour porte-outils de section 10x10, 12x12, 16x16 mm.

→ Ø 18 mm

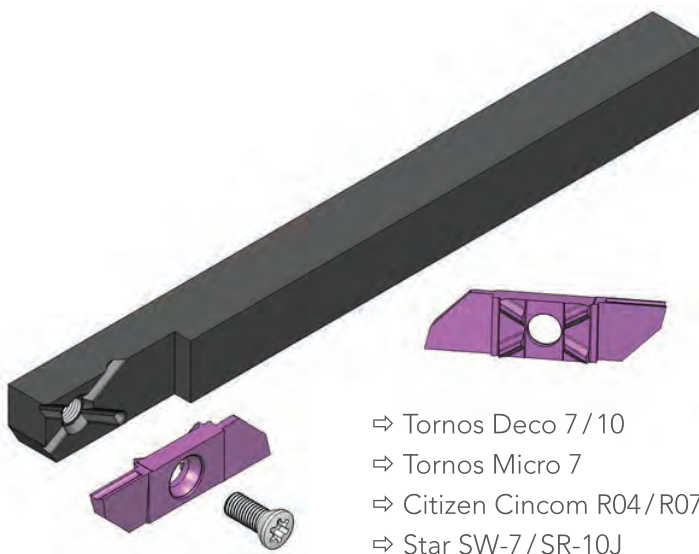
800-8

Cut off inserts (height 7,9 mm) only for 8x8 mm section tool holders.

Abstechplatten (Höhe 7,9 mm) nur für Werkzeughalter mit Querschnitt 8x8 mm.

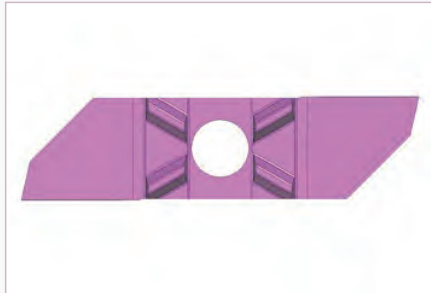
Plaquettes de tronçonnage (hauteur 7,9 mm) uniquement pour porte-outils de section 8x8 mm.

→ Ø 12 mm



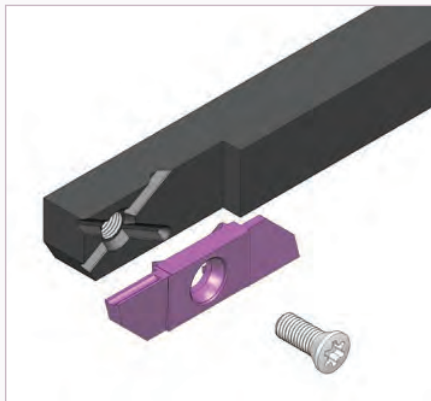
- ⇒ Tornos Deco 7 / 10
- ⇒ Tornos Micro 7
- ⇒ Citizen Cincom R04 / R07
- ⇒ Star SW-7 / SR-10J

Presentation of 800 line
Vorstellung der 800 line
Présentation de la 800 line



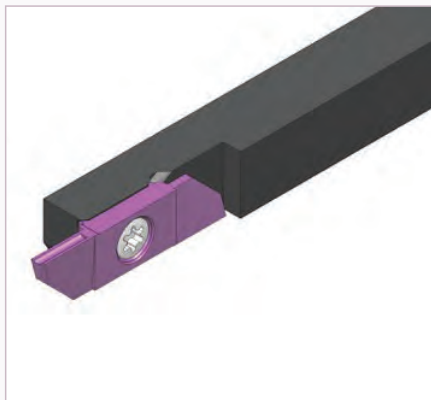
Advantages of 800 line

- X-Centering technology :
 - Repetitiveness of the cutting edge $\pm 0,01$ mm.
 - Positioning in all axes.
 - Insert turning without having to remove the screw.
 - The screw is free of all radial stress.
- 2 cutting edges available.



Vorteile der 800 line

- X-Centering Technologie.
 - Wiederholgenauigkeit der Schneidkante $\pm 0,01$ mm.
 - Positionierung in allen Achsen.
 - Wenden der Wendeplatte ohne Entfernen der Schraube.
 - Keine radialen Spannungen.
- 2 verfügbare Schneidkanten.



Avantages de la ligne 800 line

- Technologie X-Centering.
 - Répétitivité de l'arête de coupe $\pm 0,01$ mm.
 - Positionnement dans tous les axes.
 - Retournement de la plaquette sans enlever la vis.
 - La vis est libre de toute tension radiale.
- 2 arêtes de coupe.

Coating of inserts

Beschichtung der Wendepplatten

Revêtement des plaquettes

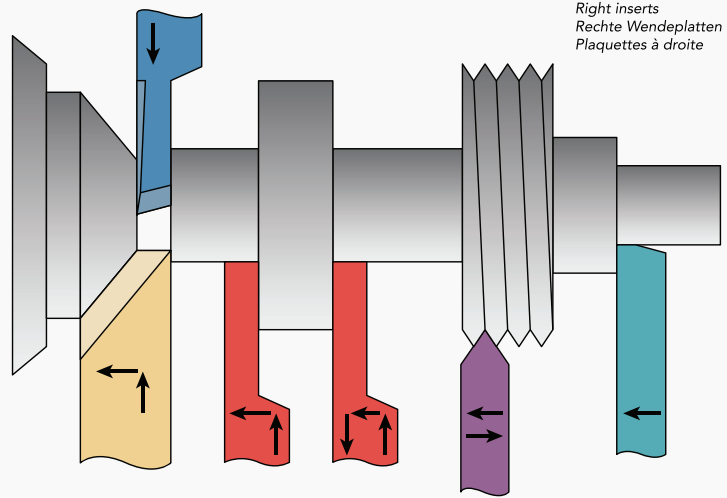
✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible

Designation Bezeichnung Désignation	Description Beschreibung Description
K20	<p>Without coating | K20 carbide</p> <p>Ohne Beschichtung | K20 Hartmetall</p> <p>Sans revêtement | Carbure K20</p>
BI40	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>BaseAlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.

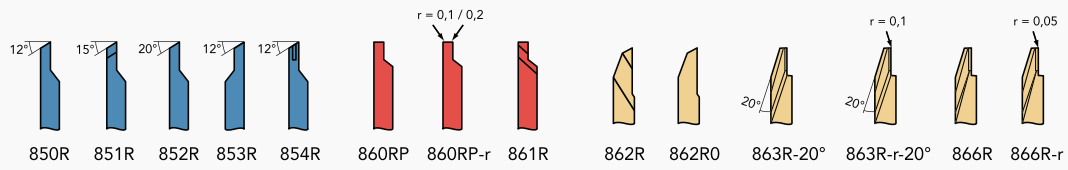
Designation Bezeichnung Désignation	Description Beschreibung Description
TIN	TiN <ul style="list-style-type: none">• Universal coating. TiN <ul style="list-style-type: none">• Universalbeschichtung. TiN <ul style="list-style-type: none">• Revêtement universel.

Insert 800 : field of application
 Wendeplatten 800 : Anwendungsbereiche
 Plaquettes 800 : champ d'application

Maximum cutting-off
 Maximaler Abstechedurchmesser
 Tronçonnage maximum
 Ø 18 mm



Right inserts
 Rechte Wendeplatten
 Plaquettes à droite



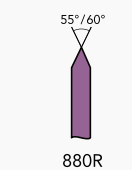
Cutting off
 Abstechen
 Tronçonnage

Plunging-Turning
 Einstechen-Drehen
 Fonçage-Tournage


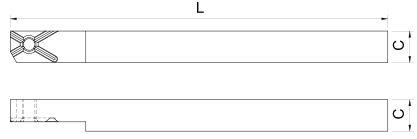
Plunging-Turning
 Einstechen-Drehen
 Fonçage-Tournage


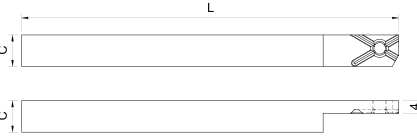



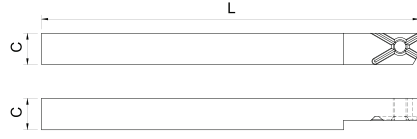
864R 865R
 Turning
 Drehen
 Tournage




880R
 Threading
 Gewindestrehlen
 Filetage


8xxR	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	810R
		12 x 12	120	812R
		16 x 16	120	816R
		20 x 20	100	820R
		9,52 x 9,52 (3/8")	120	8952R
		12,7 x 12,7 (1/2")	120	8127R

8xxR4	Right «Pick-up» tool holder «Pick-up» Werkzeughalter rechts Porte-outil «Pick-up» à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	810R4
		12 x 12	120	812R4
		16 x 16	120	816R4
		9,52 x 9,52 (3/8")	120	8952R4
		12,7 x 12,7 (1/2")	120	8127R4
Use with 853R inserts Verwendung mit 853R Wendepplatten Utilisation avec les plaquettes 853R				

8xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	810L
		12 x 12	120	812L
		16 x 16	120	816L
		20 x 20	100	820L
		12,7 x 12,7 (1/2")	120	8127L


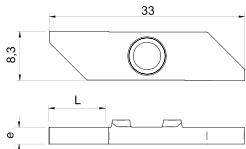
Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage intégré				
	See the «Tool holders with internal coolant» documentation for further information. Siehe die «Werkzeughalter mit Innenkühlung» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils avec arrosage intégré» pour plus d'informations.			

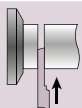
100-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 15	100-1

100-4	Screw for standard tool holder Schraube für Standard Werkzeughalter Vis pour porte-outil standard	Article nr. Artikel Nr. N° Article
	M4,5 x 10,5	100-4

Blank
 Rohling
 Ebauche

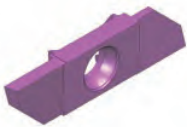
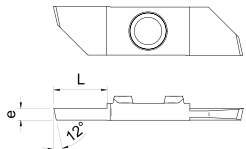
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


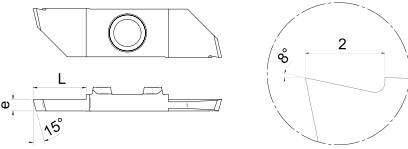
840R	Blank insert Rohling Wendeplatte Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	K20	BI40	BI90
		1,7	5,0	840R1,7	✓	✓	✓
		2,2	9,5	840R2,2	✓	✓	✓
		2,8	—	840R2,8	✓	✓	✓


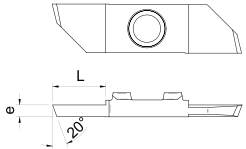



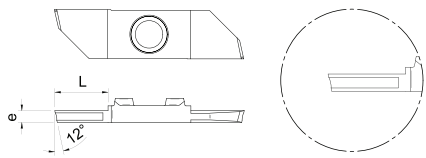
Guide bush cut off \varnothing 18 mm
 Abstechen an der Führungsbüchse \varnothing 18 mm
 Tronçonnage côté canon \varnothing 18 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

850R	Cutting insert 12° Abstechplatte 12° Tronçonneur 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	5,0	850R0,8	✓	✓
		1,0	5,0	850R1,0	✓	✓
		1,2	6,0	850R1,2	✓	✓
		1,5	7,5	850R1,5	✓	✓
		1,8	7,5	850R1,8	✓	✓
		2,0	9,0	850R2,0	✓	✓
2,5	9,0	850R2,5	✓	✓		

851R	Cutting insert 15° with chip breaker Abstechplatte 15° mit Spanbrecher Tronçonneur 15° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,5	7,5	851R1,5	✓	✓
		2,0	9,0	851R2,0	✓	✓


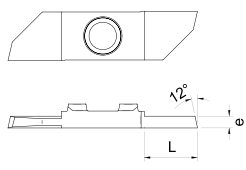
852R	Cutting insert 20° Abstechplatte 20° Tronçonneur 20°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	852R1,0	✓	✓
		1,2	6,0	852R1,2	✓	✓
		1,5	7,5	852R1,5	✓	✓
		2,0	9,0	852R2,0	✓	✓

854R	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	854R1,0	✓	✓
		1,2	6,0	854R1,2	✓	✓
		1,5	7,5	854R1,5	✓	✓
		2,0	10,0	854R2,0	✓	✓
		2,5	10,0	854R2,5	✓	✓



Sub spindle cut off \varnothing 18 mm
Abstechen an der Abgreifzange \varnothing 18 mm
Tronçonnage côte prise de pièce \varnothing 18 mm

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

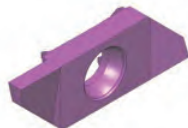
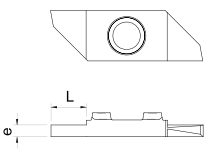
853R	Opposite cutting insert 12° Umgekehrte Abstechplatte 12° Tronçonneur inversé 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	853R1,0	✓	✓
		1,2	6,0	853R1,2	✓	✓
		1,5	7,5	853R1,5	✓	✓
		2,0	9,0	853R2,0	✓	✓
		2,5	9,0	853R2,5	✓	✓


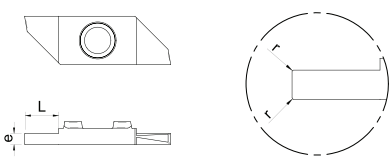
Use with 8xxL tool holders
Verwendung mit 8xxL. Werkzeughalter
Utilisation avec les porte-outils 8xxL

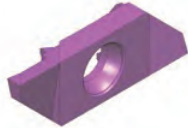
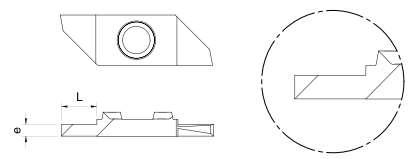



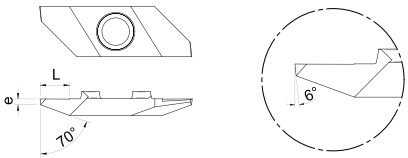
Back turning
Drehen hinten
Tournage arrière


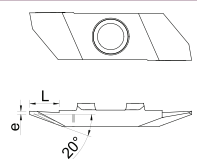
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite


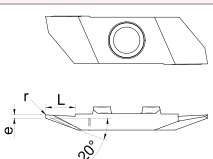
860RP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	3,0	860RP0,8	✓	✓
		1,0	4,0	860RP1,0	✓	✓
		1,2	4,0	860RP1,2	✓	✓
		1,5	5,0	860RP1,5	✓	✓
		2,0	5,0	860RP2,0	✓	✓
		2,5	5,0	860RP2,5	✓	✓


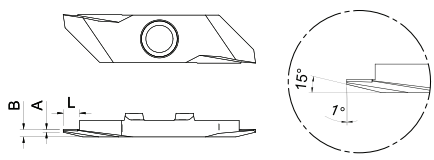
860RP - r	Back turning insert 0° with radii Drehplatte hinten 0° mit Radius Tourneur arrière 0° avec rayons	e	L	r	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,5	5	0,1	860RP1,5 - r 0,1 -	✓	✓
		1,5	5	0,2	860RP1,5 - r 0,2 -	✓	✓
		2,0	5	0,1	860RP2,0 - r 0,1 -	✓	✓
		2,0	5	0,2	860RP2,0 - r 0,2 -	✓	✓



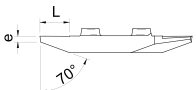
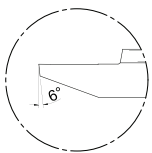
861R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
				1,0	4,0	861R1,0
		1,2	4,0	861R1,2	✓	✓
		1,5	4,0	861R1,5	✓	✓
		1,8	6,0	861R1,8	✓	✓
		2,0	6,0	861R2,0	✓	✓
		2,5	6,0	861R2,5	✓	✓



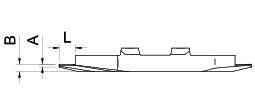
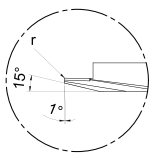
862R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
				0,5	5,0	862R0,5
		1,0	5,0	862R1,0	✓	✓

863R - 20°	Back turning insert 20° with chip roller Drehplatte hinten 20° mit Spanroller Tourneur arrière 20° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI90
				0,6	5,0

863R - r - 20°	Back turning insert 20° with chip roller and radius Drehplatte hinten 20° mit Spanroller und Radius Tourneur arrière 20° avec roule-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
				0,6	5,0	0,1	863R0,6 - r 0,1 - 20° -	✓

866R	Back turning insert with «W» chip roller Drehplatte hinten mit «W» Spanroller Tourneur arrière avec roule-copeau «W»	A	B	L	Article nr. Artikel Nr. N° Article	BI40	BI90	TIN
				0,5	1,3	2,5	866R2,5	✓

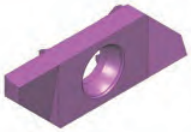

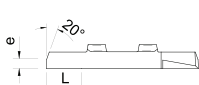
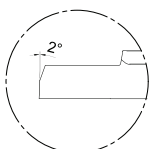
862RO	Back turning insert Drehplatte hinten Tourneur arrière	   	e	L	Article nr. Artikel Nr. N° Article	BI40
			0,5	5,0	862RO0,5	✓
1,0	5,0	862RO1,0	✓			

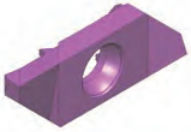

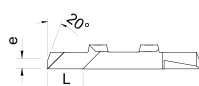
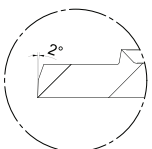
866R - r	Back turning insert with «W» chip roller and radius Drehplatte hinten mit «W» Spanroller und Radius Tourneur arrière avec roule-copeau «W» et rayon	   	A	B	L	r	Article nr. Artikel Nr. N° Article	BI40	TIN
			0,5	1,3	2,5	0,05	866R2,5 - r 0,05 -	✓	✓



Front turning
Drehen vorne
Tournage avant

R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite


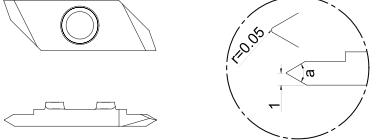
864R	Front turning insert Drehplatte vorne Tourneur avant	   	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
			1,5	6,0	864R	✓	✓

865R	Front turning insert with «parisian cut» Drehplatte vorne mit «Parisierschliff» Tourneur avant avec «coupe parisienne»	   	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
			1,5	6,0	865R	✓	✓




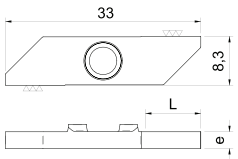
Threading
Gewindestrehlen
Filetage

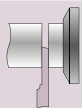
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

880R	Threading insert with partial profile Gewindeplatte mit Teilprofil Fileteur avec profil partiel	a	Article nr. Artikel Nr. N° Article	BI40	BI90
		55° 60°	880R - 55° - 880R - 60° -	✓ ✓	✓ ✓

Blank
 Rohling
 Ebauche


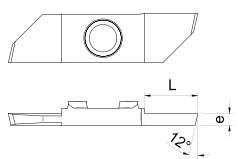
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche


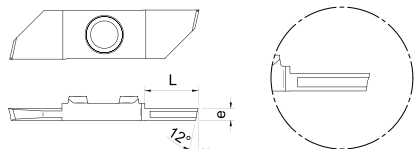
840L	Blank insert Rohling Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	K20	BI40	BI90
		1,7	5,0	840L1,7	✓	✓	✓
		2,2	9,5	840L2,2	✓	✓	✓
		2,8	—	840L2,8	✓	✓	✓

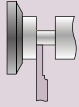


Guide bush cut off \varnothing 18 mm
 Abstechen an der Führungsbüchse \varnothing 18 mm
 Tronçonnage côté canon \varnothing 18 mm

L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche


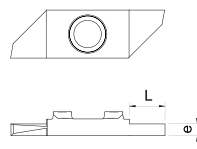

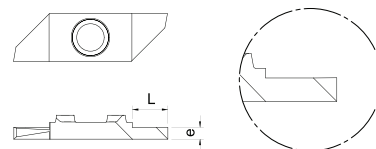
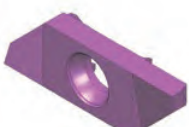
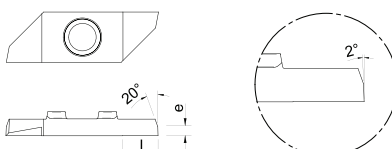

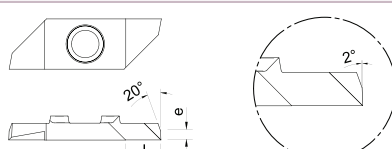
850L	Cutting insert 12° Abstechplatte 12° Tronçonneur 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	850L1,0	✓	✓
		1,2	6,0	850L1,2	✓	✓
		1,5	7,5	850L1,5	✓	✓
		2,0	9,0	850L2,0	✓	✓
		2,5	9,0	850L2,5	✓	✓

854L	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	854L1,0	✓	
		1,5	7,5	854L1,5	✓	✓
		2,0	10,0	854L2,0	✓	✓
		2,5	10,0	854L2,5	✓	✓



Back turning
 Drehen hinten
 Tournage arrière

L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

860LP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	
		1,0	4,0	860LP1,0	✓	
		1,5	5,0	860LP1,5	✓	
		2,0	5,0	860LP2,0	✓	
		2,5	5,0	860LP2,5	✓	
861L	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	
		1,5	4,0	861L1,5	✓	
		2,0	6,0	861L2,0	✓	
		2,5	6,0	861L2,5	✓	
864L	Back turning insert Drehplatte hinten Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,5	6,0	864L	✓	✓
865L	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	
		1,5	6,0	865L	✓	

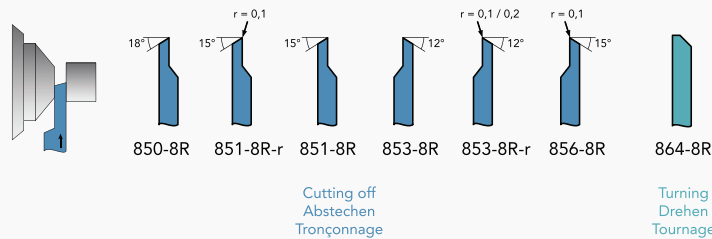
Inserts 800-8 : field of application

Wendeplatten 800-8 : Anwendungsbereiche

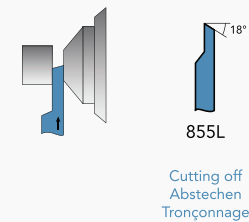
Plaquettes 800-8 : champ d'application

Maximum cutting-off
Maximaler Abstechdurchmesser
Tronçonnage maximum
Ø 12 mm

Right inserts
Rechte Wendeplatten
Plaquettes à droite



Left inserts
Linke Wendeplatten
Plaquettes à gauche



**Cutting of with 8x8 mm
tool holders !**

**Abstechen mit
Werkzeughalter 8x8 mm !**

**Tronçonnage avec des
porte-outils 8x8 mm !**

**Ideal for cutting on :
Ideal zum Abstechen auf :
Idéal pour tronçonnage sur :**

- Tornos Deco 7 / 10
- Tornos Micro 7
- Citizen Cincom R04 / R07
- Star SW-7
- Star SR-10J

**For cutting on cam
controlled machines.**

**Zum Abstechen auf
Kurvenautomaten.**

**Pour tronçonnage sur
machines à came.**

These inserts are 7,9 mm
high and only fit on 8x8 mm
tool holders.


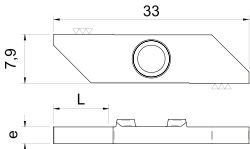
Diese Wendeplatten haben
eine Höhe von 7,9 mm und
können auf einem 8x8 mm
Halter aufgenommen
werden.

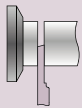
Ces plaquettes ont une
hauteur de 7,9 mm et se
montent uniquement sur
les porte-outils de section
8x8 mm.

808R	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	808R <i>Use with inserts 841R, 850-8 and 851-8R</i> <i>Verwendung mit Wendeplatten 841R, 850-8 und 851-8R</i> <i>Utilisation avec les plaquettes 841R, 850-8 et 851-8R</i>
808L	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	808L <i>Use with inserts 841L, 855L, 853-8R and 856-8R</i> <i>Verwendung mit Wendeplatten 841L, 855L, 853-8R und 856-8R</i> <i>Utilisation avec les plaquettes 841L, 855L, 853-8R et 856-8R</i>
808L3	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	90	808L3 <i>Use with inserts 850-8R</i> <i>Verwendung mit Wendeplatten 850-8R</i> <i>Utilisation avec les plaquettes 850-8R</i>
100-4c	Screw for 8x8 mm tool holder Schraube für 8x8 mm Werkzeughalter Vis pour porte-outil 8x8 mm	Article nr. Artikel Nr. N° Article		
	M4,5 x 7	100-4c		

Blank
 Rohling
 Ebauche


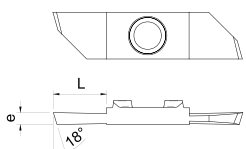
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


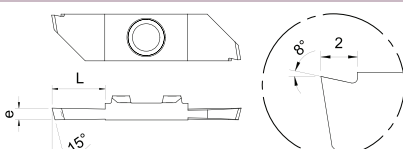
841R	Blank insert Rohling Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	K20	BI90
		2,2	9,5	841R2,2	✓	✓
		2,8	—	841R2,8	✓	✓


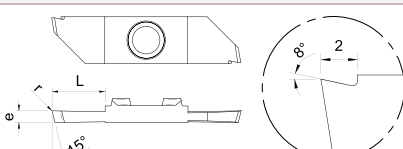


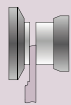
Guide bush cut off \varnothing 12 mm
 Abstechen an der Führungsbüchse \varnothing 12 mm
 Tronçonnage côté canon \varnothing 12 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

850-8R	Cutting insert 18° Abstechplatte 18° Tronçonneur 18°	e	L	Article nr. Artikel Nr. N° Article	BI90
		1,0	5,0	850-8R1,0	✓
		1,2	6,0	850-8R1,2	✓
		1,5	7,0	850-8R1,5	✓
		2,0	8,0	850-8R2,0	✓


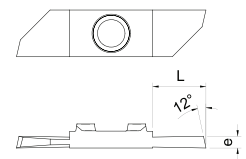
851-8R	Cutting insert 15° with chip breaker Abstechplatte 15° mit Spanbrecher Tronçonneur 15° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI90
		1,2	5,0	851-8R1,2	✓
		1,5	7,0	851-8R1,5	✓
		2,0	7,0	851-8R2,0	✓


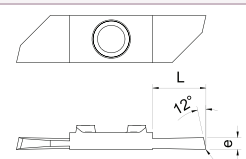
851-8R - r	Cutting insert 15° with chip breaker and radius Abstechplatte 15° mit Spanbrecher und Radius Tronçonneur 15° avec brise-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
		1,2	6,0	0,1	851-8R1,2	✓
		1,5	7,0	0,1	851-8R1,5	✓


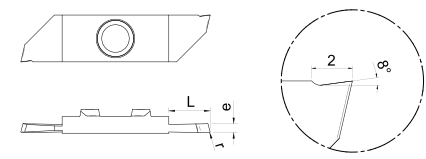


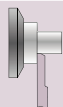
Sub spindle cut off \varnothing 12 mm
 Abstechen an der Abgreifzange \varnothing 12 mm
 Tronçonnage côte prise de pièce \varnothing 12 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

853-8R	Opposite cutting insert 12° Umgekehrte Abstechplatte 12° Tronçonneur inversé 12°	e	L	Article nr. Artikel Nr. N° Article	BI90
		1,2	6,0	853-8R1,2	✓
		1,5	7,0	853-8R1,5	✓
		2,0	8,0	853-8R2,0	✓
<p>Use with 808L tool holders Verwendung mit 808L Werkzeughalter Utilisation avec les porte-outils 808L</p>					


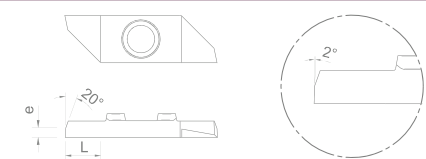
853-8R - r	Opposite cutting insert with radius Umgekehrte Abstechplatte mit Radius Tronçonneur inversé avec rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
		1,5	7,0	0,1	853-8R1,5 - r 0,1 -	✓
		1,5	7,0	0,2	853-8R1,5 - r 0,2 -	✓
		2,0	8,0	0,1	853-8R2,0 - r 0,1 -	✓
<p>Use with 808L tool holders Verwendung mit 808L Werkzeughalter Utilisation avec les porte-outils 808L</p>						

856-8R	Opposite cutting insert with chip breaker and radius Umgekehrte Abstechplatte mit Spanbrecher und Radius Tronçonneur inversé avec brise-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
		1,0	5,0	0,1	856-8R1,0 - r 0,1 -	✓
		1,2	5,0	0,1	856-8R1,2 - r 0,1 -	✓
		1,5	7,0	0,1	856-8R1,5 - r 0,1 -	✓
		2,0	7,0	0,1	856-8R2,0 - r 0,1 -	✓
		2,5	7,0	0,1	856-8R2,5 - r 0,1 -	✓
<p>Use with 808L tool holders Verwendung mit 808L Werkzeughalter Utilisation avec les porte-outils 808L</p>						




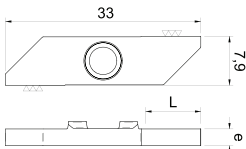
Front turning
 Drehen vorne
 Tournage avant

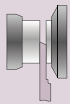
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

864-8R	Front turning insert Drehplatte vorne Tourneur avant	e	L	Article nr. Artikel Nr. N° Article	BI90
		1,5	6,0	864-8R	✓
<p>Use with 808R tool holders Verwendung mit 808R Werkzeughalter Utilisation avec les porte-outils 808R</p>					

Blank
Rohling
Ebauche


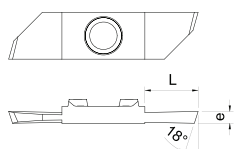
L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

841L	Blank insert Rohling Plaquette ébauche	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,7	5,0	841L1,7	✓	✓
		2,2	9,5	841L2,2	✓	✓
		2,8	—	841L2,8	✓	✓

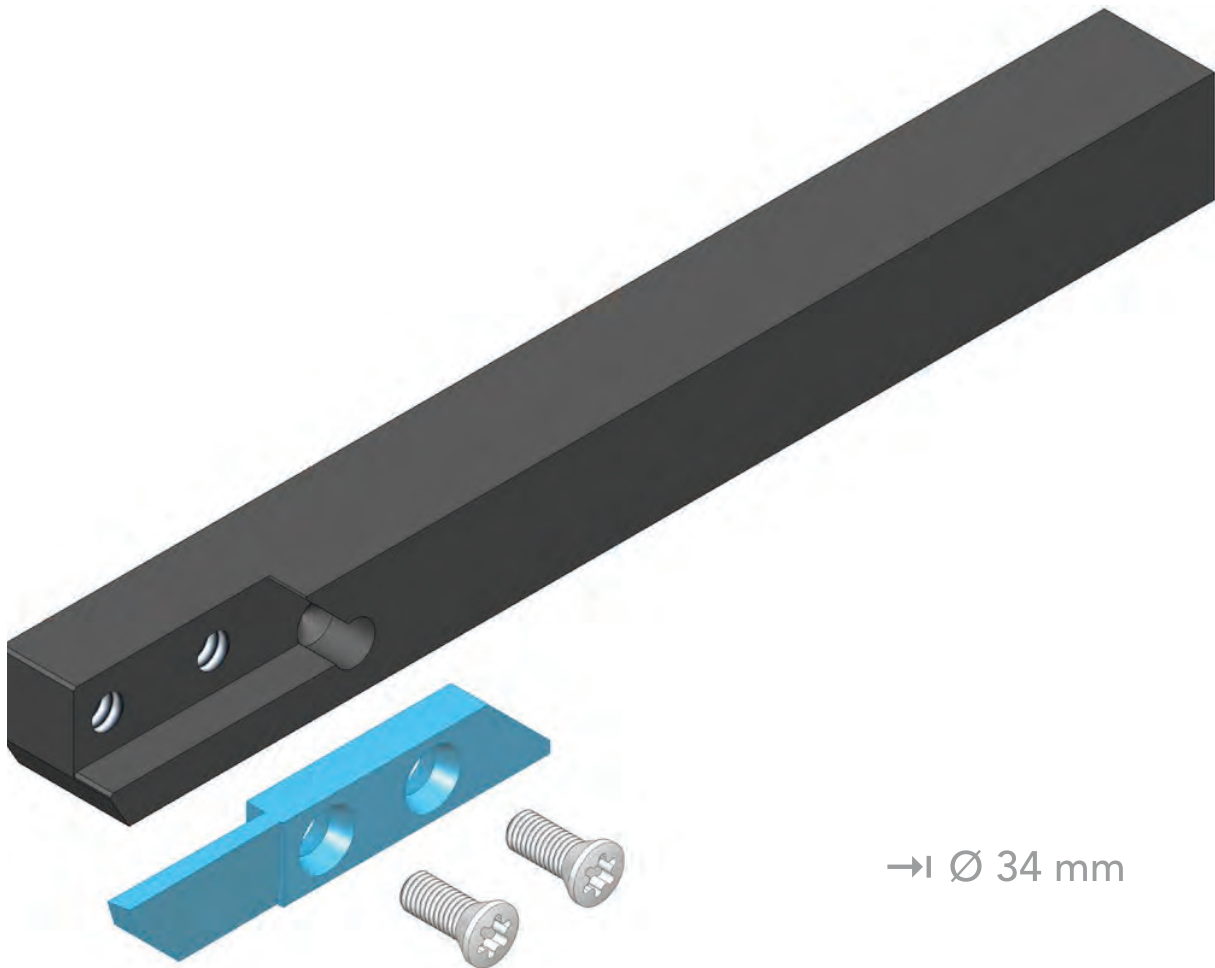


Guide bush cut off \varnothing 12 mm
Abstechen an der Führungsbüchse \varnothing 12 mm
Tronçonnage côté canon \varnothing 12 mm

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

855L	Cutting insert 18° Abstechplatte 18° Tronçonneur 18°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	6,0	855L1,0	✓	
		1,2	6,0	855L1,2	✓	✓
		1,5	7,5	855L1,5	✓	✓
		1,8	7,5	855L1,8	✓	✓
		2,0	9,0	855L2,0	✓	✓

900 line



→ | Ø 34 mm

Coating of inserts


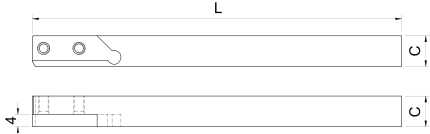
Beschichtung der Wendepplatten


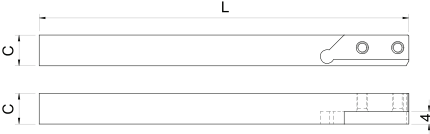
Revêtement des plaquettes


✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible


Designation Bezeichnung Désignation	Description Beschreibung Description
K10	<p>Without coating | K10 carbide</p> <p>Ohne Beschichtung | K10 Hartmetall</p> <p>Sans revêtement | Carbure K10</p>
B140	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.
B180	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Ultra-thin layer version of B190. • Perfect for small tools with sharp cutting edges. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Ultradünne Schicht der Version B190. • Perfekt für kleine Werkzeuge mit scharfen Schneidkanten. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Version du B190 avec couche ultra fine. • Parfait pour les petits outils avec des arêtes de coupe vives.

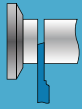
Designation Bezeichnung Désignation	Description Beschreibung Description
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.
TIN	<p>TiN</p> <ul style="list-style-type: none"> • Universal coating. <p>TiN</p> <ul style="list-style-type: none"> • Universalbeschichtung. <p>TiN</p> <ul style="list-style-type: none"> • Revêtement universel.

100BH3-1xxR	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	125	100BH3-110R
		12 x 12	125	100BH3-112R
		14 x 14	125	100BH3-114R
		16 x 16	125	100BH3-116R
		20 x 20	125	100BH3-120R
		25 x 25	100	100BH3-125R

100BH3-1xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	125	100BH3-110L
		12 x 12	125	100BH3-112L
		14 x 14	125	100BH3-114L
		16 x 16	125	100BH3-116L
		20 x 20	125	100BH3-120L
		25 x 25	100	100BH3-125L

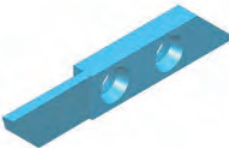
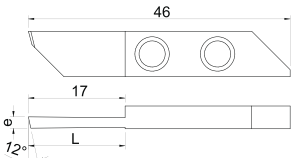
100-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 15	100-1

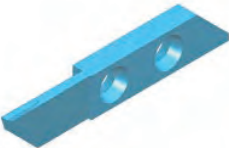
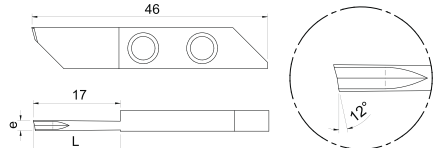
100-2	Screw for standard tool holders 100BH3-1xxR and 100BH3-1xxL Schraube für standard Werkzeughalter 100BH3-1xxR und 100BH3-1xxL Vis pour porte-outil standard 100BH3-1xxR et 100BH3-1xxL	Article nr. Artikel Nr. N° Article
	M3,5 x 9	100-2

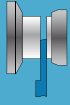


Guide bush cut off \varnothing 34 mm
 Abstechen an der Führungsbüchse \varnothing 34 mm
 Tronçonnage côté canon \varnothing 34 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

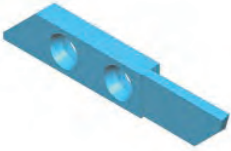
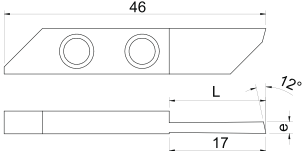
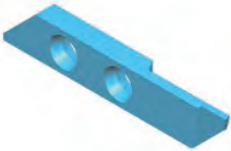
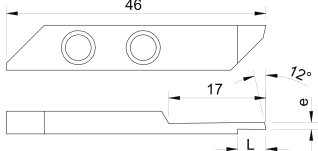
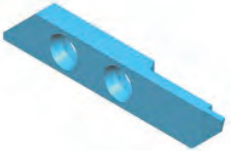
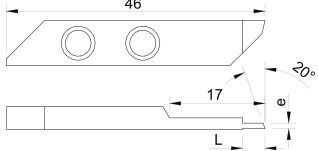
918R	Cutting insert 12° Abstechplatte 12° Tronçonneur 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	TIN
					✓	✓	✓
		2,0	17	918R2,0	✓	✓	✓
		2,5	17	918R2,5	✓	✓	✓
		3,0	17	918R3,0	✓	✓	✓

918Rc	Cutting insert 12° with chip roller Abstechplatte 12° mit Spanroller Tronçonneur 12° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	TIN
					✓	✓	✓
		2,0	17	918Rc2,0	✓	✓	✓
		2,5	17	918Rc2,5	✓	✓	✓
		3,0	17	918Rc3,0	✓	✓	✓
		3,5	17	918Rc3,5	✓	✓	✓



Sub spindle cut off \varnothing 34 mm
Abstechen an der Abgreifzange \varnothing 34 mm
Tronçonnage côte prise de pièce \varnothing 34 mm

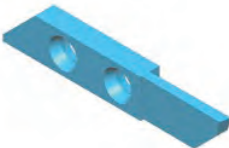
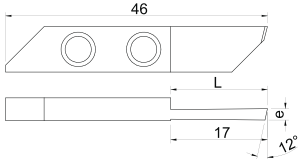
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

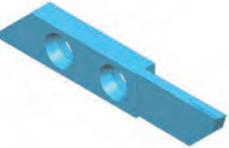
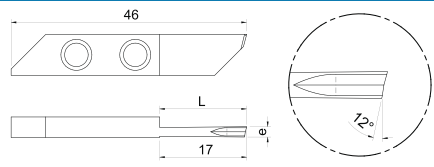
918L-op	Opposite cutting insert 12° Umgekehrte Abstechplatte 12° Tronçonneur inversé 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	TIN
		2,0	17	918L-op-2,0	✓	✓	✓
		2,5	17	918L-op-2,5	✓	✓	✓
		3,0	17	918L-op-3,0	✓	✓	✓
<p>Use with 100BH3-1xxL tool holders Verwendung mit 100BH3-1xxL Werkzeughalter Utilisation avec les porte-outils 100BH3-1xxL</p>							
953R	Opposite cutting insert 12° Umgekehrte Abstechplatte 12° Tronçonneur inversé 12°	e	L	Article nr. Artikel Nr. N° Article	BI80		
		1,0	5	953R1,0	✓		
		1,2	5	953R1,2	✓		
		1,5	5	953R1,5	✓		
<p>Use with 100BH3-1xxL tool holders Verwendung mit 100BH3-1xxL Werkzeughalter Utilisation avec les porte-outils 100BH3-1xxL</p>							
953R - 20°	Opposite cutting insert 20° Umgekehrte Abstechplatte 20° Tronçonneur inversé 20°	e	L	Article nr. Artikel Nr. N° Article	BI80		
		1,0	4	953R1,0 - 20° -	✓		
<p>Use with 100BH3-1xxL tool holders Verwendung mit 100BH3-1xxL Werkzeughalter Utilisation avec les porte-outils 100BH3-1xxL</p>							



Guide bush cut off \varnothing 34 mm
Abstechen an der Führungsbüchse \varnothing 34 mm
Tronçonnage côté canon \varnothing 34 mm

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

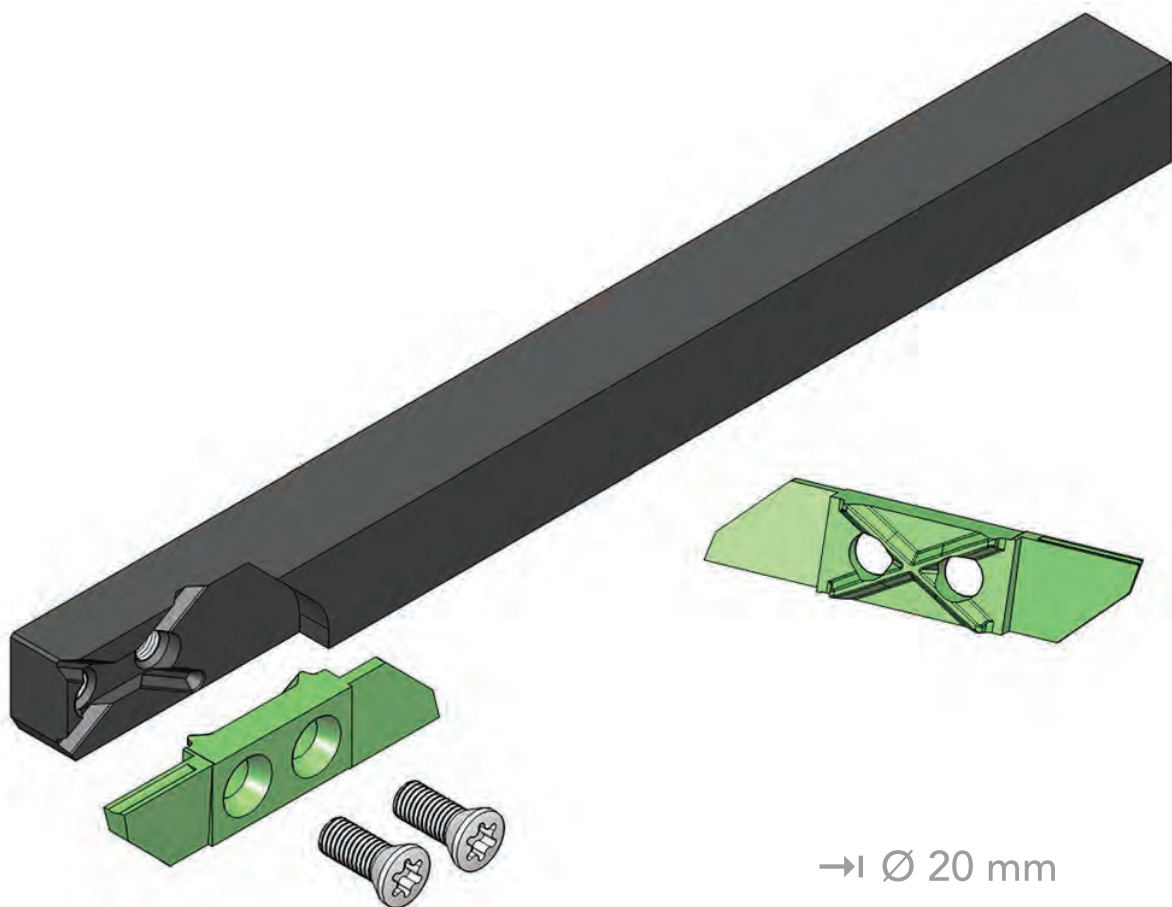
918L	Cutting insert 12° Abstechplatte 12° Tronçonneur 12°	e	L	Article nr. Artikel Nr. N° Article	Bi40	Bi90	TiN
					✓	✓	✓
		2,0	17	918L2,0	✓	✓	✓
		2,5	17	918L2,5	✓	✓	✓
		3,0	17	918L3,0	✓	✓	✓

918Lc	Cutting insert 12° with chip roller Abstechplatte 12° mit Spanroller Tronçonneur 12° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	Bi40	Bi90	TiN
					✓	✓	✓
		2,5	17	918Lc2,5	✓	✓	✓
		3,0	17	918Lc3,0	✓	✓	✓
		3,5	17	918Lc3,5	✓		



oxoline

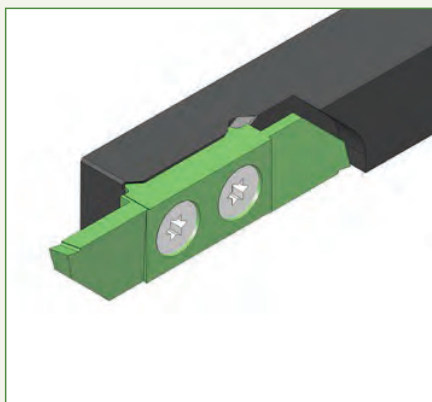
Very high rigidity inserts **1000**



Presentation of OXOline 1000

Vorstellung der OXOline 1000

Présentation d'OXOline 1000



Advantages of OXOline 1000

- High rigidity inserts.
- Increase of stability thanks 2 screws fixing system.
- Repetitiveness of the cutting edge $\pm 0,01$ mm.
- Positioning in all axes.
- The screw is free of all radial stress.
- 2 cutting edges available.
- Large choice of geometries available.

Vorteile der OXOline 1000

- Sehr stabile Wendeplatten.
- Zunahme der Stabilität dank zweier Schrauben.
- Wiederholgenauigkeit der Schneidkante $\pm 0,01$ mm.
- Positionierung in allen Achsen.
- Keine radialen Spannungen.
- 2 verfügbare Schneidkanten.
- Viele verschiedene Geometrien verfügbar.

Avantages de la ligne OXOline 1000

- Plaquettes haute rigidité.
- Accroissement de la stabilité grâce aux 2 vis.
- Répétitivité de l'arête de coupe $\pm 0,01$ mm.
- Positionnement dans tous les axes.
- La vis est libre de toute tension radiale.
- 2 arêtes de coupe.
- Grand choix de géométries disponible.

Coating of inserts

Beschichtung der Wendepplatten

Revêtement des plaquettes

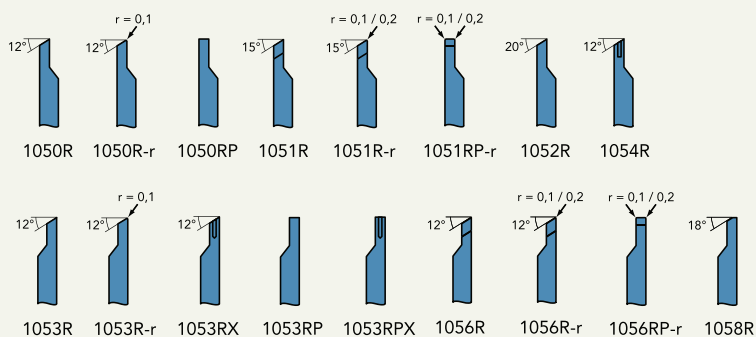
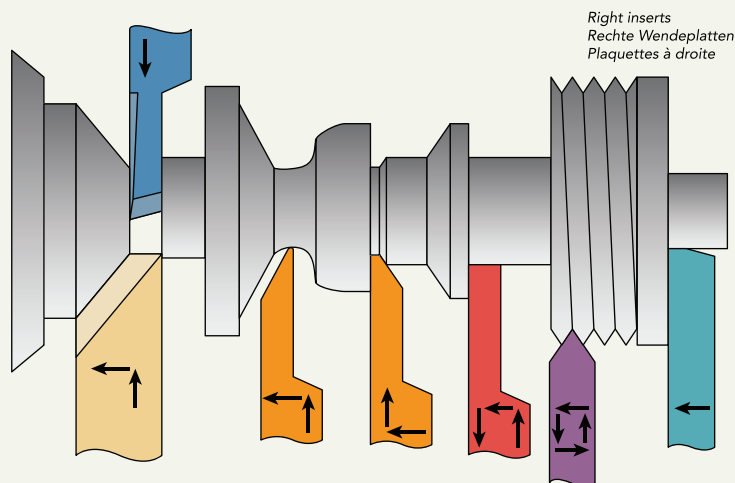
✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible

Designation Bezeichnung Désignation	Description Beschreibung Description
K20	<p>Without coating | K20 carbide</p> <p>Ohne Beschichtung | K20 Hartmetall</p> <p>Sans revêtement | Carbure K20</p>
BI40	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.

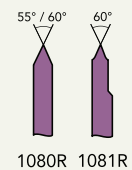
Designation Bezeichnung Désignation	Description Beschreibung Description
BI100	<p>AlCrN-based</p> <ul style="list-style-type: none"> • Very high heat resistance. • High wear resistance. • Ideal for high speed machining of stainless steel. <p>AlCrN-Basis</p> <ul style="list-style-type: none"> • Sehr hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. • Ideal für das Bearbeiten von Edelstahl mit hoher Schnittgeschwindigkeit. <p>Base AlCrN</p> <ul style="list-style-type: none"> • Très haute résistance à la chaleur. • Haute résistance à l'usure. • Idéal pour l'usinage à haute vitesse de coupe de l'acier inox.
TiN	<p>TiN</p> <ul style="list-style-type: none"> • Universal coating. <p>TiN</p> <ul style="list-style-type: none"> • Universalbeschichtung. <p>TiN</p> <ul style="list-style-type: none"> • Revêtement universel.

Field of application of OXline 1000
Anwendungsbereiche der OXline 1000
Champ d'application d'OXline 1000

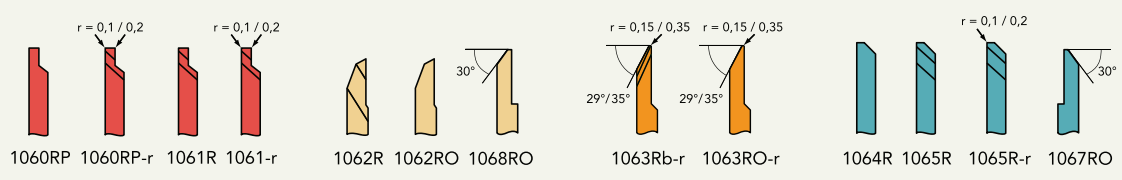
Maximum cutting-off
Maximaler Abstechdurchmesser
Tronçonnage maximum
Ø 20 mm



Cutting off
Abstechen
Tronçonnage



Threading
Gewindestrehlen
Filetage


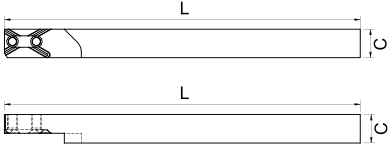

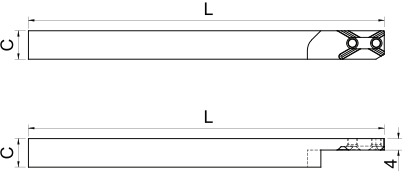

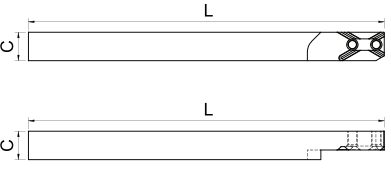

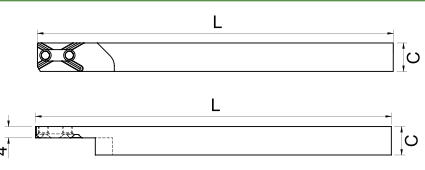



Plunging-Turning
Einstechen-Drehen
Fonçage-Tournage


Plunging-Turning
Einstechen-Drehen
Fonçage-Tournage


Turning-Plunging
Drehen-Einstechen
Tournage-Fonçage

Turning
Drehen
Tournage


10xxR	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1010R
		12 x 12	120	1012R
		14 x 14	120	1014R
		16 x 16	120	1016R
		20 x 20	120	1020R
		25 x 25	100	1025R
		12,7 x 12,7 (1/2")	120	10127R
10xxR4	«Pick-up» tool holder «Pick-up» Werkzeughalter Porte-outil «Pick-up»	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1010R4
		12 x 12	120	1012R4
		16 x 16	120	1016R4
<i>Use with 1053R, 1053RP, 1053RX, 1056R, 1056RP-r and 1058R inserts</i> <i>Verwendung mit 1053R, 1053RP, 1053RX, 1056R, 1056RP-r und 1058R Wendeplatten</i> <i>Utilisation avec les plaquettes 1053R, 1053RP, 1053RX, 1056R, 1056RP-r et 1058R</i>				
10xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1010L
		12 x 12	120	1012L
		14 x 14	120	1014L
		16 x 16	120	1016L
		20 x 20	120	1020L
		25 x 25	100	1025L
		12,7 x 12,7 (1/2")	120	10127L
10xxL4	«Pick-up» tool holder «Pick-up» Werkzeughalter Porte-outil «Pick-up»	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1010L4
		12 x 12	120	1012L4
		16 x 16	120	1016L4
<i>Use with 1053L inserts</i> <i>Verwendung mit 1053L Wendeplatten</i> <i>Utilisation avec les plaquettes 1053L</i>				

	Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage intégré
	<p>See the «Tool holders with internal coolant» documentation for further information. Siehe Dokumentation «Werkzeughalter mit Innenkühlung» für weitere Informationen. Voir la documentation «Porte-outils avec arrosage intégré» pour plus d'informations.</p>

	Cylindrical turning tool holders for counter-operation Zylindrische Drehwerkzeughalter zur Rückseitenbearbeitung Porte-outils de tournage cylindriques pour contre-opération
	<p>See the «Cylindrical turning tool holders» documentation for further information. Siehe die «Zylindrische Drehwerkzeughalter» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils de tournage cylindriques» pour plus d'informations.</p>


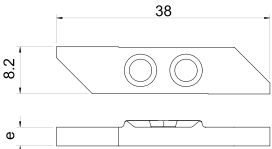
100-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 15	100-1

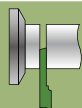
001-8	Screw for standard tool holder Schraube für Standard-Werkzeughalter Vis pour porte-outil standard	Article nr. Artikel Nr. N° Article
	M3,5 x 9	001-8

100-2c	Screw for «Pick-up» tool holder Schraube für «Pick-up» Werkzeughalter Vis pour porte-outil «Pick-up»	Article nr. Artikel Nr. N° Article
	M3,5 x 7	100-2c

Blank
 Rohling
 Ebauche


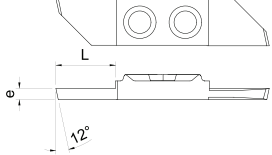
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


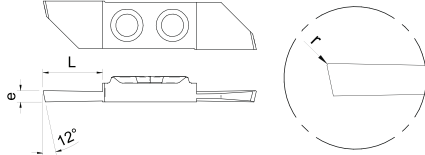
1040R	Blank insert Rohling Wendeplatte Plaquette ébauche	e	Article nr. Artikel Nr. N° Article	K20	BI40	BI90
		3,3	1040R3,3	✓	✓	✓


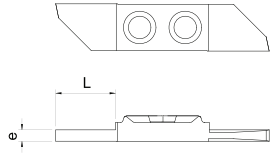



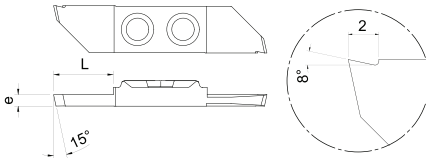
Guide bush cut off \varnothing 20 mm
 Abstechen an der Führungsbüchse \varnothing 20 mm
 Tronçonnage côté canon \varnothing 20 mm


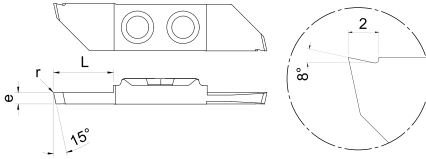
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


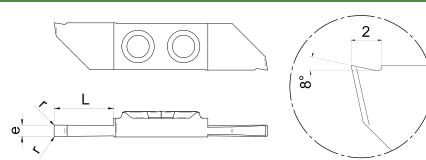
1050R	Cutting insert 12° Abstechplatte 12° Tronçonneur 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	BI100
		1,0	5,0	1050R1,0	✓	✓	✓
		1,2	6,0	1050R1,2	✓	✓	✓
		1,5	7,5	1050R1,5	✓	✓	✓
		1,8	9,0	1050R1,8	✓	✓	✓
		2,0	10,5	1050R2,0	✓	✓	✓
		2,2	10,5	1050R2,2	✓	✓	✓
		2,5	10,5	1050R2,5	✓	✓	✓
		3,0	10,5	1050R3,0	✓	✓	✓


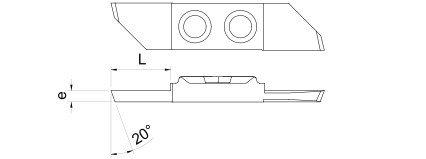
1050R - r	Cutting insert 12° with radius Abstechplatte 12° mit Radius Tronçonneur 12° avec rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI40
		1,5	7,5	0,1	1050R1,5 - r 0,1 -	✓
		2,0	10,5	0,1	1050R2,0 - r 0,1 -	✓


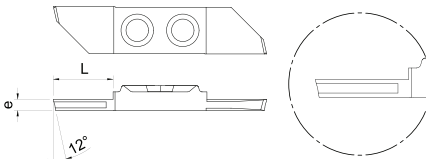
1050RP	Cutting insert 0° Abstechplatte 0° Tronçonneur 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	1050RP1,0	✓	✓
		1,5	7,5	1050RP1,5	✓	✓
		2,0	10,5	1050RP2,0	✓	✓
		2,5	10,5	1050RP2,5	✓	✓
		3,0	10,5	1050RP3,0	✓	✓

1051R	Cutting insert 15° with chip breaker Abstechplatte 15° mit Spanbrecher Tronçonneur 15° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	1051R1,0	✓	✓
		1,2	6,0	1051R1,2	✓	✓
		1,5	7,5	1051R1,5	✓	✓
		2,0	10,5	1051R2,0	✓	✓
		2,5	10,5	1051R2,5	✓	✓

1051R - r	Cutting insert 15° with chip breaker and radius Abstechplatte 15° mit Spanbrecher und Radius Tronçonneur 15° avec brise-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI40	BI90	BI100
		1,0	5,0	0,1	1051R1,0 - r 0,1 -	✓		
		1,0	5,0	0,2	1051R1,0 - r 0,2 -	✓		
		1,2	6,0	0,1	1051R1,2 - r 0,1 -	✓		
		1,5	7,5	0,1	1051R1,5 - r 0,1 -	✓	✓	
		2,0	10,5	0,1	1051R2,0 - r 0,1 -	✓		✓
		2,0	10,5	0,2	1051R2,0 - r 0,2 -	✓		
		2,5	10,5	0,2	1051R2,5 - r 0,2 -	✓		

1051RP - r	Cutting insert 0° with chip breaker and radius Abstechplatte 0° mit Spanbrecher und Radius Tronçonneur 0° avec brise-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
		1,5	7,5	0,1	1051RP1,5 - r 0,1 -	✓
		1,5	7,5	0,2	1051RP1,5 - r 0,2 -	✓
		2,0	10,5	0,1	1051RP2,0 - r 0,1 -	✓
		2,0	10,5	0,2	1051RP2,0 - r 0,2 -	✓


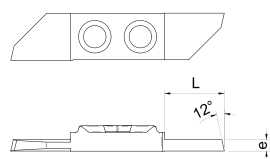
1052R	Cutting insert 20° Abstechplatte 20° Tronçonneur 20°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	1052R1,0		✓
		1,2	6,0	1052R1,2	✓	✓
		1,5	7,5	1052R1,5	✓	✓
		2,0	10,5	1052R2,0	✓	✓
		2,5	10,5	1052R2,5	✓	✓


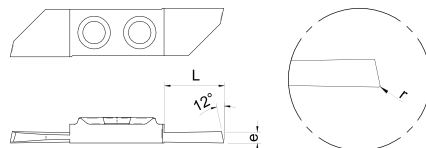
1054R	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	1054R1,0	✓	✓
		1,2	6,0	1054R1,2	✓	✓
		1,5	7,5	1054R1,5	✓	✓
		2,0	10,5	1054R2,0	✓	✓
		2,5	10,5	1054R2,5	✓	✓


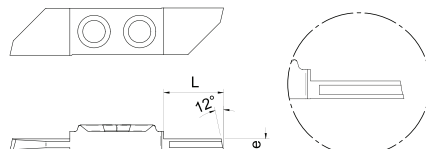



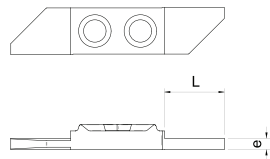
Sub spindle cut off \varnothing 20 mm
 Abstechen an der Abgreifzange \varnothing 20 mm
 Tronçonnage côte prise de pièce \varnothing 20 mm


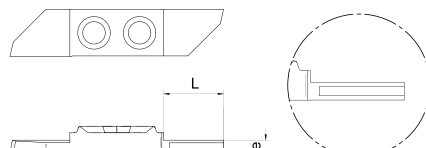
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


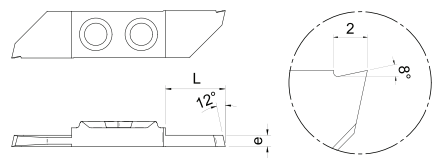
1053R	Opposite cutting insert 12° Umgekehrte Abstechplatte 12° Tronçonneur inversé 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	BI100
		1,0	5,0	1053R1,0	✓		✓
		1,2	6,0	1053R1,2	✓		
		1,5	7,5	1053R1,5	✓	✓	✓
		1,8	9,0	1053R1,8	✓	✓	
		2,0	10,5	1053R2,0	✓	✓	
		2,5	10,5	1053R2,5	✓	✓	
		3,0	10,5	1053R3,0	✓		
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL							


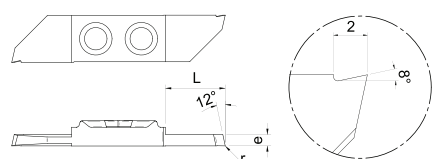
1053R - r	Opposite cutting insert 12° with radius Umgekehrte Abstechplatte 12° mit Radius Tronçonneur inversé 12° avec rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI40	
		1,5	7,5	0,1	1053R1,5 - r 0,1 -		
		2,0	10,5	0,1	1053R2,0 - r 0,1 -	✓	
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL							


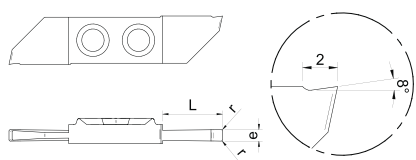
1053RX	Opposite cutting insert with chip roller Umgekehrte Abstechplatte mit Spanroller Tronçonneur inversé avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	
		1,0	5,0	1053RX1,0	✓	✓	
		1,2	6,0	1053RX1,2	✓		
		1,5	7,5	1053RX1,5	✓	✓	
		2,0	10,5	1053RX2,0	✓	✓	
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL							


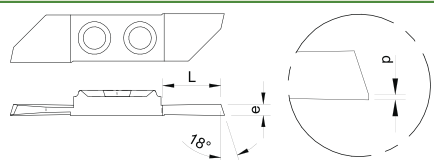
1053RP	Opposite cutting insert 0° Umgekehrte Abstechplatte 0° Tronçonneur inversé 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90	
		1,0	5,0	1053RP1,0		✓	
		1,2	6,0	1053RP1,2	✓		
		1,5	7,5	1053RP1,5	✓		
		2,0	10,5	1053RP2,0	✓	✓	
		2,5	10,5	1053RP2,5	✓	✓	
		3,0	10,5	1053RP3,0	✓	✓	
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL							

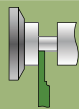
1053RPX	Opposite cutting insert 0° with chip roller Umgekehrte Abstechplatte 0° mit Spanroller Tronçonneur inversé 0° avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40		
		1,5	7,5	1053RPX1,5	✓		
		2,0	10,5	1053RPX2,0	✓		
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL							

1056R	Opposite cutting insert with chip breaker Umgekehrte Abstechplatte mit Spanbrecher Tronçonneur inversé avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,5	7,5	1056R1,5	✓	✓
		2,0	10,5	1056R2,0	✓	✓
		2,5	10,5	1056R2,5	✓	✓
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL						

1056R - r	Opposite cutting insert with chip breaker and radius Umgekehrte Abstechplatte mit Spanbrecher und Radius Tronçonneur inversé avec brise-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI40	BI90	BI100
		1,0	5,0	0,1	1056R1,0 - r 0,1 -	✓		
		1,0	5,0	0,2	1056R1,0 - r 0,2 -	✓		
		1,5	7,5	0,1	1056R1,5 - r 0,1 -	✓	✓	✓
		1,5	7,5	0,2	1056R1,5 - r 0,2 -	✓	✓	✓
		2,0	10,5	0,1	1056R2,0 - r 0,1 -	✓	✓	
		2,0	10,5	0,2	1056R2,0 - r 0,2 -	✓		
		2,5	10,5	0,2	1056R2,5 - r 0,2 -	✓		
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL								


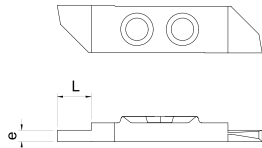
1056RP - r	Opposite cutting insert 0° with chip breaker and radius Umgekehrte Abstechpl. 0° mit Spanbrecher und Radius Tronçonneur inversé 0° avec brise-copeau et rayon	e	L	r	Article nr. Artikel Nr. N° Article	BI90
		1,5	7,5	0,1	1056RP1,5 - r 0,1 -	✓
		1,5	7,5	0,2	1056RP1,5 - r 0,2 -	✓
		2,0	10,5	0,1	1056RP2,0 - r 0,1 -	✓
		2,0	10,5	0,2	1056RP2,0 - r 0,2 -	✓
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL						


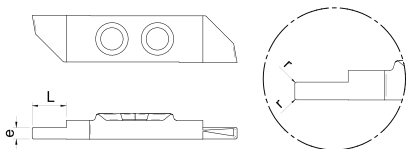
1058R	Opposite cutting insert Umgekehrte Abstechplatte Tronçonneur inversé	e	L	p	Article nr. Artikel Nr. N° Article	BI40
		1,5	7,5	0,15	1058R1,5	✓
		2,0	10,5	0,20	1058R2,0	✓
Use with 10xxL tool holders Verwendung mit 10xxL Werkzeughalter Utilisation avec les porte-outils 10xxL						

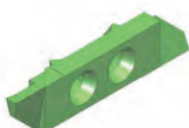
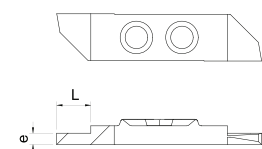


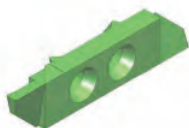
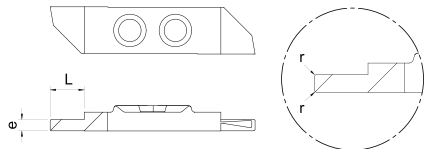
Back turning
 Drehen hinten
 Tournage arrière


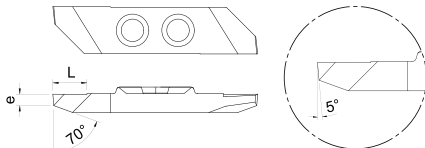
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


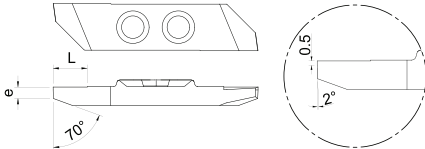
1060RP	Back turning insert 0° Drehplatte hinten 0° Tournour arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,5	2,0	1060RP0,5		✓
		0,6	2,0	1060RP0,6		✓
		0,8	2,0	1060RP0,8	✓	✓
		1,0	3,0	1060RP1,0	✓	✓
		1,2	3,0	1060RP1,2	✓	✓
		1,5	4,0	1060RP1,5	✓	✓
		1,8	4,0	1060RP1,8		✓
		2,0	5,0	1060RP2,0	✓	✓
		2,5	6,0	1060RP2,5	✓	✓
		3,0	6,0	1060RP3,0	✓	✓


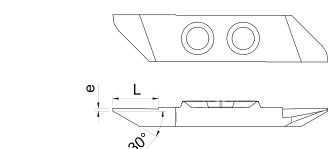
1060RP - r	Back turning insert 0° with radii Drehplatte hinten 0° mit Radius Tournour arrière 0° avec rayons	e	L	r	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	3,0	0,1	1060RP1,0 - r 0,1 -	✓	
		1,0	3,0	0,2	1060RP1,0 - r 0,2 -	✓	
		1,5	4,0	0,1	1060RP1,5 - r 0,1 -	✓	✓
		1,5	4,0	0,2	1060RP1,5 - r 0,2 -	✓	✓
		2,0	5,0	0,1	1060RP2,0 - r 0,1 -	✓	
		2,0	5,0	0,2	1060RP2,0 - r 0,2 -	✓	
		2,5	6,0	0,1	1060RP2,5 - r 0,1 -	✓	
		2,5	6,0	0,1	1060RP2,5 - r 0,1 -	✓	


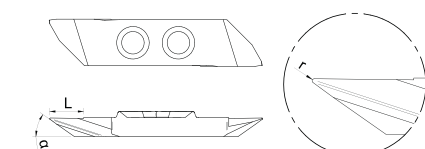
1061R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tournour arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		0,8	2,0	1061R0,8		✓
		1,0	3,0	1061R1,0	✓	✓
		1,2	3,0	1061R1,2	✓	✓
		1,5	4,0	1061R1,5	✓	✓
		2,0	5,0	1061R2,0	✓	✓
		2,5	6,0	1061R2,5	✓	✓
		3,0	7,5	1061R3,0	✓	✓


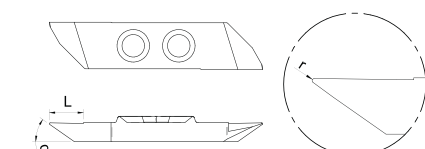
1061R - r	Back turning insert with «parisian cut» and radii Drehplatte hinten mit «Pariserschliff» und Radius Tournour arrière avec «coupe parisienne» et rayons	e	L	r	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	3,0	0,1	1061R1,0 - r 0,1 -	✓	✓
		1,0	3,0	0,2	1061R1,0 - r 0,2 -	✓	✓
		1,2	3,0	0,1	1061R1,2 - r 0,1 -	✓	✓
		1,2	3,0	0,2	1061R1,2 - r 0,2 -	✓	✓
		1,5	4,0	0,1	1061R1,5 - r 0,1 -	✓	✓
		1,5	4,0	0,2	1061R1,5 - r 0,2 -	✓	✓
		2,0	5,0	0,1	1061R2,0 - r 0,1 -	✓	✓
		2,0	5,0	0,2	1061R2,0 - r 0,2 -	✓	✓
		2,5	6,0	0,1	1061R2,5 - r 0,1 -	✓	✓
		2,5	6,0	0,2	1061R2,5 - r 0,2 -	✓	✓
		3,0	7,5	0,1	1061R3,0 - r 0,1 -	✓	✓
		3,0	7,5	0,2	1061R3,0 - r 0,2 -	✓	✓

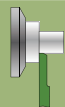
1062R	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article		
					B140	B190
		1,0	6,0	1062R1,0	✓	✓
		1,5	6,0	1062R1,5	✓	✓
		2,0	6,0	1062R2,0	✓	✓

1062RO	Back turning insert Drehplatte hinten Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article			
					B140	B190	B100
		1,0	5,0	1062RO1,0	✓	✓	✓
		1,5	6,0	1062RO1,5	✓	✓	
		2,0	7,5	1062RO2,0	✓		

1068RO	Back turning insert Drehplatte hinten Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article		
					B140	B190
		0,5	8,0	1068RO0,5		✓


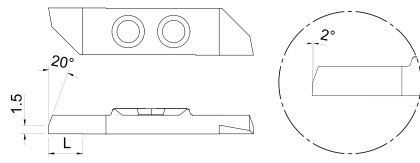

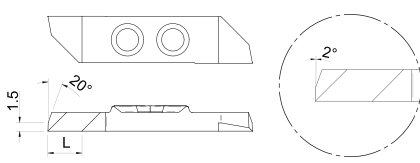

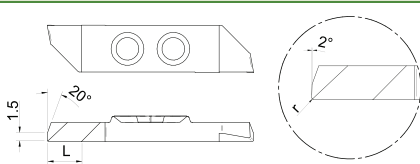

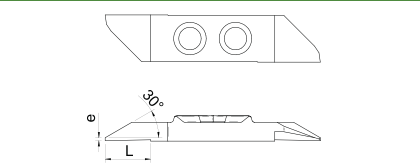
1063Rb - r	Back turning insert with chip roller and radius Drehplatte hinten mit Spanbrecher und Radius Tourneur arrière avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article		
						B140	B190
		6,0	29°	0,15	1063Rb - 29° - r 0,15 -		✓
		6,0	29°	0,35	1063Rb - 29° - r 0,35 -		✓
		6,0	35°	0,15	1063Rb - 35° - r 0,15 -		✓
		6,0	35°	0,35	1063Rb - 35° - r 0,35 -		✓

1063RO - r	Back turning insert with chip roller and radius Drehplatte hinten mit Spanbrecher und Radius Tourneur arrière avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article		
						B140	B190
		6,0	29°	0,15	1063RO - 29° - r 0,15 -		✓
		6,0	29°	0,35	1063RO - 29° - r 0,35 -		✓
		6,0	35°	0,15	1063RO - 35° - r 0,15 -		✓
		6,0	35°	0,35	1063RO - 35° - r 0,35 -		✓



Front turning
 Drehen vorne
 Tournage avant


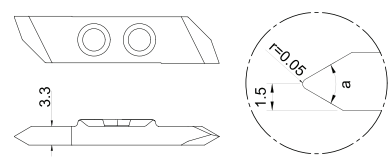

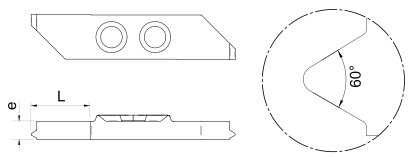
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

1064R	Front turning insert Drehplatte vorne Tourneur avant	L	Article nr. Artikel Nr. N° Article	BI40	BI90	BI100
		6,0	1064R	✓	✓	✓
1065R	Front turning insert with chip breaker Drehplatte vorne mit Spanbrecher Tourneur avant avec brise-copeau	L	Article nr. Artikel Nr. N° Article	BI40	BI90	
		6,0	1065R	✓	✓	
1065R - r	Front turning insert with chip breaker and radius Drehplatte vorne mit Spanbrecher und Radius Tourneur avant avec brise-copeau et rayon	L	r	Article nr. Artikel Nr. N° Article	BI40	
		6,0	0,1	1065R - r 0,1 -	✓	
		6,0	0,2	1065R - r 0,2 -	✓	
1067RO	Front turning insert Drehplatte vorne Tourneur avant	e	L	Article nr. Artikel Nr. N° Article	BI90	
		0,5	8,0	1067RO0,5	✓	




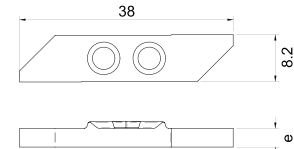
Threading Gewindestrehlen Filetage

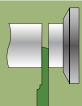
R : Right machining
R : Rechte Bearbeitung
R : Usinage à droite

1080R	Threading insert with partial profile Gewindeplatte mit Teilprofil Fileteur avec profil partiel	a	Article nr. Artikel Nr. N° Article		BI40	BI90	
		55°	1080R - 55° -		✓	✓	
		60°	1080R - 60° -		✓	✓	
1081R	Threading insert with full profile Gewindeplatte mit Vollprofil Fileteur avec profil complet	e	L	Pitch Teilung Pas	M	Article nr. Artikel Nr. N° Article	BI40
		1,0	3,0	0,45	2,5	1081R0,45	✓
		1,0	3,0	0,50	3	1081R0,5	✓
		1,0	3,0	0,60	-	1081R0,6	✓
		1,0	3,0	0,70	4	1081R0,7	✓
		1,5	4,5	0,80	5	1081R0,8	✓
		1,5	4,5	1,00	6	1081R1,0	✓
		1,5	4,5	1,25	4,5	1081R1,25	✓
		2,0	5,0	1,50	10	1081R1,5	✓
		2,0	5,0	1,75	12	1081R1,75	✓
		2,5	5,0	2,00	16	1081R2,0	✓

Blank
 Rohling
 Ebauche


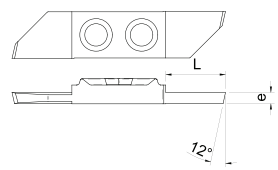
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche


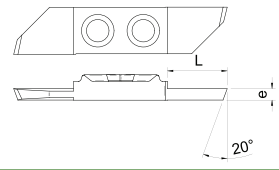
1040L	Blank insert Rohling Wendeplatte Plaquette ébauche	e	Article nr. Artikel Nr. N° Article	BI40
		3,3	1040L3,3	✓


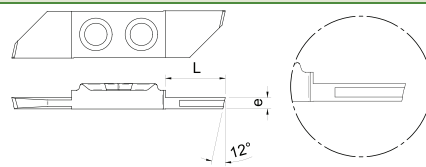


Guide bush cut off \varnothing 20 mm
 Abstechen an der Führungsbüchse \varnothing 20 mm
 Tronçonnage côté canon \varnothing 20 mm

L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

1050L	Cutting insert 12° Abstechplatte 12° Tronçonneur 12°	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	5,0	1050L1,0	✓	✓
		1,2	6,0	1050L1,2	✓	✓
		1,5	7,5	1050L1,5	✓	✓
		1,8	9,0	1050L1,8	✓	✓
		2,0	10,5	1050L2,0	✓	✓
		2,5	10,5	1050L2,5	✓	✓
		3,0	10,5	1050L3,0	✓	✓


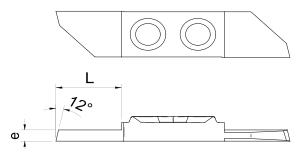
1052L	Cutting insert 20° Abstechplatte 20° Tronçonneur 20°	e	L	Article nr. Artikel Nr. N° Article	BI40
		1,5	7,5	1052L1,5	✓
		2,0	10,5	1052L2,0	✓
		2,5	10,5	1052L2,5	✓

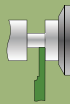
1054L	Cutting insert with chip roller Abstechplatte mit Spanroller Tronçonneur avec roule-copeau	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,5	7,5	1054L1,5	✓	✓
		2,0	10,5	1054L2,0	✓	✓
		2,5	10,5	1054L2,5		✓



Sub spindle cut off Ø 20 mm
 Abstechen an der Abgreifzange Ø 20 mm
 Tronçonnage côte prise de pièce Ø 20 mm

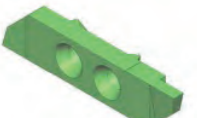
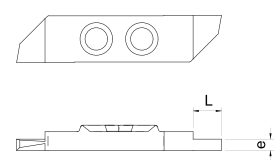
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche


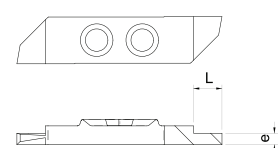
1053L	Opposite cutting insert 12° Umgekehrte Abstechplatte 12° Tronçonneur inversé 12°	e	L	Article nr. Artikel Nr. N° Article	BI40
		1,2	6,0	1053L1,2	✓
		1,5	7,5	1053L1,5	✓
		2,0	10,5	1053L2,0	✓
Use with 10xxR tool holders Verwendung mit 10xxR Werkzeughalter Utilisation avec les porte-outils 10xxR					


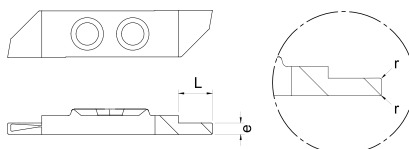



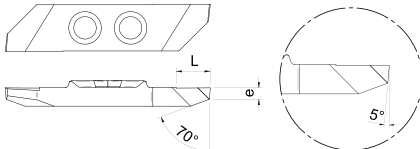
Back turning
 Drehen hinten
 Tournage arrière


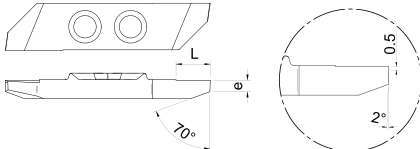
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche


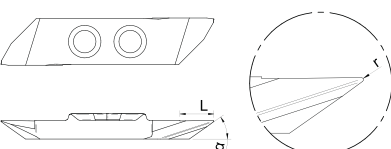
1060LP	Back turning insert 0° Drehplatte hinten 0° Tourneur arrière 0°	e	L	Article nr. Artikel Nr. N° Article	BI40
		0,5	2,0	1060LP0,5	✓
		0,8	2,0	1060LP0,8	✓
		1,0	3,0	1060LP1,0	✓
		1,5	4,0	1060LP1,5	✓
		2,0	5,0	1060LP2,0	✓
		2,5	6,0	1060LP2,5	✓
3,0	6,0	1060LP3,0	✓		

1061L	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40
		1,0	3,0	1061L1,0	✓
		1,5	4,0	1061L1,5	✓
		1,8	4,0	1061L1,8	✓
		2,0	5,0	1061L2,0	✓
		2,5	6,0	1061L2,5	✓
		3,0	7,5	1061L3,0	✓

1061L - r	Back turning insert with «parisian cut» and radii Drehplatte hinten mit «Pariserschliff» und Radien Tourneur arrière avec «coupe parisienne» et rayons	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,5	4,0	1061L1,5 - r 0,1 -	✓	
		1,5	4,0	1061L1,5 - r 0,2 -	✓	✓
		2,0	5,0	1061L2,0 - r 0,1 -	✓	✓
		2,0	5,0	1061L2,0 - r 0,2 -	✓	✓
		2,5	6,0	1061L2,5 - r 0,1 -	✓	
		2,5	6,0	1061L2,5 - r 0,2 -	✓	
		3,0	6,0	1061L3,0 - r 0,2 -	✓	✓

1062L	Back turning insert with «parisian cut» Drehplatte hinten mit «Pariserschliff» Tourneur arrière avec «coupe parisienne»	e	L	Article nr. Artikel Nr. N° Article	BI40	BI90
		1,0	6,0	1062L1,0	✓	✓
		1,5	6,0	1062L1,5	✓	✓
		2,0	6,0	1062L2,0	✓	


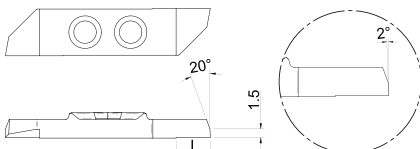
1062LO	Back turning insert Drehplatte hinten Tourneur arrière	e	L	Article nr. Artikel Nr. N° Article	BI40
		1,0	5,0	1062LO1,0	✓
		1,5	6,0	1062LO1,5	✓
		2,0	7,5	1062LO2,0	✓

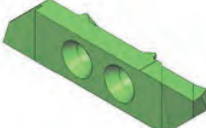
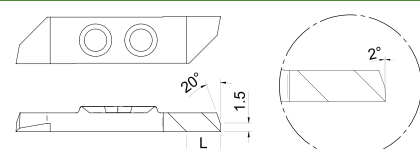
1063Lb - r	Back turning insert with chip roller and radius Drehplatte hinten mit Spanbrecher und Radius Tourneur arrière avec brise-copeau et rayon	L	α	r	Article nr. Artikel Nr. N° Article	BI90
		6,0	29°	0,15	1063Lb - 29° - r 0,15 -	✓
		6,0	29°	0,35	1063Lb - 29° - r 0,35 -	✓
		6,0	35°	0,15	1063Lb - 35° - r 0,15 -	✓
		6,0	35°	0,35	1063Lb - 35° - r 0,35 -	✓

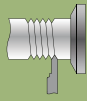


Front turning
Drehen vorne
Tournage avant

L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

1064L	Front turning insert Drehplatte vorne Tourneur avant	L	Article nr. Artikel Nr. N° Article	BI40	TIN
		6,0	1064L	✓	✓

1065L	Front turning insert with chip breaker Drehplatte vorne mit Spanbrecher Tourneur avant avec brise-copeau	L	Article nr. Artikel Nr. N° Article	BI40
		6,0	1065L	✓



Threading
Gewindestrehlen
Filetage

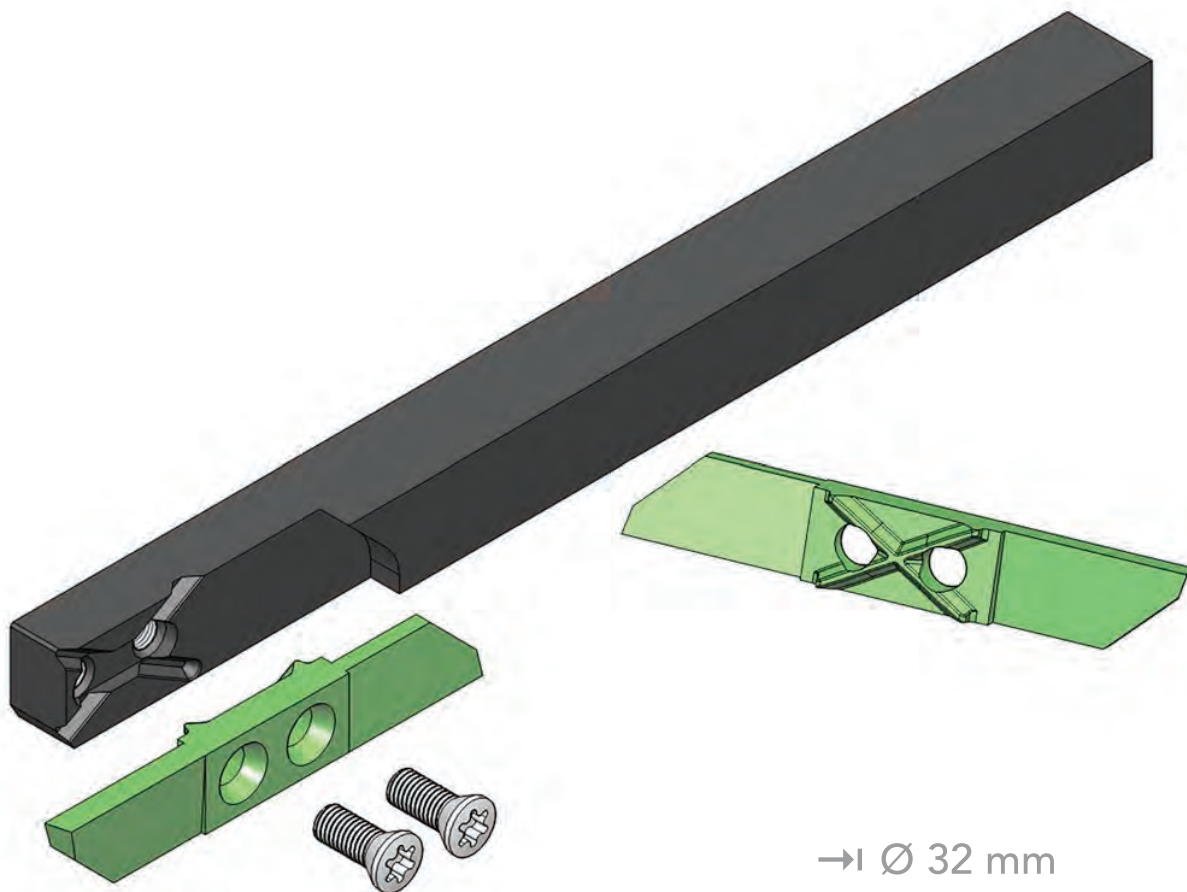
L : Left machining
L : Linke Bearbeitung
L : Usinage à gauche

1080L	Threading insert with partial profile Gewindeplatte mit Teilprofil Fileteur avec profil partiel	a	Article nr. Artikel Nr. N° Article	BI40
		55°	1080L - 55° -	✓
		60°	1080L - 60° -	✓



oxoline

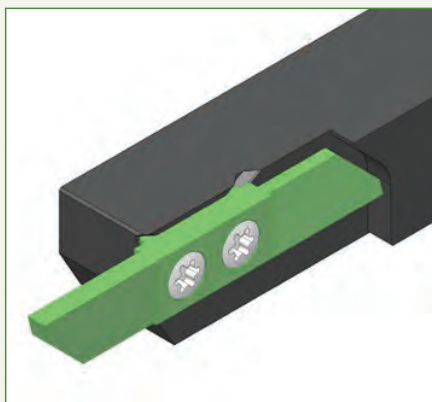
Very high rigidity inserts **1100**



Presentation of OXOline 1100

Vorstellung der OXOline 1100

Présentation d'OXOline 1100



Advantages of OXOline 1100

- High rigidity inserts.
- Increase of stability thanks 2 screws fixing system.
- Repetitiveness of the cutting edge $\pm 0,01$ mm.
- Positioning in all axes.
- The screw is free of all radial stress.
- 2 cutting edges available.
- Cut off up to $\varnothing 32$ mm.

Vorteile der OXOline 1100

- Sehr stabile Wendepplatten.
- Zunahme der Stabilität dank zweier Schrauben.
- Wiederholgenauigkeit der Schneidkante $\pm 0,01$ mm.
- Positionierung in allen Achsen.
- Keine radialen Spannungen.
- 2 verfügbare Schneidkanten.
- Abstechen bis $\varnothing 32$ mm.

Avantages de la ligne OXOline 1100

- Plaquettes haute rigidité.
- Accroissement de la stabilité grâce aux 2 vis.
- Répétitivité de l'arête de coupe $\pm 0,01$ mm.
- Positionnement dans tous les axes.
- La vis est libre de toute tension radiale.
- 2 arêtes de coupe.
- Tronçonnage jusqu'au $\varnothing 32$ mm.

Coating of inserts

Beschichtung der Wendepplatten

Revêtement des plaquettes

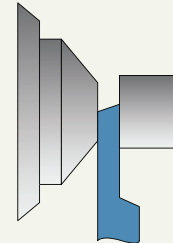
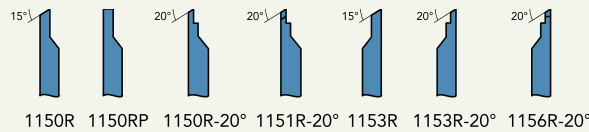
✓ = Available
✓ = Verfügbar
✓ = Disponible

Designation Bezeichnung Désignation	Description Beschreibung Description
BI80	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Ultra-thin layer version of BI90. • Perfect for small tools with sharp cutting edges. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Ultradünne Schicht der Version BI90. • Perfekt für kleine Werkzeuge mit scharfen Schneidkanten. <p>Base AlTiN</p> <ul style="list-style-type: none"> • Version du BI90 avec couche ultra fine. • Parfait pour les petits outils avec des arêtes de coupe vives.
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>BaseAlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.


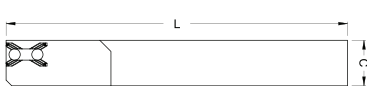
Field of application of OXLine 1100
Anwendungsbereich von OXLine 1100
Champ d'application d'OXLine 1100


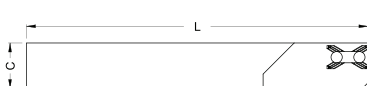
Maximum cutting-off
 Maximaler Abstechdurchmesser
 Tronçonnage maximum


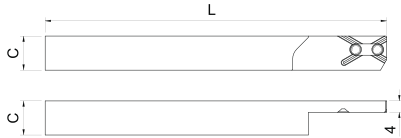
Ø 32 mm


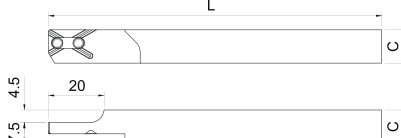





Cutting off
 Abstechen
 Tronçonnage

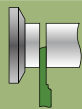
11xxR	Right tool holder Werkzeughalter rechts Porte-outil à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1110R
		12 x 12	120	1112R
		16 x 16	120	1116R
		20 x 20	120	1120R
		25 x 25	100	1125R

11xxL	Left tool holder Werkzeughalter links Porte-outil à gauche	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1110L
		12 x 12	120	1112L
		16 x 16	120	1116L
		20 x 20	120	1120L
		25 x 25	100	1125L

11xxR4	«Pick-up» tool holder «Pick-up» Werkzeughalter Porte-outil «Pick-up»	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	120	1110R4
		12 x 12	120	1112R4
				Use with 1153R, 1156R - 20°, 1153R-20° inserts Verwendung mit 1153R, 1156R - 20°, 1153R-20° Wendeplatten Utilisation avec les plaquettes 1153R, 1156R - 20°, 1153R-20°


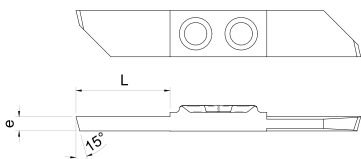
11xxRP7,5	Right «Pick-up» tool holder «Pick-up» Werkzeughalter rechts Porte-outil «Pick-up» à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		12 x 12	120	1112RP7,5
		Use with 1150R, 1150R-20° inserts Verwendung mit 1150R, 1150R-20° Wendeplatten Utilisation avec les plaquettes 1150R, 1150R-20°		


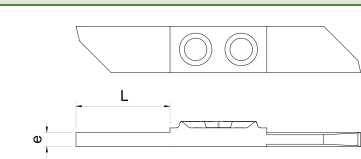
100-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 15	100-1
001-8	Screw for standard tool holder Schraube für Standard-Werkzeughalter Vis pour porte-outil standard	Article nr. Artikel Nr. N° Article
	M3,5 x 9	001-8
100-2c	Screw for tool holder Schraube für Werkzeughalter Vis pour porte-outil	Article nr. Artikel Nr. N° Article
	M3,5 x 7	100-2c

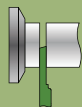


Guide bush cut off \varnothing 32 mm
 Abstechen an der Führungsbüchse \varnothing 32 mm
 Tronçonnage côté canon \varnothing 32 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


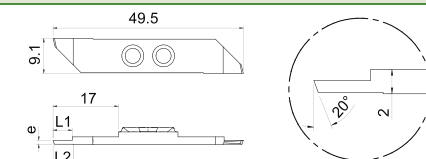
1150R	Cutting insert 15° Abstechplatte 15° Tronçonneur 15°	e	L	Article nr. Artikel Nr. N° Article	B190
		1,5	15,0	1150R1,5	✓
		2,0	17,0	1150R2,0	✓
		2,5	17,0	1150R2,5	✓
		3,0	17,0	1150R3,0	✓


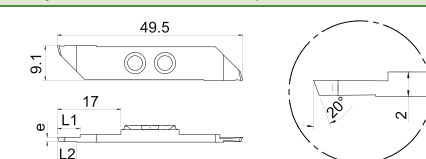
1150RP	Cutting insert 0° Abstechplatte 0° Tronçonneur 0°	e	L	Article nr. Artikel Nr. N° Article	B190
		2,0	17,0	1150RP2,0	✓
		2,5	17,0	1150RP2,5	✓
		3,0	17,0	1150RP3,0	✓



Guide bush cut off \varnothing 10 mm
 Abstechen an der Führungsbüchse \varnothing 10 mm
 Tronçonnage côté canon \varnothing 10 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


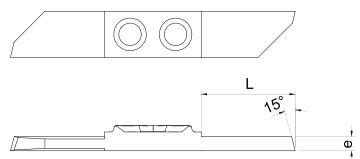
1150R - 20°	Cutting insert 20° Abstechplatte 20° Tronçonneur 20°	e	L1	L2	Article nr. Artikel Nr. N° Article	B180
		0,8	6,0	5,0	1150R0,8 - 20° -	✓
		1,0	6,0	5,0	1150R1,0 - 20° -	✓
		1,2	6,0	5,0	1150R1,2 - 20° -	✓

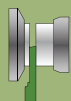
1151R - 20°	Cutting insert 20° with chip breaker Abstechplatte 20° mit Spanbrecher Tronçonneur 20° avec brise-copeau	e	L1	L2	Article nr. Artikel Nr. N° Article	B180
		0,8	6,0	5,0	1151R0,8 - 20° -	✓
		1,0	6,0	5,0	1151R1,0 - 20° -	✓
		1,2	6,0	5,0	1151R1,2 - 20° -	✓



Sub spindle cut off \varnothing 32 mm
 Abstechen an der Abgreifzange \varnothing 32 mm
 Tronçonnage côte prise de pièce \varnothing 32 mm


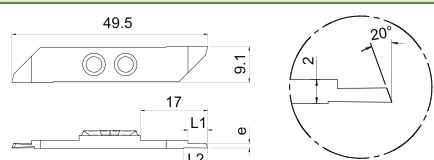
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


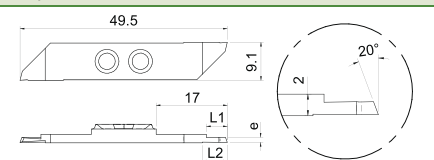
1153R	Opposite cutting insert 15° Umgekehrte Abstechplatte 15° Tronçonneur inversé 15°	e	L	Article nr. Artikel Nr. N° Article	B190
		1,5	15,0	1153R1,5	✓
		2,0	17,0	1153R2,0	✓
		2,5	17,0	1153R2,5	✓
		3,0	17,0	1153R3,0	✓
Use with 11xxL tool holders Verwendung mit 11xxL Werkzeughalter Utilisation avec les porte-outils 11xxL					



Sub spindle cut off \varnothing 10 mm
 Abstechen an der Abgreifzange \varnothing 10 mm
 Tronçonnage côte prise de pièce \varnothing 10 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


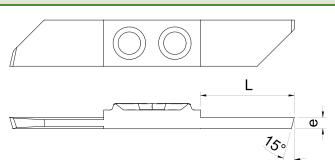
1153R - 20°	Opposite cutting insert 20° Umgekehrte Abstechplatte 20° Tronçonneur inversé 20°	e	L1	L2	Article nr. Artikel Nr. N° Article	B180
		0,8	5,0	6,0	1153R0,8 - 20° -	✓
		1,0	5,0	6,0	1153R1,0 - 20° -	✓
		1,2	5,0	6,0	1153R1,2 - 20° -	✓
Use with 11xxL tool holders Verwendung mit 11xxL Werkzeughalter Utilisation avec les porte-outils 11xxL						

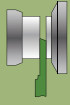
1156R - 20°	Opposite cutting insert 20° with chip breaker Umgekehrte Abstechplatte 20° mit Spanbrecher Tronçonneur inversé 20° avec brise-copeau	e	L1	L2	Article nr. Artikel Nr. N° Article	B180
		0,8	5,0	6,0	1156R0,8 - 20° -	✓
		1,0	5,0	6,0	1156R1,0 - 20° -	✓
		1,2	5,0	6,0	1156R1,2 - 20° -	✓
Use with 11xxL tool holders Verwendung mit 11xxL Werkzeughalter Utilisation avec les porte-outils 11xxL						



Guide bush cut off \varnothing 32 mm
 Abstechen an der Führungsbüchse \varnothing 32 mm
 Tronçonnage côté canon \varnothing 32 mm


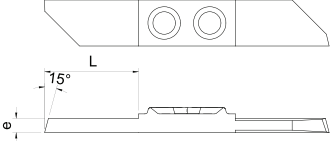
L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

1150L	Cutting insert 15° Abstechplatte 15° Tronçonneur 15°	e	L	Article nr. Artikel Nr. N° Article	B190
		2,0	17,0	1150L2,0	✓
		2,5	17,0	1150L2,5	✓
		3,0	17,0	1150L3,0	✓



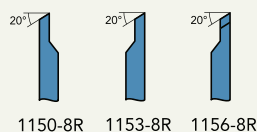
Sub spindle cut off Ø 32 mm
 Abstechen an der Abgreifzange Ø 32 mm
 Tronçonnage côte prise de pièce Ø 32 mm

L : Left machining
 L : Linke Bearbeitung
 L : Usinage à gauche

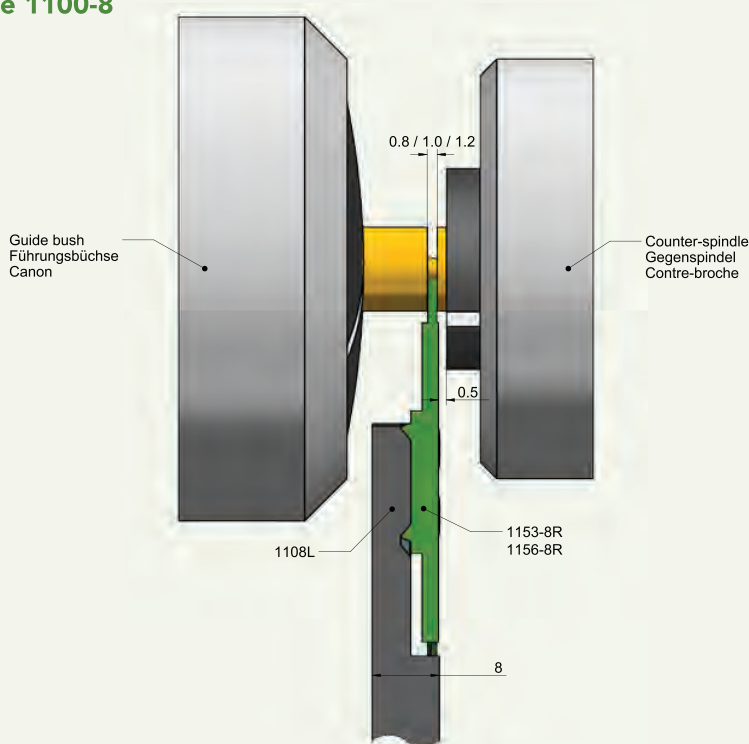
1153L	Opposite cutting insert 15° Umgekehrte Abstechplatte 15° Tronçonneur inversé 15°	e	L	Article nr. Artikel Nr. N° Article	B190
		2,0	17,0	1153L2,0	✓
		2,5	17,0	1153L2,5	✓
		3,0	17,0	1153L3,0	✓
		Use with 11xxR tool holders Verwendung mit 11xxR Werkzeughalter Utilisation avec les porte-outils 11xxR			


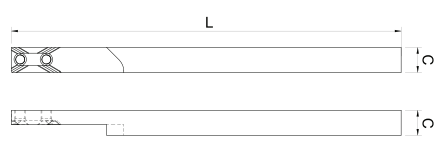

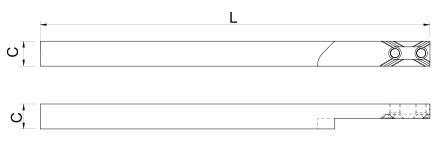

Field of application of OXLine 1100-8
Anwendungsbereich der OXLine 1100-8
Champ d'application d'OXLine 1100-8

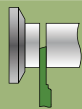
Maximum cutting-off
 Maximaler Abstechedurchmesser
 Tronçonnage maximum
 Ø 12 mm



Cutting off
 Abstechen
 Tronçonnage


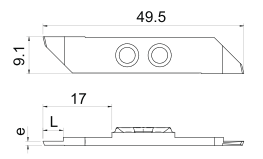
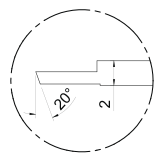


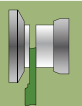
11x8R	Right tool holder 8x8 mm Werkzeughalter rechts 8x8 mm Porte-outil à droite 8x8 mm	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	1108R
		Use with 1150-8R inserts Verwendung mit 1150-8R Wendeplatten Utilisation avec les plaquettes 1150-8R		
11x8L	Left tool holder 8x8 mm Werkzeughalter links 8x8 mm Porte-outil à gauche 8x8 mm	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	1108L
		Use with 1153-8R and 1156-8R inserts Verwendung mit 1153-8R und 1156-8R Wendeplatten Utilisation avec les plaquettes 1153-8R et 1156-8R		
100-2c	Screw for «Pick-up» tool holder Schraube für «Pick-up» Werkzeughalter Vis pour porte-outil «Pick-up»	Article nr. Artikel Nr. N° Article		
	M3,5 x 7	100-2c		



Guide bush cut off \varnothing 12 mm
 Abstechen an der Führungsbüchse \varnothing 12 mm
 Tronçonnage côté canon \varnothing 12 mm


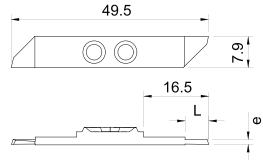
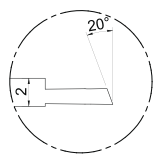
R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite


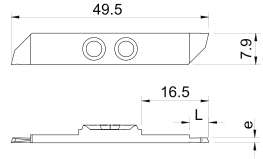
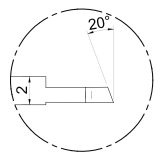
1150-8R	Cutting insert 20° Abstechplatte 20° Tronçonneur 20°	e	L	Article nr. Artikel Nr. N° Article	B180
  		0,8	5,0	1150-8R0,8	✓
		1,0	5,0	1150-8R1,0	✓
		1,2	5,0	1150-8R1,2	✓
Use with 1108R tool holders Verwendung mit 1108R Werkzeughalter Utilisation avec les porte-outils 1108R					



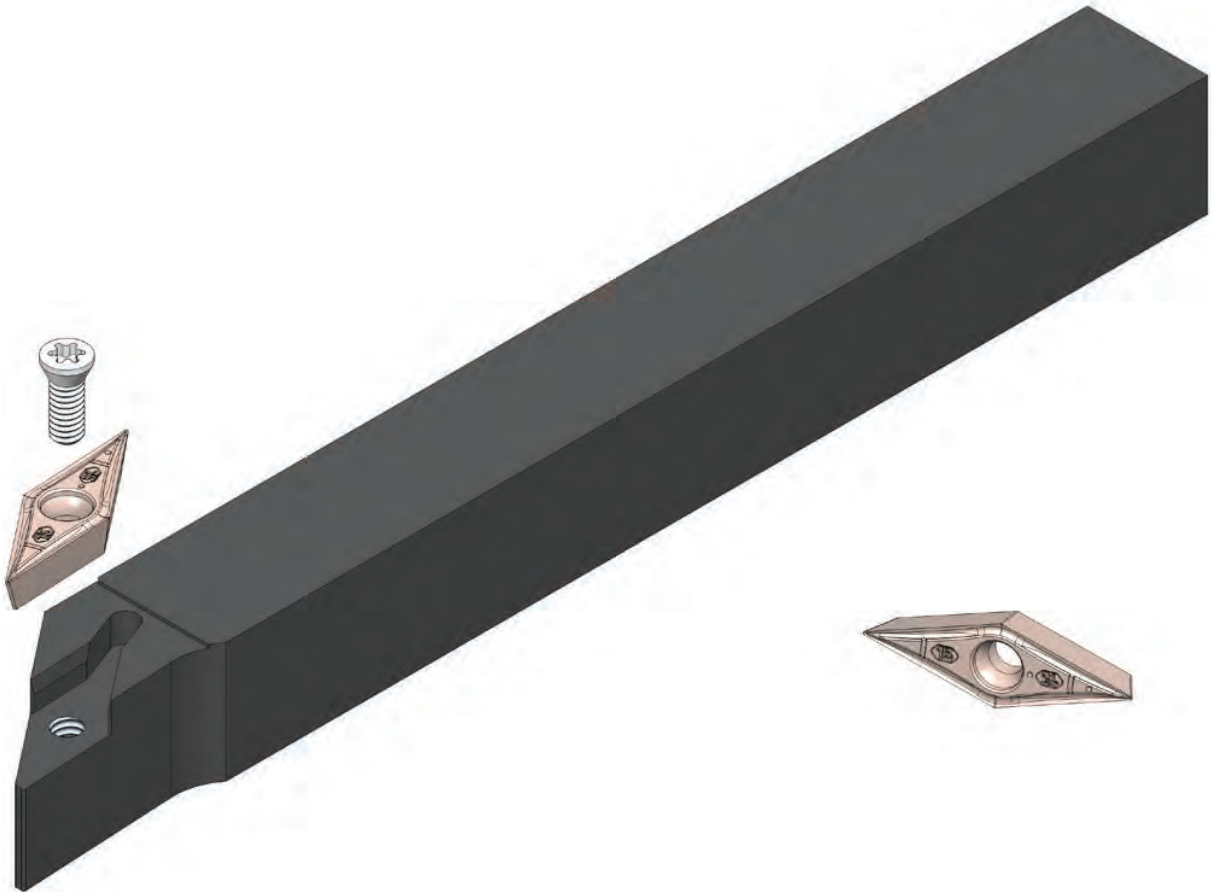
Sub spindle cut off \varnothing 12 mm
 Abstechen an der Abgreifzange \varnothing 12 mm
 Tronçonnage côté prise de pièce \varnothing 12 mm

R : Right machining
 R : Rechte Bearbeitung
 R : Usinage à droite

1153-8R	Opposite cutting insert 20° Umgekehrte Abstechplatte 20° Tronçonneur inversé 20°	e	L	Article nr. Artikel Nr. N° Article	B180
  		0,8	4,0	1153-8R0,8	✓
		1,0	4,0	1153-8R1,0	✓
		1,2	6,0	1153-8R1,2	✓
Use with 1108L tool holders Verwendung mit 1108L Werkzeughalter Utilisation avec les porte-outils 1108L					

1156-8R	Opposite cutting insert 20° with chip breaker Umgekehrte Abstechplatte 20° mit Spanbrecher Tronçonneur inversé 20° avec brise-copeau	e	L	Article nr. Artikel Nr. N° Article	B180
  		0,8	5,0	1156-8R0,8	✓
		1,0	5,0	1156-8R1,0	✓
		1,2	5,0	1156-8R1,2	✓
Use with 1108L tool holders Verwendung mit 1108L Werkzeughalter Utilisation avec les porte-outils 1108L					

ISO line




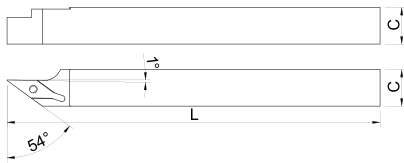
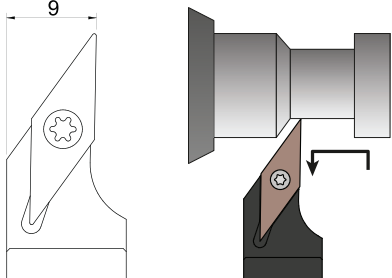

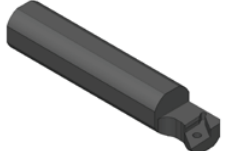
Coating of inserts
Beschichtung der Wendepplatten
Revêtement des plaquettes





✓ = Available
 ✓ = Verfügbar
 ✓ = Disponible

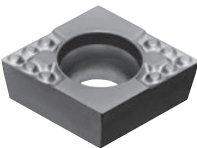
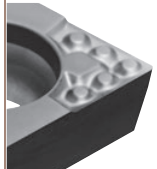
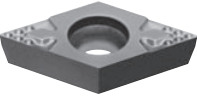
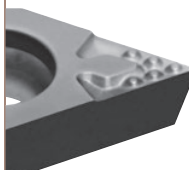
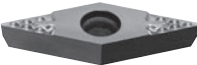
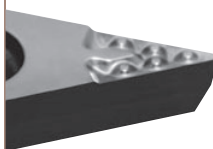
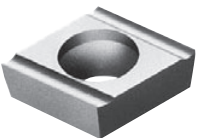
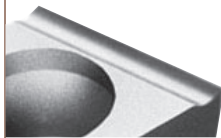
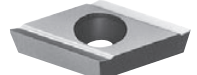
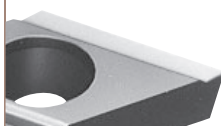
Designation Bezeichnung Désignation	Description Beschreibung Description
QM2 QM3	TiAlN-based <ul style="list-style-type: none"> • Universal grade for steel, stainless steel and heat-resistant alloys. TiAlN-Basis <ul style="list-style-type: none"> • Universalsorte für Stahl, Edelstahl und hitzebeständige Legierungen. Base TiAlN <ul style="list-style-type: none"> • Qualité universelle pour l'acier, l'acier inoxydable et les alliages résistants à la chaleur.
B130	AlTiN-based + Micro finish <ul style="list-style-type: none"> • Very sharp cutting edges. • Very smooth surface finish, ideal for non-ferrous materials. AlTiN-Basis + «Micro finish» <ul style="list-style-type: none"> • Sehr scharfe Schneidkanten. • Sehr glatte Oberfläche, ideal für Nichteisenwerkstoffe. Base AlTiN + «Micro finish» <ul style="list-style-type: none"> • Arêtes de coupe très vives. • Bon glissement du copeau, idéal pour les matériaux non ferreux.
B190	AlTiN-based <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. AlTiN-Basis <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. Base AlTiN <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.





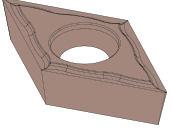
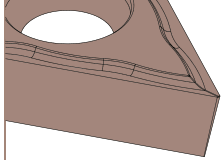
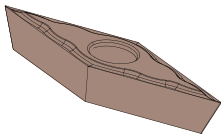
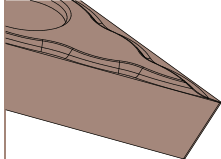
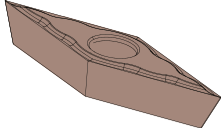
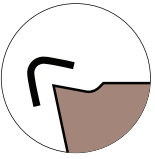
Designation Bezeichnung Désignation	Description Beschreibung Description
BI71	<p>AlCrN-based</p> <ul style="list-style-type: none"> • Ultra-thin layer. • Very smooth surface finish. • High heat resistance. • High wear resistance. <p>AlCrN-Basis</p> <ul style="list-style-type: none"> • Ultradünne Schicht. • Sehr glatte Oberfläche. • Hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. <p>Base AlCrN</p> <ul style="list-style-type: none"> • Couche ultra fine. • Très bon glissement du copeau. • Haute résistance à la chaleur. • Haute résistance à l'usure.
BI120	<p>AlCrN-based</p> <ul style="list-style-type: none"> • Optimal for cutting edges subject to heavy wear. • Very high heat resistance. • High coating adhesion. <p>AlCrN-Basis</p> <ul style="list-style-type: none"> • Optimal für stark beanspruchte Schneidkanten. • Sehr hohe Hitzebeständigkeit. • Hohe Schichthaftung. <p>Base AlCrN</p> <ul style="list-style-type: none"> • Optimal pour les arêtes de coupe soumises à une forte usure. • Très haute résistance à la chaleur. • Haute adhérence du revêtement.


SCLCR...06	ISO 95° right tool holder ISO 95° rechter Werkzeughalter Porte-outil ISO 95° à droite	Section C x D Querschnitt C x D Section C x D	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 10	120	SCLCR 0810 K06
		For inserts Für Wendeplatten Pour plaquettes	CC..0602..	
SCLCR...09	ISO 95° right tool holder ISO 95° rechter Werkzeughalter Porte-outil ISO 95° à droite	Section C x D Querschnitt C x D Section C x D	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 12	120	SCLCR 1012 K09
		12 x 12	120	SCLCR 1212 K09
		16 x 16	100	SCLCR 1616 H09
		For inserts Für Wendeplatten Pour plaquettes	CC..09T3..	
SDJCR...11	ISO 93° right tool holder ISO 93° rechter Werkzeughalter Porte-outil ISO 93° à droite	Section C x D Querschnitt C x D Section C x D	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 12	120	SDJCR 0812 K11
		10 x 12	120	SDJCR 1012 K11
		12 x 12	120	SDJCR 1212 K11
		16 x 16	100	SDJCR 1616 H11
		For inserts Für Wendeplatten Pour plaquettes	DC..11T3..	
SDJCR...07	ISO 93° right tool holder ISO 93° rechter Werkzeughalter Porte-outil ISO 93° à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	SDJCR 0808 K07
		10 x 10	120	SDJCR 1010 K07
		12 x 12	120	SDJCR 1212 K07
		16 x 16	100	SDJCR 1616 H07
		For inserts Für Wendeplatten Pour plaquettes	DC..0702..	
SVJCR...11	ISO 93° right tool holder ISO 93° rechter Werkzeughalter Porte-outil ISO 93° à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	SVJCR 0808 K11
		10 x 10	120	SVJCR 1010 K11
		12 x 12	120	SVJCR 1212 K11
		16 x 16	100	SVJCR 1616 H11
		For inserts Für Wendeplatten Pour plaquettes	VC..1103..	


SVCR-X...11	ISO 91° right tool holder ISO 91° rechter Werkzeughalter Porte-outil ISO 91° à droite	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		12 x 12	120	SVCR-1212X-K11
		16 x 16	120	SVCR-1616X-K11
		<p>For inserts Für Wendeplatten Pour plaquettes</p> <p>VC..1103..</p> <p>Tool holder used for back turning Werkzeughalter zum Drehen hinten Porte-outil utilisé pour le tournage arrière</p>		
Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage intégré				
	<p>See the «Tool holders with internal coolant» documentation for further information. Siehe die «Werkzeughalter mit Innenkühlung» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils avec arrosage intégré» pour plus d'informations.</p>			
Cylindrical turning tool holders for counter-operation Zylindrische Drehwerkzeughalter zur Rückseitenbearbeitung Porte-outils de tournage cylindriques pour contre-opération				
	<p>See the «Cylindrical turning tool holders» documentation for further information. Siehe die «Zylindrische Drehwerkzeughalter» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils de tournage cylindriques» pour plus d'informations.</p>			

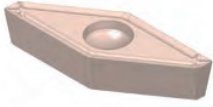
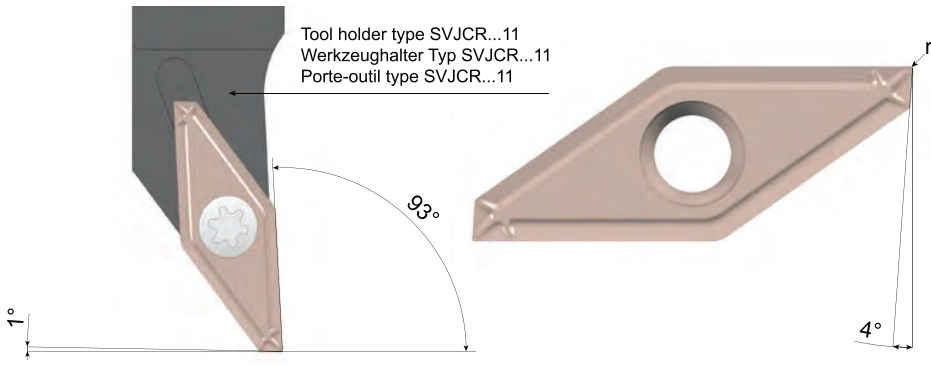
001-7 	Screw for tool holders SDJCR...07 and SVJCR...11 Schraube für Werkzeughalter SDJCR...07 und SVJCR...11 Vis pour porte-outils SDJCR...07 et SVJCR...11 M2,5 x 7,5 T08	Article nr. Artikel Nr. N° Article 001-7
100-2 	Screw for tool holders SCLCR...09 and SDJCR...11 Schraube für Werkzeughalter SCLCR...09 und SDJCR...11 Vis pour porte-outils SCLCR...09 et SDJCR...11 M3,5 x 9,0 T15	Article nr. Artikel Nr. N° Article 100-2
001-1 	Key Torx 8 for screw 001-2 Schlüssel Torx 8 für Schraube 001-2 Clé Torx 8 pour vis 001-2 Torx 8	Article nr. Artikel Nr. N° Article 001-1
100-1 	Key Torx 15 for screw 100-2 Schlüssel Torx 15 für Schraube 100-2 Clé Torx 15 pour vis 100-2 Torx 15	Article nr. Artikel Nr. N° Article 100-1

CCGT...FNAZ7	CCGT insert with «FNAZ7» chip-breaker CCGT Wendeplatte mit «FNAZ7» Spanbrecher Plaquette CCGT avec brise-copeau «FNAZ7»		r [mm]	Article nr. Artikel Nr. N° Article	QM3
		80°	0,03	CCGT 060200M FNAZ7	✓
			0,1	CCGT 060201M FNAZ7	✓
			0,2	CCGT 060202M FNAZ7	✓
			0,4	CCGT 060204M FNAZ7	✓
			0,1	CCGT 09T301M FNAZ7	✓
			0,2	CCGT 09T302M FNAZ7	✓
			0,4	CCGT 09T304M FNAZ7	✓
DCGT...FNAZ7	DCGT insert with «FNAZ7» chip-breaker DCGT Wendeplatte mit «FNAZ7» Spanbrecher Plaquette DCGT avec brise-copeau «FNAZ7»		r [mm]	Article nr. Artikel Nr. N° Article	QM3
		55°	0,03	DCGT 070200M FNAZ7	✓
			0,1	DCGT 070201M FNAZ7	✓
			0,2	DCGT 070202M FNAZ7	✓
			0,03	DCGT 11T300M FNAZ7	✓
			0,1	DCGT 11T301M FNAZ7	✓
			0,2	DCGT 11T302M FNAZ7	✓
			0,4	DCGT 11T304M FNAZ7	✓
			0,8	DCGT 11T308M FNAZ7	✓
VCGT...FNAZ7	VCGT insert with «FNAZ7» chip-breaker VCGT Wendeplatte mit «FNAZ7» Spanbrecher Plaquette VCGT avec brise-copeau «FNAZ7»		r [mm]	Article nr. Artikel Nr. N° Article	QM3
		35°	0,03	VCGT 110300M FNAZ7	✓
			0,1	VCGT 110301M FNAZ7	✓
			0,2	VCGT 110302M FNAZ7	✓
			0,4	VCGT 110304M FNAZ7	✓
CCGT...MRS	CCGT insert with «MRS» chip-breaker CCGT Wendeplatte mit «MRS» Spanbrecher Plaquette CCGT avec brise-copeau «MRS»		r [mm]	Article nr. Artikel Nr. N° Article	QM3
		80°	0,1	CCGT 09T301 MRS	✓
			0,2	CCGT 09T302 MRS	✓
DCGT...MRS	DCGT insert with «MRS» chip-breaker DCGT Wendeplatte mit «MRS» Spanbrecher Plaquette DCGT avec brise-copeau «MRS»		r [mm]	Article nr. Artikel Nr. N° Article	QM3
		55°	0,1	DCGT 070201 MRS	✓
			0,2	DCGT 070202 MRS	✓
			0,1	DCGT 11T301 MRS	✓
			0,2	DCGT 11T302 MRS	✓
			0,4	DCGT 11T304 MRS	✓

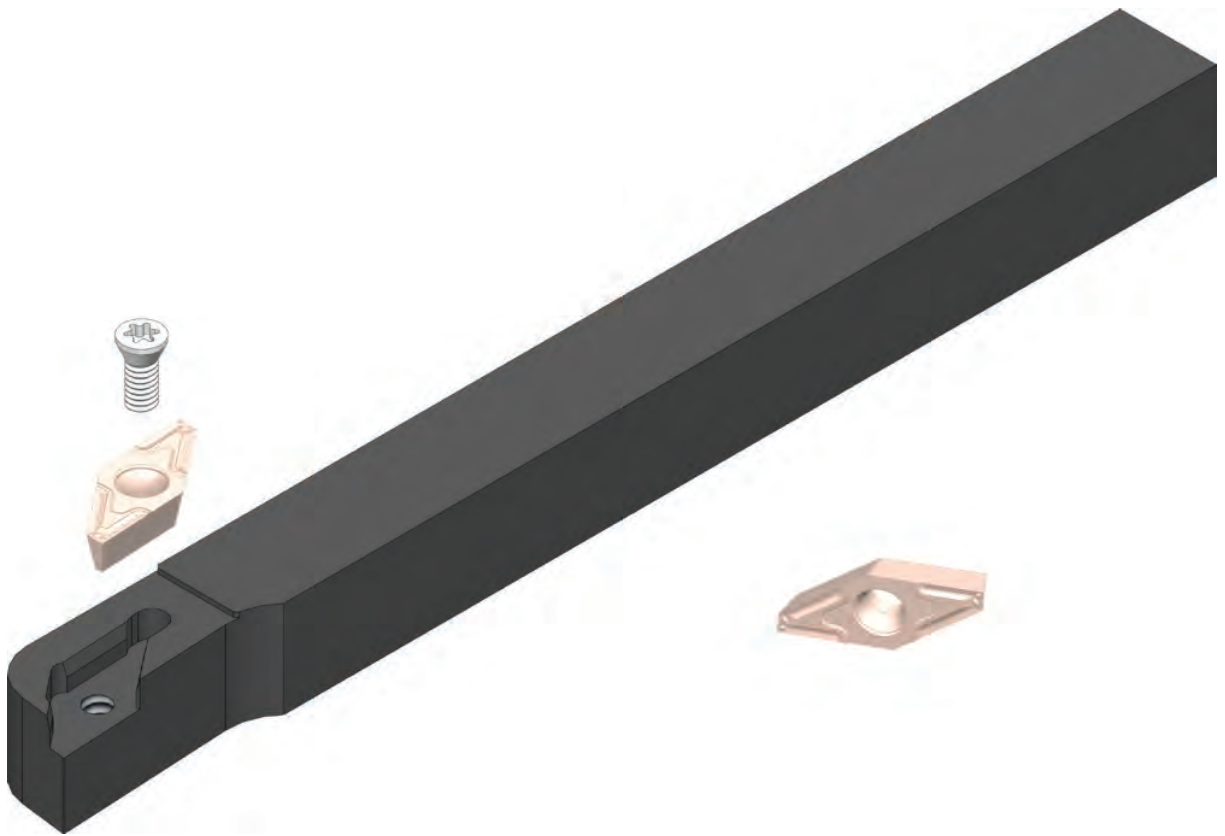
DCGT...BO	DCGT insert with «BO» chip-breaker DCGT Wendeplatte mit «BO» Spanbrecher Plaquette DCGT avec brise-copeau «BO»	r [mm]	Article nr. Artikel Nr. N° Article	QM2
 	55°	0,08	DCGT 0702008 BO	✓
		0,15	DCGT 0702015 BO	✓
		0,15	DCGT 11T3015 BO	✓
		0,35	DCGT 11T3035 BO	✓
VCGT...BO	VCGT insert with «BO» chip-breaker VCGT Wendeplatte mit «BO» Spanbrecher Plaquette VCGT avec brise-copeau «BO»	r [mm]	Article nr. Artikel Nr. N° Article	QM2
 	35°	0,08	VCGT 1103008 BO	✓
		0,15	VCGT 1103015 BO	✓
DCGT...FN-EF	DCGT insert with «FN-EF» chip-breaker DCGT Wendeplatte mit «FN-EF» Spanbrecher Plaquette DCGT avec brise-copeau «FN-EF»	r [mm]	Article nr. Artikel Nr. N° Article	BI90
 	55°	0,05	DCGT 0702005 FN-EF	✓
		0,1	DCGT 070201 FN-EF	✓
		0,2	DCGT 070202 FN-EF	✓
		0,05	DCGT 11T3005 FN-EF	✓
		0,1	DCGT 11T301 FN-EF	✓
		0,2	DCGT 11T302 FN-EF	✓
VCGT...FN-EF	VCGT insert with «FN-EF» chip-breaker VCGT Wendeplatte mit «FN-EF» Spanbrecher Plaquette VCGT avec brise-copeau «FN-EF»	r [mm]	Article nr. Artikel Nr. N° Article	BI90
 	35°	0,05	VCGT 1103005 FN-EF	✓
		0,1	VCGT 110301 FN-EF	✓
		0,2	VCGT 110302 FN-EF	✓
VCGT...EN-EF	VCGT insert with «EN-EF» chip-breaker VCGT Wendeplatte mit «EN-EF» Spanbrecher Plaquette VCGT avec brise-copeau «EN-EF»	r [mm]	Article nr. Artikel Nr. N° Article	BI90
 	35°	0,1	VCGT 110301 EN-EF	✓
		0,2	VCGT 110302 EN-EF	✓
			Treated cutting edges. Bearbeitete Schneidkanten. Arêtes de coupe traitées.	

DCGT...BAL	DCGT insert with «BAL» chip-breaker DCGT Wendeplatte mit «BAL» Spanbrecher Plaquette DCGT avec brise-copeau «BAL»	r [mm]	Article nr. Artikel Nr. N° Article	B130
	<h2>55°</h2>	0,2	DCGT 070202BAL	✓
		0,4	DCGT 070204BAL	✓
		0,2	DCGT 11T302BAL	✓
		0,4	DCGT 11T304BAL	✓

VCGT...BAL	VCGT insert with «BAL» chip-breaker VCGT Wendeplatte mit «BAL» Spanbrecher Plaquette VCGT avec brise-copeau «BAL»	r [mm]	Article nr. Artikel Nr. N° Article	B130
	<h2>35°</h2>	0,2	VCGT 110302BAL	✓
		0,4	VCGT 110304BAL	✓

VCGT...FR	VCGT insert VCGT Wendeplatte Plaquette VCGT	r [mm]	Article nr. Artikel Nr. N° Article	B171	B120
	<h2>35°</h2>	0,00	VCGT 1103ZZ FR	✓	
		0,03	VCGT 1103003 FR		✓
		0,08	VCGT 1103008 FR		✓
		0,2	VCGT 110302 FR		✓
 <p> Tool holder type SVJCR...11 Werkzeughalter Typ SVJCR...11 Porte-outil type SVJCR...11 </p> <p> 1°, 93°, 4° </p>					

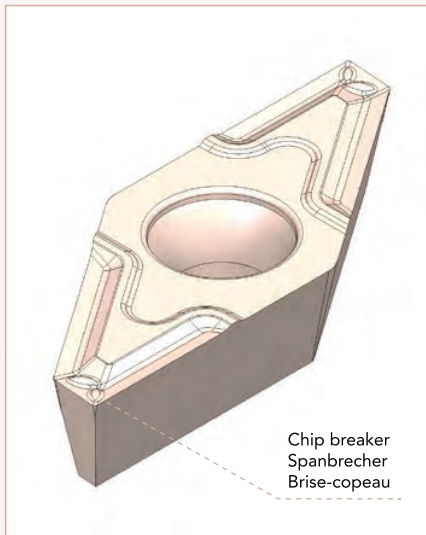
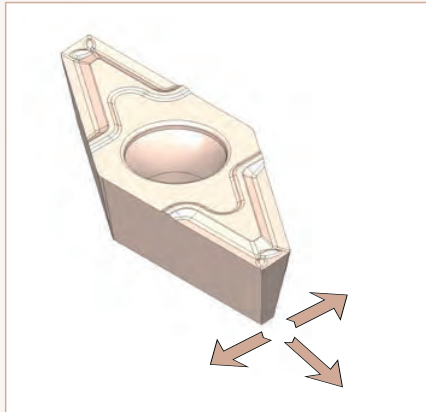
Multiturn-Dec VPGT



Presentation of Multiturn-Dec – VPGT

Vorstellung der Multiturn-Dec – VPGT

Présentation du Multiturn-Dec – VPGT



Advantages of Multiturn-Dec – VPGT

- General use for free turning, plungingturn and finishing.
- Ideal for deep removal of material.
- The insert has the same positive cutting angle in all turn direction.
- Cut control thanks to the chip breaker.

Vorteile der Multiturn-Dec – VPGT

- Generell anwendbar für das Längs-/Plandrehen und zum Schlichten.
- Ideal für große Materialabnahme.
- Die Wendplatte hat in jeder Drehrichtung den gleichen positiven Spanwinkel.
- Gute Spankontrolle durch die Spanbruchgeometrie.

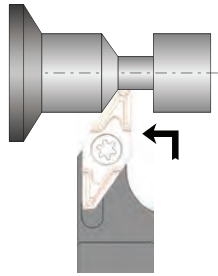
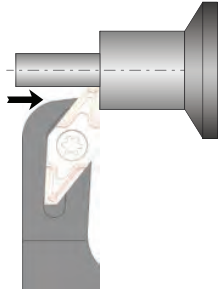
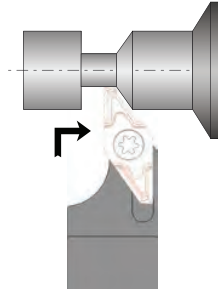
Avantages de la ligne Multiturn-Dec – VPGT

- Utilisation générale pour tournage, fonçage et finition.
- Idéal pour les grands enlèvements de matières.
- La plaquette a, dans toutes les directions, un angle de coupe positif tranchant.
- Maîtrise de la coupe grâce au brise-copeau.

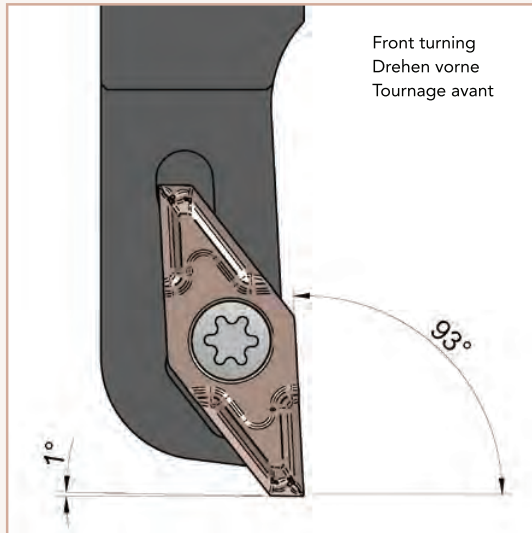
Field of application of Multiturn-Dec – VPGT

Anwendungsbereiche von Multiturn-Dec – VPGT

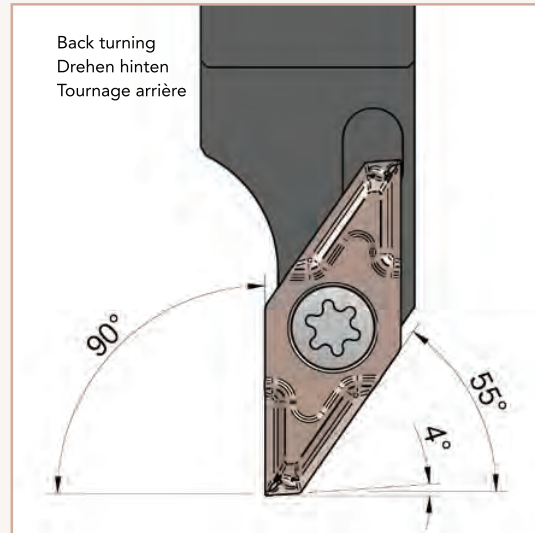
Champ d'application du Multiturn-Dec – VPGT

	Front turning Drehen vorne Tournage avant	Back turning Drehen hinten Tournage arrière
Right machining Rechte Bearbeitung Usinage à droite	 <p>Tool holders SVJP R... Inserts R</p> <p>Werkzeughalter SVJP R... Wendeplatten R</p> <p>Porte-outil SVJP R... Plaquettes R</p>	 <p>Tool holders SVXP R... Inserts L</p> <p>Werkzeughalter SVXP R... Wendeplatten L</p> <p>Porte-outil SVXP R... Plaquettes L</p>
Left machining Linke Bearbeitung Usinage à gauche	 <p>Tool holders SVJP L... Inserts L</p> <p>Werkzeughalter SVJP L... Wendeplatten L</p> <p>Porte-outil SVJP L... Plaquettes L</p>	 <p>Tool holders SVXP L... Inserts R</p> <p>Werkzeughalter SVXP L... Wendeplatten R</p> <p>Porte-outil SVXP L... Plaquettes R</p>

Cutting angles
Schneidwinkel
Angles de coupe



SVJP



SVXP

Coating of inserts

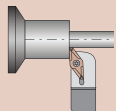
Beschichtung der Wendepplatten

Revêtement des plaquettes

✓ = Available
✓ = Verfügbar
✓ = Disponible

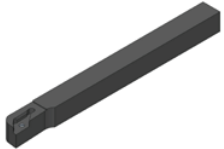
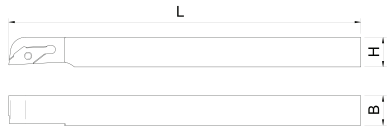
Designation Bezeichnung Désignation	Description Beschreibung Description
K18	<p>Without coating | K18 carbide</p> <p>Ohne Beschichtung | K18 Hartmetall</p> <p>Sans revêtement | Carbure K18</p>
BI40	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.
BI90	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>BaseAlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.

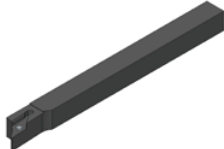

Designation Bezeichnung Désignation	Description Beschreibung Description
<p>BI100</p>	<p>AlCrN-based</p> <ul style="list-style-type: none"> • Very high heat resistance. • High wear resistance. • Ideal for high speed machining of stainless steel. <p>AlCrN-Basis</p> <ul style="list-style-type: none"> • Sehr hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. • Ideal für das Bearbeiten von Edelstahl mit hoher Schnittgeschwindigkeit. <p>Base AlCrN</p> <ul style="list-style-type: none"> • Très haute résistance à la chaleur. • Haute résistance à l'usure. • Idéal pour l'usinage à haute vitesse de coupe de l'acier inox.
<p>BI110</p>	<p>AlTiCrN-based</p> <ul style="list-style-type: none"> • Very smooth surface finish. • High heat resistance. • High wear resistance. • Especially suitable for machining pure copper, CuBe, CoCr and aluminium. <p>AlTiCrN-Basis</p> <ul style="list-style-type: none"> • Sehr glatte Oberfläche. • Hohe Hitzebeständigkeit. • Hohe Verschleissfestigkeit. • Besonders geeignet für die Bearbeitung von reinem Kupfer, CuBe, CoCr und Aluminium. <p>Base AlTiCrN</p> <ul style="list-style-type: none"> • Très bon glissement du copeau. • Haute résistance à la chaleur. • Haute résistance à l'usure. • Particulièrement adapté à l'usinage du cuivre pur, du CuBe, du CoCr et de l'aluminium.

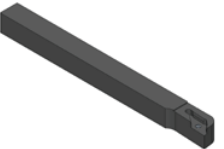
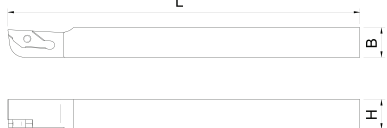


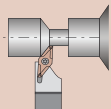
Front turning
 Drehen vorne
 Tournage avant

R / L : Right / Left machining
 R / L : Rechte / Linke Bearbeitung
 R / L : Usinage à droite / gauche

SVJP R ...	Right tool holder, reinforced version Werkzeughalter rechts, verstärkte Ausführung Porte-outil à droite, version renforcée	B	H	L	Article nr. Artikel Nr. N° Article
		8	8	120	SVJP R 0808 K10
		8	12	120	SVJP R 0812 K10
		10	10	120	SVJP R 1010 K10
		12	12	120	SVJP R 1212 K10
		16	16	120	SVJP R 1616 K10
		20	20	100	SVJP R 2020 H10
		9,52	9,52 (3/8")	120	SVJP R 952 K10
		12,7	9,52 (1/2")	120	SVJP R 127 K10
				for inserts R	für Wendepplatten R

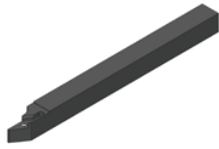
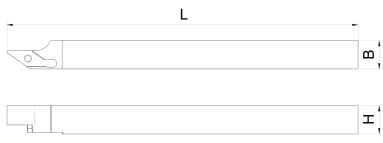
SVJP RA ...	Right tool holder, cleared version Werkzeughalter rechts, freigestellte Ausführung Porte-outil à droite, version dégagée	B	H	L	Article nr. Artikel Nr. N° Article
		10	10	120	SVJP RA 1010 K10
		12	12	120	SVJP RA 1212 K10
				for inserts R	für Wendepplatten R

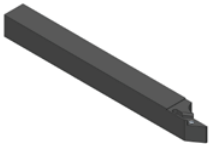
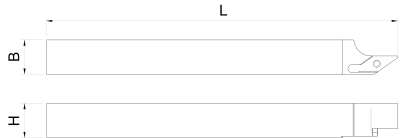
SVJP L ...	Left tool holder Werkzeughalter links Porte-outil à gauche	B	H	L	Article nr. Artikel Nr. N° Article
		8	6	120	SVJP L 0806 K10
		8	7	120	SVJP L 0807 K10
		8	8	120	SVJP L 0808 K10
		10	8	120	SVJP L 1008 K10
		10	10	120	SVJP L 1010 K10
		12	12	120	SVJP L 1212 K10
		16	16	120	SVJP L 1616 K10
				for inserts L	für Wendepplatten L	pour plaquettes L

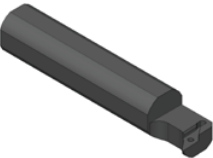



Back turning
 Drehen hinten
 Tournage arrière

R / L : Right / Left machining
 R / L : Rechte / Linke Bearbeitung
 R / L : Usinage à droite / gauche


SVXP R ...	Right tool holder Werkzeughalter rechts Porte-outil à droite	B	H	L	Article nr. Artikel Nr. N° Article
		10	10	120	SVXP R 1010 K10
		12	12	120	SVXP R 1212 K10
		16	16	120	SVXP R 1616 K10
		<i>for inserts L</i>		<i>für Wendepplatten L</i>	

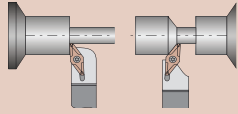
SVXP L ...	Left tool holder Werkzeughalter links Porte-outil à gauche	B	H	L	Article nr. Artikel Nr. N° Article
		12	12	120	SVXP L 1212 K10
		<i>for inserts R</i>		<i>für Wendepplatten R</i>	

Cylindrical turning tool holders for counter-operation Zylindrische Drehwerkzeughalter zur Rückseitenbearbeitung Porte-outils de tournage cylindriques pour contre-opération					
		<p>See the «Cylindrical turning tool holders» documentation for further information. Siehe die «Zylindrische Drehwerkzeughalter» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils de tournage cylindriques» pour plus d'informations.</p>			

Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage intégré					
		<p>See the «Tool holders with internal coolant» documentation for further information. Siehe die «Werkzeughalter mit Innenkühlung» Dokumentation für weitere Informationen. Voir la documentation «Porte-outils avec arrosage intégré» pour plus d'informations.</p>			


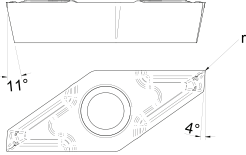
001-1	Key Schlüssel Clé	Article nr. Artikel Nr. N° Article
	Torx 8	001-1


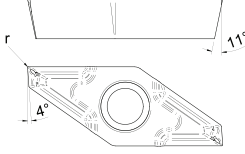
001-7	Screw for tool holder SVJP / SVXP Schraube für Werkzeughalter SVJP / SVXP Vis pour porte-outil SVJP / SVXP	Article nr. Artikel Nr. N° Article
	M2,5 x 7,5	001-7



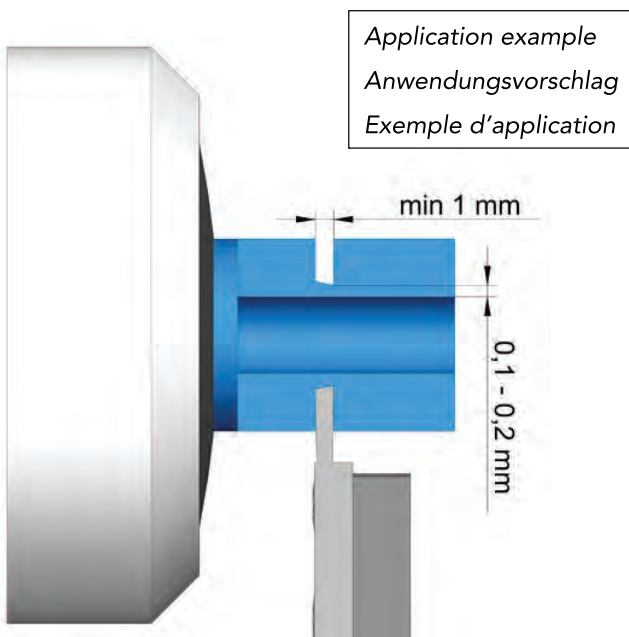
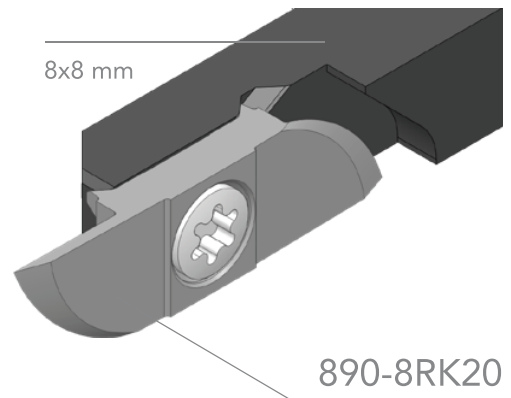
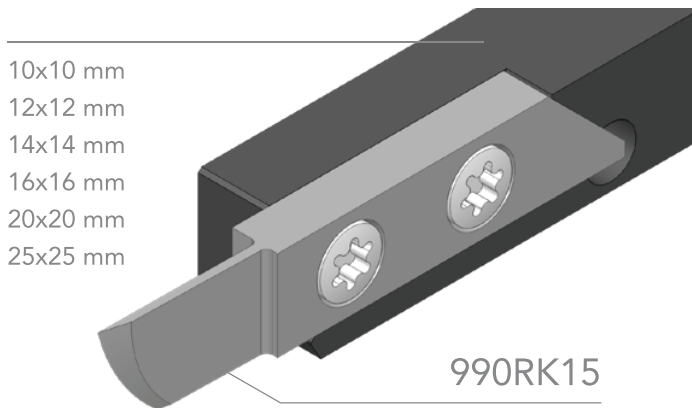
Turning
Drehen
Tournage

R / L : Right / Left machining
R / L : Rechte / Linke Bearbeitung
R / L : Usinage à droite / gauche

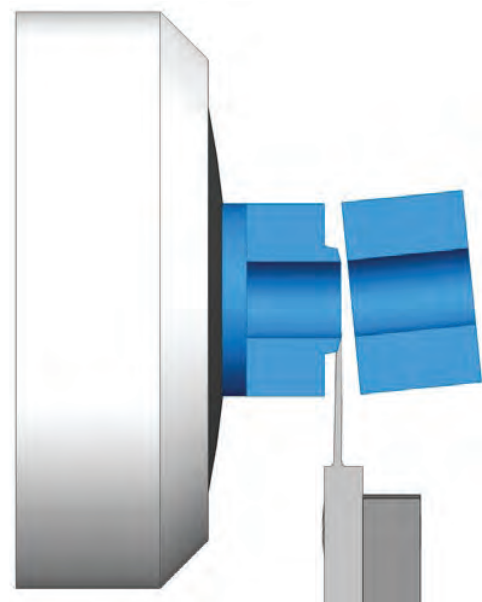
VPGT...FR	Right VPGT insert VPGT Wendeplatte rechts Plaquette VPGT à droite	r	Article nr. Artikel Nr. N° Article	K18	B140	B190	B1100	B1110
				✓	✓	✓	✓	✓
		0	VPGT 10 03 ZZ FR FW	✓	✓	✓	✓	✓
		0,08	VPGT 10 03 008 FR FW	✓	✓	✓	✓	✓
		0,2	VPGT 10 03 02 FR FW	✓	✓	✓	✓	✓
<i>Use with SVJP R and SVXP L tool holders Verwendung mit SVJP R und SVXP L Werkzeughalter Utilisation avec les porte-outils SVJP R et SVXP L</i>								

VPGT...FL	Left VPGT insert VPGT Wendeplatte links Plaquette VPGT à gauche	r	Article nr. Artikel Nr. N° Article	K18	B140	B190	B1100	B1110
				✓	✓	✓	✓	✓
		0	VPGT 10 03 ZZ FL FW	✓	✓	✓	✓	✓
		0,08	VPGT 10 03 008 FL FW	✓	✓	✓	✓	✓
		0,2	VPGT 10 03 02 FL FW	✓	✓	✓	✓	✓
<i>Use with SVJP L and SVXP R tool holders Verwendung mit SVJP L und SVXP R Werkzeughalter Utilisation avec les porte-outils SVJP L et SVXP R</i>								

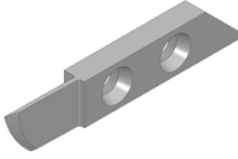
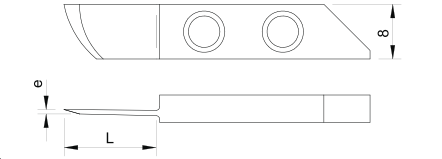
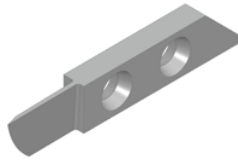
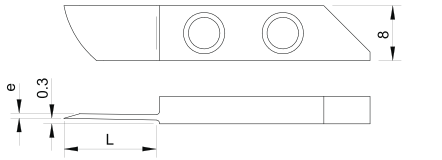

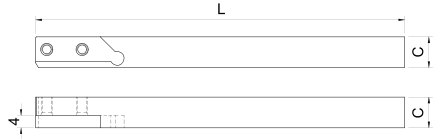


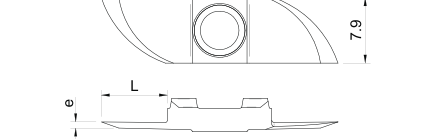
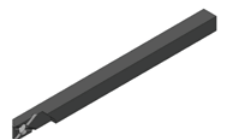
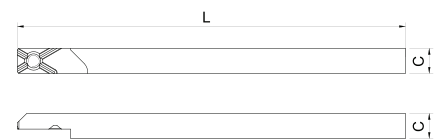

For the cut-off of plastic and pure PEEK
Zum Abstechen von Kunststoff und reinem PEEK
Pour le tronçonnage du plastique et du PEEK pur



1. Pre-cut with standard cut off insert
1. Vorstechen mit einer standard Abstechplatte
1. Pré-coupe avec tronçonneur standard



2. Finishing cut with the knife, avoiding any burr on the part.
2. Abstechen mit dem Messer, wodurch ein Grat am Werkstück vermieden wird.
2. Coupe de finition avec le couteau, évitant toute bavure sur la pièce.

990R	Carbide knife Hartmetall-Messer Couteau en métal dur	e	L	Article nr. Artikel Nr. N° Article
		0,6	13,0	990RK15
991R	Carbide knife Hartmetall-Messer Couteau en métal dur	e	L	Article nr. Artikel Nr. N° Article
		0,6	13,0	991RK15
100BH3-1xxR	Right tool holder for 990R and 991R knives Rechts Werkzeughalter für 990R und 991R Messer Porte-outil à droite pour couteaux 990R et 991R	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		10 x 10	125	100BH3-110R
		12 x 12	125	100BH3-112R
		14 x 14	125	100BH3-114R
		16 x 16	125	100BH3-116R
		20 x 20	125	100BH3-120R
		25 x 25	100	100BH3-125R
100-2	Replacement screw for tool holders 100BH3-1xxR Ersatzschraube für Werkzeughalter 100BH3-1xxR Vis de remplacement pour porte-outils 100BH3-1xxR	M3,5 x 9		Article nr. Artikel Nr. N° Article 100-2
				
890-8R	Carbide knife Hartmetall-Messer Couteau en métal dur	e	L	Article nr. Artikel Nr. N° Article
		0,7	8,0	890-8RK20
808R	Right tool holder for 890-8R knife Rechts Werkzeughalter für 890-8R Messer Porte-outil à droite pour couteau 890-8R	Section C Querschnitt C Section C	Length L Länge L Longueur L	Article nr. Artikel Nr. N° Article
		8 x 8	120	808R
100-4c	Replacement screw for tool holders 808R Ersatzschraube für Werkzeughalter 808R Vis de remplacement pour porte-outils 808R	M4,5 x 7		Article nr. Artikel Nr. N° Article 100-4c
				

Indexable insert with polycrystalline diamond insert (PCD)

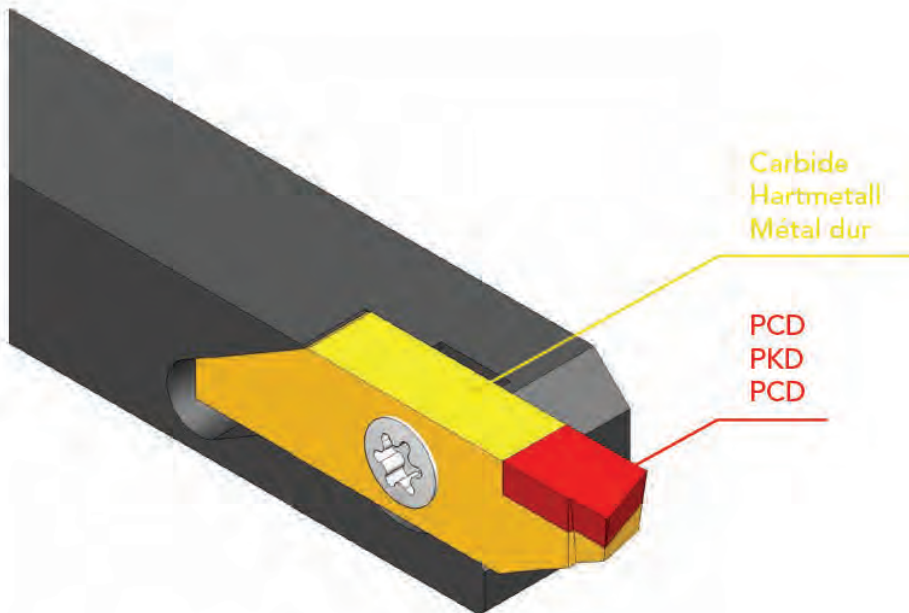
Diamond profile made on customer's request !

Wendeplatten mit polykristalliner Diamant Bestückung (PKD)

Bearbeitung des Profils nach Kunde Wunsch !

Plaquettes amovibles avec insert en diamant polycristallin (PCD)

Profil du diamant réalisé à la demande du client !



- Field of application : non-ferrous materials

Recommended for following materials : **CuBe** (hardened and non hardened), **gold**, **platinum**, **copper**.

Benutzungsfeld : Nicht Eisen ligierte Materialien (Buntmetall).

Empfohlene Materialien : **CuBe** (gehärtet und nicht gehärtet), **Gold**, **Platin**, **Kupfer**.

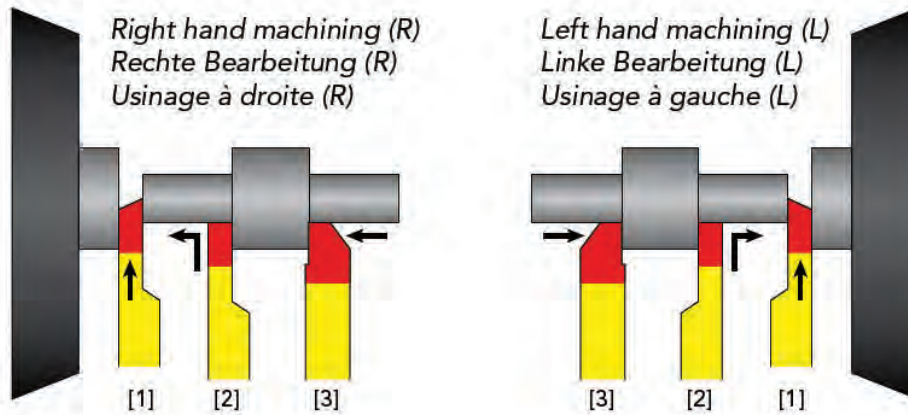
Domaine d'application : matériaux non-ferreux.

Recommandées pour les matières suivantes : **CuBe** (durci et non-durci), **or**, **platine**, **cuivre**.

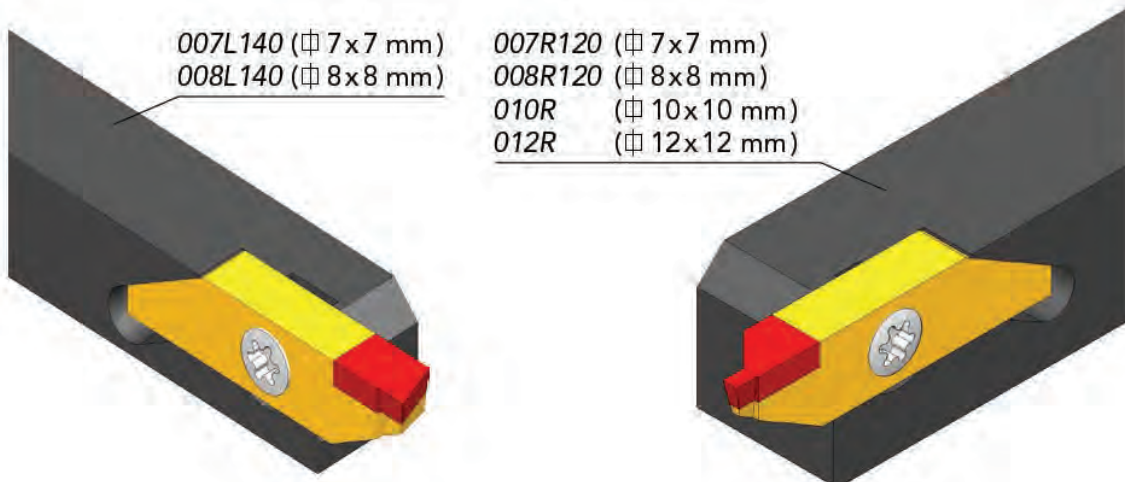
- Short delivery time : **2 weeks !**

Kurze Lieferzeit : **2 Wochen !**

Court délai de livraison : **2 semaines !**

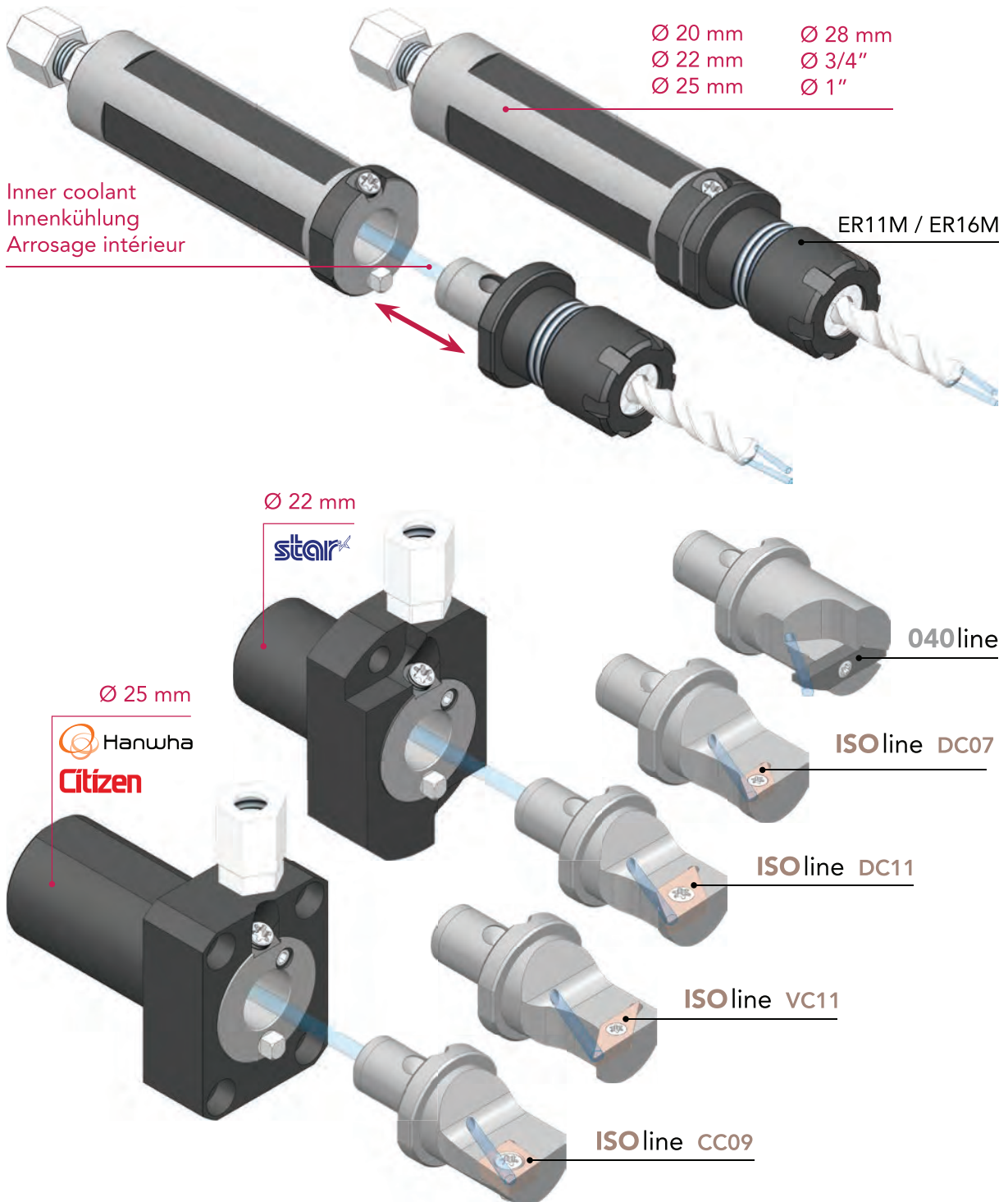


- Developed for cutting-off [1], back turning [2] and front turning [3].
Entwickelt zum Abstechen [1], hinten Drehen [2] und vorne Drehen [3].
Conçues pour le tronçonnage [1], le tournage arrière [2] et le tournage avant [3].
- Diamond profile realizable up to 3,3 mm.
Wendepplattenprofil machbar bis zu 3,3 mm.
Profil du diamant réalisable jusqu'à une épaisseur de 3,3 mm.
- Tool-holders available in left (L) and right (R) execution as well as in different sections.
Linke (L) und Rechte (R) Halter in verschiedene Ausführungen verfügbar.
Porte-outils disponibles en exécution gauche (L) et droite (R) et en différentes sections.





Modular system of tool holders with cylindrical shaft
Modulares zylindrisches Werkzeugsystem
Système modulaire de porte-outils à queue cylindrique



Advantages of the modular system

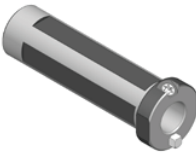
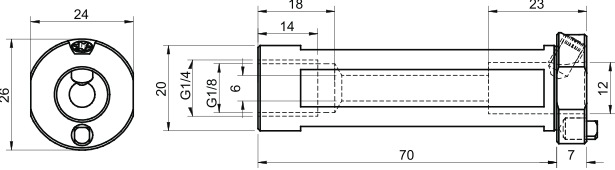
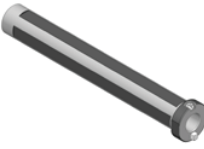
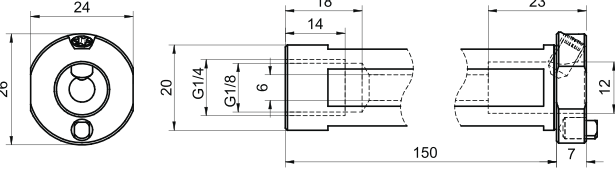
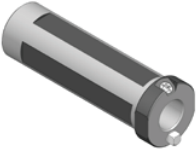
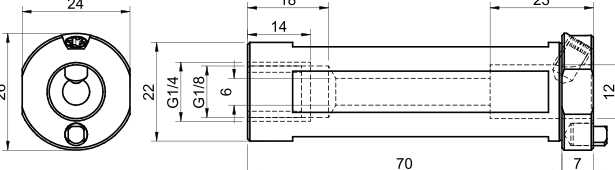

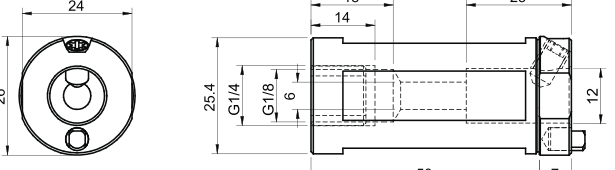
- **Quick change**, without having to remove the tool holder from the drill unit !
- **Presetting** is possible outside of the machine.
- With **inner coolant**.
- **Ultra precise** fitting of the interchangeable head. **Rigid** fixation.
- Different tool holder diameters available : **20 mm, 22 mm, 25 mm, 28 mm, 33 mm, 3/4"** and **1"**.
- Several types of interchangeable heads available:
 - **ER11M** and **ER16M** collet.
 - inserts types **040line**, **VPGT** and **ISOline**.

Vorteile des modulares Systems


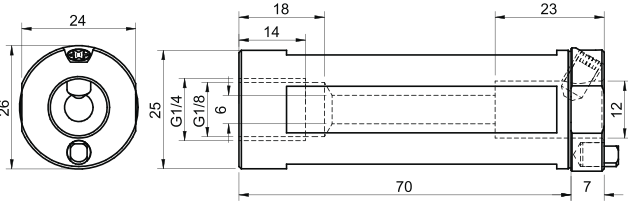


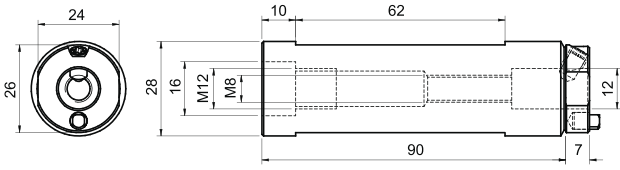

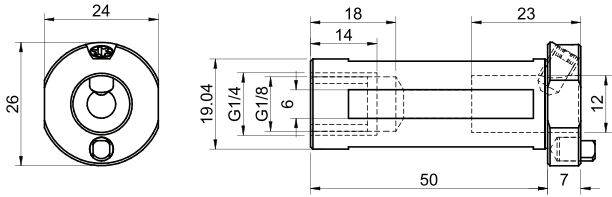
- **Schnellwechselsystem**: Es ist nicht nötig, den Grundhalter vom Bohraparat zu entfernen !
- **Voreinstellung** ist ausserhalb der Maschine möglich.
- Mit **Innenkühlung**.
- **Hochgenaue Positionierung** des Wechselkopfes. **Passgenaue, starre** Befestigung.
- Verschiedene verfügbare Durchmesser der Werkzeugaufnahmen: **20 mm, 22 mm, 25 mm, 28 mm, 33 mm, 3/4"** und **1"**.
- Mehrere verfügbare Wechselkopftypen:
 - **ER11M** und **ER16M** Spannzange.
 - Wendeplatte Type **040line**, **VPGT** und **ISOline**.

Avantages du système modulaire

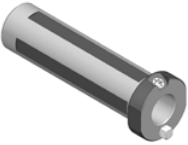
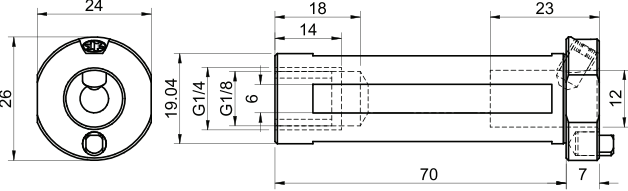

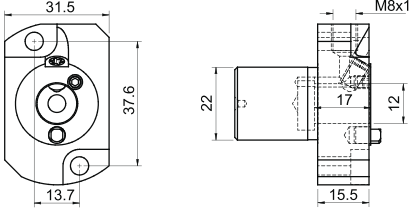
- **Changement rapide** sans avoir besoin de sortir le porte-outil de l'unité de perçage !
- **Préréglage** possible en dehors de la machine.
- Avec **arrosage intégré**.
- Ajustement **ultra précis** de la tête interchangeable. Fixation **rigide**.
- Différents diamètres de porte-outils disponibles: **20 mm, 22 mm, 25 mm, 28 mm, 33 mm, 3/4"** et **1"**.
- Plusieurs types de têtes interchangeables disponibles:
 - pince de type **ER11M** et **ER16M**.
 - plaquettes de type **040line**, **VPGT** et **ISOline**.

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Shaft Ø 20 mm, length 70 mm, with inner coolant* Schaft Ø 20 mm, Länge 70 mm, mit Innenkühlung* Queue Ø 20 mm, longueur 70 mm, avec arrosage intégré*</p>	QCD12S 2070 IK
	 <p>Shaft Ø 20 mm, length 150 mm, with inner coolant* Schaft Ø 20 mm, Länge 150 mm, mit Innenkühlung* Queue Ø 20 mm, longueur 150 mm, avec arrosage intégré*</p>	QCD12S 20150 IK
	 <p>Shaft Ø 22 mm, length 70 mm, with inner coolant* Schaft Ø 22 mm, Länge 70 mm, mit Innenkühlung* Queue Ø 22 mm, longueur 70 mm, avec arrosage intégré*</p>	QCD12S 2270 IK
	 <p>Shaft Ø 1" (25.4 mm), length 50 mm, with inner coolant* Schaft Ø 1" (25.4 mm), Länge 50 mm, mit Innenkühlung* Queue Ø 1" (25.4 mm), longueur 50 mm, avec arrosage intégré*</p>	QCD12S 25450 IK

- * Hydraulic connection G1/4". Hydraulic reduction connector from G1/4" to G1/8" included. Hydraulic connector sold separately. See the «Hydraulic connectors» documentation for further information.
- * Hydraulikanschluss G1/4". Inklusive Hydraulik Reduzierung von G1/4" auf G1/8". Hydraulikanschluss separat erhältlich. Siehe die Dokumentation «Hydraulikanschlüsse» für weitere Informationen.
- * Connection hydraulique G1/4". Réduction hydraulique de G1/4" à G1/8" incluse. Raccord hydraulique vendu séparément. Voir la documentation «Raccords hydrauliques» pour plus d'informations.

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Shaft Ø 25 mm, length 70 mm, with inner coolant* Schaft Ø 25 mm, Länge 70 mm, mit Innenkühlung* Queue Ø 25 mm, longueur 70 mm, avec arrosage intégré*</p>	QCD12S 2570 IK
 	 <p>Shaft Ø 28 mm, length 90 mm, with inner coolant Schaft Ø 28 mm, Länge 90 mm, mit Innenkühlung Queue Ø 28 mm, longueur 90 mm, avec arrosage intégré</p>	QCD12S 2890 IK
	 <p>Shaft Ø 3/4" (19.05 mm), length 50 mm, with inner coolant* Schaft Ø 3/4" (19.05 mm), Länge 50 mm, mit Innenkühlung* Queue Ø 3/4" (19.05 mm), longueur 50 mm, avec arrosage intégré*</p>	QCD12S 3450 IK



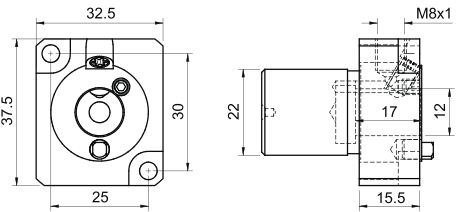


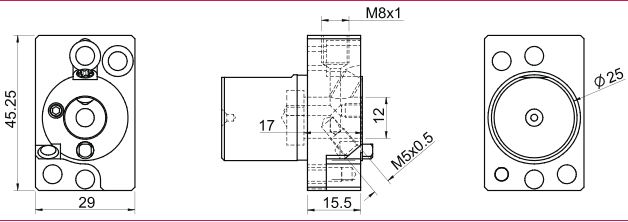
- * Hydraulic connection G1/4". Hydraulic reduction connector from G1/4" to G1/8" included. Hydraulic connector sold separately. See the «Hydraulic connectors» documentation for further information.
- * Hydraulikanschluss G1/4". Inklusive Hydraulik Reduzierung von G1/4" auf G1/8". Hydraulikanschluss separat erhältlich. Siehe die Dokumentation «Hydraulikanschlüsse» für weitere Informationen.
- * Connection hydraulique G1/4". Réduction hydraulique de G1/4" à G1/8" incluse. Raccord hydraulique vendu séparément. Voir la documentation «Raccords hydrauliques» pour plus d'informations.

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Shaft Ø 3/4" (19.05 mm), length 70 mm, with inner coolant* Schaft Ø 3/4" (19.05 mm), Länge 70 mm, mit Innenkühlung* Queue Ø 3/4" (19.05 mm), longueur 70 mm, avec arrosage intégré*</p>	QCD12S 3470 IK
	 <p>Shaft Ø 22 mm, for counter-operation machining on STAR machines, with inner coolant** Schaft Ø 22 mm, zur Rückseitenbearbeitung auf STAR Maschinen, mit Innenkühlung** Queue Ø 22 mm, pour usinage en contre-opération sur machines STAR, avec arrosage intégré**</p>	QCD12S 22SR IK
<p>Suitable for machines: • SR10J (positions T22/T24) • SB16 type C, type E • SB20 R type E, type G, type N • SR20J/JN • ECAS12/20 • SR38 • SR20 IV • SR20J II • SR32J II (positions T21-T24 → overlaps positions T25-T28).</p> <p>Passend für Maschinen: • SR10J (Positionen T22/T24) • SB16 Typ C, Typ E • SB20 R Typ E, Typ G, Typ N • SR20J/JN • ECAS12/20 • SR38 • SR20 IV • SR20J II • SR32J II (Positionen T21-T24 → verbaut Positionen T25-T28).</p> <p>Convient aux machines: • SR10J (positions T22/T24) • SB16 type C, type E • SB20 R type E, type G, type N • SR20J/JN • ECAS12/20 • SR38 • SR20 IV • SR20J II • SR32J II (positions T21-T24 → chevauche les positions T25-T28).</p>		

** Hydraulic connection M8x1. Hydraulic connector sold separately. See the «Hydraulic connectors» documentation for further information.

** Hydraulikanschluss M8x1. Hydraulikanschluss separat erhältlich. Siehe die Dokumentation «Hydraulikanschlüsse» für weitere Informationen.



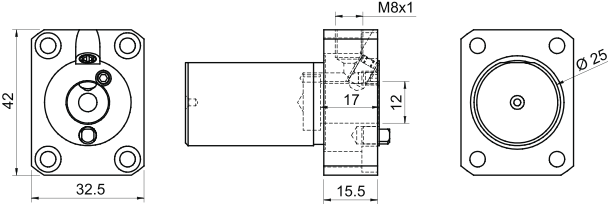

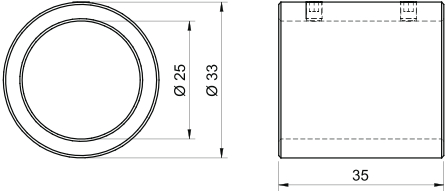
** Connection hydraulique M8x1. Raccord hydraulique vendu séparément. Voir la documentation «Raccords hydrauliques» pour plus d'informations.

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
 	 <p>Shaft \varnothing 22 mm, for counter-operation machining on STAR machines, with inner coolant**</p> <p>Schaft \varnothing 22 mm, zur Rückseitenbearbeitung auf STAR Maschinen, mit Innenkühlung **</p> <p>Queue \varnothing 22 mm, pour usinage en contre-opération sur machines STAR, avec arrosage intégré**</p>	<p>QCD12S 22SW IK</p>
<p>Suitable for machines: • SB12R • SB20R • SR20R IV • SR20J II • SV20R • SW20 • SW12R II • SR32J II • SR38.</p> <p>Passend für Maschinen: • SB12R • SB20R • SR20R IV • SR20J II • SV20R • SW20 • SW12R II • SR32J II • SR38.</p> <p>Convient aux machines: • SB12R • SB20R • SR20R IV • SR20J II • SV20R • SW20 • SW12R II • SR32J II • SR38.</p>		
 	 <p>Shaft \varnothing 25 mm, for counter-operation machining on Citizen machines, with inner coolant***.</p> <p>Schaft \varnothing 25 mm, zur Rückseitenbearbeitung auf Citizen Maschinen, mit Innenkühlung***.</p> <p>Queue \varnothing 25 mm, pour usinage en contre-opération sur machines Citizen, avec arrosage intégré***.</p>	<p>QCD12S 25CIT IK</p>
<p>Suitable for machines: • L12 • L20</p> <p>Passend für Maschinen: • L12 • L20</p> <p>Convient aux machines: • L12 • L20</p>		

*** Hydraulic connection M8x1 or M5x0,5. Hydraulic connector sold separately. See the «Hydraulic connectors» documentation for further information. 1 plug screw M8x1 (BF6p MF8x1 DIN906 C) and 1 plug screw M5x0,5 (RH24-330030) included.

*** Hydraulikanschluss M8x1 oder M5x0,5. Hydraulikanschluss separat erhältlich. Siehe die Dokumentation «Hydraulikanschlüsse» für weitere Informationen. Inklusive 1 Verschlusschraube M8x1 (BF6p MF8x1 DIN906 C) und 1 Verschlusschraube M5x0,5 (RH24-330030).


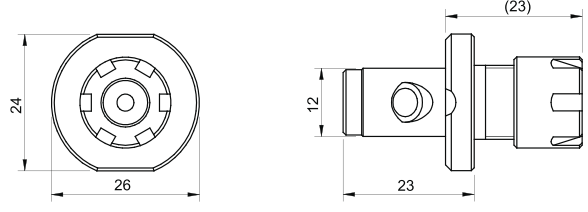

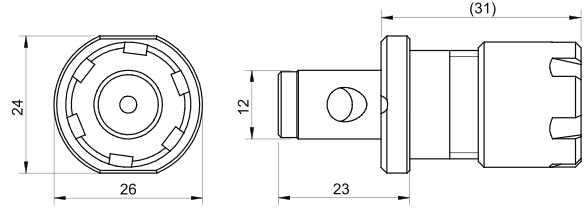
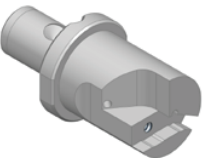
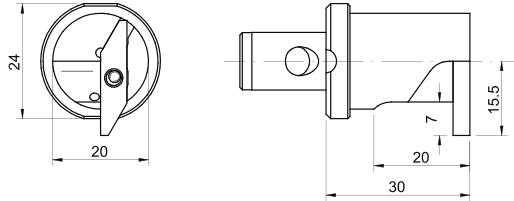
*** Connection hydraulique M8x1 ou M5x0,5. Raccord hydraulique vendu séparément. Voir la documentation «Raccords hydrauliques» pour plus d'informations. 1 vis d'obturation M8x1 (BF6p MF8x1 DIN906 C) et 1 vis d'obturation M5x0,5 (RH24-330030) incluses.


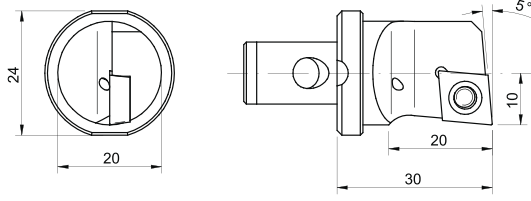
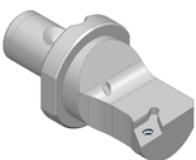
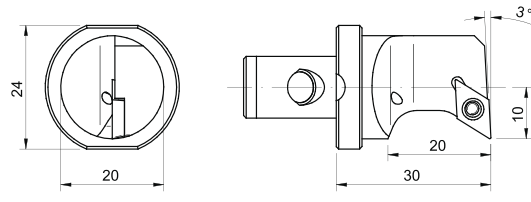

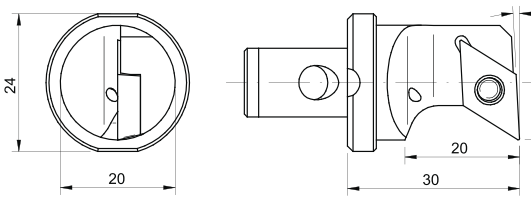
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
 	 <p>Shaft Ø 25 mm, for counter-operation machining on Hanwha machines, with inner coolant**.</p> <p>Schaft Ø 25 mm, zur Rückseitenbearbeitung auf Hanwha Maschinen, mit Innenkühlung**.</p> <p>Queue Ø 25 mm, pour usinage en contre-opération sur machines Hanwha, avec arrosage intégré**.</p>	<p>QCD12S 25HAN IK</p>
	 <p>Adaptor from Ø 25 mm to Ø 33 mm.</p> <p>Adapter von Ø 25 mm auf Ø 33 mm.</p> <p>Adaptateur de Ø 25 mm à Ø 33 mm.</p>	<p>QCD D25-33</p>
<p>Suitable for machines:</p> <ul style="list-style-type: none"> • XD20 (use with the QCD D25-33 adaptor only for the driven positions). • XD26 (use with the QCD D25-33 adaptor only for the driven positions). • XD20V (use with the QCD D25-33 adaptor for all positions). • SD26V (use with the QCD D25-33 adaptor for all positions). <p>Passend für die Maschinen:</p> <ul style="list-style-type: none"> • XD20 (Verwendung mit dem QCD D25-33 Adapter nur für die angetriebenen Positionen). • XD26 (Verwendung mit dem QCD D25-33 Adapter nur für die angetriebenen Positionen). • XD20V (Verwendung mit dem QCD D25-33 Adapter für alle Positionen). • SD26V (Verwendung mit dem QCD D25-33 Adapter für alle Positionen). <p>Convient aux machines:</p> <ul style="list-style-type: none"> • XD20 (utilisation de l'adaptateur QCD D25-33 seulement pour les positions entraînées). • XD26 (utilisation de l'adaptateur QCD D25-33 seulement pour les positions entraînées). • XD20V (utilisation de l'adaptateur QCD D25-33 pour toutes les positions). • SD26V (utilisation de l'adaptateur QCD D25-33 pour toutes les positions). 		


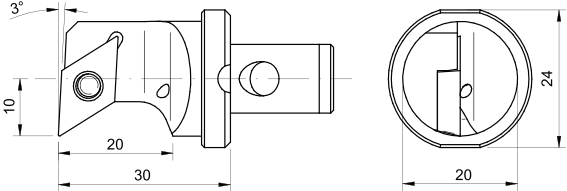
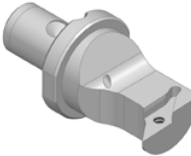
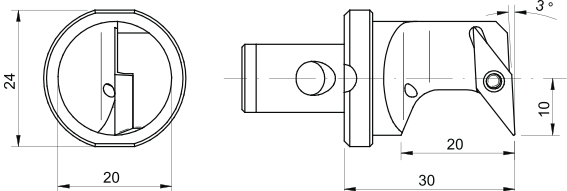

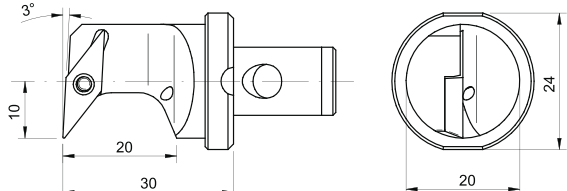
** Hydraulic connection M8x1. Hydraulic connector sold separately. See the «Hydraulic connectors» documentation for further information.

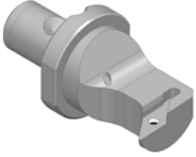
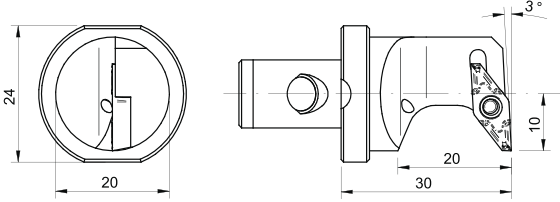

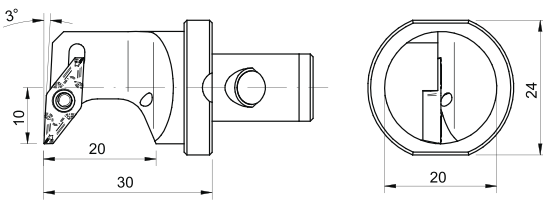

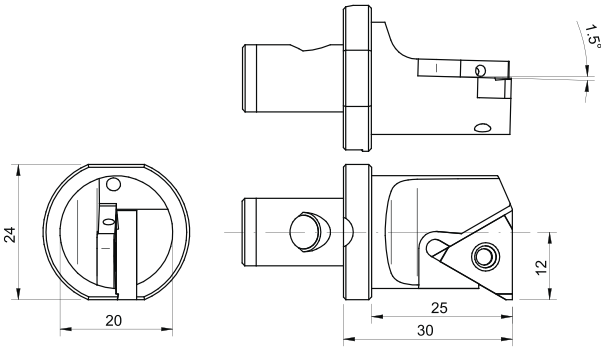
** Hydraulikanschluss M8x1. Hydraulikanschluss separat erhältlich. Siehe die Dokumentation «Hydraulikanschlüsse» für weitere Informationen.

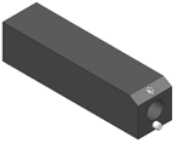
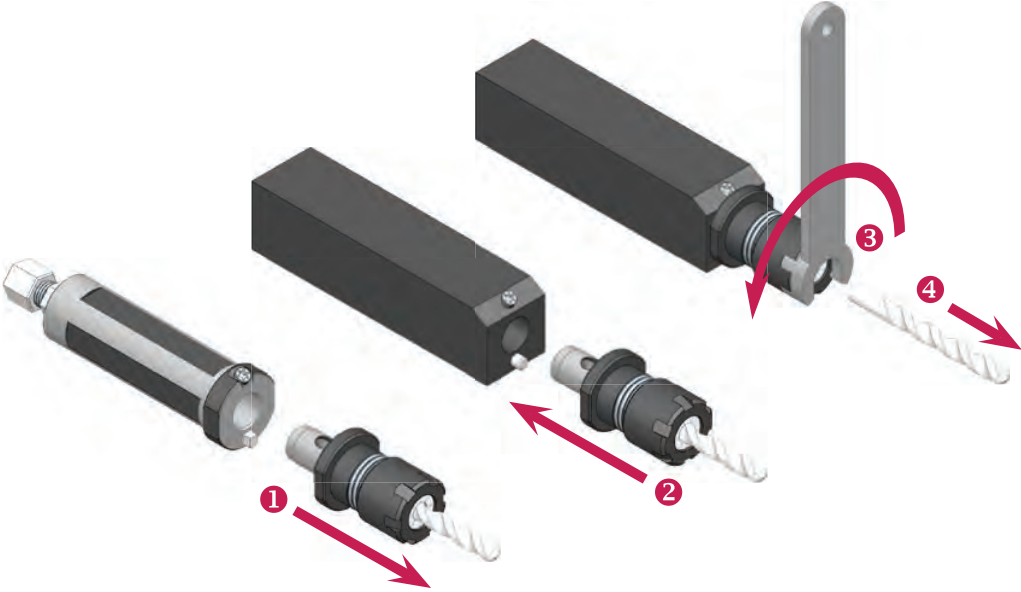
** Connection hydraulique M8x1. Raccord hydraulique vendu séparément. Voir la documentation «Raccords hydrauliques» pour plus d'informations.

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Interchangeable head, type ER11M collet, with inner coolant Wechselkopf, Typ ER11M Spannzange, mit Innenkühlung Tête interchangeable, type pince ER11M, avec arrosage intégré</p>	QCD12H ER11M IK
	 <p>Interchangeable head, type ER16M collet, with inner coolant <i>Please see the note on page 14</i> Wechselkopf, Typ ER16M Spannzange, mit Innenkühlung <i>Bitte beachten Sie den Hinweis auf Seite 14</i> Tête interchangeable, type pince ER16M, avec arrosage intégré <i>Veillez prendre note de la remarque en page 14</i></p>	QCD12H ER16M IK
	 <p>Interchangeable head, right version, insert type 040line, with inner coolant Wechselkopf, rechte Ausführung, Wendeplatte Typ 040line, mit Innenkühlung Tête interchangeable, exécution à droite, plaquette type 040line, avec arrosage intégré</p>	QCD12H 040R IK





	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Interchangeable head, right version, insert type ISoline CC09, with inner coolant</p> <p>Wechselkopf, rechte Ausführung, Wendeplatte Typ ISoline CC09, mit Innenkühlung</p> <p>Tête interchangeable, exécution à droite, plaquette type ISoline CC09, avec arrosage intégré</p>	QCD12H CC09R IK
	 <p>Interchangeable head, right version, insert type ISoline DC07, with inner coolant</p> <p>Wechselkopf, rechte Ausführung, Wendeplatte Typ ISoline DC07, mit Innenkühlung</p> <p>Tête interchangeable, exécution à droite, plaquette type ISoline DC07, avec arrosage intégré</p>	QCD12H DC07R IK
	 <p>Interchangeable head, right version, insert type ISoline DC11, with inner coolant</p> <p>Wechselkopf, rechte Ausführung, Wendeplatte Typ ISoline DC11, mit Innenkühlung</p> <p>Tête interchangeable, exécution à droite, plaquette type ISoline DC11, avec arrosage intégré</p>	QCD12H DC11R IK

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Interchangeable head, left version, insert type ISOline DC11, with inner coolant</p> <p>Wechselkopf, linke Ausführung, Wendeplatte Typ ISOline DC11, mit Innenkühlung</p> <p>Tête interchangeable, exécution à gauche, plaquette type ISOline DC11, avec arrosage intégré</p>	<p>QCD12H DC11L IK</p>
	 <p>Interchangeable head, right version, insert type ISOline VC11, with inner coolant</p> <p>Wechselkopf, rechte Ausführung, Wendeplatte Typ ISOline VC11, mit Innenkühlung</p> <p>Tête interchangeable, exécution à droite, plaquette type ISOline VC11, avec arrosage intégré</p>	<p>QCD12H VC11R IK</p>
	 <p>Interchangeable head, left version, insert type ISOline VC11, with inner coolant</p> <p>Wechselkopf, linke Ausführung, Wendeplatte Typ ISOline VC11, mit Innenkühlung</p> <p>Tête interchangeable, exécution à gauche, plaquette type ISOline VC11, avec arrosage intégré</p>	<p>QCD12H VC11L IK</p>

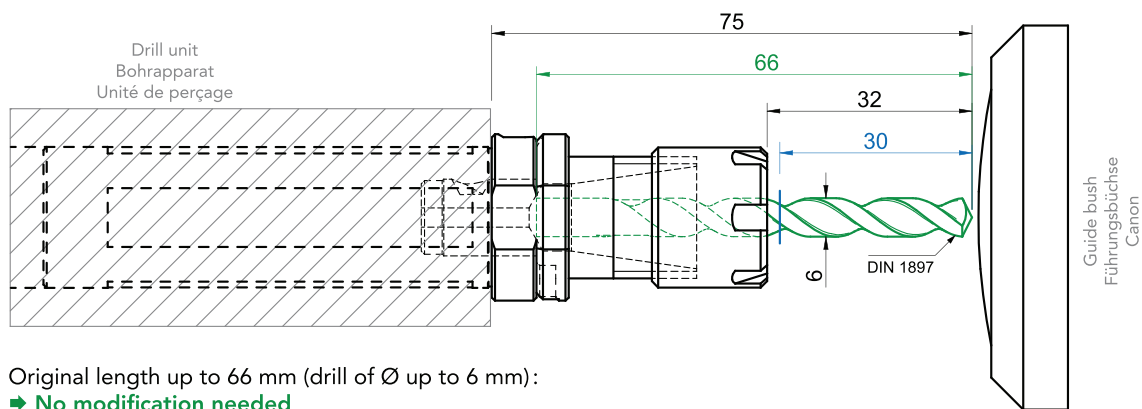
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	 <p>Interchangeable head, right version, insert type ISOline VPGT, with inner coolant</p> <p>Wechselkopf, rechte Ausführung, Wendeplatte Typ ISOline VPGT, mit Innenkühlung</p> <p>Tête interchangeable, exécution à droite, plaquette type ISOline VPGT, avec arrosage intégré</p>	<p>QCD12H VPGT R IK</p>
	 <p>Interchangeable head, left version, insert type ISOline VPGT, with inner coolant</p> <p>Wechselkopf, linke Ausführung, Wendeplatte Typ ISOline VPGT, mit Innenkühlung</p> <p>Tête interchangeable, exécution à gauche, plaquette type ISOline VPGT, avec arrosage intégré</p>	<p>QCD12H VPGT L IK</p>
	 <p>Interchangeable head, right version, type ER16 insert, with inner coolant</p> <p>Wechselkopf, rechte Ausführung, Typ ER16 Wendeplatte, mit Innenkühlung</p> <p>Tête interchangeable, exécution à droite, plaquette type ER16, avec arrosage intégré</p>	<p>QCD12H 16ER-1,5R IK</p>

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Accessory for tool's replacement Used to hold the head of the tool to facilitate the loosening of the nut.</p> <p>Zubehör zum Wechseln des Werkzeugs Einfaches Einlegen des Schnellwechselkopfes und Lösen der Mutter.</p> <p>Accessoire pour le changement d'outil Permet de tenir la tête de l'outil afin de faciliter le desserrage de l'écrou.</p>	<p>QCD12A 2525</p>
		

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Torque screwdriver (fixed setting 5 Nm) Recommended for an optimal control of the tightening Drehmoment-Schraubendreher (fest eingestellt 5 Nm) Empfohlen für eine optimale Drehmoment-Kontrolle Tournevis dynamométrique (couple fixe 5 Nm) Recommandé pour un contrôle optimal du serrage	100-10
	Bit Torx 20 for torque screwdriver For the tightening of the interchangeable heads Einsatz Torx 20 für Drehmoment-Schraubendreher Zum Spannen des Wechselkopfes Embout Torx 20 pour tournevis dynamométrique Pour le serrage des têtes interchangeables	100-12
	Standard screwdriver Torx 20 Standard Schraubendreher Torx 20 Tournevis standard Torx 20	100-9
	Basic key Torx 20 Einfacher Schlüssel Torx 20 Clé simple Torx 20	100-15
	Replacement screw Torx 20 for shafts Ersatzschraube Torx 20 für den Schaft Vis de remplacement Torx 20 pour queues	001-10
	Replacement reduction for hydraulic connector from G1/4" to G1/8" Ersatz- Hydraulik Reduzierung von G1/4" auf G1/8" Réduction hydraulique de G1/4" à G1/8" de remplacement	RED G1/4" - G1/8"
	Replacement plug screw M8x1 for QCD12S 25CIT IK Ersatzverschlusschraube M8x1 für QCD12S 25CIT IK Bouchon fileté M8x1 de remplacement pour QCD12S 25CIT IK	001-12
	Replacement plug screw M5x0,5 for QCD12S 25CIT IK Ersatzverschlusschraube M5x0,5 für QCD12S 25CIT IK Bouchon fileté M5x0,5 de remplacement pour QCD12S 25CIT IK	RH24-330030

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Replacement screw for head 040line Ersatzschraube für Kopf 040line Vis de remplacement pour tête 040line	001-2
	Replacement screw for heads ISOline CC09 and DC11 Ersatzschraube für Köpfe ISOline CC09 und DC11 Vis de remplacement pour têtes ISOline CC09 et DC11	100-21
	Replacement screw for head ISOline VC11 Ersatzschraube für Kopf ISOline VC11 Vis de remplacement pour tête ISOline VC11	001-7
	Replacement screw for head with ER16 insert Ersatzschraube für Kopf mit ER16 Wendeplatte Vis de remplacement pour tête à plaquette ER16	100-2

- ☞ On **star** machines, in order to avoid any crash with the guide bush, the length of the drills used with the «Quick change diameter» system shouldn't exceed 66 mm. The drills DIN 1897 must be shortened according to the information shown below. **The maximum depth of drill is 30 mm.**
- ☞ Um eine Kollision auf den **star**-Maschinen zu vermeiden, dürfen die Spiralbohrer eine Länge von maximal 66 mm nicht überschreiten. Spiralbohrer ab \varnothing 6 mm müssen gemäss untenstehenden Informationen eingekürzt werden. **Die maximale Bohrtiefe beträgt 30 mm.**
- ☞ Sur machines **star**, afin d'éviter toute collision avec le canon, la longueur des mèches utilisées sur le système Quick change diameter ne doit pas dépasser 66 mm. Les mèches DIN 1897 doivent être raccourcies selon les informations indiquées ci-dessous. **La profondeur maximum de perçage est de 30 mm.**



Original length up to 66 mm (drill of \varnothing up to 6 mm):

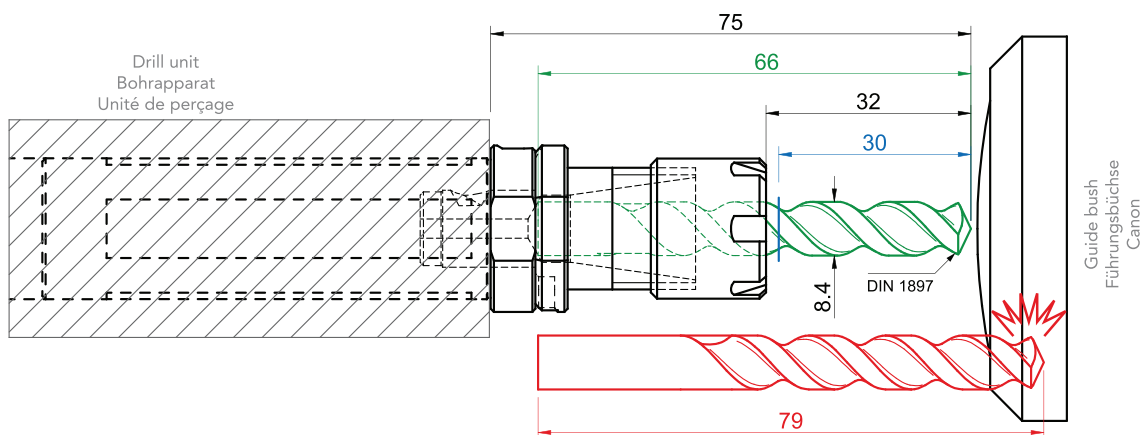
➔ **No modification needed**

Originallänge bis maximal 66 mm (Spiralbohrer bis max \varnothing 6 mm):

➔ **Keine Modifikation nötig**

Longueur originale jusqu'à 66 mm (mèche de \varnothing jusqu'à 6 mm):

➔ **Pas de modification nécessaire**



Original length longer than 66 mm (drill of \varnothing larger than 6 mm):

➔ **The drill must be shortened to 66 mm !**

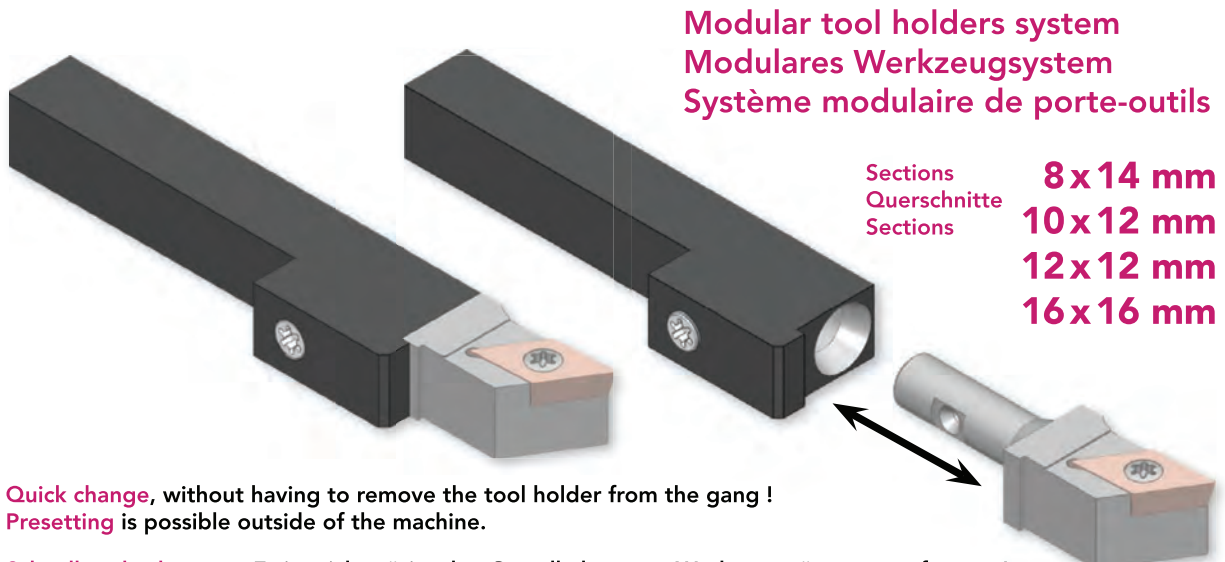
Originallänge grösser als 66 mm (Spiralbohrer ab \varnothing 6 mm):

➔ **Spiralbohrer auf eine maximale Länge von 66 mm einkürzen !**

Longueur originale supérieure à 66 mm (mèche de \varnothing supérieur à 6 mm):

➔ **Raccourcir la mèche à 66 mm !**

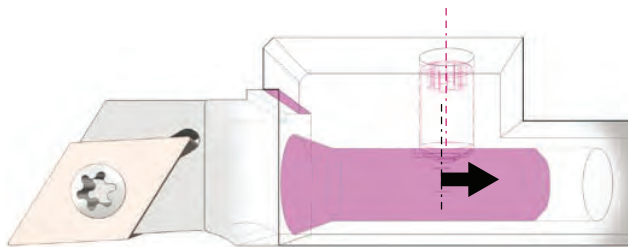




Quick change, without having to remove the tool holder from the gang !
Presetting is possible outside of the machine.

Schnellwechselsystem: Es ist nicht nötig, den Grundhalter vom Werkzeugträger zu entfernen !
Voreinstellung ist ausserhalb der Maschine möglich.

Changement rapide sans avoir besoin de sortir le porte-outil du peigne !
Préréglage possible en dehors de la machine.



Ultra precise fitting.
Rigid fixation.

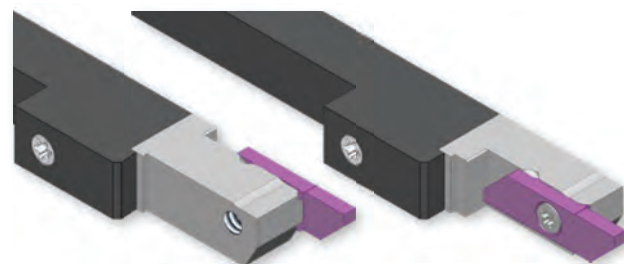
Hochgenaue Positionierung des Wechselkopfes.
Passgenaue, starre Befestigung.

Ajustement ultra précis.
Fixation rigide.

Left and right interchangeable heads available.

Linke und rechte Wechselköpfe verfügbar.

Têtes interchangeables disponibles à gauche et à droite.



400 line



oxoline



VPGT Multiturn-Dec



ISO line



140 line



800 line
800 line +



040line



ISO line



CC06 VB11
CC09 VC11
DC07 VC12
DC11 VC13

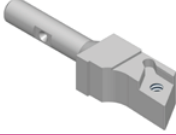
500 line

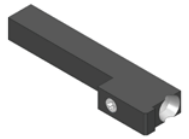
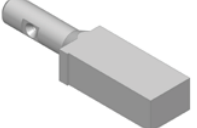

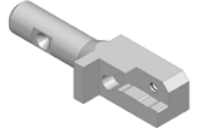





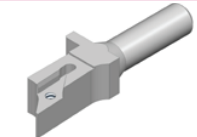
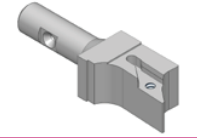


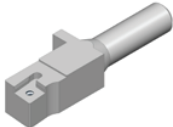
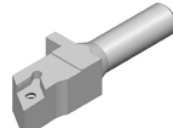


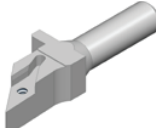
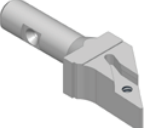
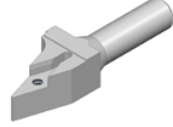

700 line

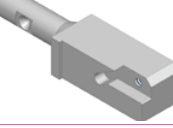






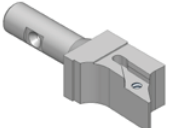

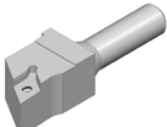
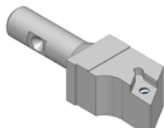
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Shaft 8x14 mm, for right or left head Schaft 8x14 mm, für rechten oder linken Kopf Queue 8x14 mm, pour tête gauche ou droite	QC5S 0814
	Head 8x10 mm, blank Kopf 8x10 mm, Rohling Tête 8x10 mm, ébauche	QC5H 0810 EB
	Head 8x10 mm, right version, type 040line Kopf 8x10 mm, rechte Ausführung, Typ 040line Tête 8x10 mm, exécution à droite, type 040line	QC5H 008R
	Head 8x10 mm, left version, type 040line Kopf 8x10 mm, linke Ausführung, Typ 040line Tête 8x10 mm, exécution à gauche, type 040line	QC5H 008L
	Head 8x10 mm, right version, type 400line Kopf 8x10 mm, rechte Ausführung, Typ 400line Tête 8x10 mm, exécution à droite, type 400line	QC5H 408R
	Head 8x10 mm, left version, type 400line Kopf 8x10 mm, linke Ausführung, Typ 400line Tête 8x10 mm, exécution à gauche, type 400line	QC5H 408L
	Head 8x10 mm, right version, type Multiturn Dec VPGT Kopf 8x10 mm, rechte Ausführung, Typ Multiturn Dec VPGT Tête 8x10 mm, exécution à droite, type Multiturn Dec VPGT	QC5H VPGT 8R
	Head 8x10 mm, left version, type Multiturn Dec VPGT Kopf 8x10 mm, linke Ausführung, Typ Multiturn Dec VPGT Tête 8x10 mm, exécution à gauche, type Multiturn Dec VPGT	QC5H VPGT 8L
	Head 8x10 mm, right version, type ISOLine DC07 Kopf 8x10 mm, rechte Ausführung, Typ ISOLine DC07 Tête 8x10 mm, exécution à droite, type ISOLine DC07	QC5H DC07 8R
	Head 8x10 mm, left version, type ISOLine DC07 Kopf 8x10 mm, linke Ausführung, Typ ISOLine DC07 Tête 8x10 mm, exécution à gauche, type ISOLine DC07	QC5H DC07 8L
	Head 8x10 mm, right version, type ISOLine VC11 Kopf 8x10 mm, rechte Ausführung, Typ ISOLine VC11 Tête 8x10 mm, exécution à droite, type ISOLine VC11	QC5H VC11 8R

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Head 8x10 mm, left version, type ISOline VC11 Kopf 8x10 mm, linke Ausführung, Typ ISOline VC11 Tête 8x10 mm, exécution à gauche, type ISOline VC11</p>	<p>QC5H VC11 8L</p>

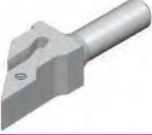
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Shaft 10x12 mm, for right or left head Schaft 10x12 mm, für rechten oder linken Kopf Queue 10x12 mm, pour tête gauche ou droite	QC8S 1010
	Head 10x14 mm, right version, blank Kopf 10x14 mm, rechte Ausführung, Rohling Tête 10x14 mm, exécution à droite, ébauche	QC8H 1014 EB IK
	Head 10x14 mm, right version, type 040line Kopf 10x14 mm, rechte Ausführung, Typ 040line Tête 10x14 mm, exécution à droite, type 040line	QC8H 010R
	Head 10x14 mm, left version, type 040line Kopf 10x14 mm, linke Ausführung, Typ 040line Tête 10x14 mm, exécution à gauche, type 040line	QC8H 010L
	Head 10x14 mm, left version, type 400line Kopf 10x14 mm, linke Ausführung, Typ 400line Tête 10x14 mm, exécution à gauche, type 400line	QC8H 410R
	Head 10x14 mm, right version, type 800line and 800line+ Kopf 10x14 mm, rechte Ausführung, Typ 800line and 800line+ Tête 10x14 mm, exécution à droite, type 800line et 800line+	QC8H 810R
	Head 10x14 mm, left version, type 800line and 800line+ Kopf 10x14 mm, linke Ausführung, Typ 800line und 800line+ Tête 10x14 mm, exécution à gauche, type 800line et 800line+	QC8H 810L
	Head 10x14 mm, right version, type OXOline 1000 Kopf 10x14 mm, rechte Ausführung, Typ OXOline 1000 Tête 10x14 mm, exécution à droite, type OXOline 1000	QC8H 1010R
	Head 10x14 mm, left version, type OXOline 1000 Kopf 10x14 mm, linke Ausführung, Typ OXOline 1000 Tête 10x14 mm, exécution à gauche, type OXOline 1000	QC8H 1010L
	Head 10x14 mm, right version, type Multiturn Dec VPGT Kopf 10x14 mm, rechte Ausführung, Typ Multiturn Dec VPGT Tête 10x14 mm, exécution à droite, type Multiturn Dec VPGT	QC8H VPGT 10R
	Head 10x14 mm, left version, type Multiturn Dec VPGT Kopf 10x14 mm, linke Ausführung, Typ Multiturn Dec VPGT Tête 10x14 mm, exécution à gauche, type Multiturn Dec VPGT	QC8H VPGT 10L

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 10x14 mm, right version, type ISOline CC06 Kopf 10x14 mm, rechte Ausführung, Typ ISOline CC06 Tête 10x14 mm, exécution à droite, type ISOline CC06	QC8H CC06 10R
	Head 10x14 mm, right version, type ISOline DC07 Kopf 10x14 mm, rechte Ausführung, Typ ISOline DC07 Tête 10x14 mm, exécution à droite, type ISOline DC07	QC8H DC07 10R
	Head 10x14 mm, right version, type ISOline DC11 Kopf 10x14 mm, rechte Ausführung, Typ ISOline DC11 Tête 10x14 mm, exécution à droite, type ISOline DC11	QC8H DC11 10R
	Head 10x14 mm, right version, type ISOline ER16, helix angle $\beta=0^\circ$ Kopf 10x14 mm, rechte Ausführung, Typ ISOline ER16, Steigungswinkel $\beta=0^\circ$ Tête 10x14 mm, exécution à droite, type ISOline ER16, angle d'hélice $\beta=0^\circ$	QC8H ER16 10R
	Head 10x14 mm, right version, type ISOline VC11 Kopf 10x14 mm, rechte Ausführung, Typ ISOline VC11 Tête 10x14 mm, exécution à droite, type ISOline VC11	QC8H VC11 10R
	Head 10x14 mm, left version, type ISOline VC11 Kopf 10x14 mm, linke Ausführung, Typ ISOline VC11 Tête 10x14 mm, exécution à gauche, type ISOline VC11	QC8H VC11 10L
	Head 10x14 mm, neutral version, type ISOline VC11 Kopf 10x14 mm, neutrale Ausführung, Typ ISOline VC11 Tête 10x14 mm, exécution neutre, type ISOline VC11	QC8H VC11 10N
	Head 10x14 mm, right version, type ISOline VC13 Kopf 10x14 mm, rechte Ausführung, Typ ISOline VC13 Tête 10x14 mm, exécution à droite, type ISOline VC13	QC8H VC13 10R




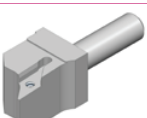

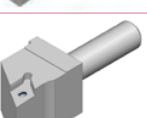




	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Shaft 12x12 mm, for right or left head Schaft 12x12 mm, für rechten oder linken Kopf Queue 12x12 mm, pour tête gauche ou droite	QC8S 1212
	Head 12x14 mm, right version, blank Kopf 12x14 mm, rechte Ausführung, Rohling Tête 12x14 mm, exécution à droite, ébauche	QC8H 1214 EB IK
	Head 12x14 mm, right version, type 040line Kopf 12x14 mm, rechte Ausführung, Typ 040line Tête 12x14 mm, exécution à droite, type 040line	QC8H 012R
	Head 12x12 mm, left version, type 040line Kopf 12x12 mm, linke Ausführung, Typ 040line Tête 12x12 mm, exécution à gauche, type 040line	QC8H 012L
	Head 12x14 mm, right version, type 140line Kopf 12x14 mm, rechte Ausführung, Typ 140line Tête 12x14 mm, exécution à droite, type 140line	QC8H 112R
	Head 12x14 mm, left version, type 140line Kopf 12x14 mm, linke Ausführung, Typ 140line Tête 12x14 mm, exécution à gauche, type 140line	QC8H 112L
	Head 12x14 mm, right version, type 400line Kopf 12x14 mm, rechte Ausführung, Typ 400line Tête 12x14 mm, exécution à droite, type 400line	QC8H 412R
	Head 12x14 mm, right version, type 500line Compatible with "Schwanog WEB-System" inserts Kopf 12x14 mm, rechte Ausführung, Typ 500line Verträglich mit "Schwanog WEB-System" Wendeplatten Tête 12x14 mm, exécution à droite, type 500line Compatible avec plaquettes "Schwanog WEB-System"	QC8H 512R
	Head 12x14 mm, right version, type 700line Kopf 12x14 mm, rechte Ausführung, Typ 700line Tête 12x14 mm, exécution à droite, type 700line	QC8H 712R
	Head 12x14 mm, right version, type 800line and 800line+ Kopf 12x14 mm, rechte Ausführung, Typ 800line and 800line+ Tête 12x14 mm, exécution à droite, type 800line et 800line+	QC8H 812R

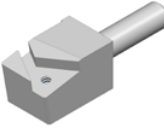
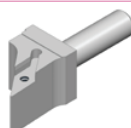
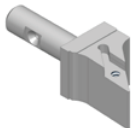
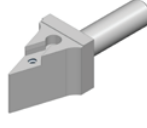
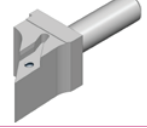
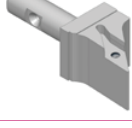
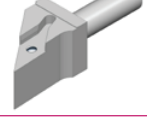
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 12x14 mm, left version, type 800line and 800line+ Kopf 12x14 mm, linke Ausführung, Typ 800line and 800line+ Tête 12x14 mm, exécution à gauche, type 800line et 800line+	QC8H 812L
	Head 12x14 mm, right version, type OXOline 1000 Kopf 12x14 mm, rechte Ausführung, Typ OXOline 1000 Tête 12x14 mm, exécution à droite, type OXOline 1000	QC8H 1012R
	Head 12x14 mm, left version, type OXOline 1000 Kopf 12x14 mm, linke Ausführung, Typ OXOline 1000 Tête 12x14 mm, exécution à gauche, type OXOline 1000	QC8H 1012L
	Head 12x14 mm, left version, type OXOline 1100 Kopf 12x14 mm, linke Ausführung, Typ OXOline 1100 Tête 12x14 mm, exécution à gauche, type OXOline 1100	QC8H 1112L
	Head 12x14 mm, right version, type Multiturn Dec VPGT Kopf 12x14 mm, rechte Ausführung, Typ Multiturn Dec VPGT Tête 12x14 mm, exécution à droite, type Multiturn Dec VPGT	QC8H VPGT 12R
	Head 12x14 mm, left version, type Multiturn Dec VPGT Kopf 12x14 mm, linke Ausführung, Typ Multiturn Dec VPGT Tête 12x14 mm, exécution à gauche, type Multiturn Dec VPGT	QC8H VPGT 12L
	Head 12x14 mm, right version, type ISOline CC09 Kopf 12x14 mm, rechte Ausführung, Typ ISOline CC09 Tête 12x14 mm, exécution à droite, type ISOline CC09	QC8H CC09 12R
	Head 12x14 mm, left version, type ISOline CC09 Kopf 12x14 mm, linke Ausführung, Typ ISOline CC09 Tête 12x14 mm, exécution à gauche, type ISOline CC09	QC8H CC09 12L
	Head 12x14 mm, right version, type ISOline DC07 Kopf 12x14 mm, rechte Ausführung, Typ ISOline DC07 Tête 12x14 mm, exécution à droite, type ISOline DC07	QC8H DC07 12R
	Head 12x14 mm, left version, type ISOline DC07 Kopf 12x14 mm, linke Ausführung, Typ ISOline DC07 Tête 12x14 mm, exécution à gauche, type ISOline DC07	QC8H DC07 12L






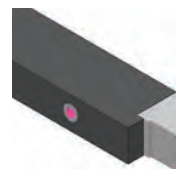

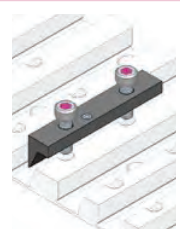
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
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	Head 12x14 mm, left version, type ISOline DC11 Kopf 12x14 mm, linke Ausführung, Typ ISOline DC11 Tête 12x14 mm, exécution à gauche, type ISOline DC11	QC8H DC11 12L
	Head 12x14 mm, neutral version, type ISOline DC11 Kopf 12x14 mm, neutrale Ausführung, Typ ISOline DC11 Tête 12x14 mm, exécution neutre, type ISOline DC11	QC8H DC11 12N
	Head 12x14 mm, right version, type ISOline ER16, helix angle $\beta=0^\circ$ Kopf 12x14 mm, rechte Ausführung, Typ ISOline ER16, Steigungswinkel $\beta=0^\circ$ Tête 12x14 mm, exécution à droite, type ISOline ER16, angle d'hélice $\beta=0^\circ$	QC8H ER16 12R
	Head 12x14 mm, right version, type ISOline ER16, helix angle $\beta=1,5^\circ$ Kopf 12x14 mm, rechte Ausführung, Typ ISOline ER16, Steigungswinkel $\beta=1,5^\circ$ Tête 12x14 mm, exécution à droite, type ISOline ER16, angle d'hélice $\beta=1,5^\circ$	QC8H ER16 - 1,5 12R
	Head 12x14 mm, right version, type ISOline VB11 Kopf 12x14 mm, rechte Ausführung, Typ ISOline VB11 Tête 12x14 mm, exécution à droite, type ISOline VB11	QC8H VB11 12R
	Head 12x14 mm, right version, type ISOline VC11 Kopf 12x14 mm, rechte Ausführung, Typ ISOline VC11 Tête 12x14 mm, exécution à droite, type ISOline VC11	QC8H VC11 12R
	Head 12x14 mm, left version, type ISOline VC11 Kopf 12x14 mm, linke Ausführung, Typ ISOline VC11 Tête 12x14 mm, exécution à gauche, type ISOline VC11	QC8H VC11 12L
	Head 12x14 mm, neutral version, type ISOline VC11 Kopf 12x14 mm, neutrale Ausführung, Typ ISOline VC11 Tête 12x14 mm, exécution neutre, type ISOline VC11	QC8H VC11 12N
	Head 12x14 mm, right version, type ISOline VC12 Kopf 12x14 mm, rechte Ausführung, Typ ISOline VC12 Tête 12x14 mm, exécution à droite, type ISOline VC12	QC8H VC12 12R

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 12x14 mm, right version, type ISOLine VC13 Kopf 12x14 mm, rechte Ausführung, Typ ISOLine VC13 Tête 12x14 mm, exécution à droite, type ISOLine VC13	QC8H VC13 12R

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Shaft 16x16 mm, for right or left head Schaft 16x16 mm, für rechten oder linken Kopf Queue 16x16 mm, pour tête gauche ou droite	QC8S 1616
	Head 16x16 mm, blank Kopf 16x16 mm, Rohling Tête 16x16 mm, ébauche	QC8H 1616 EB IK
	Head 16x16 mm, right version, type 040line Kopf 16x16 mm, rechte Ausführung, Typ 040line Tête 16x16 mm, exécution à droite, type 040line	QC8H 016R
	Head 16x16 mm, right version, type 140line Kopf 16x16 mm, rechte Ausführung, Typ 140line Tête 16x16 mm, exécution à droite, type 140line	QC8H 116R
	Head 16x16 mm, left version, type 140line Kopf 16x16 mm, linke Ausführung, Typ 140line Tête 16x16 mm, exécution à gauche, type 140line	QC8H 116L
	Head 16x16 mm, right version, type 500line Compatible with "Schwanog WEB-System" inserts Kopf 16x16 mm, rechte Ausführung, Typ 500line Verträglich mit "Schwanog WEB-System" Wendeplatten Tête 16x16 mm, exécution à droite, type 500line Compatible avec plaquettes "Schwanog WEB-System"	QC8H 516R
	Head 16x16 mm, right version, type 700line Kopf 16x16 mm, rechte Ausführung, Typ 700line Tête 16x16 mm, exécution à droite, type 700line	QC8H 716R
	Head 16x16 mm, right version, type 800line and 800line+ Kopf 16x16 mm, rechte Ausführung, Typ 800line und 800line+ Tête 16x16 mm, exécution à droite, type 800line et 800line+	QC8H 816R
	Head 16x16 mm, left version, type 800line and 800line+ Kopf 16x16 mm, linke Ausführung, Typ 800line und 800line+ Tête 16x16 mm, exécution à gauche, type 800line et 800line+	QC8H 816L
	Head 16x16 mm, right version, type OXOline 1000 Kopf 16x16 mm, rechte Ausführung, Typ OXOline 1000 Tête 16x16 mm, exécution à droite, type OXOline 1000	QC8H 1016R

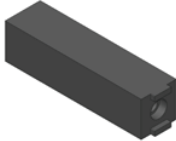
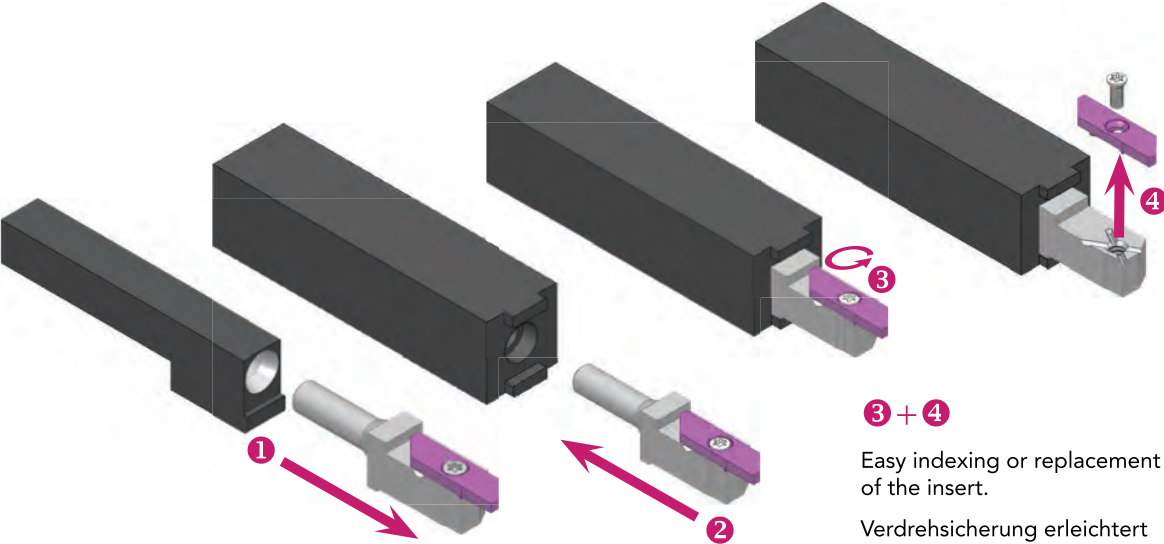
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 16x16 mm, left version, type OXOline 1000 Kopf 16x16 mm, linke Ausführung, Typ OXOline 1000 Tête 16x16 mm, exécution à gauche, type OXOline 1000	QC8H 1016L
	Head 16x16 mm, right version, type OXOline 1100 Kopf 16x16 mm, rechte Ausführung, Typ OXOline 1100 Tête 16x16 mm, exécution à droite, type OXOline 1100	QC8H 1116R
	Head 16x16 mm, left version, type OXOline 1100 Kopf 16x16 mm, linke Ausführung, Typ OXOline 1100 Tête 16x16 mm, exécution à gauche, type OXOline 1100	QC8H 1116L
	Head 16x16 mm, right version, type Multiturn Dec VPGT Kopf 16x16 mm, rechte Ausführung, Typ Multiturn Dec VPGT Tête 16x16 mm, exécution à droite, type Multiturn Dec VPGT	QC8H VPGT 16R
	Head 16x16 mm, right version, type ISOline CC09 Kopf 16x16 mm, rechte Ausführung, Typ ISOline CC09 Tête 16x16 mm, exécution à droite, type ISOline CC09	QC8H CC09 16R
	Head 16x16 mm, right version, type ISOline DC07 Kopf 16x16 mm, rechte Ausführung, Typ ISOline DC07 Tête 16x16 mm, exécution à droite, type ISOline DC07	QC8H DC07 16R
	Head 16x16 mm, right version, type ISOline DC11 Kopf 16x16 mm, rechte Ausführung, Typ ISOline DC11 Tête 16x16 mm, exécution à droite, type ISOline DC11	QC8H DC11 16R
	Head 16x16 mm, left version, type ISOline DC11 Kopf 16x16 mm, linke Ausführung, Typ ISOline DC11 Tête 16x16 mm, exécution à gauche, type ISOline DC11	QC8H DC11 16L
	Head 16x16 mm, neutral version, type ISOline DC11 Kopf 16x16 mm, neutrale Ausführung, Typ ISOline DC11 Tête 16x16 mm, exécution neutre, type ISOline DC11	QC8H DC11 16N
	Head 16x16 mm, right version, type ISOline ER16 Kopf 16x16 mm, rechte Ausführung, Typ ISOline ER16 Tête 16x16 mm, exécution à droite, type ISOline ER16	QC8H ER16 16R

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 16x16 mm, right version, type ISOline ER16, helix angle $\beta=1,5^\circ$ Kopf 16x16 mm, rechte Ausführung, Typ ISOline ER16, Steigungswinkel $\beta=1,5^\circ$ Tête 16x16 mm, exécution à droite, type ISOline ER16, angle d'hélice $\beta=1,5^\circ$	QC8H ER16 - 1,5 16R
	Head 16x16 mm, right version, type ISOline VB11 Kopf 16x16 mm, rechte Ausführung, Typ ISOline VB11 Tête 16x16 mm, exécution à droite, type ISOline VB11	QC8H VB11 16R
	Head 16x16 mm, left version, type ISOline VB11 Kopf 16x16 mm, linke Ausführung, Typ ISOline VB11 Tête 16x16 mm, exécution à gauche, type ISOline VB11	QC8H VB11 16L
	Head 16x16 mm, neutral version, type ISOline VB11 Kopf 16x16 mm, neutrale Ausführung, Typ ISOline VB11 Tête 16x16 mm, exécution neutre, type ISOline VB11	QC8H VB11 16N
	Head 16x16 mm, right version, type ISOline VC11 Kopf 16x16 mm, rechte Ausführung, Typ ISOline VC11 Tête 16x16 mm, exécution à droite, type ISOline VC11	QC8H VC11 16R
	Head 16x16 mm, left version, type ISOline VC11 Kopf 16x16 mm, linke Ausführung, Typ ISOline VC11 Tête 16x16 mm, exécution à gauche, type ISOline VC11	QC8H VC11 16L
	Head 16x16 mm, right version, type ISOline VC13 Kopf 16x16 mm, rechte Ausführung, Typ ISOline VC13 Tête 16x16 mm, exécution à droite, type ISOline VC13	QC8H VC13 16R

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Torque screwdriver (fixed setting 5 Nm) Recommended for an optimal control of the tightening of the interchangeable heads on tool holders 12x12 and 16x16 mm</p> <p>Drehmoment-Schraubendreher (fest eingestellt 5 Nm) Empfohlen für eine optimale Drehmoment-Kontrolle der wechselbaren Köpfe an den Werkzeughaltern 12x12 und 16x16 mm</p> <p>Tournevis dynamométrique (couple fixe 5 Nm) Recommandé pour un contrôle optimal du serrage des têtes interchangeables sur porte-outils 12x12 et 16x16 mm</p>	100-10
	<p>Torque screwdriver (fixed setting 2,2 Nm) Recommended for an optimal control of the tightening of the interchangeable heads on tool holder 8x14 and 10x12 mm</p> <p>Drehmoment-Schraubendreher (fest eingestellt 2,2 Nm) Empfohlen für eine optimale Drehmoment-Kontrolle der wechselbaren Köpfe am Werkzeughalter 8x14 und 10x12 mm</p> <p>Tournevis dynamométrique (couple fixe 2,2 Nm) Recommandé pour un contrôle optimal du serrage des têtes interchangeables sur porte-outil 8x14 et 10x12 mm</p>	100-20
	<p>Bit Torx 20 for torque screwdriver For the tightening of the interchangeable heads on 10x12, 12x12 and 16x16 mm tool holders</p> <p>Einsatz Torx 20 für Drehmoment-Schraubendreher Zum Spannen des Wechselkopfes auf 10x12, 12x12 und 16x16 mm Werkzeughalter</p> <p>Embout Torx 20 pour tournevis dynamométrique Pour le serrage des têtes interchangeables sur porte-outils 10x12, 12x12 et 16x16 mm</p>	 100-12
	<p>Hexagon bit 2 mm for torque screwdriver For the tightening of the interchangeable heads on 8x14 mm tool holders</p> <p>Sechskant-Einsatz 2 mm für Drehmoment-Schraubendreher Zum Spannen des Wechselkopfes auf 8x14 mm Werkzeughalter</p> <p>Embout 6 pans 2 mm pour tournevis dynamométrique Pour le serrage des têtes interchangeables sur porte-outils 8x14 mm</p>	 100-27
	<p>Hexagon bit 5 mm for torque screwdriver For the tightening of wedges</p> <p>Sechskant-Einsatz 5 mm für Drehmoment-Schraubendreher Zum Spannen von Werkzeughalter-Klemmung</p> <p>Embout 6 pans 5 mm pour tournevis dynamométrique Pour le serrage des cales</p>	 100-13

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article	
	Standard key Torx 20 Standard Schlüssel Torx 20 Clé standard Torx 20	100-9	
	Basic key Torx 20 Einfacher Schlüssel Torx 20 Clé simple Torx 20	100-15	
	Replacement screw M4x8 hexagonal 2 mm for shafts: Ersatzschraube M4x8 Sechskant 2 mm für den Schaft: Vis M4x8 six pans 2 mm de remplacement pour queues: QC5S 0814	001-13	
	Replacement screw M6x10 Torx 20 for shafts: Ersatzschraube M6x10 Torx 20 für den Schaft: Vis M6x10 Torx 20 de remplacement pour queues: QC8S 1010 QC8S 1212 QC8S 1616	001-9	
	Replacement screws for heads: Ersatzschrauben für Köpfe: Vis de remplacement pour têtes: QC5H 008R QC5H 008L QC8H 010R QC8H 010L QC8H 012R QC8H 012L QC5H 408R QC5H 408L QC8H 410R QC8H VC13 10R QC8H 810R QC8H 810L QC8H 812R QC8H 1010R QC8H 1010L QC8H 1012R QC8H 1012L QC8H 1112L	QC8H VPGT 12R QC8H VPGT 12L QC8H 016R QC8H VPGT 16R QC8H 412R QC8H VC13 12R QC8H VC13 16R QC8H 812L QC8H 816R QC8H 816L QC8H 1016R QC8H 1016L QC8H 1116R QC8H 1116L	001-2 001-4 100-4 001-8

Description Bezeichnung Description		Article nr. Artikel Nr. N° Article
QC5H VPGT 8R	QC8H 512R	100-3
QC5H VPGT 8L	QC8H 516R	
QC8H VPGT 10R		
QC8H VPGT 10L		
QC5H DC07 8R	QC8H VC11 12R	001-7
QC5H DC07 8L	QC8H VC11 12L	
QC5H VC11 8R	QC8H VC11 12N	
QC5H VC11 8L	QC8H VC12 12R	
QC8H CC06 10R	QC8H DC07 16R	
QC8H DC07 10R	QC8H DC07 16L	
QC8H VC11 10R	QC8H DC07 16N	
QC8H VC11 10L	QC8H VB11 16R	
QC8H VC11 10N	QC8H VB11 16L	
QC8H DC07 12R	QC8H VB11 16N	
QC8H DC07 12L	QC8H VC11 16R	
QC8H VB11 12R	QC8H VC11 16L	
QC8H DC11 10R			100-21
QC8H CC09 12R	QC8H DC11 12L	100-16
QC8H CC09 12L	QC8H DC11 12N	
QC8H DC11 12R	QC8H CC09 16R	
QC8H ER16 10R	QC8H 116R	100-2
QC8H 112R	QC8H 116L	
QC8H 112L	QC8H 716R	
QC8H 712R	QC8H ER16 16R	
QC8H ER16 12R	QC8H ER16 - 1,5 16R	
QC8H ER16 - 1,5 12R		

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Accessory for insert's replacement Used to hold the head of the tool to facilitate the change of the insert.</p> <p>Zubehör zum Wechseln der Wendepplatten Einfaches Einlegen des Schnellwechsellkopfes, erleichtert das Wechseln der Wendepplatte.</p> <p>Accessoire pour le changement des plaquettes Permet de tenir la tête de l'outil pour faciliter le changement de la plaquette.</p>	<p>QC8A 2525</p>
 <p>3 + 4 Easy indexing or replacement of the insert. Verdrehsicherung erleichtert den Wendepplattenwechsel. Indexage ou remplacement de la plaquette facilité.</p>		

☞ To ensure a proper continuous «Quick change mini» system operation, Bimu recommends the monthly use of synthetic lubricant *Blaser Foodtec® SAS 100 - Oil H1* or equivalent.

☞ Um einen ordnungsgemäßen kontinuierlichen «Quick change mini» Systembetrieb zu gewährleisten, empfiehlt Bimu die monatliche Verwendung von synthetischen Schmiermittel *Blaser Foodtec® SAS 100 - Schmieröl H1* oder gleichwertig.

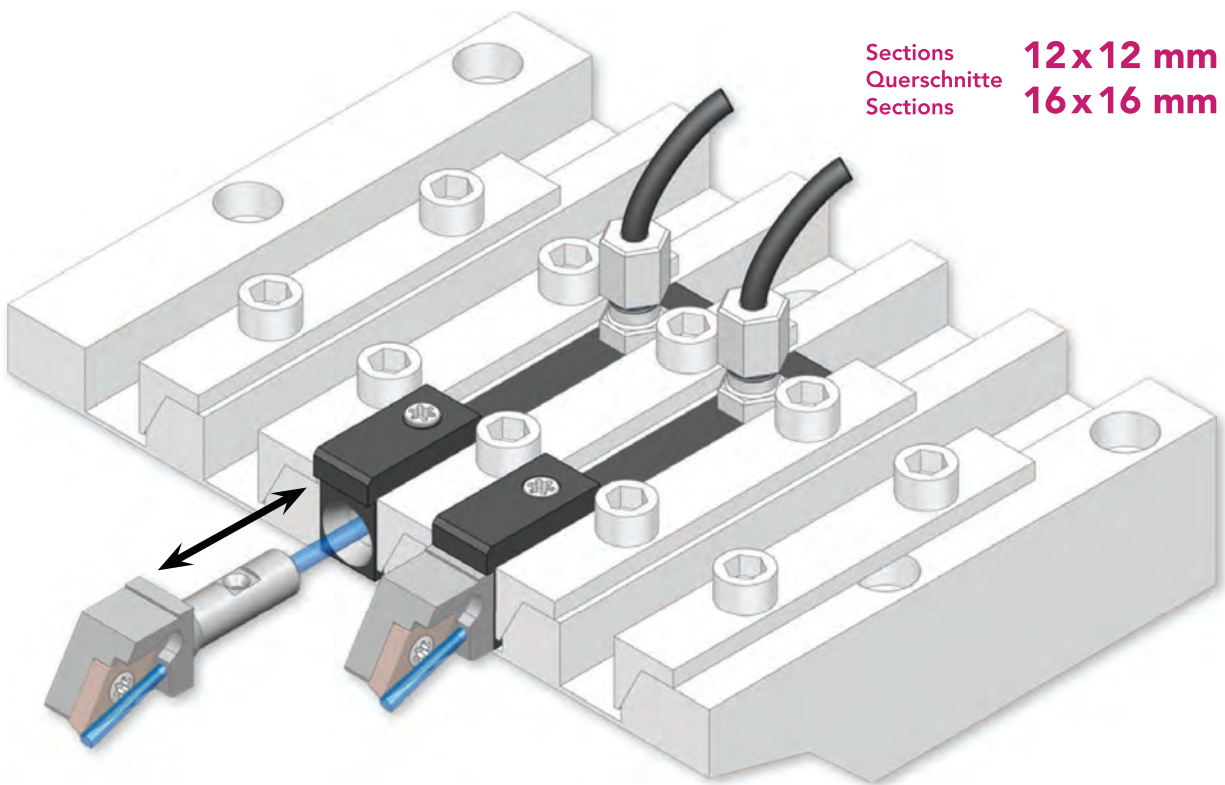
☞ Pour assurer un bon fonctionnement continu du système «Quick change mini», Bimu recommande l'utilisation mensuelle du lubrifiant synthétique *Blaser Foodtec® SAS 100 - Huile H1* ou d'un produit équivalent.

Modular tool holders system with inner coolant
Modulares Werkzeugsystem mit Innenkühlung
Système modulaire de porte-outils avec arrosage intérieur

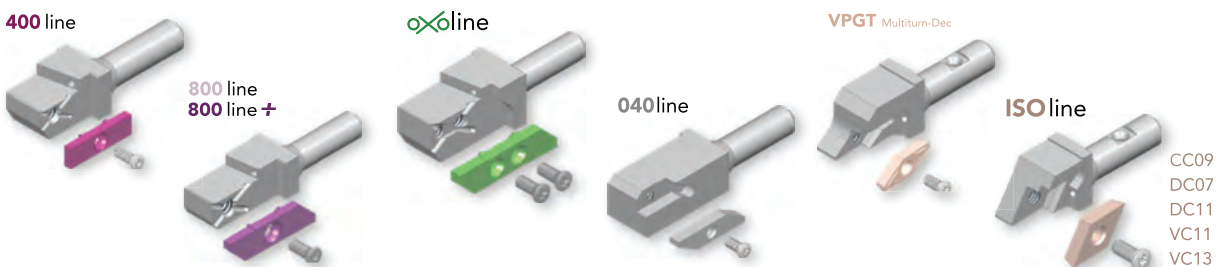
Quick change, without having to remove the tool holder from the gang !
Presetting is possible outside of the machine.

Schnellwechselsystem: Es ist nicht nötig, den Grundhalter vom Werkzeugträger zu entfernen !
Voreinstellung ist ausserhalb der Maschine ist möglich.

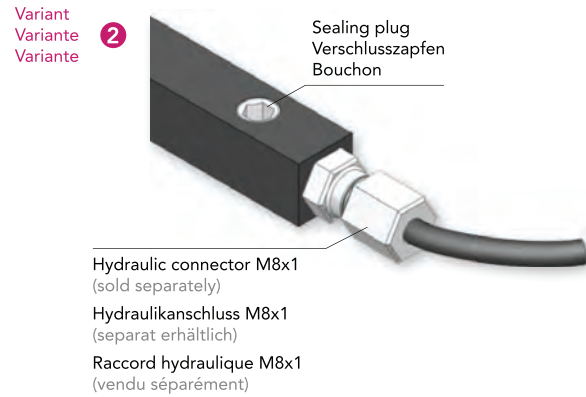
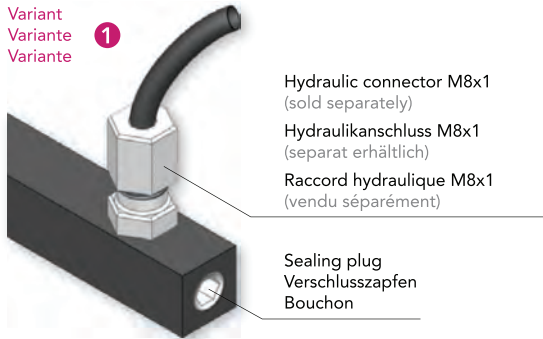
Changement rapide sans avoir besoin de sortir le porte-outil du peigne !
Préréglage possible en dehors de la machine.






Available for different types of inserts
Für verschiedene Wendeplattentypen verfügbar
Disponible pour différents types de plaquettes



2 possible assemblies
2 Montagepositionen möglich
2 montages possibles




-  See the « Hydraulic connectors » documentation for further information.
-  Siehe die Dokumentation « Hydraulikanschlüsse » für weitere Informationen.
-  Voir la documentation « Raccords hydrauliques » pour plus d'informations.

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Shaft 12x12 mm, for right or left head, with internal coolant (Hydraulic connector sold separately)</p> <p>Schaft 12x12 mm, für rechten oder linken Kopf, mit Innenkühlung (Hydraulikanschluss separat erhältlich)</p> <p>Queue 12x12 mm, pour tête gauche ou droite, avec arrosage intégré (Raccord hydraulique vendu séparément)</p>	QC8S 1212 IK
	<p>Head 12x14 mm, right version, blank</p> <p>Kopf 12x14 mm, rechte Ausführung, Rohling</p> <p>Tête 12x14 mm, exécution à droite, ébauche</p>	QC8H 1214 EB IK
	<p>Head 12x14 mm, right version, type 040line, with internal coolant</p> <p>Kopf 12x14 mm, rechte Ausführung, Typ 040line, mit Innenkühlung</p> <p>Tête 12x14 mm, exécution à droite, type 040line, avec arrosage intégré</p>	QC8H 012R IK
	<p>Head 12x14 mm, left version, type 040line, with internal coolant</p> <p>Kopf 12x14 mm, linke Ausführung, Typ 040line, mit Innenkühlung</p> <p>Tête 12x14 mm, exécution à gauche, type 040line, avec arrosage intégré</p>	QC8H 012L IK
	<p>Head 12x14 mm, right version, type 400line, with internal coolant</p> <p>Kopf 12x14 mm, rechte Ausführung, Typ 400line, mit Innenkühlung</p> <p>Tête 12x14 mm, exécution à droite, type 400line, avec arrosage intégré</p>	QC8H 412R IK
	<p>Head 12x14 mm, right version, type 800line, with internal coolant</p> <p>Kopf 12x14 mm, rechte Ausführung, Typ 800line, mit Innenkühlung</p> <p>Tête 12x14 mm, exécution à droite, type 800line, avec arrosage intégré</p>	QC8H 812R IK
	<p>Head 12x14 mm, left version, type 800line, with internal coolant</p> <p>Kopf 12x14 mm, linke Ausführung, Typ 800line, mit Innenkühlung</p> <p>Tête 12x14 mm, exécution à gauche, type 800line, avec arrosage intégré</p>	QC8H 812L IK

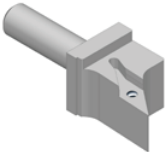
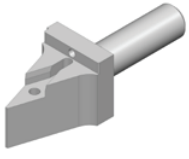

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 12x14 mm, right «Pick-up» version, type 800line, with internal coolant Kopf 12x14 mm, rechte «Pick-up» Ausführung, Typ 800line, mit Innenkühlung Tête 12x14 mm, exécution «Pick-up» à droite, type 800line, avec arrosage intégré	QC8H 812R4 IK
	Head 12x14 mm, left version, type OXOline 1000, with internal coolant Kopf 12x14 mm, linke Ausführung, Typ OXOline 1000, mit Innenkühlung Tête 12x14 mm, exécution à gauche, type OXOline 1000, avec arrosage intégré	QC8H 1012L IK
	Head 12x14 mm, right version, type OXOline 1000, with internal coolant Kopf 12x14 mm, rechte Ausführung, Typ OXOline 1000, mit Innenkühlung Tête 12x14 mm, exécution à droite, type OXOline 1000, avec arrosage intégré	QC8H 1012R IK
	Head 12x14 mm, right version, for insert type 340R5, with internal coolant Kopf 12x14 mm, rechte Ausführung, für Wendepatte Typ 340R5, mit Innenkühlung Tête 12x14 mm, exécution à droite, pour plaquette type 340R5, avec arrosage intégré	QC8H 3812R IK
	Head 12x14 mm, right version, type Multiturn Dec VPGT, with inner coolant Kopf 12x14 mm, rechte Ausführung, Typ Multiturn Dec VPGT, mit Innenkühlung Tête 12x14 mm, exécution à droite, type Multiturn Dec VPGT, avec arrosage intégré	QC8H VPGT 12R IK
	Head 12x14 mm, right version, type ISOline CC06, with internal coolant Kopf 12x14 mm, rechte Ausführung, Typ ISOline CC06, mit Innenkühlung Tête 12x14 mm, exécution à droite, type ISOline CC06, avec arrosage intégré	QC8H CC06 12R IK
	Head 12x14 mm, right version, type ISOline CC09, with internal coolant Kopf 12x14 mm, rechte Ausführung, Typ ISOline CC09, mit Innenkühlung Tête 12x14 mm, exécution à droite, type ISOline CC09, avec arrosage intégré	QC8H CC09 12R IK




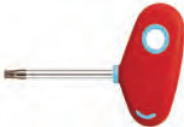

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 10x14 mm, right version, type ISOLine DC07, with internal coolant Kopf 10x14 mm, rechte Ausführung, Typ ISOLine DC07, mit Innenkühlung Tête 10x14 mm, exécution à droite, type ISOLine DC07, avec arrosage intégré	QC8H DC07 12R IK
	Head 12x14 mm, right version, type ISOLine DC11, with internal coolant Kopf 12x14 mm, rechte Ausführung, Typ ISOLine DC11, mit Innenkühlung Tête 12x14 mm, exécution à droite, type ISOLine DC11, avec arrosage intégré	QC8H DC11 12R IK
	Head 12x14 mm, neutral version, type ISOLine DC11, with internal coolant Kopf 12x14 mm, neutrale Ausführung, Typ ISOLine DC11, mit Innenkühlung Tête 12x14 mm, exécution neutre, type ISOLine DC11, avec arrosage intégré	QC8H DC11 12N IK
	Head 12x14 mm, right version, type ISOLine VC11, with internal coolant Kopf 12x14 mm, rechte Ausführung, Typ ISOLine VC11, mit Innenkühlung Tête 12x14 mm, exécution à droite, type ISOLine VC11, avec arrosage intégré	QC8H VC11 12R IK
	Head 12x14 mm, left version, type ISOLine VC11, with internal coolant Kopf 12x14 mm, linke Ausführung, Typ ISOLine VC11, mit Innenkühlung Tête 12x14 mm, exécution à gauche, type ISOLine VC11, avec arrosage intégré	QC8H VC11 12L IK
	Head 12x14 mm, neutral version, type ISOLine VC11, with internal coolant Kopf 12x14 mm, neutrale Ausführung, Typ ISOLine VC11, mit Innenkühlung Tête 12x14 mm, exécution neutre, type ISOLine VC11, avec arrosage intégré	QC8H VC11 12N IK
	Head 12x14 mm, right version, type ISOLine VC13, with internal coolant Kopf 12x14 mm, rechte Ausführung, Typ ISOLine VC13, mit Innenkühlung Tête 12x14 mm, exécution à droite, type ISOLine VC13, avec arrosage intégré	QC8H VC13 12R IK



	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Head 12x14 mm, neutral version, type ISOLine VC13, with internal coolant</p> <p>Kopf 12x14 mm, neutrale Ausführung, Typ ISOLine VC13, mit Innenkühlung</p> <p>Tête 12x14 mm, exécution neutre, type ISOLine VC13, avec arrosage intégré</p>	<p>QC8H VC13 12N IK</p>

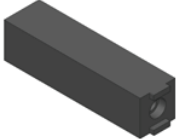
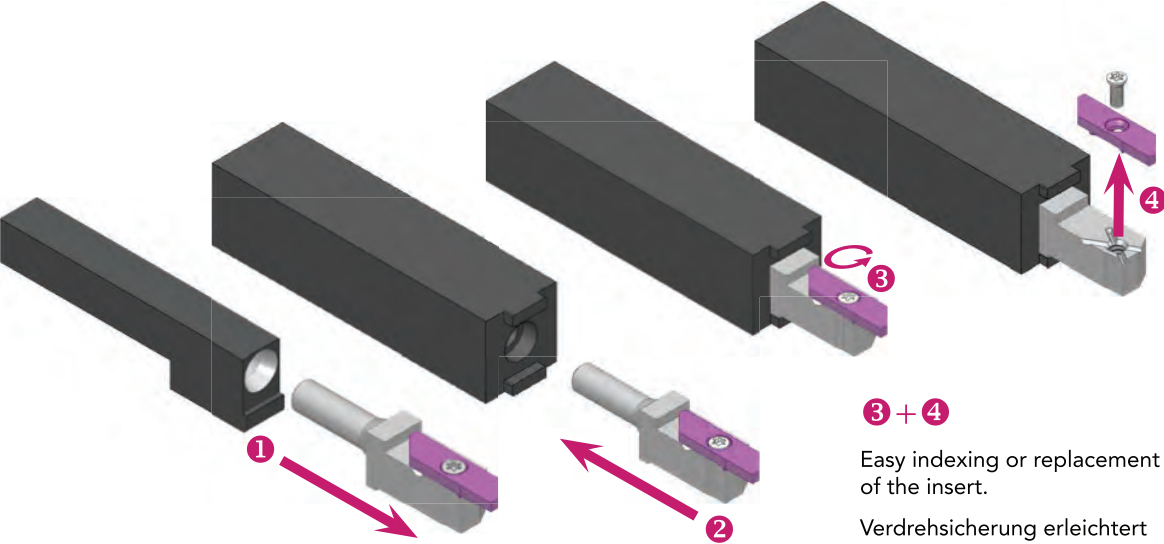
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Shaft 16x16 mm, for right or left head, with internal coolant (Hydraulic connector sold separately) Schaft 16x16 mm, für rechten oder linken Kopf, mit Innenkühlung (Hydraulikanschluss separat erhältlich) Queue 16x16 mm, pour tête gauche ou droite, avec arrosage intégré* (Raccord hydraulique vendu séparément)	QC8S 1616 IK
	Head 16x16 mm, blank Kopf 16x16 mm, Rohling Tête 16x16 mm, ébauche	QC8H 1616 EB IK
	Head 16x16 mm, right version, type 040line, with internal coolant Kopf 16x16 mm, rechte Ausführung, Typ 040line, mit Innenkühlung Tête 16x16 mm, exécution à droite, type 040line, avec arrosage intégré	QC8H 016R IK
	Head 16x16 mm, right version, type 800line, with internal coolant Kopf 16x16 mm, rechte Ausführung, Typ 800line, mit Innenkühlung Tête 16x16 mm, exécution à droite, type 800line, avec arrosage intégré	QC8H 816R IK
	Head 16x16 mm, right version, type OXOline 1000, with internal coolant Kopf 16x16 mm, rechte Ausführung, Typ OXOline 1000, mit Innenkühlung Tête 16x16 mm, exécution à droite, type OXOline 1000, avec arrosage intégré	QC8H 1016R IK
	Head 16x16 mm, right version, type Multiturn Dec VPGT, with inner coolant Kopf 16x16 mm, rechte Ausführung, Typ Multiturn Dec VPGT, mit Innenkühlung Tête 16x16 mm, exécution à droite, type Multiturn Dec VPGT, avec arrosage intégré	QC8H VPGT 16R IK


	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	Head 16x16 mm, right version, type ISOline CC06, with inner coolant Kopf 16x16 mm, rechte Ausführung, Typ ISOline CC06, mit Innenkühlung Tête 16x16 mm, exécution à droite, type ISOline CC06, avec arrosage intégré	QC8H CC06 16R IK
	Head 16x16 mm, right version, type ISOline CC09, with inner coolant Kopf 16x16 mm, rechte Ausführung, Typ ISOline CC09, mit Innenkühlung Tête 16x16 mm, exécution à droite, type ISOline CC09, avec arrosage intégré	QC8H CC09 16R IK
	Head 16x16 mm, right version, type ISOline DC07, with internal coolant Kopf 16x16 mm, rechte Ausführung, Typ ISOline DC07, mit Innenkühlung Tête 16x16 mm, exécution à droite, type ISOline DC07, avec arrosage intégré	QC8H DC07 16R IK
	Head 16x16 mm, right version, type ISOline DC11, with internal coolant Kopf 16x16 mm, rechte Ausführung, Typ ISOline DC11, mit Innenkühlung Tête 16x16 mm, exécution à droite, type ISOline DC11, avec arrosage intégré	QC8H DC11 16R IK
	Head 16x16 mm, neutral version, type ISOline DC11, with internal coolant Kopf 16x16 mm, neutrale Ausführung, Typ ISOline DC11, mit Innenkühlung Tête 16x16 mm, exécution neutre, type ISOline DC11, avec arrosage intégré	QC8H DC11 16N IK
	Head 16x16 mm, right version, type ISOline ER16, helix angle $\beta=0^\circ$ Kopf 16x16 mm, rechte Ausführung, Typ ISOline ER16, Steigungswinkel $\beta=0^\circ$ Tête 16x16 mm, exécution à droite, type ISOline ER16, angle d'hélice $\beta=0^\circ$	QC8H ER16 16R IK
	Head 16x16 mm, right version, type ISOline VC11, with internal coolant Kopf 16x16 mm, rechte Ausführung, Typ ISOline VC11, mit Innenkühlung Tête 16x16 mm, exécution à droite, type ISOline VC11, avec arrosage intégré	QC8H VC11 16R IK


	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Head 16x16 mm, left version, type ISOLine VC11, with internal coolant</p> <p>Kopf 16x16 mm, linke Ausführung, Typ ISOLine VC11, mit Innenkühlung</p> <p>Tête 16x16 mm, exécution à gauche, type ISOLine VC11, avec arrosage intégré</p>	QC8H VC11 16L IK
	<p>Head 16x16 mm, neutral version, type ISOLine VC11, with internal coolant</p> <p>Kopf 16x16 mm, neutrale Ausführung, Typ ISOLine VC11, mit Innenkühlung</p> <p>Tête 16x16 mm, exécution neutre, type ISOLine VC11, avec arrosage intégré</p>	QC8H VC11 16N IK
	<p>Head 16x16 mm, right version, type ISOLine VC13, with internal coolant</p> <p>Kopf 16x16 mm, rechte Ausführung, Typ ISOLine VC13, mit Innenkühlung</p> <p>Tête 16x16 mm, exécution à droite, type ISOLine VC13, avec arrosage intégré</p>	QC8H VC13 16R IK

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Torque screwdriver (fixed setting 5 Nm) Recommended for an optimal control of the tightening of the interchangeable heads on tool holders 12x12 mm and 16x16 mm</p> <p>Drehmoment-Schraubendreher (fest eingestellt 5 Nm) Empfohlen für eine optimale Drehmoment-Kontrolle der wechselbaren Köpfe an den Werkzeughaltern 12x12 mm und 16x16 mm</p> <p>Tournevis dynamométrique (couple fixe 5 Nm) Recommandé pour un contrôle optimal du serrage des têtes interchangeables sur porte-outils 12x12 mm et 16x16 mm</p>	100-10
	<p>Bit Torx 20 for torque screwdriver For the tightening of the interchangeable heads</p> <p>Einsatz Torx 20 für Drehmoment-Schraubendreher Zum Spannen des Wechselkopfes</p> <p>Embout Torx 20 pour tournevis dynamométrique Pour le serrage des têtes interchangeables</p>	100-12
	<p>Hexagon bit 5 mm for torque screwdriver For the tightening of wedges</p> <p>Sechskant-Einsatz 5 mm für Drehmoment-Schraubendreher Zum Spannen von Werkzeughalter-Klemmung</p> <p>Embout 6 pans 5 mm pour tournevis dynamométrique Pour le serrage des cales</p>	100-13
	<p>Standard screwdriver Torx 20 Standard Schraubendreher Torx 20 Tournevis standard Torx 20</p>	100-9
	<p>Basic key Torx 20 Einfacher Schlüssel Torx 20 Clé simple Torx 20</p>	100-15

	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article	
	Replacement screw Torx 20 for shafts: Ersatzschraube Torx 20 für den Schaft: Vis de remplacement Torx 20 pour queues:		
	QC8S 1212 IK QC8S 1616 IK	001-9	
	Replacement screw for heads: Ersatzschraube für Köpfe: Vis de remplacement pour têtes:		
	QC8H 012R IK QC8H 012L IK QC8H CC06 12R IK QC8H 016R IK	001-2	
	QC8H 412R IK QC8H VC13 12R IK QC8H VC13 12N IK QC8H VC13 16R IK	001-4	
	QC8H 812R IK QC8H 812L IK QC8H 812R4 IK QC8H 816R IK	100-4	
	QC8H 1012L IK QC8H 1012R IK QC8H 1016R IK	001-8	
	QC8H 3812R IK	100-3	
	QC8H VPGT 12R IK QC8H DC07 12R IK QC8H VC11 12R IK QC8H VC11 12L IK QC8H VC11 12N IK QC8H VPGT 16R IK	QC8H CC06 16R IK QC8H DC07 16R IK QC8H VC11 16R IK QC8H VC11 16L IK QC8H VC11 16N IK	001-7
	QC8H CC09 12R IK QC8H DC11 12R IK QC8H DC11 12N IK	100-21	
	QC8H CC09 16R IK QC8H DC11 16R IK QC8H DC11 16N IK	100-16	
	QC8H ER16 16R IK	100-2	

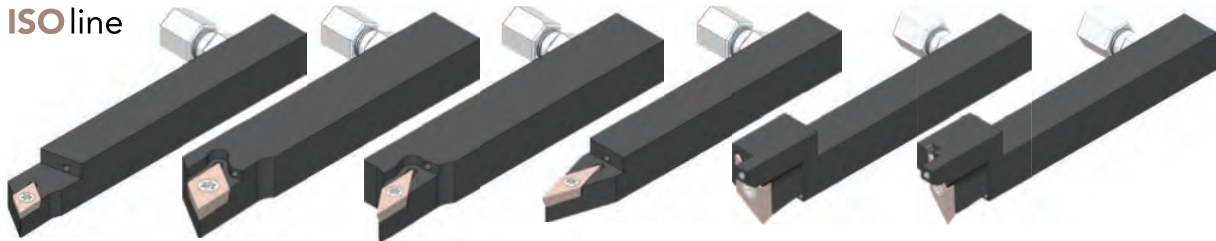
	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Accessorie for insert's replacement Used to hold the head of the tool to facilitate the change of the insert.</p> <p>Zubehör zum Wechseln der Wendepplatten Einfaches Einlegen des Schnellwechselkopfes, erleichtert das Wechseln der Wendepplatte.</p> <p>Accessoire pour le changement des plaquettes Permet de tenir la tête de l'outil pour faciliter le changement de la plaquette.</p>	<p>QC8A 2525</p>
 <p>3 + 4 Easy indexing or replacement of the insert. Verdrehsicherung erleichtert den Wendepplattenwechsel. Indexage ou remplacement de la plaquette facilité.</p>		

 To ensure a proper continuous «Quick change mini» system operation, Bimu recommends the monthly use of synthetic lubricant *Blaser Foodtec® SAS 100 - Oil H1* or equivalent.

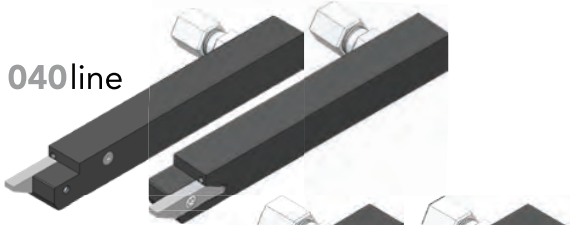
 Um einen ordnungsgemäßen kontinuierlichen «Quick change mini» Systembetrieb zu gewährleisten, empfiehlt Bimu die monatliche Verwendung von synthetischen Schmiermittel *Blaser Foodtec® SAS 100 - Schmieröl H1* oder gleichwertig.

 Pour assurer un bon fonctionnement continu du système «Quick change mini», Bimu recommande l'utilisation mensuelle du lubrifiant synthétique *Blaser Foodtec® SAS 100 - Huile H1* ou d'un produit équivalent.

ISOline



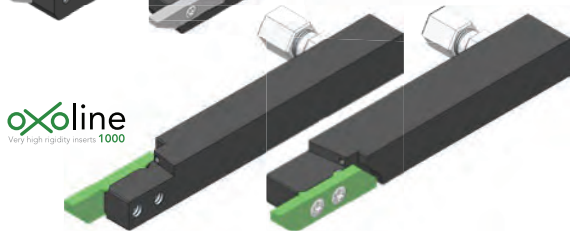
040line



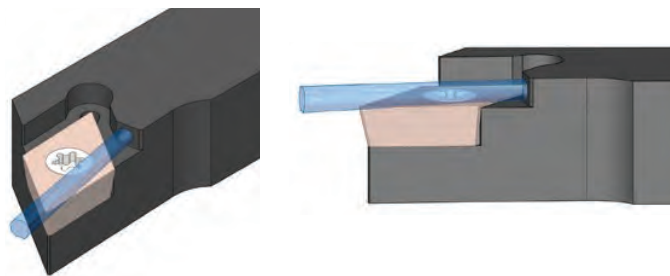
VPGT



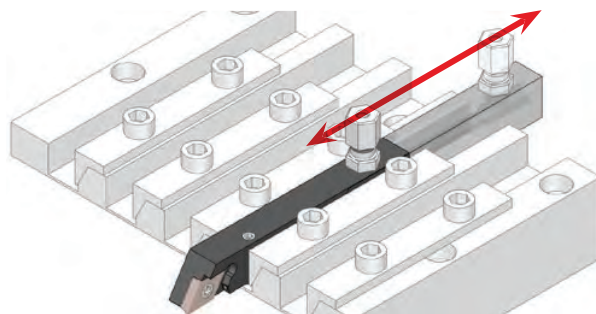
oxoline
Very high rigidity inserts 1000



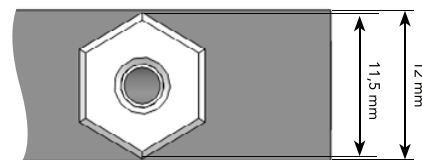
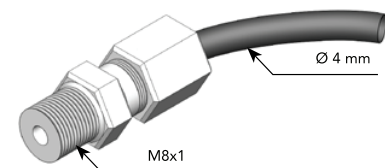
**800 line +
800 line**



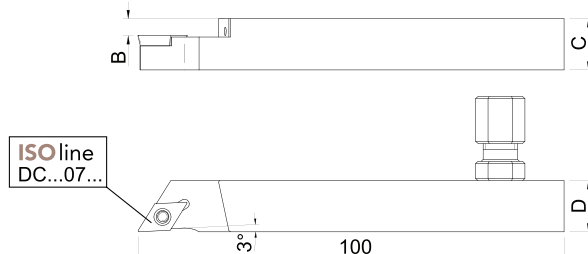
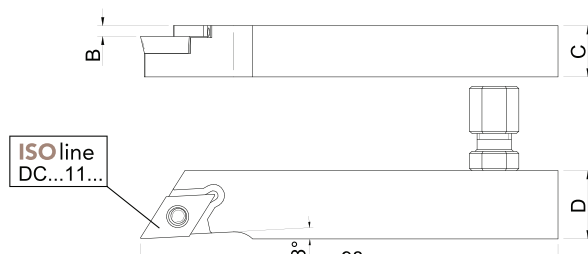
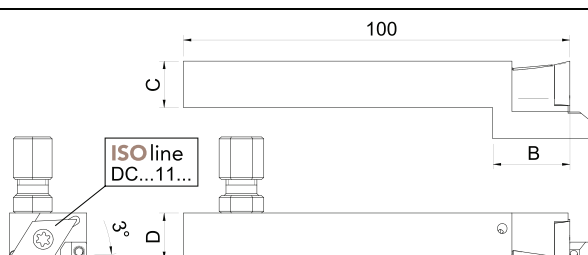
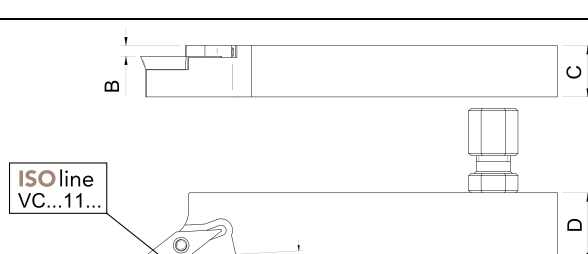
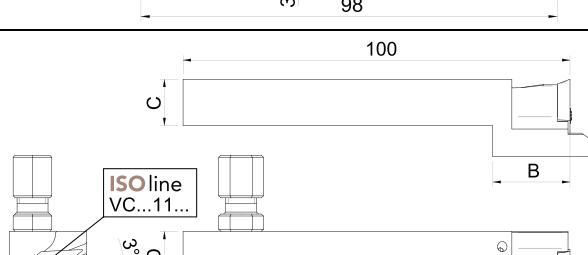
- High pressure coolant directly on the cutting edge. Coolant in the insert's axis.
- Durch Hochdruckkühlung entlang der Längsachse, direkt auf die Schneidkante der Wendeplatte, erhalten Sie eine deutlich bessere Oberflächengüte und erheblich längere Standzeiten ihrer Werkzeuge.
- Arrosage haute pression sur l'arête de coupe. Jet dans l'axe de la plaquette.

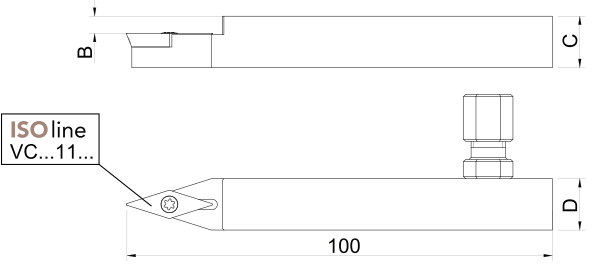
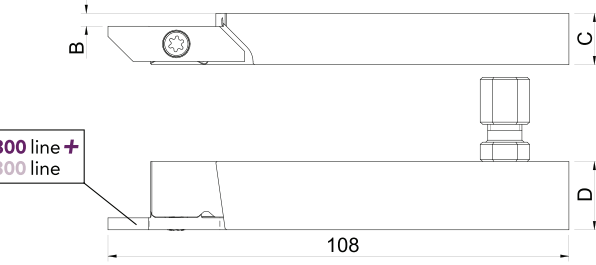
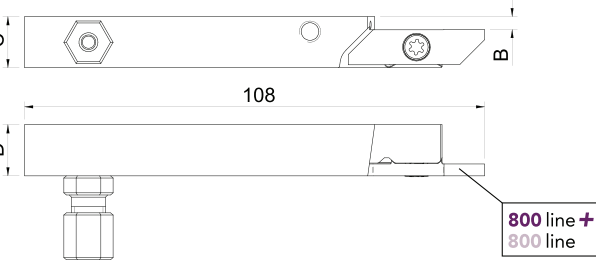
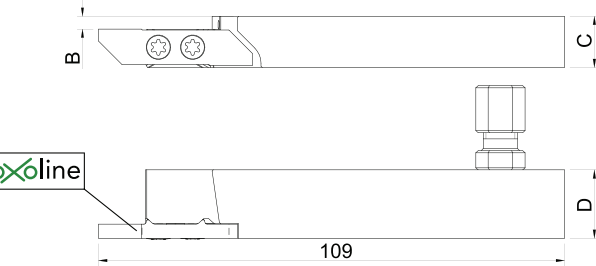
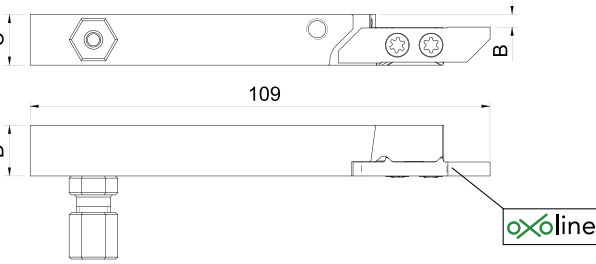


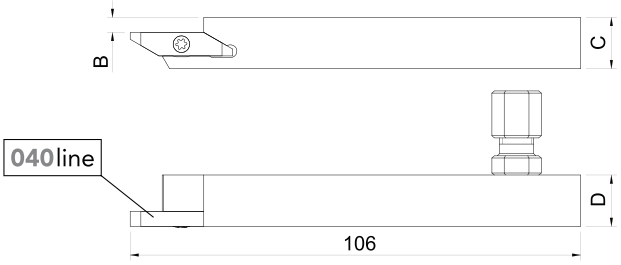
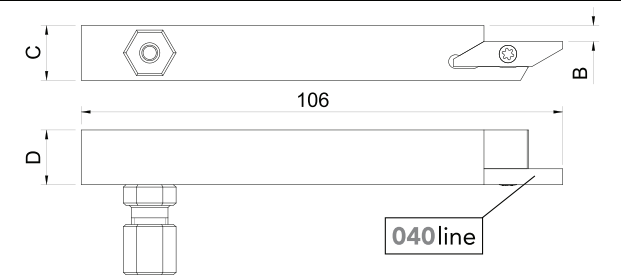
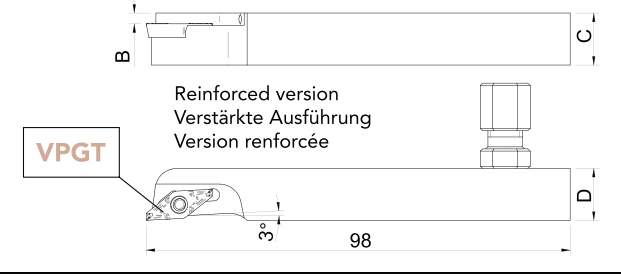
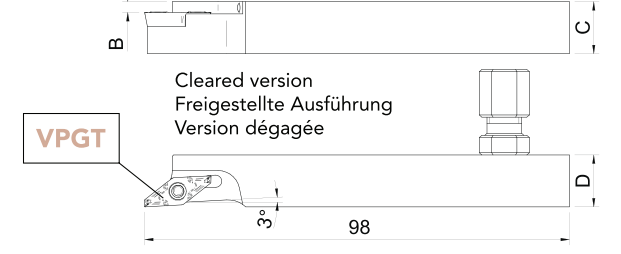
- Possibility to slide the tool holder on whole length for setting.
- Beim Einrichten können diese Werkzeughalter in ihrer gesamten Länge auf dem Träger gleiten.
- Possibilité de coulisser l'outil sur toute la longueur pour le réglage.



- The hydraulic fitting does not cover the tool, even for section 12x12 mm.
- Das hydraulische Anschlussstück ragt nicht über die Breite des Halters hinaus, auch nicht bei Querschnitten 12x12 mm.
- Le raccord hydraulique ne dépasse pas de l'outil même en section 12x12 mm.

Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage	CxD CxD CxD	B B B	Article nr. Artikel Nr. N° Article
 <p>ISO line DC...07...</p>	10x12 mm	3	SDJCR 1012 H07 IK
	12x12 mm	4	SDJCR 1212 H07 IK
	16x16 mm	4	SDJCR 1616 H07 IK
 <p>ISO line DC...11...</p>	12x15 mm	2,5	SDJCR 1215 H11 IK
	16x16 mm	2,5	SDJCR 1616 H11 IK
 <p>ISO line DC...11...</p>	12x12 mm	20	SDJCR 1212 H11 Y IK
	16x16 mm	20	SDJCR 1616 H11 Y IK
 <p>ISO line VC...11...</p>	10x15 mm	2,5	SVJCR 1015 H11 IK
	12x15 mm	2,5	SVJCR 1215 H11 IK
	16x16 mm	4	SVJCR 1616 H11 IK
 <p>ISO line VC...11...</p>	12x12 mm	20	SVJCR 1212 H11 Y IK
	16x16 mm	20	SVJCR 1616 H11 Y IK

Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage	CxD CxD CxD	B B B	Article nr. Artikel Nr. N° Article
 <p>ISO line VC...11...</p>	12x12 mm	4	SWCN 1212 H11 IK
	16x16 mm	4	SWCN 1616 H11 IK
 <p>800 line + 800 line</p>	12x15 mm	3	812R IK
	16x16 mm	3	816R IK
 <p>800 line + 800 line</p>	12x12 mm	3	812L IK
	16x16 mm	3	816L IK
 <p>oxoline</p>	12x15 mm	3	1012R IK
	16x16 mm	3	1016R IK
 <p>oxoline</p>	12x12 mm	3	1012L IK
	16x16 mm	3	1016L IK

Tool holders with internal coolant Werkzeughalter mit Innenkühlung Porte-outils avec arrosage	CxD CxD CxD	B B B	Article nr. Artikel Nr. N° Article
 <p>040line</p>	10x12 mm	2,5	010R IK
	12x12 mm	3,5	012R IK
	16x16 mm	3,5	016R IK
	20x20 mm	3,5	020R IK
 <p>040line</p>	10x12 mm	2,5	010L IK
	12x12 mm	3,5	012L IK
	16x16 mm	3,5	016L IK
 <p>Reinforced version Verstärkte Ausführung Version renforcée</p> <p>VPGT</p>	10x12 mm	2,5	SVJP R 1012 H10 IK
	12x12 mm	2,5	SVJP R 1212 H10 IK
	16x16 mm	2,5	SVJP R 1616 H10 IK
 <p>Cleared version Freigestellte Ausführung Version dégagée</p> <p>VPGT</p>	10x12 mm	2,5	SVJP RA 1012 H10 IK
	12x12 mm	2,5	SVJP RA 1212 H10 IK



1 hydraulic fitting (M8x1, cone shape, output Ø 4 mm) is delivered with each tool holder.
1 hydraulischer Anschluss (M8x1, konisch, Ausgang Ø 4 mm) wird mit jedem Werkzeughalter geliefert.
1 raccord hydraulique (M8x1 conique, sortie Ø 4 mm) est livré avec chaque porte-outil.



To guarantee the smooth running of tool holders, the oil must be filtered in 60 µm.
Um einen reibungslosen Ablauf der Werkzeughalter zu gewährleisten, muss das Öl in 60 µm filtriert werden.
Afin de garantir le bon fonctionnement des porte-outils, l'huile doit être filtrée à 60 µm.

Replace a drilling tool with a turning tool.

- Use in main operation or counter-operation.
- Different diameters of cylindrical tool holders available.
- Available for all common ISO and Bimu inserts.

Ersetzen Sie ein Bohrwerkzeug durch ein Drehwerkzeug.

- Verwendung für die Haupt- und Rückseite.
- Erhältlich in verschiedenen Durchmessern.
- Für alle gängigen ISO- und Bimu Wendepplatten verfügbar.

Possibilité de remplacer un outil de perçage par un outil de tournage.

- Utilisation en opération principale ou en contre-opération.
- Différents diamètres de porte-outils cylindriques disponibles.
- Disponibles pour toutes les plaquettes ISO et Bimu usuelles.

Ø 12 mm

Ø 16 mm

Ø 20 mm

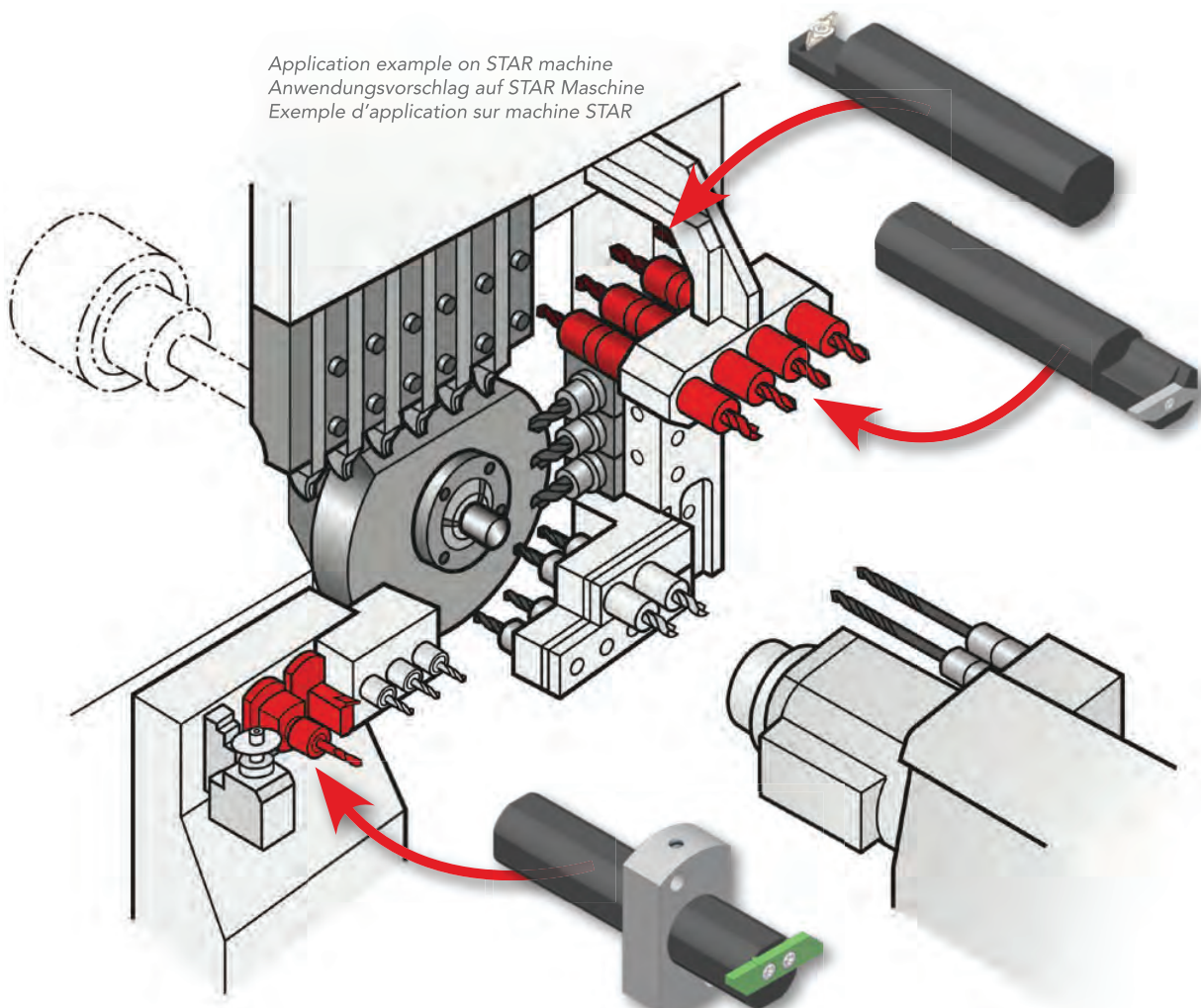
Ø 22 mm

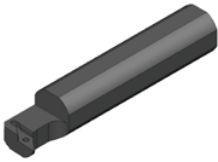

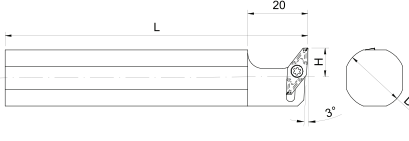
Ø 25 mm

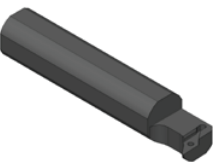

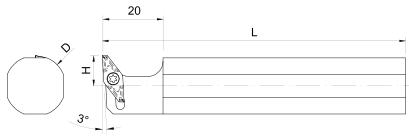
Ø 3/4"



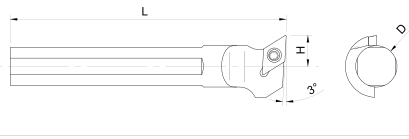
Ø 5/8"

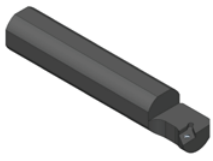

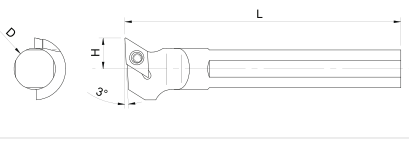
Ø 1"

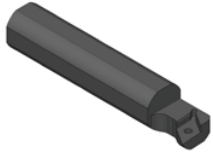
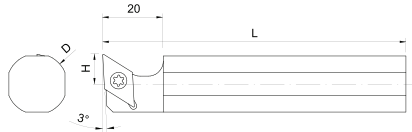




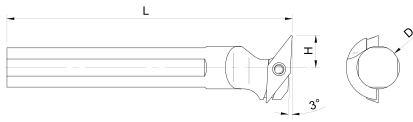

AL VPGT	Left turning tool holder for counter-operation Linke Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à gauche pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
 		12	80	9,00	AL 1280 VPGT
		16	80	8,00	AL 1680 VPGT
		20	100	10,00	AL 20100 VPGT
		22	100	11,00	AL 22100 VPGT
		25	100	12,50	AL 25100 VPGT
		3/4"	100	9,53	AL 34100 VPGT
		5/8"	50	7,94	AL 5850 VPGT
		<p>For use with VPGT...FL inserts Verwendung mit VPGT...FL Wendepplatten Utilisation avec plaquettes VPGT...FL</p>			

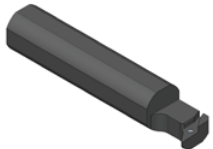
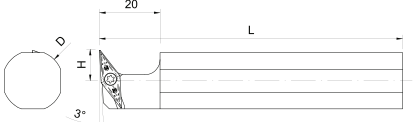

AL VPGT-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
 		16	100	8,00	AL 16100 VPGT-R
		20	100	10,00	AL 20100 VPGT-R
		22	100	11,00	AL 22100 VPGT-R
		25	100	12,50	AL 25100 VPGT-R
		25	100	12,50	AL 25100 VPGT-R IK*
		3/4"	100	9,53	AL 34100 VPGT-R
		<p>* With internal coolant * Mit Innenkühlung * Avec arrosage intégré</p> <p>For use with VPGT...FR inserts Verwendung mit VPGT...FR Wendepplatten Utilisation avec plaquettes VPGT...FR</p>			

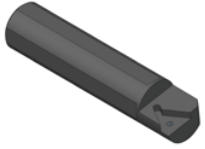
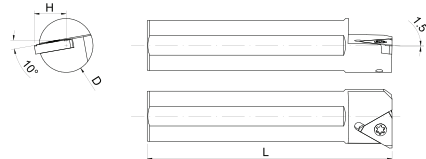

AL DCGT07	Left turning tool holder for counter-operation Linke Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à gauche pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
 		12	80	9,00	AL 1280 DCGT07
<p>For use with ISO-line DCGT 07 inserts Verwendung mit ISO-line DCGT 07 Wendepplatten Utilisation avec plaquettes ISO-line DCGT 07</p>					


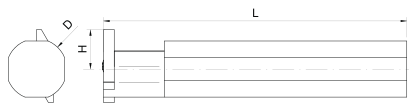

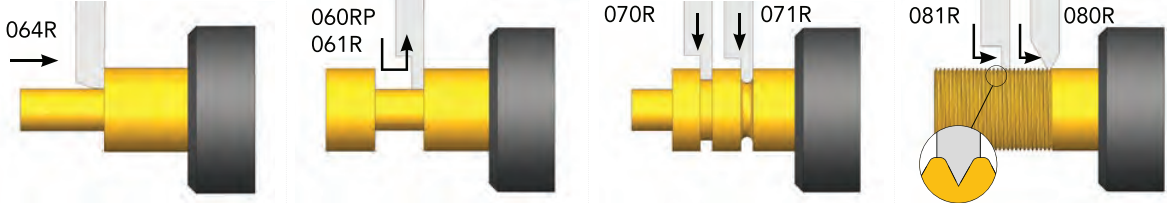
AL DCGT07-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
 		3/4"	100	19,05	AL 34100 DCGT07-R
<p>For use with ISO-line DCGT 07 inserts Verwendung mit ISO-line DCGT 07 Wendepplatten Utilisation avec plaquettes ISO-line DCGT 07</p>					


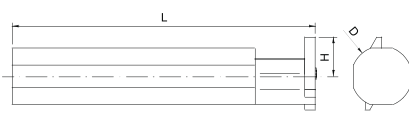
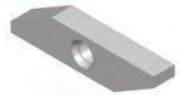
AL DCGT-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		20	100	10,00	AL 20100 DCGT-R
		22	100	11,00	AL 22100 DCGT-R
		3/4"	100	9,53	AL 34100 DCGT-R
	For use with ISO-line DCGT 11 inserts Verwendung mit ISO-line DCGT 11 Wendeplatten Utilisation avec plaquettes ISO-line DCGT 11				

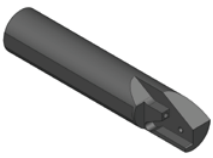
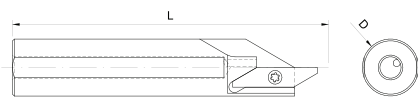

AL VCGT	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		12	80	9,00	AL 1280 VCGT
	For use with ISO-line VCGT 11 inserts Verwendung mit ISO-line VCGT 11 Wendeplatten Utilisation avec plaquettes ISO-line VCGT 11				

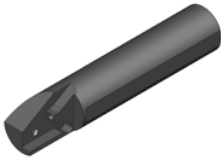
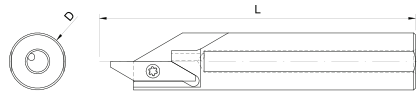

AL VCGT-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		16	100	8,00	AL 16100 VCGT-R
		20	100	10,00	AL 20100 VCGT-R
		22	100	11,00	AL 22100 VCGT-R
		25	150	12,50	AL 25150 VCGT-R
		3/4"	100	9,53	AL 34100 VCGT-R
	For use with ISO-line VCGT 11 inserts Verwendung mit ISO-line VCGT 11 Wendeplatten Utilisation avec plaquettes ISO-line VCGT 11				

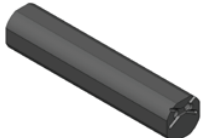
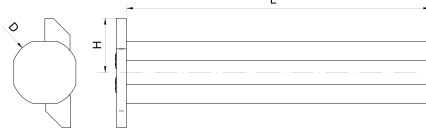

AL ER16-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		22	100	13,00	AL 22100 ER16-R
	For use with ER16 inserts Verwendung mit ER16 Wendeplatten Utilisation avec plaquettes ER16				

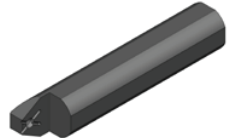
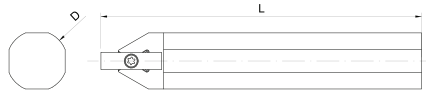

AL 040-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		16	80	13,00	AL 1680 040-L IK*
		20	100	13,00	AL 20100 040-R
		20	150	13,00	AL 20150 040-R**
		22	100	13,00	AL 22100 040-R
		3/4"	100	13,00	AL 34100 040-R
		1"	100	13,00	AL 254100 040-R
		* With internal coolant * Mit Innenkühlung * Avec arrosage intégré		** Without clamping flats ** Ohne Spannflächen ** Sans plats de serrage	
	For use with 040line R inserts. Examples of application below. Verwendung mit 040line R Wendeplatten. Anwendungsbeispiele unten. Utilisation avec plaquettes 040line R. Exemples d'application ci-dessous.				
					

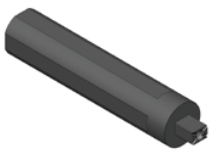
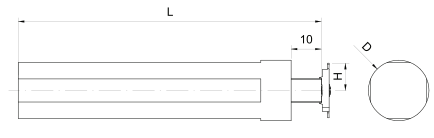

AL 040-L	Left turning tool holder for counter-operation Linke Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à gauche pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		20	100	13,00	AL 20100 040-L
	For use with 040line L inserts. Verwendung mit 040line L Wendeplatten. Utilisation avec plaquettes 040line L.				


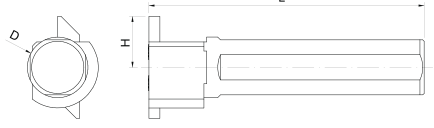
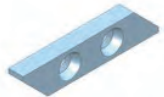
AL 040-LF	Left turning tool holder for counter-operation Linke Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à gauche pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		16 3/4"	80 80	— —	AL 1680 040LF IK* AL 3480 040LF IK*
 		* With internal coolant * Mit Innenkühlung * Avec arrosage intégré			
 <p>For use with 040line L inserts. Verwendung mit 040line L Wendepplatten. Utilisation avec plaquettes 040line L.</p>					


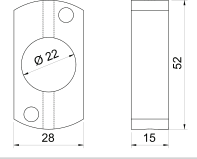
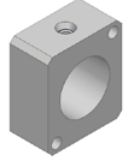
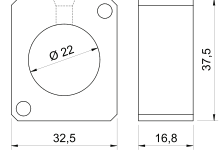
AL 040-RF	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		16	80	—	AL 1680 040RF IK*
 		* With internal coolant * Mit Innenkühlung * Avec arrosage intégré			
 <p>For use with 040line R inserts. Verwendung mit 040line R Wendepplatten. Utilisation avec plaquettes 040line R.</p>					

AL OXO-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		20 22 3/4" 1"	150 100 100 100	18,00 18,00 18,00 18,00	AL 20150 OXO-R AL 22100 OXO-R AL 34100 OXO-R AL 254100 OXO-R
 					
 <p>For use with OXOline R inserts. Verwendung mit OXOline R Wendepplatten. Utilisation avec plaquettes OXOline R.</p>					

AL 472-R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		16 20 5/8" 3/4"	80 100 80 100	— — — —	AL 1680 472-R AL 20100 472-R AL 5880 472-R AL 34100 472-R
 					
 <p>For use with 400line inserts. Verwendung mit 400line Wendepplatten. Utilisation avec plaquettes 400line.</p>					

4xx H6	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		12	80	9,00	412 H6
		16	80	9,00	416 H6
		20	100	9,00	420 H6
	For use with 400line inserts. Verwendung mit 400line Wendeplatten. Utilisation avec plaquettes 400line.				

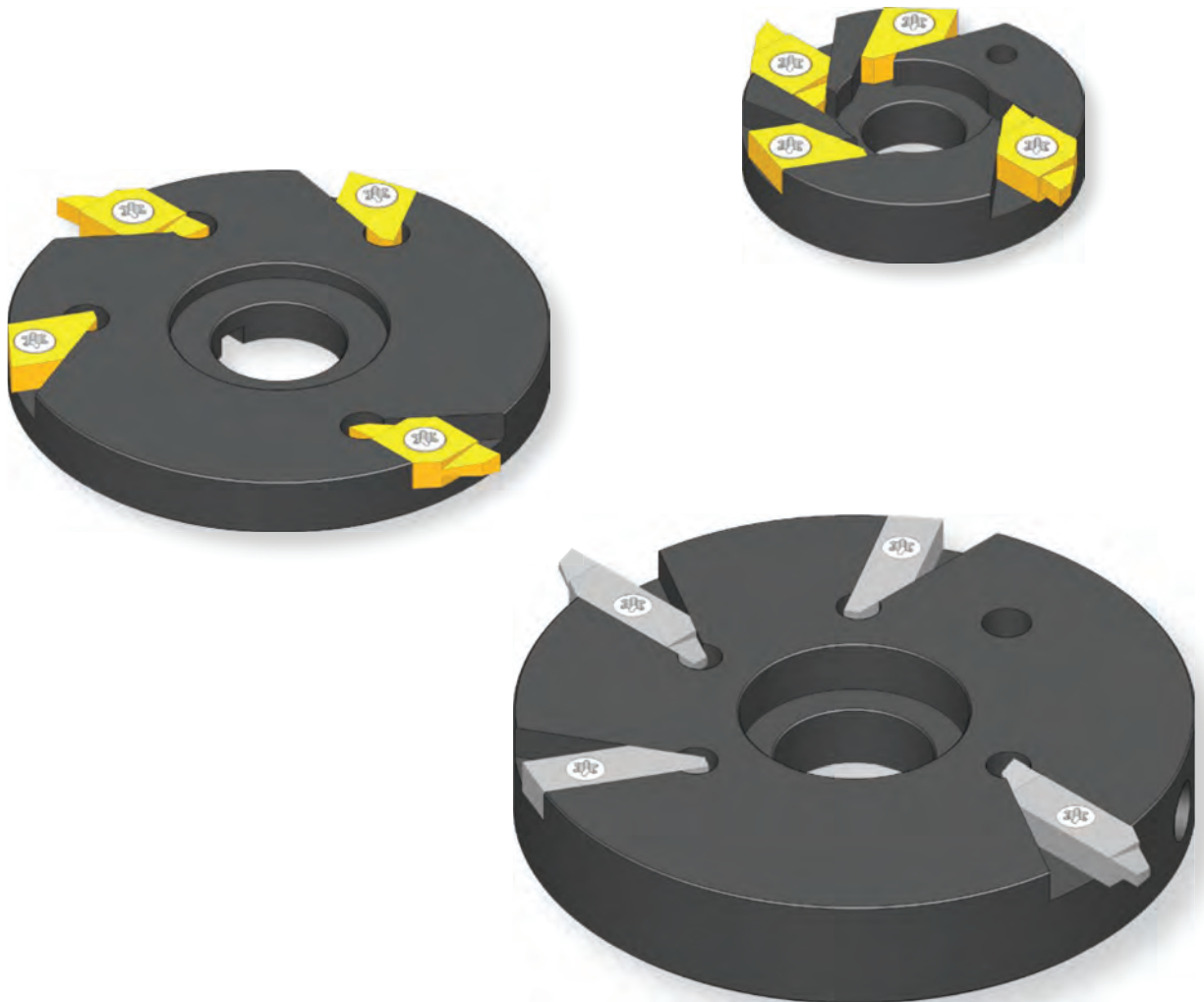
AL 715R	Right turning tool holder for counter-operation Rechte Dreh-Werkzeughalter für Rückseitenbearbeitung Porte-outil de tournage à droite pour contre-op.	D	L	H	Article nr. Artikel Nr. N° Article
		16	100	18,5	AL 16100 715R
		20	100	18,5	AL 20100 715R
		22	100	18,5	AL 22100 715R
		25	100	18,5	AL 25100 715R
		1"	100	18,5	AL 254100 715R
		3/4"	100	18,5	AL 34100 715R
	For use with 700line R inserts. Verwendung mit 700line R Wendeplatten. Utilisation avec plaquettes 700line R.				

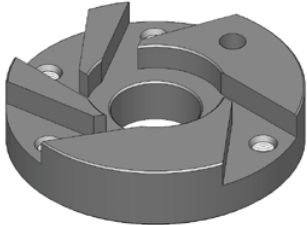
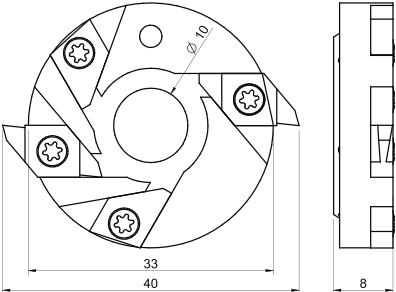




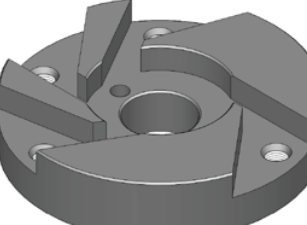
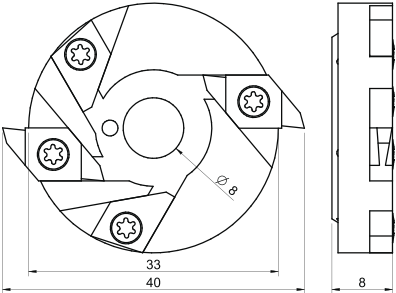





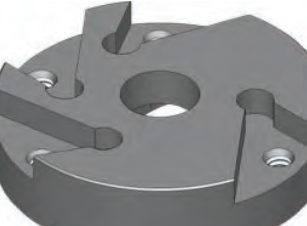
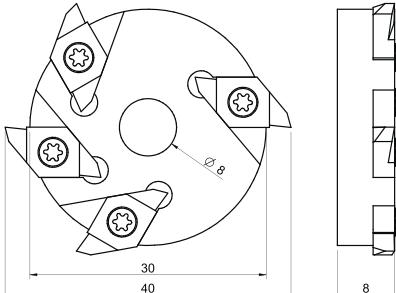
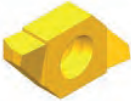



STAR-KP	Clamping plate for Star machines Klemmplatte für Star Maschinen Plaque de serrage pour machines Star	Article nr. Artikel Nr. N° Article
		STAR-KP1-22SRR For use with machines: Zur Verwendung auf den Maschinen: Utilisation avec machines: STAR SB-16C/E, SB-20 C/E, SB20R E/G/N, SR10J (T22+T24), SR-20J, SR-20JN, SR-32J, SR-32JN, SR20RII, SR-20RIII, SR20RIV (T21+T24), SW12RII
		STAR-KP1-22SW For use with machines: Zur Verwendung auf den Maschinen: Utilisation avec machines: STAR SB12/20R, SR-20RIV, SR38, SV20R, SW-12, SW12RII, SW 20

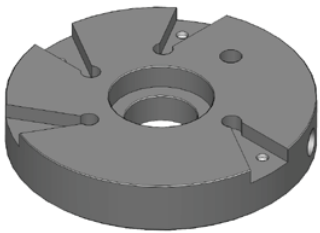
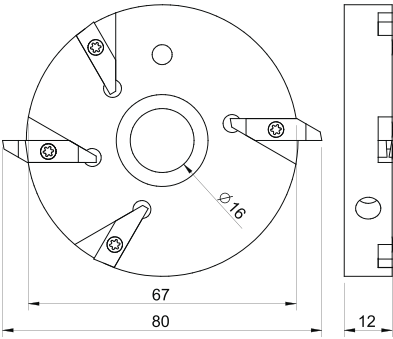
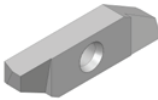



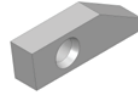
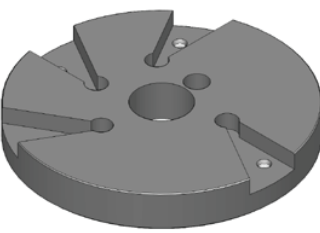
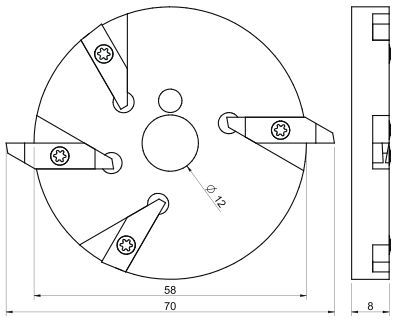
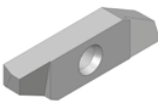
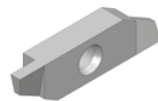


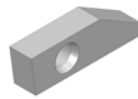
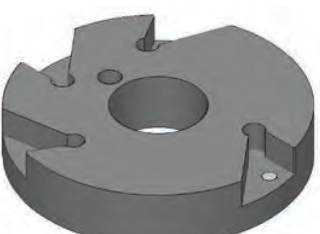
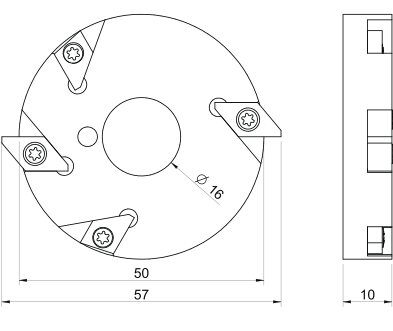
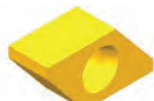


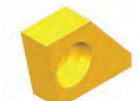
Polygon cutters


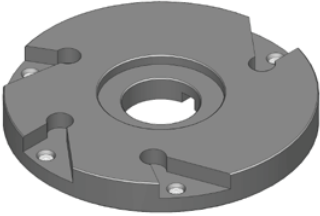
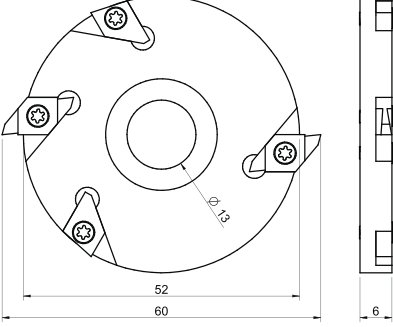
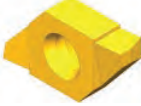
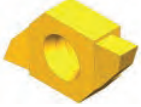



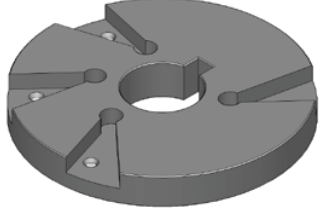
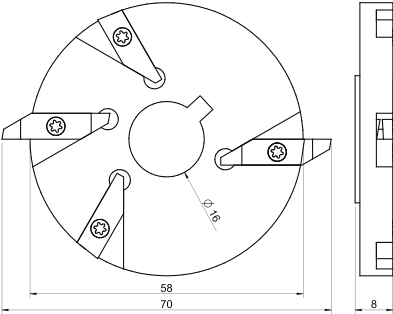
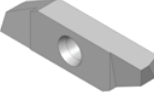
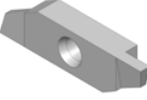
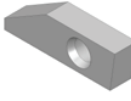
Polygonfräser

Fraises à polygone



310R	TORNOS	Tornos Deco 7/10	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 371R  371R1,0  371R2,0  372R/L	
313R	TORNOS	Tornos Micro 7 Tornos SwissNano	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 371R  371R1,0  371R2,0  372R/L	
314R		Citizen R504	PCM U57B / U58B
		 371R  371R1,0  371R2,0  372R/L	

320R	TORNOS Tornos Deco 13/20/26 Tornos ST 26	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 064RPP3,5  060RPP1,2  060RPP1,5  060RPP2,0  041R/L
321R	TRAUB Traub TNL 12	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 064RPP3,5  060RPP1,2  060RPP1,5  060RPP2,0  041R/L
380R	TORNOS Tornos SAS 16 ; SAS DC ; SAS 16.6	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 Blank inserts 5 mm or special inserts «Sline»  Rohlinge 5 mm oder Sonderplatten «Sline»  Plaquettes ébauches 5 mm ou plaquettes spéciales «Sline»  372R/L

311L 	Star SR-20	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 371L  371L1,0  371L2,0  372R/L
322L 	Star SR-32	Use with inserts Passende Wendeplatten Utilisation avec plaquettes
		 064LPP3,5  060LPP2,0  041R/L

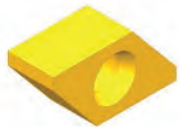
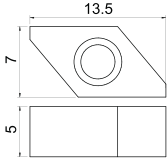
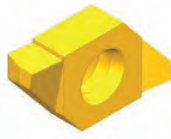
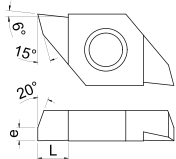
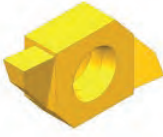
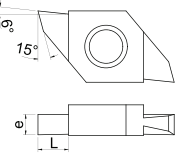
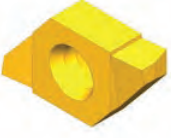
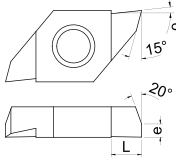
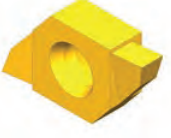
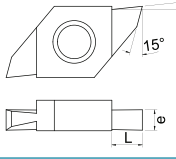
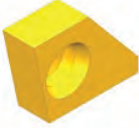
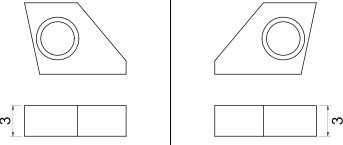
Coating of inserts

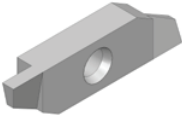
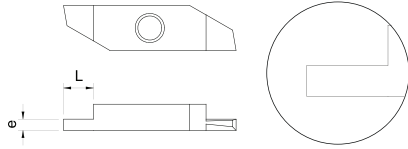
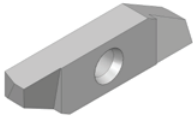
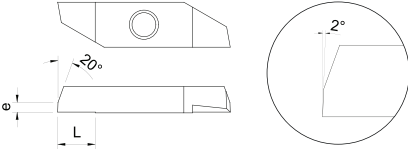
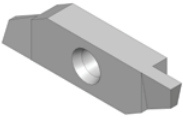
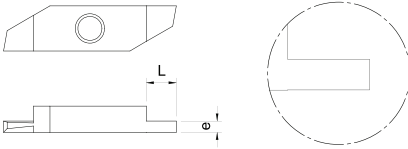
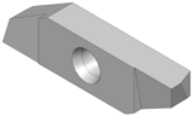
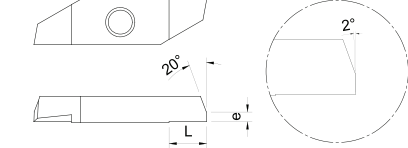
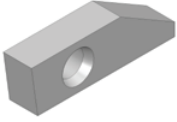
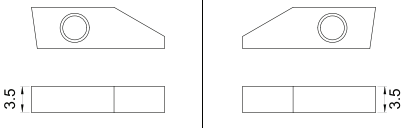
Beschichtung der Wendepplatten

Revêtement des plaquettes

✓ = Available
✓ = Verfügbar
✓ = Disponible

Designation Bezeichnung Désignation	Description Beschreibung Description
K10	<p>Without coating | K10 carbide</p> <p>Ohne Beschichtung | K10 Hartmetall</p> <p>Sans revêtement | Carbure K10</p>
B140	<p>AlTi(C)N-based</p> <ul style="list-style-type: none"> • Universal coating. • High hardness. • Very smooth surface finish. • Suitable for steel and stainless steel. <p>AlTi(C)N-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Hohe Schichthärte. • Sehr glatte Oberfläche. • Geeignet für Stahl und Edelstahl. <p>Base AlTi(C)N</p> <ul style="list-style-type: none"> • Revêtement universel. • Dureté élevée. • Bon glissement du copeau. • Adapté à l'acier et à l'acier inox.
B190	<p>AlTiN-based</p> <ul style="list-style-type: none"> • Universal coating. • Good oxidation resistance. • High heat resistance. • Suitable for steel and stainless steel. <p>AlTiN-Basis</p> <ul style="list-style-type: none"> • Universalbeschichtung. • Gute Oxidationsbeständigkeit. • Hohe Hitzebeständigkeit. • Ideal für Stahl und Edelstahl. <p>BaseAlTiN</p> <ul style="list-style-type: none"> • Revêtement universel. • Bonne résistance à l'oxydation. • Haute résistance à la chaleur. • Adapté à l'acier et à l'acier inox.
TiN	<p>TiN</p> <ul style="list-style-type: none"> • Universal coating. <p>TiN</p> <ul style="list-style-type: none"> • Universalbeschichtung. <p>TiN</p> <ul style="list-style-type: none"> • Revêtement universel.

340R5	Blank insert, width 5 mm Rohling, Breite 5 mm Plaquette ébauche, largeur 5 mm	<table border="1"> <thead> <tr> <th>e</th> <th>L</th> <th>Article nr. Artikel Nr. N° Article</th> <th colspan="3"></th> </tr> </thead> <tbody> <tr> <td>5</td> <td>-</td> <td>340R5</td> <td></td> <td></td> <td>✓</td> </tr> </tbody> </table>	e	L	Article nr. Artikel Nr. N° Article				5	-	340R5			✓	<table border="1"> <thead> <tr> <th>K10</th> </tr> </thead> <tbody> <tr> <td>✓</td> </tr> </tbody> </table>	K10	✓													
e	L	Article nr. Artikel Nr. N° Article																												
5	-	340R5			✓																									
K10																														
✓																														
		Insert's profiles grinded according to customer requirements Wendeplattenprofil nach Kundenwunsch geschliffen Formes de profil meulées d'après les besoins du client																												
371R	Front turning insert, right Drehplatte vorne, rechts Tourneur avant, à droite	<table border="1"> <thead> <tr> <th>e</th> <th>L</th> <th>Article nr. Artikel Nr. N° Article</th> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>1,3</td> <td>3,0</td> <td>371R</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	e	L	Article nr. Artikel Nr. N° Article	K10	BI90	TIN	1,3	3,0	371R	✓	✓	✓	<table border="1"> <thead> <tr> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	K10	BI90	TIN	✓	✓	✓									
e	L	Article nr. Artikel Nr. N° Article	K10	BI90	TIN																									
1,3	3,0	371R	✓	✓	✓																									
K10	BI90	TIN																												
✓	✓	✓																												
																														
371R2,0	Back turning insert, right Drehplatte hinten, rechts Tourneur arrière, à droite	<table border="1"> <thead> <tr> <th>e</th> <th>L</th> <th>Article nr. Artikel Nr. N° Article</th> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>1,0</td> <td>3,0</td> <td>371R1,0</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>2,0</td> <td>3,0</td> <td>371R2,0</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	e	L	Article nr. Artikel Nr. N° Article	K10	BI90	TIN	1,0	3,0	371R1,0	✓	✓	✓	2,0	3,0	371R2,0	✓	✓	✓	<table border="1"> <thead> <tr> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	K10	BI90	TIN	✓	✓	✓	✓	✓	✓
e	L	Article nr. Artikel Nr. N° Article	K10	BI90	TIN																									
1,0	3,0	371R1,0	✓	✓	✓																									
2,0	3,0	371R2,0	✓	✓	✓																									
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371L	Front turning insert, left Drehplatte vorne, links Tourneur avant, à gauche	<table border="1"> <thead> <tr> <th>e</th> <th>L</th> <th>Article nr. Artikel Nr. N° Article</th> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>1,3</td> <td>3,0</td> <td>371L</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	e	L	Article nr. Artikel Nr. N° Article	K10	BI90	TIN	1,3	3,0	371L	✓	✓	✓	<table border="1"> <thead> <tr> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	K10	BI90	TIN	✓	✓	✓									
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1,3	3,0	371L	✓	✓	✓																									
K10	BI90	TIN																												
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371L_{r,l}	Back turning insert, left Drehplatte hinten, links Tourneur arrière, à gauche	<table border="1"> <thead> <tr> <th>e</th> <th>L</th> <th>Article nr. Artikel Nr. N° Article</th> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>1,0</td> <td>3,0</td> <td>371L1,0</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>2,0</td> <td>3,0</td> <td>371L2,0</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	e	L	Article nr. Artikel Nr. N° Article	K10	BI90	TIN	1,0	3,0	371L1,0	✓	✓	✓	2,0	3,0	371L2,0	✓	✓	✓	<table border="1"> <thead> <tr> <th>K10</th> <th>BI90</th> <th>TIN</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	K10	BI90	TIN	✓	✓	✓	✓	✓	✓
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2,0	3,0	371L2,0	✓	✓	✓																									
K10	BI90	TIN																												
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372R/L	Balancing insert, right and left Auswuchtplatte, rechts und links Plaquette d'équilibrage, à gauche et à droite	<table border="1"> <thead> <tr> <th>Article nr. Artikel Nr. N° Article</th> <th colspan="3"></th> </tr> </thead> <tbody> <tr> <td>372R/L</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Article nr. Artikel Nr. N° Article				372R/L				<table border="1"> <thead> <tr> <th>K10</th> </tr> </thead> <tbody> <tr> <td>✓</td> </tr> </tbody> </table>	K10	✓																	
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K10																														
✓																														
																														

060RPP	Back turning insert 0°, right Drehplatte hinten 0°, rechts Tourneur arrière 0°, à droite	e L Article nr. Artikel Nr. N° Article	BI40 TIN
		1,2 3,0 060RPP1,2	✓
		1,5 3,0 060RPP1,5	✓
		2,0 4,5 060RPP2,0	✓ ✓
064RPP	Front turning insert, right Drehplatte vorne, rechts Tourneur avant, à droite	e L Article nr. Artikel Nr. N° Article	BI40 TIN
		1,5 5 064RPP3,5	✓ ✓
060LPP	Back turning insert 0°, left Drehplatte hinten 0°, links Tourneur arrière 0°, à gauche	e L Article nr. Artikel Nr. N° Article	BI40 TIN
		2,0 4,5 060LPP2,0	✓ ✓
064LPP	Front turning insert, left Drehplatte vorne, links Tourneur avant, à gauche	e L Article nr. Artikel Nr. N° Article	BI40 TIN
		1,5 5 064LPP3,5	✓ ✓
041R/L	Balancing insert, right and left Auswuchtplatte, rechts und links Plaquette d'équilibrage, à gauche et à droite	Article nr. Artikel Nr. N° Article	K10
		041R/L	✓



Turning toolholder for counter-operation with micrometric adjustment of the height



Precise adjustment of the height thanks to an eccentric screw as well as a graduation every 0.1 mm



Fitting with Bimu 040 / 400 inserts



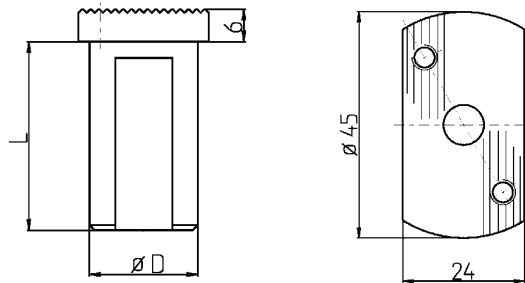
Fitting with ISO inserts

Vast choice of inserts

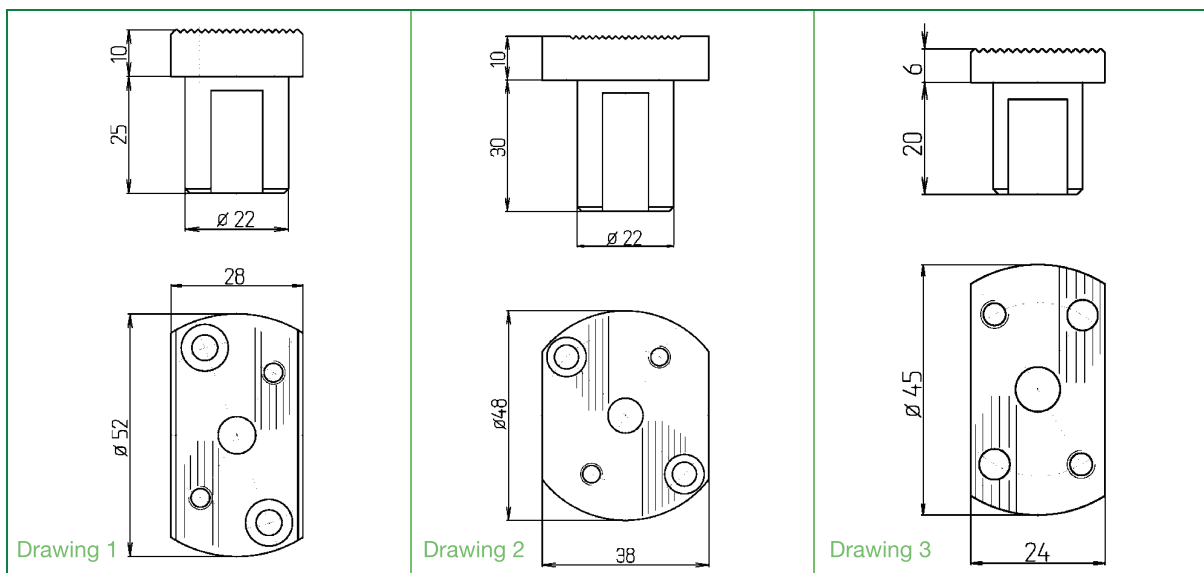
- ▶ ISO inserts for turning
- ▶ ISO + Bimu inserts for threading
- ▶ Bimu 040 + 400 line

Low cost pricing !

Shafts



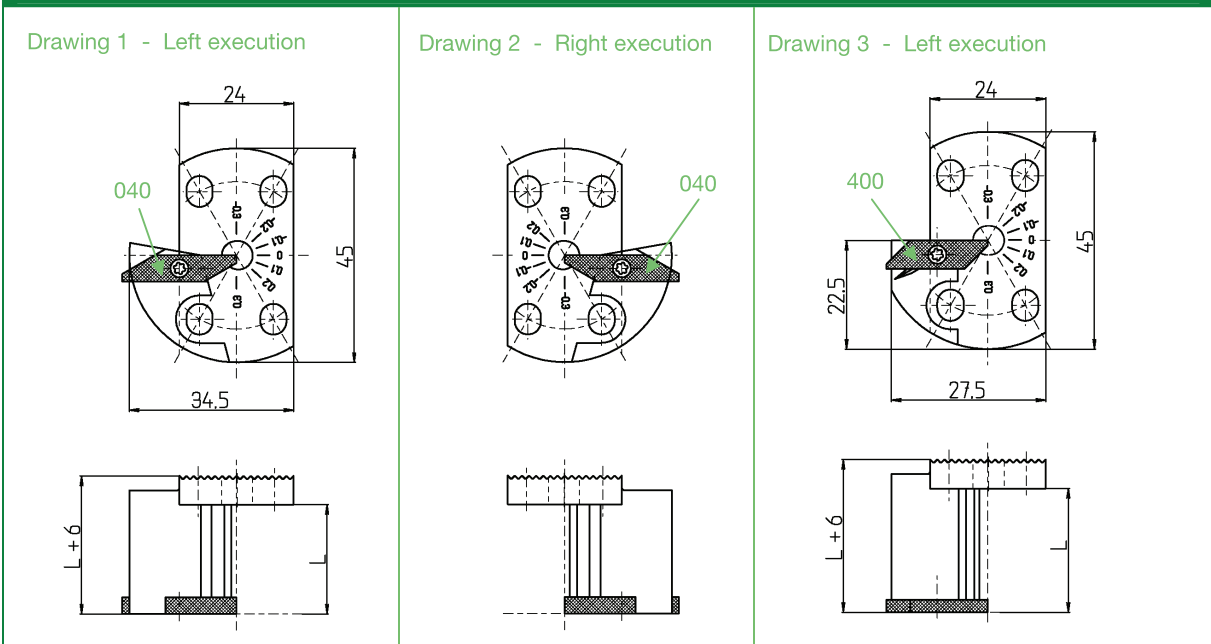
Reference	D	L	Machine
HVD1660	16	60	
HVD1960	3/4"	60	Citizen L20/C16
HVD2060	20	60	Citizen B12
HVD2080	20	80	
HVD2012	20	125	Tornos DECO
HVD2270	22	70	STAR
HVD2560	25	60	
HVD2510	25	100	Manurhin Swing
HVD2512	25	125	Tornos DECO
HVD2670	1"	70	Citizen M/C32
HVD2885	28	85	Traub TNL 12/16
HVD2885IK	28	85	Traub TNL 12/16 with integrated coolant supply



Reference	D	L	Drawing	Machine
HVD2225	22	25	1	STAR SR20R ; ECAS12/20
HVD2230	22	30	2	SR32
HVD1620	16	20	3	SR16 SST16
HVD3419	34	19,5	-	Maier
HVD3444	34	44	-	Maier
HVD3444S	34	44	-	chaser STAR SR/SV
HVD3045	30	45	-	Maier

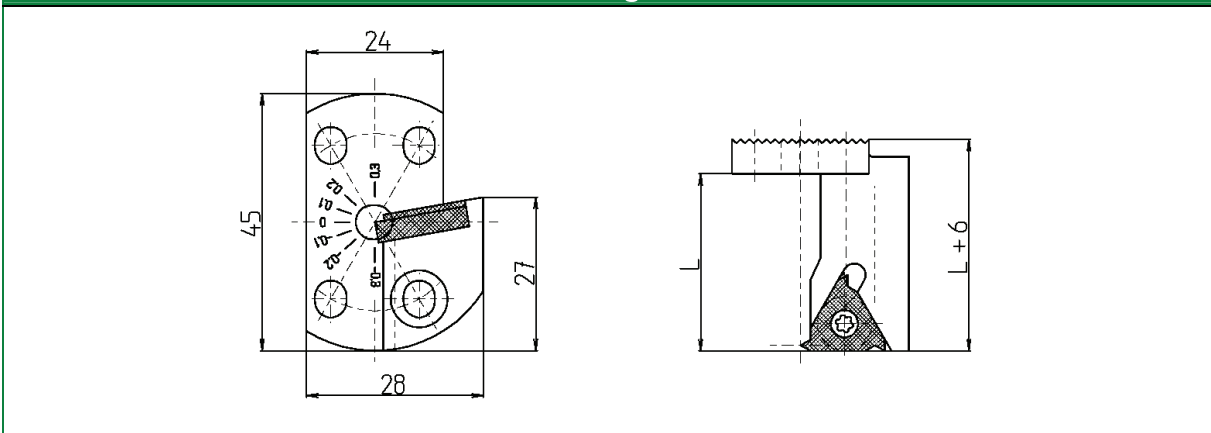
Heads

Bimu 040-400 toolholder



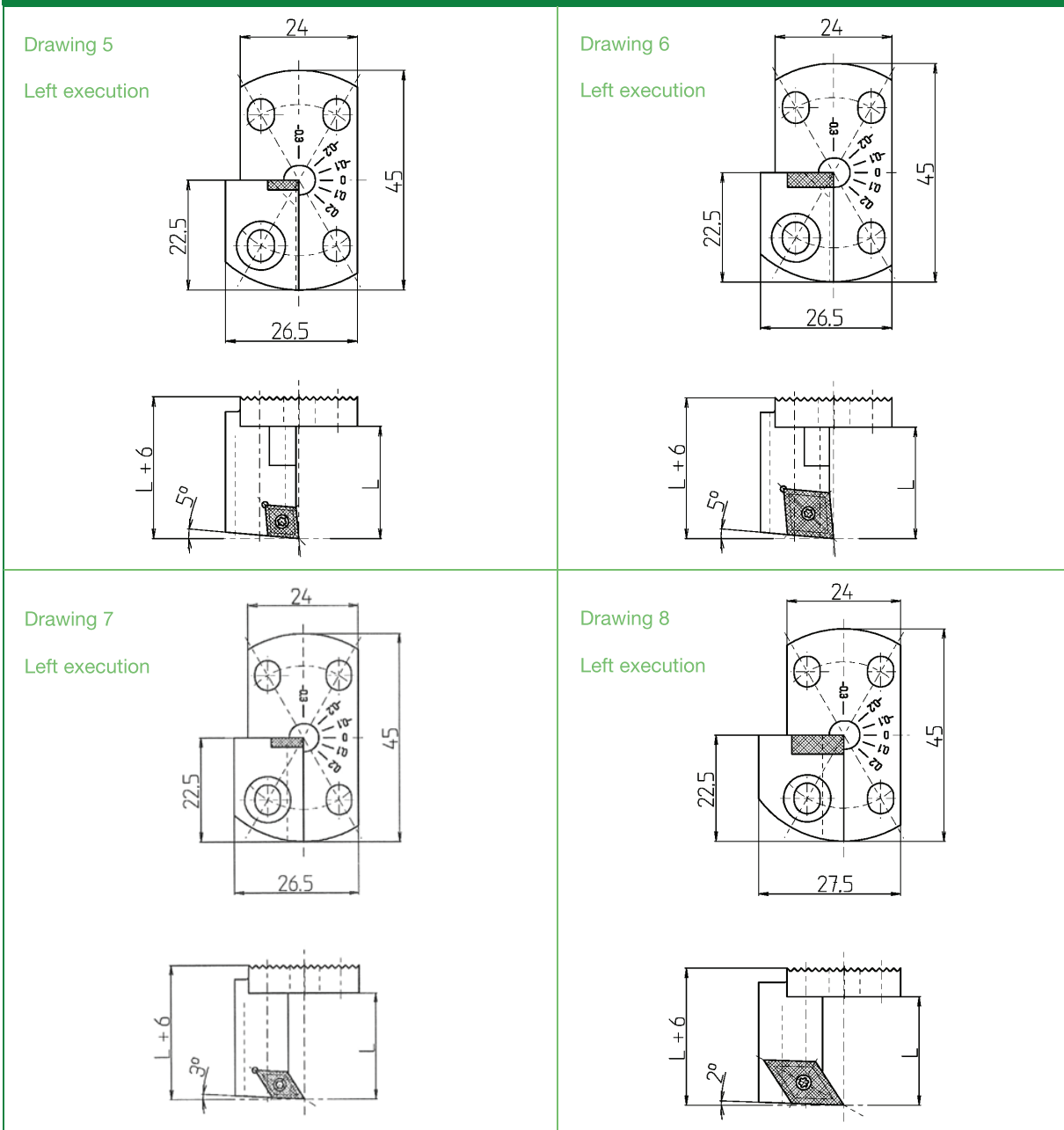
Reference	Execution	Insert	L	Drawing
HVWP-BI040R	right	BIMU-040	23	2
HVWP-BI040L	left	BIMU-040	23	1
HVWP-BIX-R	right	BIMU-400	26	3
HVWP-BIX-L	left	BIMU-400	26	3
HVWPL-BIX-R	right	BIMU-400	43	3
HVWPL-BIX-L	left	BIMU-400	43	3

16ER threading toolholder



Reference	Execution	Helix angle	Insert	L
HVWP-16ER-0	right	0°	16ER ISO	31
HVWP-16ER-15	right	1,5°	16ER ISO	31
HVWP-16ER-3	right	3°	16ER ISO	31
HVWPL-16ER-15	right	1,5°	16ER ISO	40
HVWPL-16ER-3	right	3°	16ER ISO	40

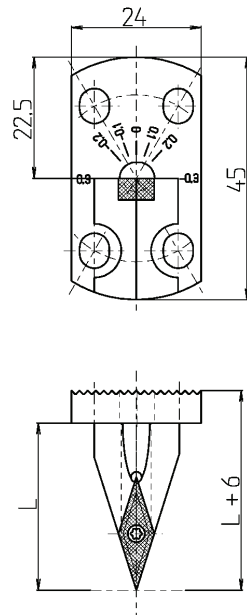
ISO : CC... / DC... toolholder



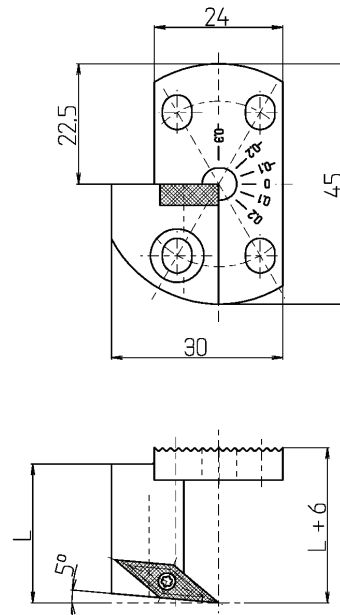
Reference	Execution	Insert	L	Drawing
HVWP-SCJCR06	right	CC--0602	23	5
HVWP-SCJCL06	left	CC--0602	23	5
HVWP-SCJCR09	right	CC--09T3	23	6
HVWP-SCJCL09	left	CC--09T3	23	6
HVWP-SDJCR07	right	DC--0702	23	7
HVWP-SDJCL07	left	DC--0702	23	7
HVWP-SDJCR11	right	DC--11T3	23	8
HVWP-SDJCL11	left	DC--11T3	23	8
HVWPL-SDJCR11	right	DC--11T3	40	8
HVWPL-SDJCL11	left	DC--11T3	40	8

ISO : VC... toolholder

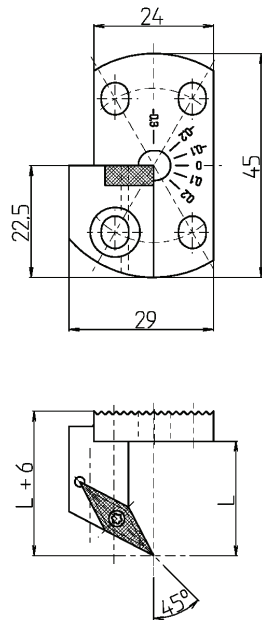
Drawing 9
Neutral execution



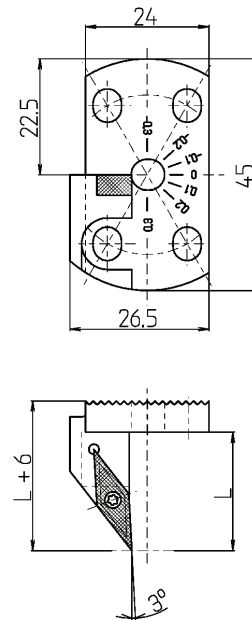
Drawing 10
Left execution



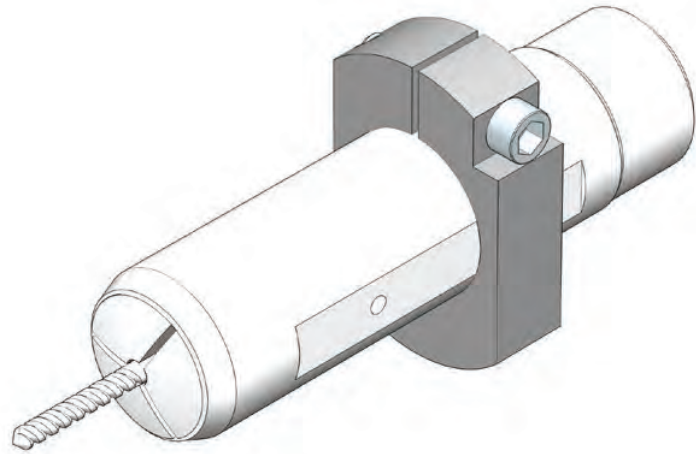
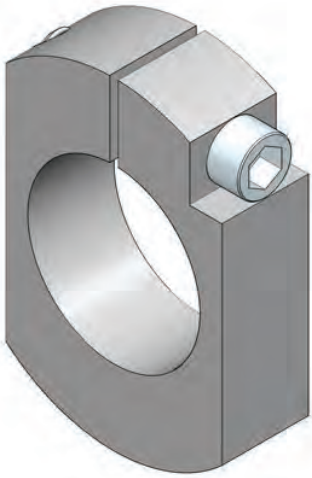
Drawing 11



Drawing 12
Left execution



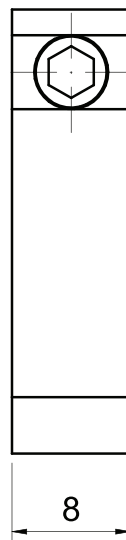
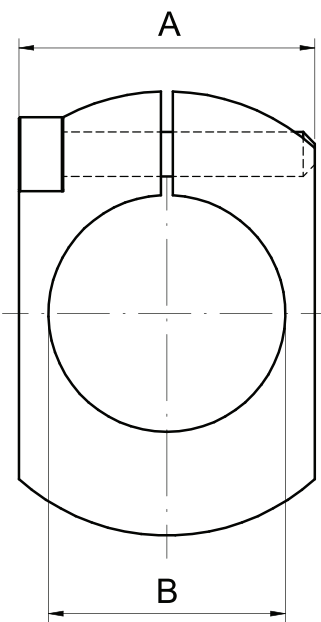
Reference	Execution	Insert	L	Drawing
HVWP-SVVCN11	neutral	VC..1103	31	9
HVWP-SVJCR11	right	VC..1103	23	10
HVWP-SVJCL11	left	VC..1103	23	10
HVWP-SVQCR11	right	VC..1103	23	11
HVWP-SVQCL11	left	VC..1103	23	11
HVWP-SVUCR11	right	VC..1103	23	12
HVWP-SVUCL11	left	VC..1103	23	12



Shortens your set-up and tool change !

Verkürzt Ihre Rüstzeit und den Werkzeugwechsel !

Réduit votre temps de réglage et de changement d'outil !



B	A	Article nr. Artikel Nr. N° Article
16	23,5	EM-PA16
19,05 (3/4")	23	EM-PA19
20	23	EM-PA20
22	25	EM-PA22
25	30	EM-PA25
25,4	30	EM-PA26

Tool holder type 121 for Tornos Deco 7/10 and EvoDeco 10

For small parts parting off. **No need of special collet for pick-up attachment !**

TORNOS

Deco 7/10

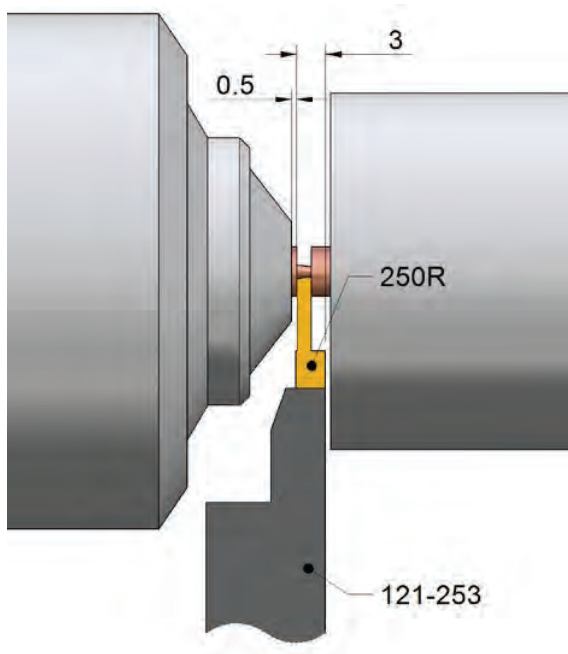
EvoDeco 10

Abstech-Werkzeughalter Typ 121 für Tornos Deco 7/10 und EvoDeco 10

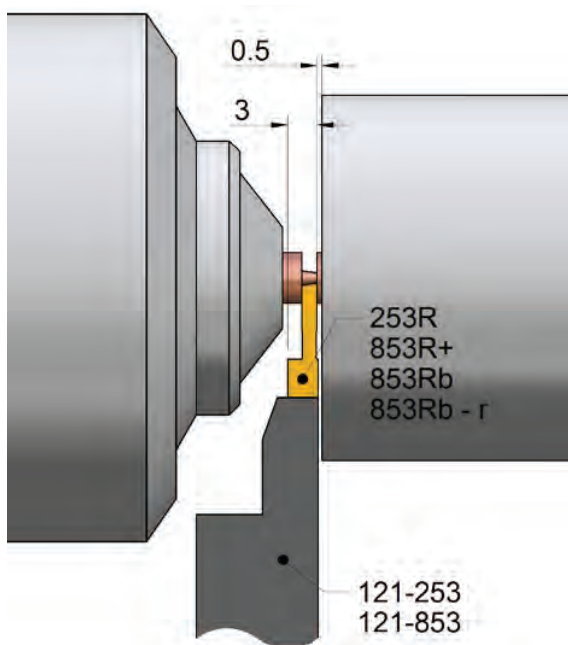
Zum Abstechen von kleinen Werkstücken. **Abstechen ohne Abgreifzange mit Vorbau !**

Porte-outil de tronçonnage type 121 pour Tornos Deco 7/10 et EvoDeco 10

Pour le tronçonnage de petites pièces. **Pas besoin de pince de prise de pièces à nez prolongé !**



Cutting off guide bush side
Abstechen an der Führungsbüchse
Tronçonnage côté canon

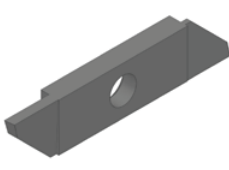
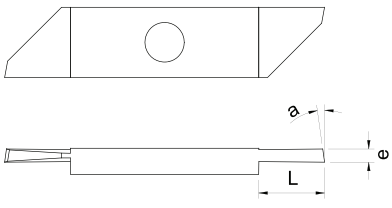


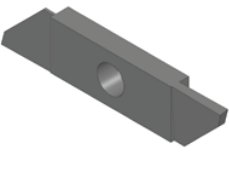
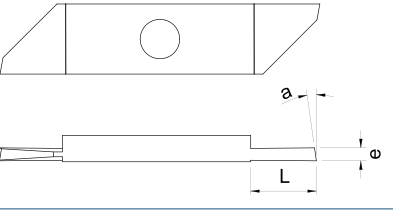
Cutting off counter-spindle side
Abstechen an der Gegenspindel
Tronçonnage côté contre-broche


Tool holders
Werkzeughalter
Porte-outils

121-253	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Cut-off tool holder type 121 for inserts 250R and 253R Complete tool (articles 121-1 + 121-2), without insert</p> <p>Abstech-Werkzeughalter Typ 121 für Wendepplatten 250R und 253R Vollständiges Werkzeug (Artikel 121-1 + 121-2), ohne Wendepplatte</p> <p>Porte-outil de tronçonnage type 121 pour plaquettes 250R et 253R Outil complet (articles 121-1 + 121-2), sans plaquette</p>	121-253
	<p>Cut-off tool holder type 121 for inserts 853R+, 853Rb, 853Rb - r and 858R Complete tool (articles 121-1 + 121-3), without insert</p> <p>Abstech-Werkzeughalter Typ 121 für Wendepplatten 853R+, 853Rb, 853Rb - r et 858R Vollständiges Werkzeug (Artikel 121-1 + 121-3), ohne Wendepplatte</p> <p>Porte-outil de tronçonnage type 121 pour plaquettes 853R+, 853Rb, 853Rb - r et 858R Outil complet (articles 121-1 + 121-3), sans plaquette</p>	121-853
121-x	Description Bezeichnung Description	Article nr. Artikel Nr. N° Article
	<p>Only base plate Nur Basisplatte Uniquement plaque de base</p>	121-1
	<p>Only tool holder for inserts 250R and 253R Nur Werkzeughalter für Wendepplatten 250R und 253R Uniquement porte-outil pour plaquettes 250R et 253R</p>	121-2
	<p>Only tool holder for inserts 853R+, 853Rb, 853Rb - r and 858R Nur Werkzeughalter für Wendepplatten 853R+, 853Rb, 853Rb - r und 858R Uniquement porte-outil pour plaquettes 853R+, 853Rb, 853Rb - r et 858R</p>	121-3


Inserts
Wendeplatten
Plaquettes


250R	Cutting insert Abstechplatte Tronçonneur	e	L	a	Article nr. Artikel Nr. N° Article		B120	B140	TiN
		1,0	4,5	18°	250R1,0		✓	✓	✓
		1,2	4,5	18°	250R1,2		✓	✓	✓
		1,4	7,5	18°	250R1,4		✓	✓	✓
		1,5	7,5	18°	250R1,5		✓	✓	✓
		1,6	9,5	8°	250R1,6		✓	✓	✓
		1,8	9,5	8°	250R1,8		✓	✓	✓
		2,0	9,5	8°	250R2,0		✓	✓	✓
		2,5	11,0	8°	250R2,5		✓	✓	✓


253R	Opposite cutting insert Umgekehrte Abstechplatte Tronçonneur inversé	e	L	a	Article nr. Artikel Nr. N° Article		B120	B140
		0,7	5,0	8°	253R0,7		✓	✓
		1,0	7,5	8°	253R1,0		✓	✓
		1,2	7,5	8°	253R1,2		✓	✓
		1,5	7,5	8°	253R1,5		✓	✓
		1,8	7,5	8°	253R1,8		✓	✓
		2,0	9,5	8°	253R2,0		✓	✓
		2,5	11,5	8°	253R2,5		✓	✓

800line+	Different cut off inserts Verschiedene Abstechplatten Différentes plaquettes de tronçonnage
	<p>For further information about 853R+, 853Rb, 853Rb - r and 858R inserts, please see the « 800line+ » catalog.</p> <p>Für mehr Informationen über 853R+, 853Rb, 853Rb - r und 858R Wendeplatten, siehe Katalog « 800line+ ».</p> <p>Pour le détail des plaquettes 853R+, 853Rb, 853Rb - r et 858R, voir le catalogue « 800line+ ».</p>

Spare screws
Ersatzschrauben
Vis de rechange

100-2c	Screw M3,5 x 7 Schraube M3,5 x 7 Vis M3,5 x 7	Article nr. Artikel Nr. N° Article
	for / für / pour : 121-2	100-2c

100-4c	Screw M4,5 x 7 Schraube M4,5 x 7 Vis M4,5 x 7	Article nr. Artikel Nr. N° Article
	for / für / pour : 121-3	100-4c

100-7	Screw M5 x 18 Schraube M5 x 18 Vis M5 x 18	Article nr. Artikel Nr. N° Article
	for / für / pour : 121-1	100-7



L x H x P : 15 x 15 x 80 mm

- Helps the fastening of parts for their optical & mechanical measurement.
- Ideal for measuring turned parts.
- Erleichtert die Spannung der Werkstücke, für die optische und die mechanische Messung.
- Ideal für die Messung von Drehteilen.
- Facilite la fixation des pièces pour leur mesure optique ou mécanique.
- Idéal pour la mesure des pièces de décolletage.

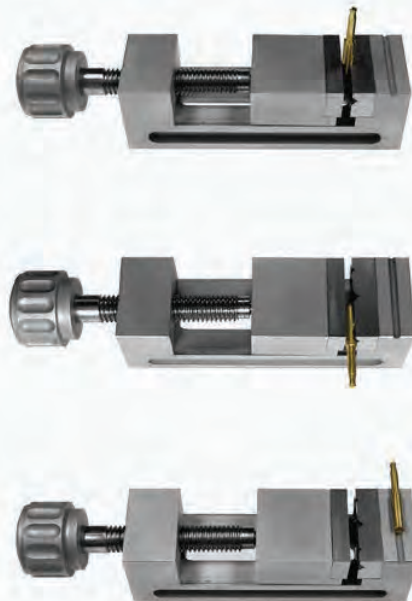
- Perpendicular conception utilisable on all faces.
- Senkrechte Ausführung, auf allen Seiten einsetzbar.
- Conception perpendiculaire, utilisable sur toutes les faces.



- Tightening conceived for different part diameters.
- Spannung für alle Größen der Werkstücke ausgeführt.
- Serrage conçu pour différents diamètres de pièce.



- Numerous possibilities to grip the part.
- Mehrere Möglichkeiten das Werkstück einzuspannen.
- Multiples possibilités de tenir la pièce.



- Part reference / Bestellnummer / Référence d'article : **MEP**

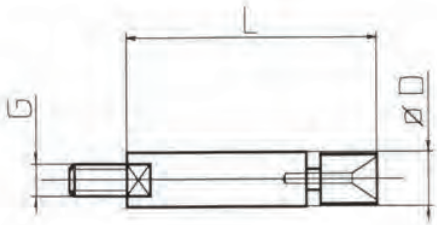
Revolving-Ends Collets for barfeeders

Tools for automatic lathe and CNC machines



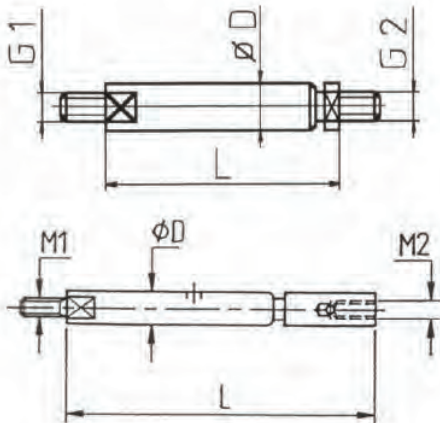
Revolving-Ends

Revolving End-Pieces for Pushrods



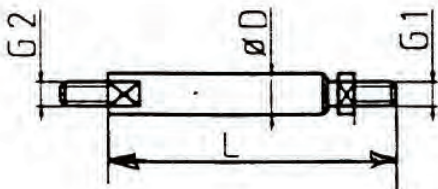
Art. No.	D	L	G	
ESB 0450	4.5	40.5	M3.5	
ESB 0700	7.0	40.5	M5	
ESB 0750	7.5	43	M5	
ESB 1000	10.0	52	M6	
ESB 1100	11.0	49	M6	
ESB 1200	12.0	48	M6	
ESB 1400	14.0		M8	
ESB 1600	16.0	80	M10	
ESB 2000	20.0	80	M10	

Revolving End-Pieces for Tornos Barfeeders / Barboy



Art. No.	D	L	G1	G2
ERT 0450	4.5	54	M3	M3
ERT 0550	5.5	54	M3	M3
ERT 0700	7.0	45.5	M4	M5
ERT 0750	7.5	45.5	M4	M5
ERT 0850	8.5	45.5	M5	M5
ERT 1050	10.5	51	M6	M6
ERT 1200	12.0	51	M6	M6
ERT 1500	15.0	70	M7	M6
ERT 2000	20.0	72	M7	M8

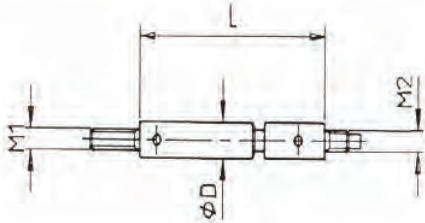
Revolving End-Pieces for Caddie Barfeeders



Art. No.	D	L	G1	G2
ERC 0950	9.5	72	M6	M6
ERC 1050	10.5	72	M6	M6
ERC 1250	12.5	72	M6	M6
ERC 1500	15.0	92	M7	M6
ERC 1650	16.5	92	M8	M8

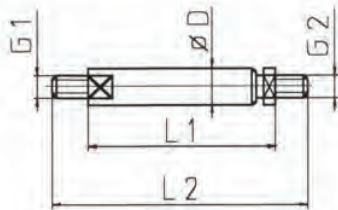
Revolving-Ends ...

Revolving End-Pieces for Multibar Bechler Barfeeders



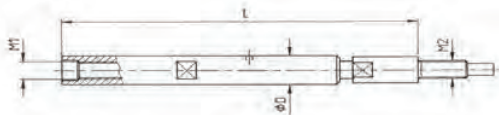
Art. No.	D	L	M1	M2
ERB 0450	4.5	37.5	M3	M2.5
ERB 0500	5	58.5	M3.5	M3
ERB 0550	5.5	37.5	M4	M3.5

Revolving End-Pieces for Multibar Bechler and Béchet



Art. No.	D	L1	L2	G1	G2
ERB 0700	7	38.5	60	M5	M4
ERB 0700	7	61	83	M5	M4
ERB 1000	10	59	86	M6	M5
ERB 1000	10	75	102	M6	M5
ERB 1200	12	64	90	M8/M6	M5
ERB 1200	12	94	122	M8/M6	M5
ERB 1600	16	84		M12	M6
ERB 2000	20	84		M16	M8x1

Revolving End-Pieces for IEMCA Barfeeders



Art. No.	D	L	M1	M2
ERI 0550	5.5	69	$\phi 4.5 H7$	M4
ERI 0750	7.5	122	M6 x 0.75	M5 x 0.5
ERI 1000	10	110	M8 x 0.75	M6 x 0.75
ERI 1200	12	110	M8 x 0.75	M7 x 0.75
ERI 1500	15	110	M8 x 0.75	M8 x 1
ERI 1600	16	110	M8 x 0.75	M8 x 1
ERI 1800	18	110	M8 x 0.75	M8 x 1
ERI 2000	20	110	M14 x 1.5	M10 x 1

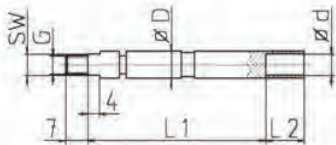
Revolving-Ends ...

Revolving End-Pieces for IEMCA Mini-Boss



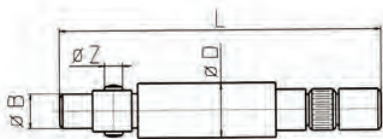
Art. No.	D	L
ERI 1200-L	12	115

Revolving End-Pieces for Traub – FMB - Hagenuk



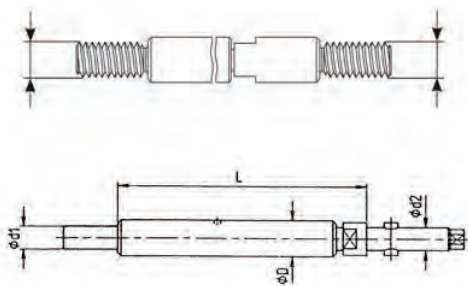
Art. No.	D	L	G
ERTA 0550	5.5	69	M4
ERTA 0700	7	78.5	M5

Revolving End-Pieces for FMB – Hagenuk – Traub <D15 – Robobar (D 5.5 – 7.5)



Art. No.	D	B	Z	L
SPHLD 10H	10	8	6	100.5
SPHLD 12H	12	8	6	100.5
SPHLD 15H/T	15	12	6	102.5
SPHLD 18H/T	18	12	6	102.5
SPHLD 20H/T	20	14	8	112.5
SPHLD 25H/T	25	20	8	118

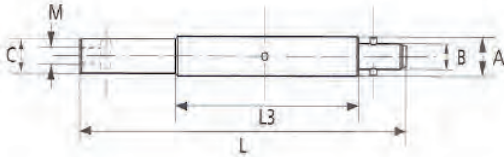
Revolving End-Pieces for Tornos Robobar



Art. No.	D	d1	d2	L
SPHLD 5.5R	5.5	M3	M4	78
SPHLD 7.5R	7.5	M5	M5	78
SPHLD 10R	10.5	7	7	75
SPHLD 16R	16	10	11	120
SPHLD 18R	18	10	11	120
SPHLD 21R	21	14	14	120
SPHLD 25R	25	20	20	120
SPHLD 26R	26	20	20	120
SPHLD 36R	36	25	20	120

Revolving-Ends ...

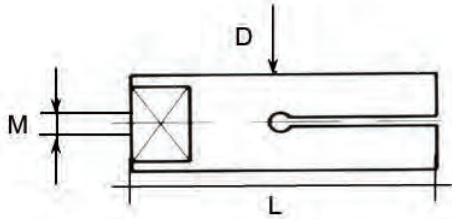
Revolving End-Pieces for LNS Minisprint & Express



Art. No.	A	B	C	L3	L	M
LNS 10	10	7h7	8h7	42	95	M4
LNS 12	12	8h7	8h7	42	95	-
LNS 15	15	12h7	12h7	42	96	M5
LNS 18	18	12h7	12h	42	96	-
LNS 20	20	17h7	17h	46	111	M8

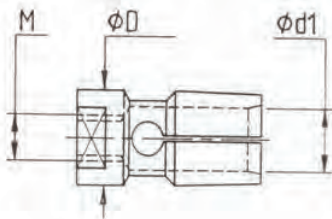
Collet grippers

Collets for Tornos Super-Télébar and Barboy (poss. Béchet)



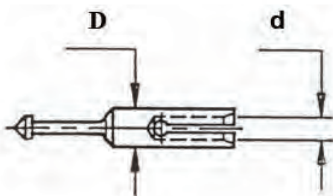
Art. No.	D	d	Thread	M	L
SPHT 45	4.5	M3	outside	M3	31
SPHT 55	5.5	M3	outside	M3	31
SPHT 75	7.5	7.5	inside	M4	30
SPHT 85	8.5	8.5	inside	M5	30
SPHT 105	10.5	10.5	inside	M6	35
SPHT 12	12	12	inside	M6	35
SPHT 15	15	15	inside	M6	35
SPHT 165	16.5	16.5	inside	M8	35
SPHT 205	20.5	20.5	inside	M8	35

Collets for Caddie Barfeeders



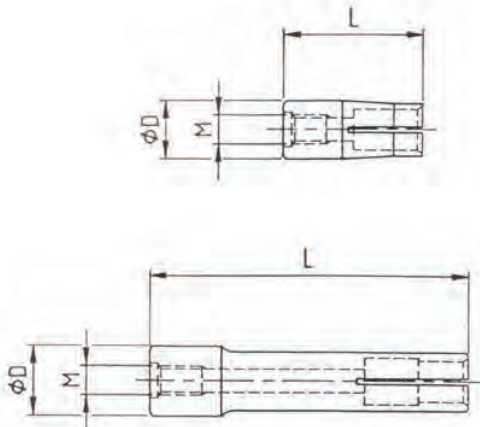
Art. No.	D	d1	M
SPHC 95	9.5	2 – 8 mm	M6
SPHC 105	10.5	3 – 9 mm	M6
SPHC 125	12.5	4 – 11 mm	M6
SPHC 150	15.0	5 – 13 mm	M6
SPHC 160	16.0	5 – 14.5 mm	M8
SPHC 175	17.5	5 – 16 mm	M8

Clamping finger for TORNOS Télébar



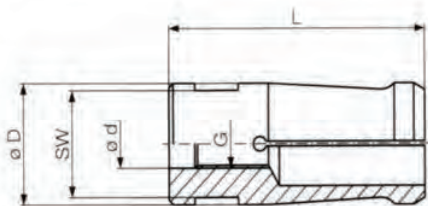
Art. No.	D	d
SPHTE 45	4.50	0.90 - 3.50
SPHTE 55	5.50	0.90 - 4.50
SPHTE 75	7.50	1.50 - 6.50

Collets for Bechler Barfeeders



Art. No.	Type	D	L (mm)	M
SPHB 45	320	4.5	22	M2.5
SPHB 50	3000-H	5.0	22	M3
SPHB 55	65-5.5	5.5	22	M3.5
SPHB 70	65 / 73	7.0	22	M4
SPHB 10	65 / 73	10	26	M5
SPHB 12C	65 / 73	12	26	M5
SPHB 12L	12 long	12	60	M5
SPHB 13L	13 long	13	60	M6
SPHB 16C	16 short	16	30	M6
SPHB 16L	16 long	16	60	M6
SPHB 20C	20 short	20	30	M8x1
SPHB 20L	20 long	20	60	M8x1

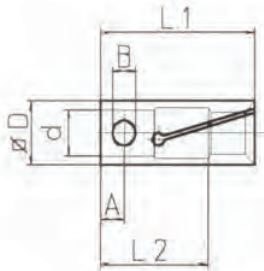
Collets for IEMCA Barfeeders



Art. No.	D	L	G	Bar diam.
SPHI 45	4.5	37	M3x0.5	1 – 3.4
SPHI 55	5.5	37	M4	1 – 4.4
SPHI 07	7.0	40	M5x0.5	1 – 5.9
SPHI 75	7.5	40	M5x0.5	1 – 6.4
SPHI 10	10.0	40	M6x0.7	1 – 8.9
SPHI 12	12.0	42	M7x0.7	1 – 10.9
SPHI 15	15.0	42	M8x1	2 – 13.8
SPHI 16	16.0	42	M8x1	3 – 14.8
SPHI 18	18.0	42	M8x1	3 – 16.5
SPHI 20	20.0	59	M10x1	3 – 18.5
SPHI 23	23.0	59	M10x1	6 – 21.5
SPHI 25	25.0	59	M10x1	6 – 23.5

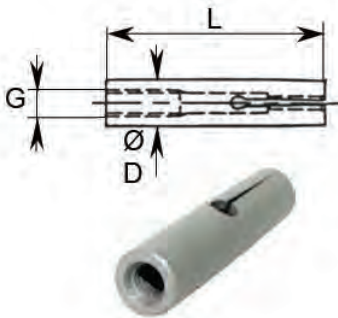
Collet grippers ...

Collets for Barfeeders FMB – Robobar - Traub – Hagenuk – lemca – LNS – Sameca



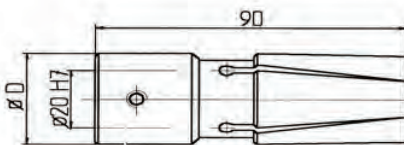
Art. No.	D	d	L	Bar diam.	
SPH 05	5	M4	37	1 – 4.5	
SPH 07	7	M5	37	1 – 5.9	
SPH 07	7	M5	37	6	USA
SPH 10	10	7	40	2 – 8.9	
SPH 10	10	7	40	9	USA
SPH 12	12	8	40	2 – 10.8	
SPH 12	12	8	40	10.9 – 11	USA
SPH 15	15	11	40	2 – 13.8	
SPH 15	15	11	40	13.9 – 14	USA
SPH 16	16	11	40	2.5 – 14.8	
SPH 18	18	11	40	2.5 – 16.8	
SPH 20	20	14	65	4 – 18.5	
SPH 25	25	20	65	6 – 23.5	
SPH 32	32	20	65	8 - 30	

Collets for Barfeeders LNS Tryton – 2000 series



Art. No.	D	G	L (mm)	Bar diam.
SPHL 06	6	M4	30	1.5 – 4.9
SPHL 07	7	M4	30	1.5 - 5
SPHL 10	10	M5	30	2 – 9
SPHL 127	12.70	M6	30	2 – 11
SPHL 17	17	M8	35	4 – 15
SPHL 20	20	M10	35	5 - 18

Collets for Barfeeders FMB – Robobar – Traub – Hagenuk – lemca – LNS – Sameca



Art. No.	D	L	Bar diam.
SPHTS 25	25	90	3 – 20
SPHTS 32	32	90	5 – 29.5
SPHTS 36	36	90	5 - 30

Swiss-MicroTurn

Swiss tools for Swiss-type lathes
Starting from an inner diameter of 0.2 mm

MT-EN-V4.0

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Swiss-MicroTurn System

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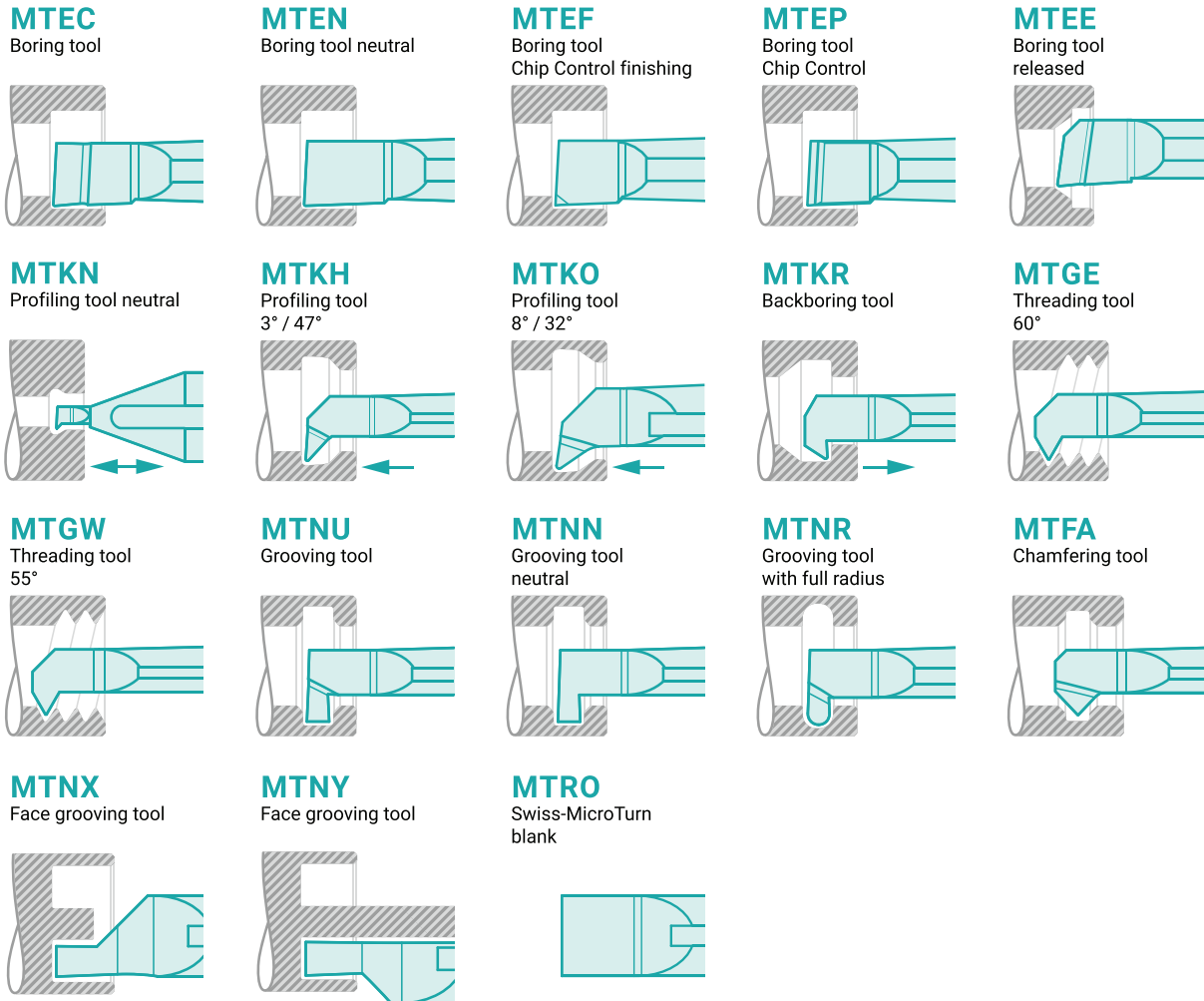
Carbide grades and coatings

Standard values for cutting data

Material, cutting speed, feed rate



Swiss-MicroTurn Tools



Swiss-MicroTurn Holder

**ROUND SHANK
HOLDER**



**BACK OPERATION
HOLDER**



**SQUARE SHANK
HOLDER**



**SPECIAL
SOLUTIONS**



Swiss Tools

History and values

As a "Swiss-made product", Swiss-MicroTurn stands for quality and reliability. The result of the tireless commitment of the IFANGER team is to push the boundaries of innovation while exceeding quality and performance standards.

Based on this belief, IFANGER developed the monoblock tool family "Swiss-MicroTurn". It is regarded as the original among micro turning tools for internal machining. Over decades, these have been continually developed and refined under the Swiss Made label.

"Swiss-type automatic lathe" stands internationally for automatic lathe. The invention is attributed to the watchmaker Jakob Schweizer in 1872. This technology embodies all aspects of the Swiss manufacturing industry.



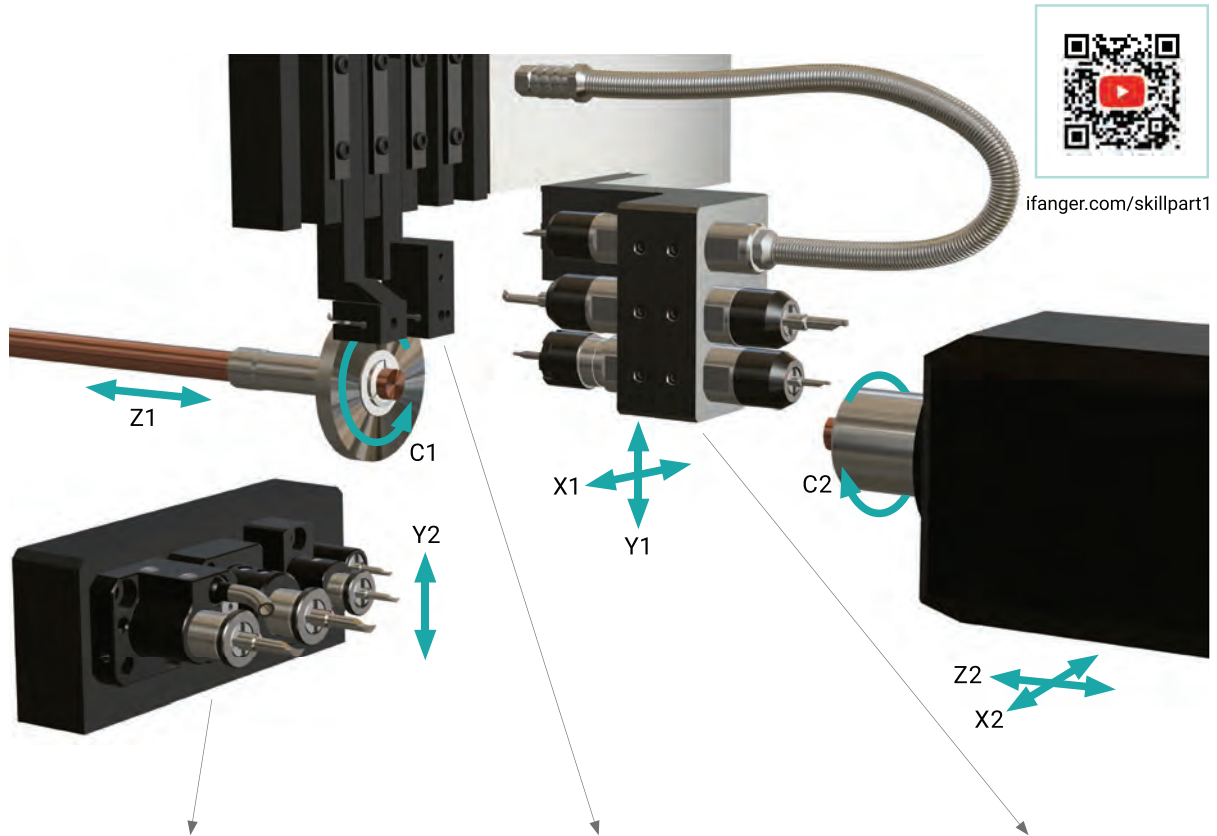
In 1917, tool pioneer Eduard Ifanger laid the foundations for the success story with the market launch of modular and regrindable turning tools. To this day, the family-run company strives to develop tool concepts with the decisive "technological edge".

Development and production take place entirely in Switzerland under the highest quality standards. höchsten Qualitätsstandards.

Swiss-MicroTurn System

For Swiss-type lathes

The Swiss-MicroTurn tools have been designed for high performance production without compromise on Swiss Type Lathes and have proven themselves millions of times over. The tool concepts are characterized by their enormous precision, reliability and cost-effectiveness.



**BACK OPERATION
HOLDER**



SQUARE SHANK HOLDER



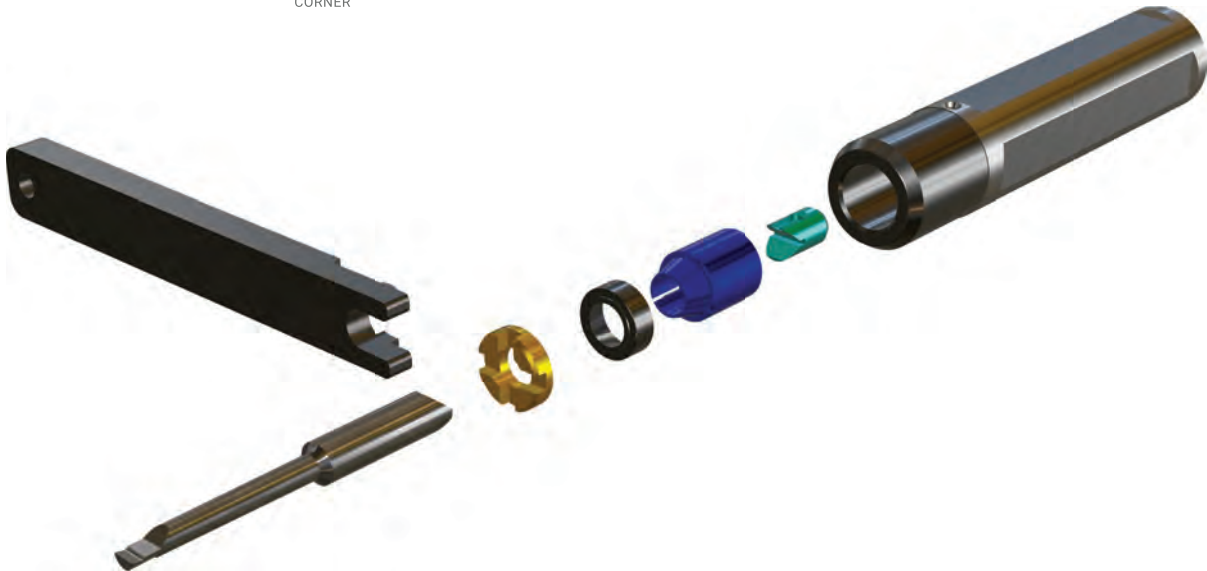
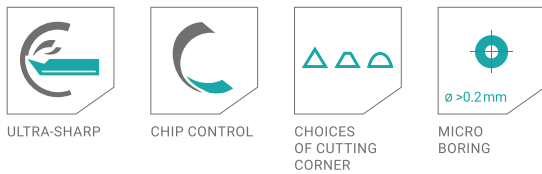
ROUND SHANK HOLDER



Swiss-MicroTurn System

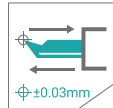
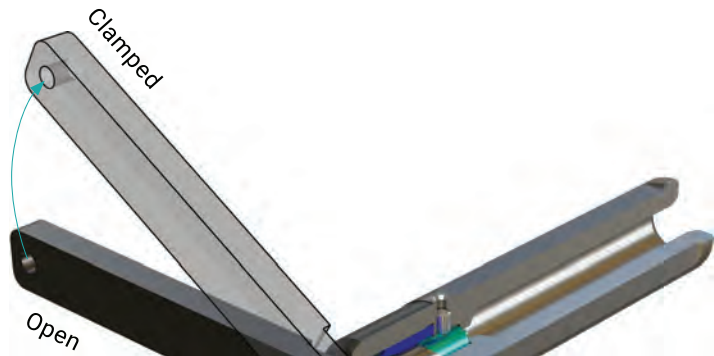
Functions and benefits

The Swiss-MicroTurn tool system offers maximum precision, efficiency, flexibility and reliability for machining a wide range of materials. It improves working conditions and end product quality through a large coolant channel, which ensures better cooling, lubrication, chip evacuation, higher machining quality, and tool life. The unique round holders increase flexibility, safety and comfort for the machine operator, especially in demanding working environments such as narrow and oily machine rooms, which significantly increases the efficiency and safety of work processes.



ifanger.com/microturn





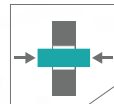
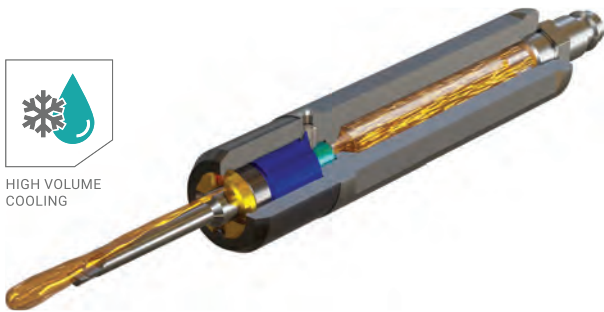
REPEATED POSITIONING ACCURACY



VIBRATION ABSORBING TOOL CLAMPING



HIGH VOLUME COOLING

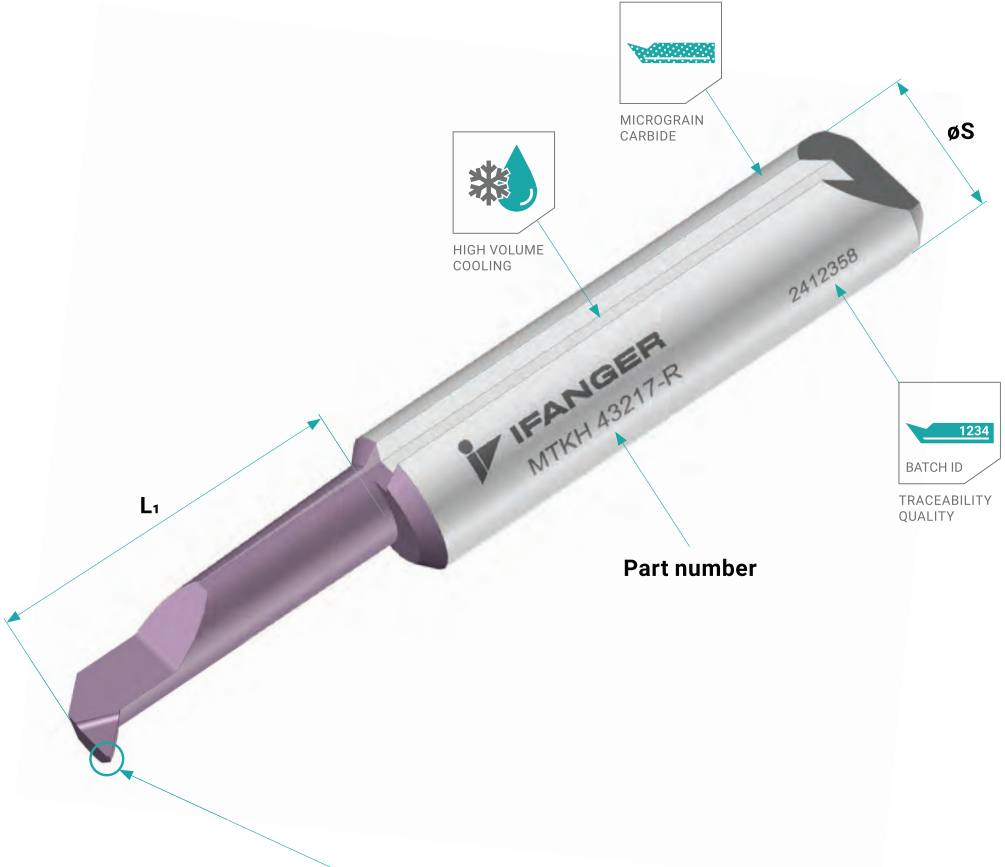


HOLDER LEFT OR RIGHT INSERTION



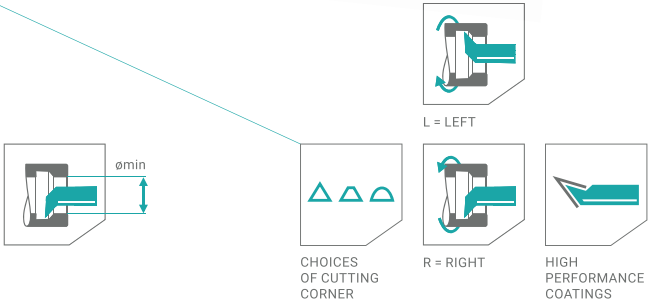
Nomenclature

For Swiss-MicroTurn cutting tools



Composition of part number

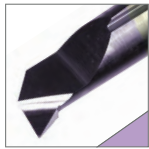
M	T	K	H	4	3	2	1	7	- R -	TiAlN
Brand		Typ		øS	ømin	L ₁		R	Direction of rotation	Coating
Swiss-MicroTurn		Profiling tool 3° / 47°		4 mm	3.2 mm	17 mm		0.08 mm	Right	Titanium-Aluminium-Nitrid



Cutting materials

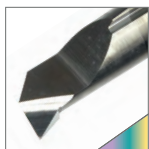
Carbide grades and coatings

Coatings primarily improve the wear resistance of tools and enable higher cutting speeds. The tool cutting edge is protected against wear and abrasive removal of the chip as it runs off, with the aim of keeping the tool cutting for as long as possible. Coatings also contribute to corrosion protection and the reduction of residual compressive stress in the carbide.



TiAlN (Titanium-Aluminum-Nitride)

Titanium-aluminum-nitride coatings are particularly suitable for machining hard and tough materials such as stainless steel and titanium alloys. They are used as an all-round coating for machining steel, non-ferrous metals and plastics. The most effective measure for reducing wear is the TiAlN coating. The TiAlN coating protects the cutting edge primarily through its significantly higher hardness compared to the substrate and leads to a significant reduction in abrasive wear. The titanium-aluminum-nitride coating also offers the advantage of improved dissipation of the heat generated during the machining process. This results in a reduced thermal load on the tool. Better heat dissipation also helps to increase the service life of the tool and improve machining accuracy, as overheating is avoided.



DLC (Diamond Like Carbon)

Diamond-coated cutting tools are suitable for machining difficult-to-cut or highly abrasive materials, such as graphite, ceramics materials and carbide green bodies, carbon fiber-reinforced plastics and for maximum precision and very smooth surfaces when machining non-ferrous metals. The amorphous carbon coating is harder and smoother than the TiAlN coating, for example.



SPEC (special coatings)

We are also happy to offer you customized coating solutions. Do not hesitate to contact us for a personal consultation.

Examples:

AlCrN aluminum-chromium-nitride coatings for tough alloys such as 300 series stainless steel and steels up to HRC 50.

AlTiSiN aluminum-titanium-silicon nitride coatings for stainless steel and high-temperature alloys and for hard machining from HRC 55.

Carbide K10 Micrograin

Ultra-fine grain (grain size 0.8 micrometers) with 6 % cobalt and 94 % tungsten carbide. K10 is suitable for the machining of high-strength materials and non-ferrous metals and when high cutting ability and dimensional accuracy is required. Standard for all Swiss-MicroTurn steels except threaded steels.

Carbide K20 Micrograin

Ultra-fine grain (grain size 0.8 micrometers) with 10 % cobalt and 90 % tungsten carbide. This carbide is slightly less hard than K10 but significantly tougher. This carbide grade is particularly suitable for for threading tools.

The carbides are sourced from European manufacturers who have committed themselves to the principles of the "Responsible Minerals Initiative".

Standard values

Cutting speed (v_c)

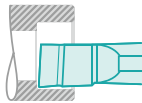
The optimum cutting values ($v_c / f_n / a_p$) depend on various factors, including the machine, the cooling system, the tool coatings, the tool holder and the desired quality grade of the workpiece geometry to be machined.

ISO	Material	N/mm ²	Example	Specification	v_c (m/min)	
P	P1	Free-cutting steels	≤800	St 70-2 / E 360	DIN 1.0070	70 – 100
		Case-hardening steels	≤800	16 MnCr 5	DIN 1.7131	70 – 100
		Cast steel	≤800	25 CrMo 4	DIN 1.7218	70 – 100
	P2	Case-hardening steels	≤1000	20 MoCr 3	DIN 1.7320	70 – 100
		Tempering steels	≤1000	42 CrMo 4	DIN 1.7225	70 – 100
		Cold work steels	≤1000	102 Cr 6	DIN 1.2067	70 – 100
	P3	High-alloy steels	≤1400	X 38 CrMoV 5-3	DIN 1.2367	60 – 90
		Cold work steels	≤1400	X 100 CrMoV 8-1-1	DIN 1.2990	60 – 90
		Hot-work steels	≤1400	X 40 CrMoV 5-1	DIN 1.2344	60 – 90
	P4	Stainless steels, ferritic	≤1200	X 17 CrNi 16-2	DIN 1.4057	60 – 80
M	M1	Stainless steels, austenitic	≤900	X 6 CrNiMoTi 17-12-2	DIN 1.4571	30 – 60
	M2	Stainless steels, austenitic, heat-resistant	≤1200	X 2 CrNiMoN 25-7-4	DIN 1.4410	25 – 30
K	K1	Cast iron with lamellar graphite	≤400	EN GJL 300 (GG30)	DIN 1561	40 – 80
	K2	Cast iron with nodular graphite	≤900	EN GJS 700 2 (GGG70)	DIN 1563	40 – 70
	K3	Cast iron with vermicular graphite	≤500	GJV 450		40 – 80
N	N1	Aluminum wrought alloys	≤250	AlMg 1	DIN 3.3315	80 – 150
	N2	Aluminum wrought alloys	≤550	AlZn 5 Mg 3 Cu	DIN 3.4345	80 – 150
	N4	Pure copper, low-alloyed copper	≤500	E-Cu 57		80 – 150
		Brass with lead, short-chipping	≤540	CuZn 39 Pb 3 / CuZn 36 Pb 3		80 – 150
		Brass without lead, long-chipping	≤700	CuZn 42 / CuZn 21 Si 3 P		30 – 60
S	S1	Titanium alloys	≤1250	Ti 6 Al 4 V	WL 3.7164	40 – 60
	S2	Titanium alloys	≤1400	Ti 4 Al 4 Mo 2 Sn	WL 3.7184	40 – 60
	S3	Nickel alloys	≤1000	NiCu 30 Fe (Alloy 400)	DIN 2.436	20 – 40
	S4	Nickel alloys	≤1600	NiCr 19 Fe 19 Nb 5 Mo 3 (INCONEL)	DIN 2.4668	20 – 40
O	O1	Duroplastics (short-chip)		Bakelit, Pertinax		On request
	O2	Fiber-reinforced plastics (fiber content ≤ 30%)		GFK, CFK, AFK		On request
	O3	Graphite		C 800		On request

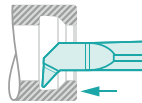
Standard values

Feed rate (f_n)

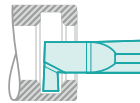
Boring tool
MTEC, MTEN*, MTEE,
MTEF***, MTEP***



Profiling tool
MTKN*, MTKH, MTKO,
MTKR



Grooving tool
MTNU, MTNR, MTNN



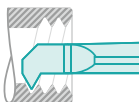
Face grooving tool
MTNX, MTNY



Material		\varnothing min 1.0–2.5 mm	\varnothing min >2.5 mm	**	\varnothing min >1.0 mm	**	\varnothing min >2.0 mm	**	\varnothing min >6.0 mm
ISO		f_n (mm)	f_n (mm)		f_n (mm)		f_n (mm)		f_n (mm)
P	P1	0.02 – 0.04	0.03 – 0.08		0.05 – 0.15		0.02 – 0.06		0.02 – 0.05
		0.02 – 0.04	0.03 – 0.08		0.05 – 0.15		0.02 – 0.06		0.02 – 0.05
		0.02 – 0.04	0.03 – 0.08		0.05 – 0.15		0.02 – 0.06		0.02 – 0.05
	P2	0.01 – 0.03	0.03 – 0.07		0.05 – 0.12		0.02 – 0.06		0.02 – 0.05
		0.01 – 0.03	0.03 – 0.07		0.05 – 0.12		0.02 – 0.06		0.02 – 0.05
		0.01 – 0.03	0.03 – 0.07		0.05 – 0.12		0.02 – 0.06		0.02 – 0.05
	P3	0.005 – 0.02	0.03 – 0.06		0.03 – 0.10		0.015 – 0.04		0.01 – 0.03
		0.005 – 0.02	0.03 – 0.06		0.03 – 0.10		0.015 – 0.04		0.01 – 0.03
		0.005 – 0.02	0.03 – 0.06		0.03 – 0.10		0.015 – 0.04		0.01 – 0.03
		0.005 – 0.02	0.02 – 0.06		0.03 – 0.10		0.015 – 0.04		0.005 – 0.02
M	M1	0.01 – 0.03	0.02 – 0.05		0.005 – 0.01		0.005 – 0.01		0.005 – 0.01
	M2	0.005 – 0.02	0.02 – 0.06		0.003 – 0.06		0.003 – 0.006		0.003 – 0.006
K	K1	0.01 – 0.03	0.04 – 0.08	MTEN	0.05 – 0.15	MTKN	0.02 – 0.07	MTNN	0.02 – 0.05
	K2	0.01 – 0.03	0.03 – 0.08	MTEN	0.003 – 0.12	MTKN	0.02 – 0.05	MTNN	0.01 – 0.04
	K3	0.01 – 0.03	0.04 – 0.08	MTEN	0.05 – 0.15	MTKN	0.02 – 0.07	MTNN	0.02 – 0.05
N	N1	0.01 – 0.05	0.03 – 0.08		0.05 – 0.15		0.03 – 0.06		0.02 – 0.05
	N2	0.01 – 0.05	0.03 – 0.08		0.05 – 0.15		0.03 – 0.06		0.02 – 0.05
	N4	0.01 – 0.05	0.03 – 0.08		0.05 – 0.15		0.03 – 0.06		0.02 – 0.05
		0.02 – 0.05	0.03 – 0.08	MTEN	0.05 – 0.15	MTKN	0.03 – 0.06	MTNN	0.02 – 0.05
		*** ***	*** ***	MTEF MTEP					
S	S1	0.01 – 0.03	0.02 – 0.05		0.02 – 0.1		0.02 – 0.05		0.01 – 0.03
	S2	0.01 – 0.03	0.02 – 0.05		0.02 – 0.1		0.02 – 0.05		0.01 – 0.03
	S3	0.005 – 0.02	0.01 – 0.04		0.02 – 0.08		0.01 – 0.04		0.005 – 0.02
	S4	0.005 – 0.02	0.01 – 0.04		0.02 – 0.08		0.01 – 0.04		0.005 – 0.02
O	O1	On request							
	O2	On request							
	O3	On request							

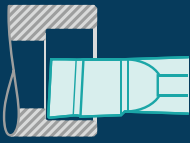
Threading tool

MTGE, MTGW
(Guidelines on tool pages)



Notes

- * MTEN, MTKN: For bore diameters <1 mm begin with maximum feed rate of 0.01 mm
- ** Recommended tool
- *** MTEF, MTEP: Follow the cutting speed (v_c) and feed rate (f_n) from the diagram on tool pages



MTEC

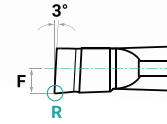
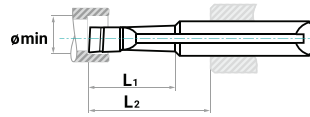
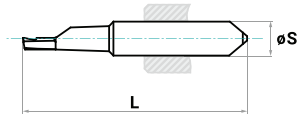
Boring tool, $\gamma = 6-12^\circ$



ULTRA-SHARP



P **M** **N*** **S** **O** *Brass with lead: use MTEN
Brass without lead: use MTEP, MTEF



ϕ_{min}	ϕ_S	L	L ₁	L ₂	F	γ	R			Ref. N°	Rotation		Coating			
							Δ	Δ	Δ		R	L	K10	TiAlN	DLC	SPEC
1.0	4	26	3	10	0.50	6°	0			MTEC 410030	●	●	●	●	○	○
1.0	4	26	3	10	0.50	6°		0.02 × 45°		MTEC 41003	●	●	●	●	○	○
1.0	4	26	5	10	0.50	6°	0			MTEC 410050	●	●	●	●	○	○
1.0	4	26	5	10	0.50	6°		0.02 × 45°		MTEC 41005	●	●	●	●	○	○
1.2	4	31	4	15	0.60	12°	0			MTEC 412040	●	●	●	●	○	○
1.2	4	31	4	15	0.60	12°		0.02 × 45°		MTEC 41204	●	●	●	●	○	○
1.2	4	31	7	15	0.60	12°	0			MTEC 412070	●	●	●	●	○	○
1.2	4	31	7	15	0.60	12°		0.02 × 45°		MTEC 41207	●	●	●	●	○	○
1.5	4	31	5	15	0.75	12°	0			MTEC 415050	●	●	●	●	○	○
1.5	4	31	5	15	0.75	12°		0.02 × 45°		MTEC 41505	●	●	●	●	○	○
1.5	4	31	8	15	0.75	12°	0			MTEC 415080	●	●	●	●	○	○
1.5	4	31	8	15	0.75	12°		0.02 × 45°		MTEC 41508	●	●	●	●	○	○
1.8	4	31	5	15	0.90	12°	0			MTEC 418050	●	●	●	●	○	○
1.8	4	31	5	15	0.90	12°		0.03 × 45°		MTEC 41805	●	●	●	●	○	○
1.8	4	31	9	15	0.90	12°	0			MTEC 418090	●	●	●	●	○	○
1.8	4	31	9	15	0.90	12°		0.03 × 45°		MTEC 41809	●	●	●	●	○	○
1.8	4	31	14	15	0.90	12°	0			MTEC 418140	●	●	●	●	○	○
1.8	4	31	14	15	0.90	12°		0.03 × 45°		MTEC 41814	●	●	●	●	○	○
2.2	4	31	6	15	1.10	12°	0			MTEC 422060	●	●	●	●	○	○
2.2	4	31	6	15	1.10	12°			R0.05	MTEC 42206	●	●	●	●	○	○
2.2	4	31	10	15	1.10	12°	0			MTEC 422100	●	●	●	●	○	○
2.2	4	31	10	15	1.10	12°			R0.05	MTEC 42210	●	●	●	●	○	○
2.2	4	31	14	15	1.10	12°	0			MTEC 422140	●	●	●	●	○	○
2.2	4	31	14	15	1.10	12°			R0.05	MTEC 42214	●	●	●	●	○	○
2.5	4	31	6	15	1.25	12°	0			MTEC 425060	●	●	●	●	○	○
2.5	4	31	6	15	1.25	12°			R0.05	MTEC 42506	●	●	●	●	○	○
2.5	4	31	10	15	1.25	12°	0			MTEC 425100	●	●	●	●	○	○
2.5	4	31	10	15	1.25	12°			R0.05	MTEC 42510	●	●	●	●	○	○
2.5	4	31	14	15	1.25	12°	0			MTEC 425140	●	●	●	●	○	○
2.5	4	31	14	15	1.25	12°			R0.05	MTEC 42514	●	●	●	●	○	○
3.2	4	31	8	15	1.60	12°	0			MTEC 432080	●	●	●	●	○	○
3.2	4	31	8	15	1.60	12°			R0.05	MTEC 432085	●	●	●	●	○	○
3.2	4	31	8	15	1.60	12°			R0.08	MTEC 43208	●	●	●	●	○	○
3.2	4	31	12	15	1.60	12°	0			MTEC 432120	●	●	●	●	○	○
3.2	4	31	12	15	1.60	12°			R0.05	MTEC 432125	●	●	●	●	○	○
3.2	4	31	12	15	1.60	12°			R0.08	MTEC 43212	●	●	●	●	○	○
3.2	4	36	17	20	1.60	12°	0			MTEC 432170	●	●	●	●	○	○

Dimensions in mm

ømin	øS	L	L ₁	L ₂	F	γ	R			Ref. N°	Rotation		Coating				
							△	△	△		R	L	K10	TIAlN	DLC	SPEC	
3.2	4	36	17	20	1.60	12°				R0.05	MTEC 432175	●	●	●	●	○	○
3.2	4	36	17	20	1.60	12°				R0.08	MTEC 43217	●	●	●	●	○	○
4.0	4	31	10	15	1.95	12°	0				MTEC 440100	●	●	●	●	○	○
4.0	4	31	10	15	1.95	12°				R0.05	MTEC 440105	●	●	●	●	○	○
4.0	4	31	10	15	1.95	12°				R0.12	MTEC 44010	●	●	●	●	○	○
4.0	4	31	14	15	1.95	12°	0				MTEC 440140	●	●	●	●	○	○
4.0	4	31	14	15	1.95	12°				R0.05	MTEC 440145	●	●	●	●	○	○
4.0	4	31	14	15	1.95	12°				R0.12	MTEC 44014	●	●	●	●	○	○
4.0	4	36	19	20	1.95	12°	0				MTEC 440190	●	●	●	●	○	○
4.0	4	36	19	20	1.95	12°				R0.05	MTEC 440195	●	●	●	●	○	○
4.0	4	36	19	20	1.95	12°				R0.12	MTEC 44019	●	●	●	●	○	○
4.0	6	48	25	29	1.95	12°	0				MTEC 640250	●	●	●	●	○	○
4.0	6	48	25	29	1.95	12°				R0.05	MTEC 640255	●	●	●	●	○	○
4.0	6	48	25	29	1.95	12°				R0.12	MTEC 64025	●	●	●	●	○	○
4.0	6	53	30	34	1.95	12°	0				MTEC 640300	●	●	●	●	○	○
4.0	6	53	30	34	1.95	12°				R0.05	MTEC 640305	●	●	●	●	○	○
4.0	6	53	30	34	1.95	12°				R0.12	MTEC 64030	●	●	●	●	○	○
5.0	6	35	12	16	2.50	12°				R0.05	MTEC 650125	●	●	●	●	○	○
5.0	6	35	12	16	2.50	12°				R0.15	MTEC 65012	●	●	●	●	○	○
5.0	6	43	17	24	2.50	12°				R0.05	MTEC 650175	●	●	●	●	○	○
5.0	6	43	17	24	2.50	12°				R0.15	MTEC 65017	●	●	●	●	○	○
5.0	6	48	25	29	2.50	12°				R0.05	MTEC 650255	●	●	●	●	○	○
5.0	6	48	25	29	2.50	12°				R0.15	MTEC 65025	●	●	●	●	○	○
5.0	6	53	32	34	2.50	12°				R0.05	MTEC 650325	●	●	●	●	○	○
5.0	6	53	32	34	2.50	12°				R0.15	MTEC 65032	●	●	●	●	○	○
5.0	6	61	40	42	2.50	12°				R0.05	MTEC 650405	●	●	●	●	○	○
5.0	6	61	40	42	2.50	12°				R0.15	MTEC 65040	●	●	●	●	○	○
6.0	6	35	12	16	2.95	12°				R0.05	MTEC 660125	●	●	●	●	○	○
6.0	6	35	12	16	2.95	12°				R0.20	MTEC 66012	●	●	●	●	○	○
6.0	6	43	20	24	2.95	12°				R0.05	MTEC 660205	●	●	●	●	○	○
6.0	6	43	20	24	2.95	12°				R0.20	MTEC 66020	●	●	●	●	○	○
6.0	6	53	30	34	2.95	12°				R0.05	MTEC 660305	●	●	●	●	○	○
6.0	6	53	30	34	2.95	12°				R0.20	MTEC 66030	●	●	●	●	○	○
6.0	6	61	40	42	2.95	12°				R0.05	MTEC 660405	●	●	●	●	○	○
6.0	6	61	40	42	2.95	12°				R0.20	MTEC 66040	●	●	●	●	○	○
6.0	6	71	50	52	2.95	12°				R0.05	MTEC 660505	●	●	●	●	○	○
6.0	6	71	50	52	2.95	12°				R0.20	MTEC 66050	●	●	●	●	○	○

Dimensions in mm

Full catalog available online

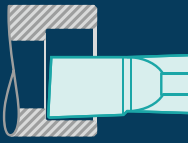
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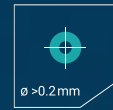
○ Available Upon Request

alouettetool.com/micro-i-d-boring-bars/

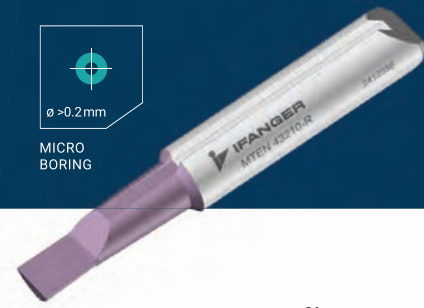


MTEN

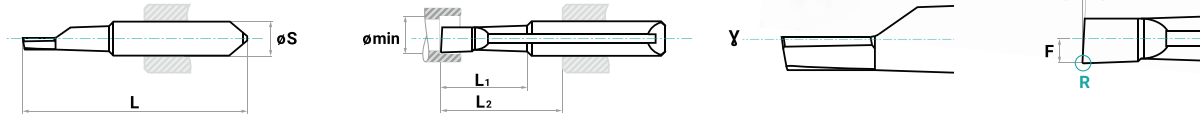
Boring tool neutral, $\gamma = 0^\circ$



MICRO BORING



P **M** **K** **N*** **S** **O** *Brass with lead: use MTEN
Brass without lead: use MTEP, MTEF

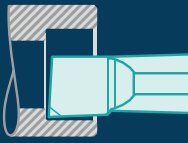


ϕmin	ϕS	L	L_1	L_2	F	γ	R			Ref. N°	Rotation		Coating			
							Δ	Δ	Δ		R	L	K10	TiAlN	DLC	SPEC
0.2	4	20	0.3	10	0.10	0°	0			MTEN 402010	●	●	●	●	○	○
0.3	4	26	0.4	10	0.15	0°	0			MTEN 403010	●	●	●	●	○	○
0.4	4	26	0.5	10	0.20	0°	0			MTEN 404010	●	●	●	●	○	○
0.5	4	26	0.6	10	0.25	0°	0			MTEN 405010	●	●	●	●	○	○
0.5	4	26	1.5	10	0.25	0°	0			MTEN 405020	●	●	●	●	○	○
0.7	4	26	0.8	10	0.35	0°	0			MTEN 407010	●	●	●	●	○	○
0.7	4	26	2.0	10	0.35	0°	0			MTEN 407020	●	●	●	●	○	○
0.7	4	26	2.0	10	0.35	0°	0		0.02 × 45°	MTEN 40702	●	●	●	●	○	○
1.0	4	26	1.2	10	0.50	0°	0			MTEN 410020	●	●	●	●	○	○
1.0	4	26	3.0	10	0.50	0°	0			MTEN 410030	●	●	●	●	○	○
1.0	4	26	3.0	10	0.50	0°	0		0.02 × 45°	MTEN 41003	●	●	●	●	○	○
1.0	4	26	5.0	10	0.50	0°	0			MTEN 410050	●	●	●	●	○	○
1.0	4	26	5.0	10	0.50	0°	0		0.02 × 45°	MTEN 41005	●	●	●	●	○	○
1.2	4	26	2.0	10	0.60	0°	0			MTEN 412020	●	●	●	●	○	○
1.2	4	31	4.0	15	0.60	0°	0			MTEN 412040	●	●	●	●	○	○
1.2	4	31	4.0	15	0.60	0°	0		0.02 × 45°	MTEN 41204	●	●	●	●	○	○
1.2	4	31	7.0	15	0.60	0°	0			MTEN 412070	●	●	●	●	○	○
1.2	4	31	7.0	15	0.60	0°	0		0.02 × 45°	MTEN 41207	●	●	●	●	○	○
1.5	4	26	3.0	10	0.75	0°	0			MTEN 415030	●	●	●	●	○	○
1.5	4	31	5.0	15	0.75	0°	0			MTEN 415050	●	●	●	●	○	○
1.5	4	31	5.0	15	0.75	0°	0		0.02 × 45°	MTEN 41505	●	●	●	●	○	○
1.5	4	31	8.0	15	0.75	0°	0			MTEN 415080	●	●	●	●	○	○
1.5	4	31	8.0	15	0.75	0°	0		0.02 × 45°	MTEN 41508	●	●	●	●	○	○
1.8	4	26	4.0	10	0.90	0°	0			MTEN 418040	●	●	●	●	○	○
1.8	4	31	5.0	15	0.90	0°	0			MTEN 418050	●	●	●	●	○	○
1.8	4	31	5.0	15	0.90	0°	0		0.03 × 45°	MTEN 41805	●	●	●	●	○	○
1.8	4	31	9.0	15	0.90	0°	0			MTEN 418090	●	●	●	●	○	○
1.8	4	31	9.0	15	0.90	0°	0		0.03 × 45°	MTEN 41809	●	●	●	●	○	○
1.8	4	31	14.0	15	0.90	0°	0			MTEN 418140	●	●	●	●	○	○
1.8	4	31	14.0	15	0.90	0°	0		0.03 × 45°	MTEN 41814	●	●	●	●	○	○
2.2	4	31	6.0	15	1.10	0°	0			MTEN 422060	●	●	●	●	○	○
2.2	4	31	6.0	15	1.10	0°		R0.05		MTEN 42206	●	●	●	●	○	○
2.2	4	31	10.0	15	1.10	0°	0			MTEN 422100	●	●	●	●	○	○
2.2	4	31	10.0	15	1.10	0°		R0.05		MTEN 42210	●	●	●	●	○	○
2.2	4	31	14.0	15	1.10	0°	0			MTEN 422140	●	●	●	●	○	○
2.2	4	31	14.0	15	1.10	0°		R0.05		MTEN 42214	●	●	●	●	○	○
2.5	4	31	6.0	15	1.25	0°	0			MTEN 425060	●	●	●	●	○	○

Dimensions in mm

Ømin	ØS	L	L ₁	L ₂	F	γ	R			Ref. N°	Rotation		Coating				
							Δ	Δ	Δ		R	L	K10	TIAIN	DLC	SPEC	
2.5	4	31	6.0	15	1.25	0°				R0.05	MTEN 42506	●	●	●	●	○	○
2.5	4	31	10.0	15	1.25	0°	0				MTEN 425100	●	●	●	●	○	○
2.5	4	31	10.0	15	1.25	0°				R0.05	MTEN 42510	●	●	●	●	○	○
2.5	4	31	14.0	15	1.25	0°	0				MTEN 425140	●	●	●	●	○	○
2.5	4	31	14.0	15	1.25	0°				R0.05	MTEN 42514	●	●	●	●	○	○
3.2	4	31	8.0	15	1.60	0°	0				MTEN 432080	●	●	●	●	○	○
3.2	4	31	8.0	15	1.60	0°				R0.05	MTEN 432085	●	●	●	●	○	○
3.2	4	31	8.0	15	1.60	0°				R0.08	MTEN 43208	●	●	●	●	○	○
3.2	4	31	12.0	15	1.60	0°	0				MTEN 432120	●	●	●	●	○	○
3.2	4	31	12.0	15	1.60	0°				R0.05	MTEN 432125	●	●	●	●	○	○
3.2	4	31	12.0	15	1.60	0°				R0.08	MTEN 43212	●	●	●	●	○	○
3.2	4	36	17.0	20	1.60	0°	0				MTEN 432170	●	●	●	●	○	○
3.2	4	36	17.0	20	1.60	0°				R0.05	MTEN 432175	●	●	●	●	○	○
3.2	4	36	17.0	20	1.60	0°				R0.08	MTEN 43217	●	●	●	●	○	○
4.0	4	31	10.0	15	1.95	0°	0				MTEN 440100	●	●	●	●	○	○
4.0	4	31	10.0	15	1.95	0°				R0.05	MTEN 440105	●	●	●	●	○	○
4.0	4	31	10.0	15	1.95	0°				R0.12	MTEN 44010	●	●	●	●	○	○
4.0	4	31	14.0	15	1.95	0°	0				MTEN 440140	●	●	●	●	○	○
4.0	4	31	14.0	15	1.95	0°				R0.05	MTEN 440145	●	●	●	●	○	○
4.0	4	31	14.0	15	1.95	0°				R0.12	MTEN 44014	●	●	●	●	○	○
4.0	4	36	19.0	20	1.95	0°	0				MTEN 440190	●	●	●	●	○	○
4.0	4	36	19.0	20	1.95	0°				R0.05	MTEN 440195	●	●	●	●	○	○
4.0	4	36	19.0	20	1.95	0°				R0.12	MTEN 44019	●	●	●	●	○	○
4.0	6	48	25.0	29	1.95	0°	0				MTEN 640250	●	●	●	●	○	○
4.0	6	48	25.0	29	1.95	0°				R0.05	MTEN 640255	●	●	●	●	○	○
4.0	6	48	25.0	29	1.95	0°				R0.12	MTEN 64025	●	●	●	●	○	○
4.0	6	53	30.0	34	1.95	0°	0				MTEN 640300	●	●	●	●	○	○
4.0	6	53	30.0	34	1.95	0°				R0.05	MTEN 640305	●	●	●	●	○	○
4.0	6	53	30.0	34	1.95	0°				R0.12	MTEN 64030	●	●	●	●	○	○
5.0	6	35	12.0	16	2.50	0°				R0.05	MTEN 650125	●	●	●	●	○	○
5.0	6	35	12.0	16	2.50	0°				R0.15	MTEN 65012	●	●	●	●	○	○
5.0	6	43	17.0	24	2.50	0°				R0.05	MTEN 650175	●	●	●	●	○	○
5.0	6	43	17.0	24	2.50	0°				R0.15	MTEN 65017	●	●	●	●	○	○
5.0	6	48	25.0	29	2.50	0°				R0.05	MTEN 650255	●	●	●	●	○	○
5.0	6	48	25.0	29	2.50	0°				R0.15	MTEN 65025	●	●	●	●	○	○
5.0	6	53	32.0	34	2.50	0°				R0.05	MTEN 650325	●	●	●	●	○	○
5.0	6	53	32.0	34	2.50	0°				R0.15	MTEN 65032	●	●	●	●	○	○
5.0	6	61	40.0	42	2.50	0°				R0.05	MTEN 650405	●	●	●	●	○	○
5.0	6	61	40.0	42	2.50	0°				R0.15	MTEN 65040	●	●	●	●	○	○
6.0	6	35	12.0	16	2.95	0°				R0.05	MTEN 660125	●	●	●	●	○	○
6.0	6	35	12.0	16	2.95	0°				R0.20	MTEN 66012	●	●	●	●	○	○
6.0	6	43	20.0	24	2.95	0°				R0.05	MTEN 660205	●	●	●	●	○	○
6.0	6	43	20.0	24	2.95	0°				R0.20	MTEN 66020	●	●	●	●	○	○
6.0	6	53	30.0	34	2.95	0°				R0.05	MTEN 660305	●	●	●	●	○	○
6.0	6	53	30.0	34	2.95	0°				R0.20	MTEN 66030	●	●	●	●	○	○
6.0	6	61	40.0	42	2.95	0°				R0.05	MTEN 660405	●	●	●	●	○	○
6.0	6	61	40.0	42	2.95	0°				R0.20	MTEN 66040	●	●	●	●	○	○
6.0	6	71	50.0	52	2.95	0°				R0.05	MTEN 660505	●	●	●	●	○	○
6.0	6	71	50.0	52	2.95	0°				R0.20	MTEN 66050	●	●	●	●	○	○

Dimensions in mm

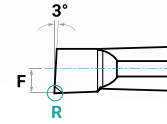
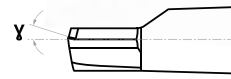
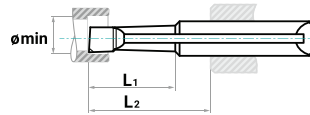
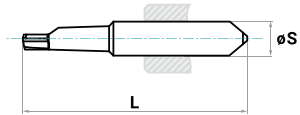


MTEF

Boring tool, $\gamma = 12^\circ$
Chip Control finishing
For long-chipping materials



P **M** **N*** **S** *Brass with lead: use MTEN
Brass without lead: use MTEP, MTEF



ϕ_{min}	ϕ_S	L	L ₁	L ₂	F	γ	R			Ref. N°	Rotation		Coating			
							Δ	Δ	Δ		R	L	K10	TiAlN	DLC	SPEC
1.0	4	26	1.2	10	0.50	12°	0			MTEF 410020	●	○	●	●	●	○
1.0	4	26	3	10	0.50	12°	0			MTEF 410030	●	○	●	●	●	○
1.0	4	26	5	10	0.50	12°	0			MTEF 410050	●	○	●	●	●	○
1.2	4	26	2	10	0.60	12°	0			MTEF 412020	●	○	●	●	●	○
1.2	4	31	4	15	0.60	12°	0			MTEF 412040	●	○	●	●	●	○
1.2	4	31	7	15	0.60	12°	0			MTEF 412070	●	○	●	●	●	○
1.5	4	26	3	10	0.75	12°	0			MTEF 415030	●	○	●	●	●	○
1.5	4	31	5	15	0.75	12°	0			MTEF 415050	●	○	●	●	●	○
1.5	4	31	8	15	0.75	12°	0			MTEF 415080	●	○	●	●	●	○
1.8	4	26	4	10	0.90	12°	0			MTEF 418040	●	○	●	●	●	○
1.8	4	31	5	15	0.90	12°	0			MTEF 418050	●	○	●	●	●	○
1.8	4	31	9	15	0.90	12°	0			MTEF 418090	●	○	●	●	●	○
2.2	4	31	6	15	1.10	12°	0			MTEF 422060	●	○	●	●	●	○
2.2	4	31	10	15	1.10	12°	0			MTEF 422100	●	○	●	●	●	○
2.2	4	31	14	15	1.10	12°	0			MTEF 422140	●	○	●	●	●	○
2.5	4	31	6	15	1.25	12°		0.02 × 45°		MTEF 425062	●	○	●	●	●	○
2.5	4	31	10	15	1.25	12°		0.02 × 45°		MTEF 425102	●	○	●	●	●	○
2.5	4	31	14	15	1.25	12°		0.02 × 45°		MTEF 425142	●	○	●	●	●	○
3.2	4	31	8	15	1.60	12°		0.02 × 45°		MTEF 432082	●	○	●	●	●	○
3.2	4	31	12	15	1.60	12°		0.02 × 45°		MTEF 432122	●	○	●	●	●	○
3.2	4	36	17	20	1.60	12°		0.02 × 45°		MTEF 432172	●	○	●	●	●	○
4.0	4	31	10	15	1.95	12°		0.02 × 45°		MTEF 440102	●	○	●	●	●	○
4.0	4	31	14	15	1.95	12°		0.02 × 45°		MTEF 440142	●	○	●	●	●	○
4.0	4	36	19	20	1.95	12°		0.02 × 45°		MTEF 440192	●	○	●	●	●	○
5.0	6	35	12	16	2.50	12°		0.02 × 45°		MTEF 650122	●	○	●	●	●	○
5.0	6	43	17	24	2.50	12°		0.02 × 45°		MTEF 650172	●	○	●	●	●	○
5.0	6	48	25	29	2.50	12°		0.02 × 45°		MTEF 650252	●	○	●	●	●	○
6.0	6	35	12	16	2.95	12°		0.02 × 45°		MTEF 660122	●	○	●	●	●	○
6.0	6	43	20	24	2.95	12°		0.02 × 45°		MTEF 660202	●	○	●	●	●	○
6.0	6	53	30	34	2.95	12°		0.02 × 45°		MTEF 660302	●	○	●	●	●	○

Dimensions in mm

Full catalog available online

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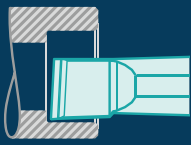


Example order number: MTEF 410020-R-TiAlN

● Ifanger Stock Items

○ Available Upon Request

alouettetool.com/micro-i-d-boring-bars/

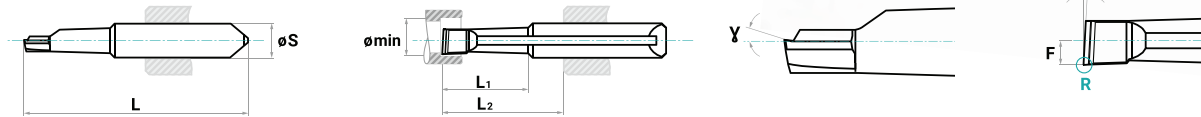


MTEP

Boring tool, $\gamma = 12^\circ$
Chip Control
For long-chipping materials



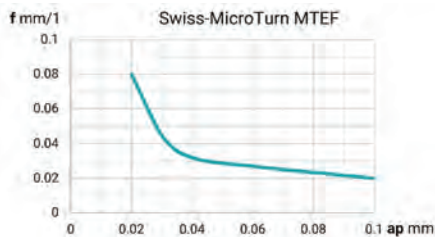
P **M** **N*** **S** *Brass with lead: use MTEN
Brass without lead: use MTEP, MTEF



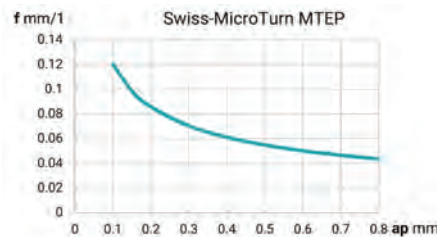
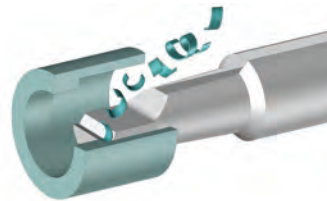
ømin	øS	L	L ₁	L ₂	F	γ	R			Ref. N°	Rotation		Coating			
							△	△	△		R	L	K10	TiAIN	DLC	SPEC
2.5	4	31	6	15	1.25	12°			R0.05	MTEP 425065	●	○	●	●	●	○
2.5	4	31	10	15	1.25	12°			R0.05	MTEP 425105	●	○	●	●	●	○
2.5	4	31	14	15	1.25	12°			R0.05	MTEP 425145	●	○	●	●	●	○
3.2	4	31	8	15	1.60	12°			R0.05	MTEP 432085	●	○	●	●	●	○
3.2	4	31	12	15	1.60	12°			R0.05	MTEP 432125	●	○	●	●	●	○
3.2	4	36	17	20	1.60	12°			R0.05	MTEP 432175	●	○	●	●	●	○
4.0	4	31	10	15	1.95	12°			R0.05	MTEP 440105	●	○	●	●	●	○
4.0	4	31	14	15	1.95	12°			R0.05	MTEP 440145	●	○	●	●	●	○
4.0	4	36	19	20	1.95	12°			R0.05	MTEP 440195	●	○	●	●	●	○
5.0	6	35	12	16	2.50	12°			R0.05	MTEP 650125	●	○	●	●	●	○
5.0	6	43	17	24	2.50	12°			R0.05	MTEP 650175	●	○	●	●	●	○
5.0	6	48	25	29	2.50	12°			R0.05	MTEP 650255	●	○	●	●	●	○
6.0	6	35	12	16	2.95	12°			R0.05	MTEP 660125	●	○	●	●	●	○
6.0	6	43	20	24	2.95	12°			R0.05	MTEP 660205	●	○	●	●	●	○
6.0	6	53	30	34	2.95	12°			R0.05	MTEP 660305	●	○	●	●	●	○

Dimensions in mm

MTEF «finishing»



MTEP



ifanger.com/chipbreaker

For optimum chip formation, take the values for feed (f_c) and cutting depth (a_p) from the curve.

The maximum cutting depth (a_p) for MTEF is 0.15 mm.

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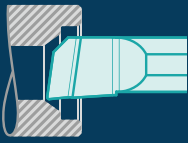
Example order number: MTEP 425065-R-TiAIN

● Ifanger Stock Items

○ Available Upon Request

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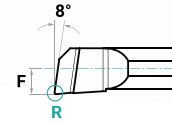
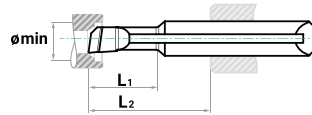
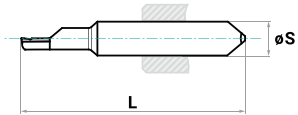


MTEE

Boring tool released, $\gamma = 8^\circ$



P M N S O



ϕ_{min}	ϕS	L	L_1	L_2	F	γ	R			Ref. N°	Rotation		Coating			
							Δ	Δ	Δ		R	L	K10	TiAIN	DLC	SPEC
1.8	4	31	5.0	15	0.95	8°			R0.05	MTEE 41805	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.3	4	31	7.0	15	1.20	8°			R0.08	MTEE 42307	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.8	4	31	8.5	15	1.45	8°			R0.10	MTEE 42808	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.3	4	31	10.5	15	1.70	8°			R0.10	MTEE 43310	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.8	4	31	12.5	15	1.95	8°			R0.10	MTEE 43812	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.7	6	43	16.0	24	2.45	8°			R0.15	MTEE 64716	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.7	6	43	19.5	24	2.95	8°			R0.15	MTEE 65719	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dimensions in mm

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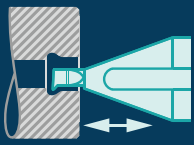
Example order number: MTEE 41805-R-TiAIN

Ifanger Stock Items

Available Upon Request

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MTKN

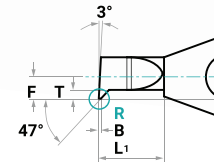
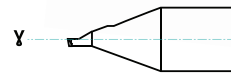
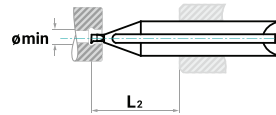
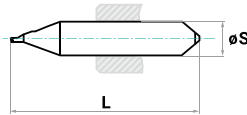
Profiling tool neutral 3° / 47°, $\gamma = 0^\circ$



MICRO BORING



P M K N S O



ϕmin	ϕS	L	L_1	L_2	F	T	γ	B	R			Ref. N°	Rotation		Coating			
									Δ	Δ	Δ		R	L	K10	TiAlN	DLC	SPEC
0.3	4	26	0.6	10	0.15	0.05	0°	0.02	0			MTKN 40301	●	●	●	●	○	○
0.3	4	26	1.0	10	0.15	0.05	0°	0.02	0			MTKN 40302	●	●	●	●	○	○
0.4	4	26	0.8	10	0.20	0.07	0°	0.02	0			MTKN 40401	●	●	●	●	○	○
0.4	4	26	1.3	10	0.20	0.07	0°	0.02	0			MTKN 40402	●	●	●	●	○	○
0.5	4	26	1.0	10	0.25	0.10	0°	0.02	0			MTKN 40501	●	●	●	●	○	○
0.5	4	26	1.6	10	0.25	0.10	0°	0.02	0			MTKN 40502	●	●	●	●	○	○
0.6	4	26	1.2	10	0.30	0.12	0°	0.02	0			MTKN 40601	●	●	●	●	○	○
0.6	4	26	2.0	10	0.30	0.12	0°	0.02	0			MTKN 40602	●	●	●	●	○	○
0.7	4	26	1.2	10	0.35	0.15	0°	0.02	0			MTKN 40701	●	●	●	●	○	○
0.7	4	26	2.2	10	0.35	0.15	0°	0.02	0			MTKN 40702	●	●	●	●	○	○
0.8	4	26	1.4	10	0.40	0.17	0°	0.03	0			MTKN 40801	●	●	●	●	○	○
0.8	4	26	2.5	10	0.40	0.17	0°	0.03	0			MTKN 40802	●	●	●	●	○	○
1.0	4	26	1.5	10	0.50	0.20	0°	0.05	0			MTKN 41002	●	●	●	●	○	○
1.0	4	26	3.1	10	0.50	0.20	0°	0.05	0			MTKN 41003	●	●	●	●	○	○
1.2	4	26	2.0	10	0.60	0.30	0°			R0.03		MTKN 41202	●	●	●	●	○	○
1.2	4	26	3.7	10	0.60	0.30	0°			R0.03		MTKN 41204	●	●	●	●	○	○
1.5	4	26	3.0	10	0.75	0.40	0°			R0.03		MTKN 41503	●	●	●	●	○	○
1.5	4	26	4.6	10	0.75	0.40	0°			R0.03		MTKN 41505	●	●	●	●	○	○
1.8	4	26	4.0	10	0.90	0.50	0°			R0.03		MTKN 41804	●	●	●	●	○	○
1.8	4	26	5.5	10	0.90	0.50	0°			R0.03		MTKN 41806	●	●	●	●	○	○

Dimensions in mm

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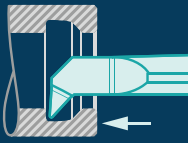
Example order number: MTKN 40301-R-TiAlN

● Ifanger Stock Items

○ Available Upon Request

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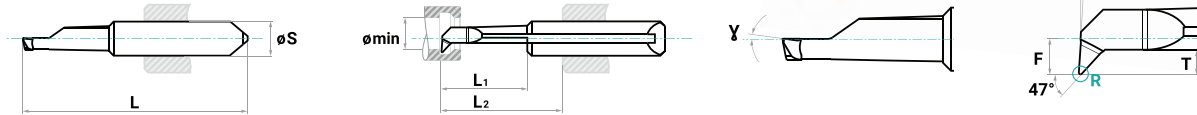


MTKH

Profiling tool 3° / 47°, $\gamma = 8^\circ$



P M N S O



ømin	øS	L	L1	L2	F	T	γ	R			Ref. N°	Rotation		Coating			
								△	△	△		R	L	K10	TiAIN	DLC	SPEC
2.0	4	31	4	15	1.00	0.50	8°			R0.05	MTKH 42004	●	●	●	●	○	○
2.5	4	31	6	15	1.25	0.50	8°			R0.05	MTKH 42506	●	●	●	●	○	○
2.5	4	31	10	15	1.25	0.50	8°			R0.05	MTKH 42510	●	●	●	●	○	○
3.2	4	31	8	15	1.60	0.60	8°			R0.08	MTKH 43208	●	●	●	●	○	○
3.2	4	31	12	15	1.60	0.60	8°			R0.08	MTKH 43212	●	●	●	●	○	○
3.2	4	36	17	20	1.60	0.60	8°			R0.08	MTKH 43217	●	●	●	●	○	○
4.0	4	31	10	15	1.95	0.80	8°			R0.12	MTKH 44010	●	●	●	●	○	○
4.0	4	31	14	15	1.95	0.80	8°			R0.12	MTKH 44014	●	●	●	●	○	○
4.0	4	36	19	20	1.95	0.80	8°			R0.12	MTKH 44019	●	●	●	●	○	○
4.0	6	48	25	29	1.95	0.80	8°			R0.12	MTKH 64025	●	●	●	●	○	○
4.0	6	53	30	34	1.95	0.80	8°			R0.12	MTKH 64030	●	●	●	●	○	○
5.0	6	35	12	16	2.50	1.20	8°			R0.15	MTKH 65012	●	●	●	●	○	○
5.0	6	43	17	24	2.50	1.20	8°			R0.15	MTKH 65017	●	●	●	●	○	○
5.0	6	48	25	29	2.50	1.20	8°			R0.15	MTKH 65025	●	●	●	●	○	○
5.0	6	53	32	34	2.50	1.20	8°			R0.15	MTKH 65032	●	●	●	●	○	○
5.0	6	61	40	42	2.50	1.20	8°			R0.15	MTKH 65040	●	●	●	●	○	○
6.0	6	35	12	16	2.95	1.45	8°			R0.20	MTKH 66012	●	●	●	●	○	○
6.0	6	43	20	24	2.95	1.45	8°			R0.20	MTKH 66020	●	●	●	●	○	○
6.0	6	53	30	34	2.95	1.45	8°			R0.20	MTKH 66030	●	●	●	●	○	○
6.0	6	61	40	42	2.95	1.45	8°			R0.20	MTKH 66040	●	●	●	●	○	○
6.0	6	71	50	52	2.95	1.45	8°			R0.20	MTKH 66050	●	●	●	●	○	○

Dimensions in mm

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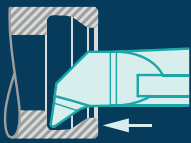


Example order number: MTKH 42004-R-TiAIN

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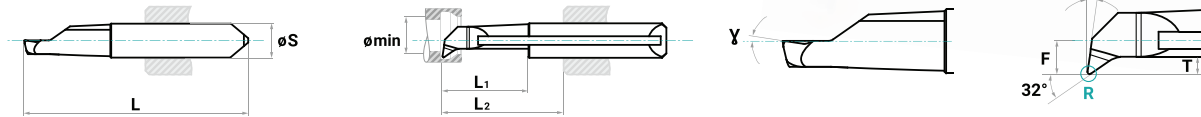


MTKO

Profiling tool 8° / 32°, $\gamma = 8^\circ$



P M N S O



ømin	øS	L	L1	L2	F	T	γ	R			Ref. N°	Rotation		Coating			
								△	△	△		R	L	K10	TiAIN	DLC	SPEC
2.0	4	31	4	15	1.0	0.50	8°			R0.05	MTKO 42004	●	●	●	●	○	○
2.5	4	31	6	15	1.3	0.60	8°			R0.05	MTKO 42506	●	●	●	●	○	○
2.5	4	31	10	15	1.3	0.60	8°			R0.05	MTKO 42510	●	●	●	●	○	○
3.2	4	31	8	15	1.6	0.80	8°			R0.08	MTKO 43208	●	●	●	●	○	○
3.2	4	31	12	15	1.6	0.80	8°			R0.08	MTKO 43212	●	●	●	●	○	○
3.2	4	36	17	20	1.6	0.80	8°			R0.08	MTKO 43217	●	●	●	●	○	○
4.0	4	31	10	15	2.0	0.80	8°			R0.12	MTKO 44010	●	●	●	●	○	○
4.0	4	31	14	15	2.0	0.80	8°			R0.12	MTKO 44014	●	●	●	●	○	○
4.0	4	36	19	20	2.0	0.80	8°			R0.12	MTKO 44019	●	●	●	●	○	○
5.0	6	48	25	29	2.0	0.80	8°			R0.12	MTKO 64025	●	●	●	●	○	○
5.0	6	53	30	34	2.0	0.80	8°			R0.12	MTKO 64030	●	●	●	●	○	○
5.0	6	35	12	16	2.5	1.20	8°			R0.15	MTKO 65012	●	●	●	●	○	○
5.0	6	43	17	24	2.5	1.20	8°			R0.15	MTKO 65017	●	●	●	●	○	○
5.0	6	48	25	29	2.5	1.20	8°			R0.15	MTKO 65025	●	●	●	●	○	○
5.0	6	53	32	34	2.5	1.20	8°			R0.15	MTKO 65032	●	●	●	●	○	○
5.0	6	61	40	42	2.5	1.20	8°			R0.15	MTKO 65040	●	●	●	●	○	○
6.0	6	35	12	16	3.0	1.45	8°			R0.20	MTKO 66012	●	●	●	●	○	○
6.0	6	43	20	24	3.0	1.45	8°			R0.20	MTKO 66020	●	●	●	●	○	○
6.0	6	53	30	34	3.0	1.45	8°			R0.20	MTKO 66030	●	●	●	●	○	○
6.0	6	61	40	42	3.0	1.45	8°			R0.20	MTKO 66040	●	●	●	●	○	○
6.0	6	71	50	52	3.0	1.45	8°			R0.20	MTKO 66050	●	●	●	●	○	○

Dimensions in mm

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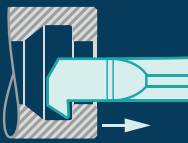
Example order number: MTKO 42004-R-TiAIN

● Ifanger Stock Items

○ Available Upon Request

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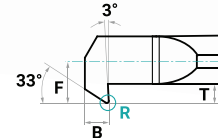
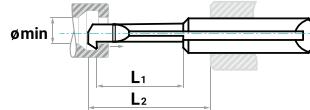
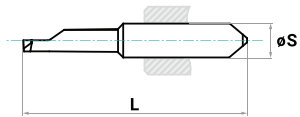


MTKR

Backboring tool



P M K N S O



ømin	øS	L	L ₁	L ₂	T	F	γ	B	R			Ref. N°	Rotation		Coating				
									△	△	△		R	L	K10	TiAIN	DLC	SPEC	
2.0	4	31	6	15	0.5	1.0	0°	0.6				R0.05	MTKR 42006	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.5	4	31	10	15	0.6	1.2	0°	0.6				R0.05	MTKR 42510	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.2	4	31	12	15	0.8	1.5	0°	1.0				R0.08	MTKR 43212	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.0	4	36	17	20	1.0	1.9	0°	1.2				R0.12	MTKR 44017	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.0	6	48	22	25	1.2	2.4	0°	1.5				R0.15	MTKR 65022	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.0	6	53	25	32	1.5	2.9	0°	1.8				R0.20	MTKR 66025	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dimensions in mm

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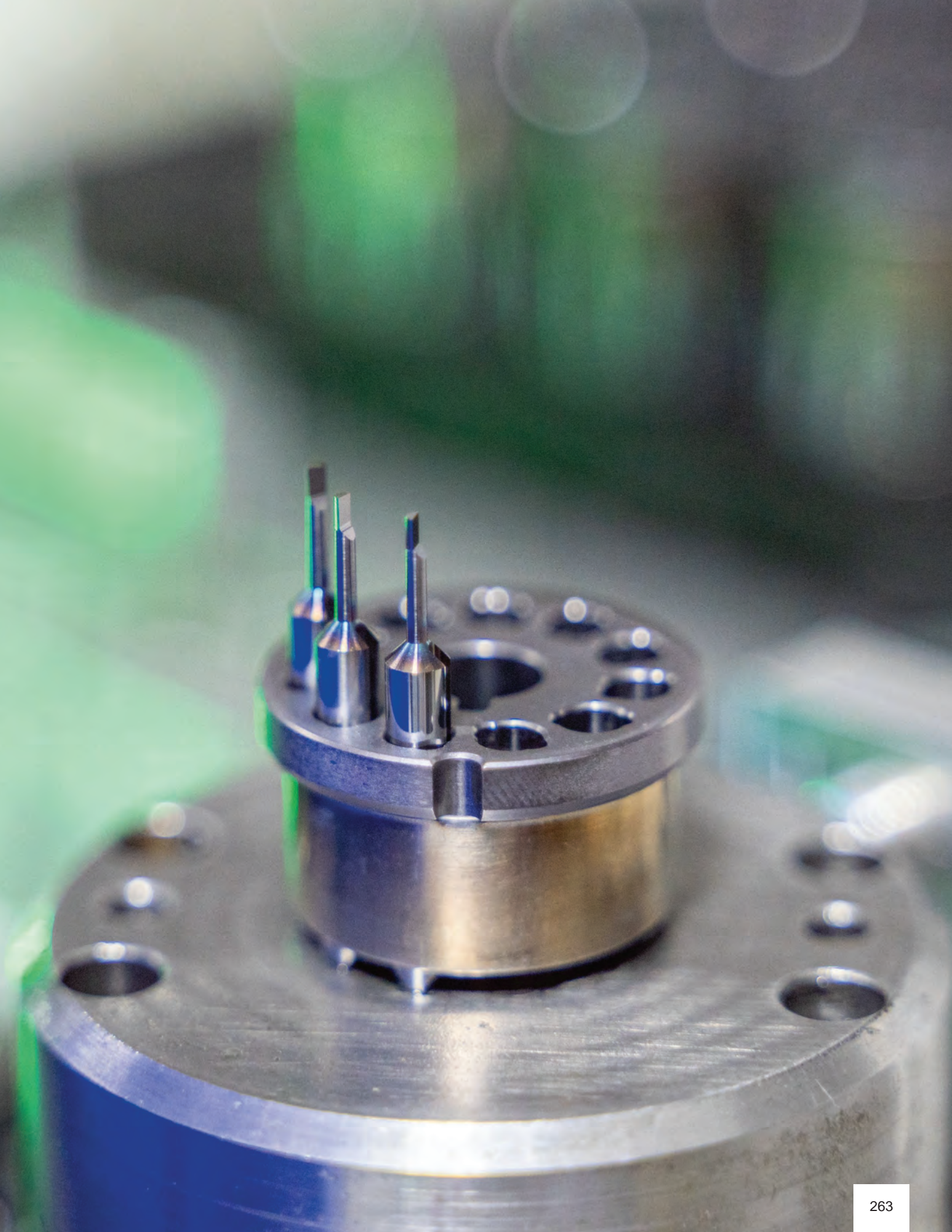
Example order number: MTKR 42006-R-TiAIN

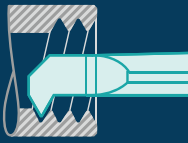
Ifanger Stock Items

Available Upon Request

alouettetool.com/micro-i-d-boring-bars/

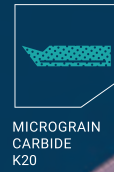




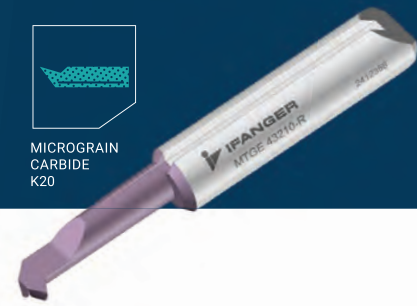


MTGE

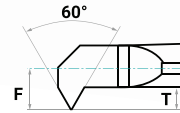
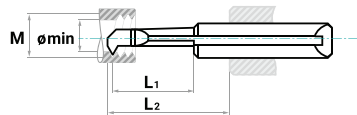
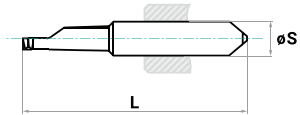
Threading tool 60°



MICROGRAIN
CARBIDE
K20



P M K N S O



ømin	øS	L	L ₁	L ₂	F	ε	M	P	T	Ref. N°	Rotation		Coating			
											R	L	K20	TiAlN	DLC	SPEC
1.2	4	26	2.3	10	0.6	60°	M1.6	0.20-0.40	0.30	MTGE 41203	●	●	●	●	○	○
1.6	4	26	3.7	10	0.8	60°	M2	0.20-0.50	0.40	MTGE 41604	●	●	●	●	○	○
2.2	4	31	5.1	15	1.1	60°	M3	0.20-0.50	0.60	MTGE 42206	●	●	●	●	○	○
3.2	4	31	7.5	15	1.6	60°	M4	0.50-0.80	1.00	MTGE 43208	●	●	●	●	○	○
4.0	4	31	9.4	15	2.0	60°	M5	0.75-1.00	0.95	MTGE 44010	●	●	●	●	○	○
4.0	4	31	13.4	15	2.0	60°	M5	0.75-1.00	0.95	MTGE 44014	●	●	●	●	○	○
5.0	6	35	11.1	16	2.5	60°	M6	0.75-1.25	1.50	MTGE 65012	●	●	●	●	○	○
5.0	6	43	16.1	24	2.5	60°	M6	0.75-1.25	1.50	MTGE 65017	●	●	●	●	○	○
6.0	6	35	11.0	16	3.0	60°	M8	1.00-1.75	1.50	MTGE 66012	●	●	●	●	○	○
6.0	6	43	19.0	24	3.0	60°	M8	1.00-1.75	1.50	MTGE 66020	●	●	●	●	○	○
6.0	6	53	29.0	34	3.0	60°	M8	1.00-1.75	1.50	MTGE 66030	●	●	●	●	○	○

Dimensions in mm

The number of cuts depends heavily on the material to be machined, the tension of the workpiece and the desired quality class of the thread to be cut.

The last cut should be made with an infeed (a_p) of at least 0.04 mm.

The number of cuts (N) depends on the ISO material class																	
ISO	P1	P2	P3	P4	M1	M2	K1	K2	K3	N1	N2	N4	S1	S2	S3	S4	Q1-Q3
N	6-8	6-8	7-9	7-9	7-9	8-10	7-9	8-10	7-9	6-8	6-8	6-8	7-9	7-9	7-9	7-9	On request

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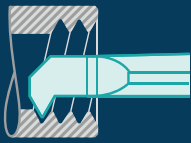
Example order number: MTGE 41203-R-TiAlN

● Ifanger Stock Items

○ Available Upon Request

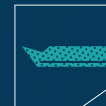
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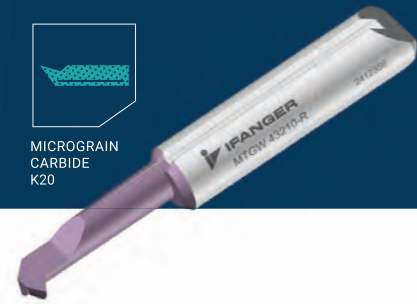


MTGW

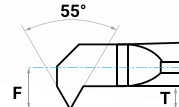
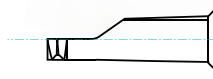
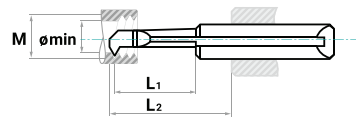
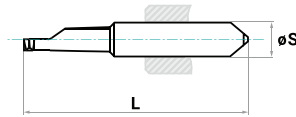
Threading tool 55°
For pipe thread / whitworth thread



MICROGRAIN
CARBIDE
K20



P M K N S O



ømin	øS	L	L ₁	L ₂	F	ε	M	P	T	Ref. N°	Rotation		Coating			
											R	L	K20	TIAIN	DLC	SPEC
4.0	4	31	9.4	15	1.95	55°	W 7/32"	20-28	1.00	MTGW 44010	●	○	●	●	○	○
5.0	6	35	11.1	16	2.50	55°	W 5/16"	18-26	1.50	MTGW 65012	●	○	●	●	○	○
6.0	6	43	19.0	24	2.95	55°	W 3/8"	16-22	1.50	MTGW 66020	●	○	●	●	○	○

Dimensions in mm

The number of cuts depends heavily on the material to be machined, the tension of the workpiece and the desired quality class of the thread to be cut.

The last cut should be made with an infeed (a_p) of at least 0.04 mm.

The number of cuts (N) depends on the ISO material class																	
ISO	P1	P2	P3	P4	M1	M2	K1	K2	K3	N1	N2	N4	S1	S2	S3	S4	Q1-Q3
N	9-12	8-10	9-12	9-12	9-12	12-15	11-14	12-15	11-14	8-10	6-8	9-12	10-14	10-14	10-14	10-14	On request

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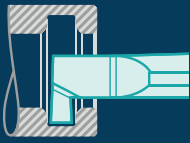
Example order number: MTGW 44010-R-K20

Ifanger Stock Items

Available Upon Request



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MTNU

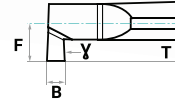
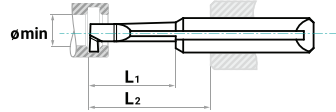
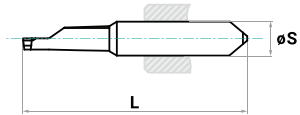
Grooving too, $\gamma = 12^\circ$



ULTRA-SHARP



P M S O



ϕmin	ϕS	L	L_1	L_2	F	T	B	γ	Ref. N°	Rotation		Coating			
										R	L	K10	TiAIN	DLC	SPEC
2.0	4	31	6	15	1.00	0.5	0.6	12°	MTNU 42006	●	●	●	●	○	○
2.5	4	31	8	15	1.25	0.6	0.8	12°	MTNU 42508	●	●	●	●	○	○
3.2	4	31	8	15	1.60	0.8	1.0	12°	MTNU 43208	●	●	●	●	○	○
3.2	4	31	12	15	1.60	0.8	1.0	12°	MTNU 43212	●	●	●	●	○	○
3.2	4	36	17	20	1.60	0.8	1.0	12°	MTNU 43217	●	●	●	●	○	○
4.0	4	31	10	15	1.95	0.8	1.0	12°	MTNU 44010	●	●	●	●	○	○
4.0	4	31	14	15	1.95	0.8	1.0	12°	MTNU 44014	●	●	●	●	○	○
4.0	4	36	19	20	1.95	0.8	1.0	12°	MTNU 44019	●	●	●	●	○	○
4.0	6	48	25	29	1.95	0.8	1.0	12°	MTNU 64025	●	●	●	●	○	○
4.0	6	53	30	34	1.95	0.8	1.0	12°	MTNU 64030	●	●	●	●	○	○
5.0	6	35	12	16	2.50	1.5	1.2	12°	MTNU 65012	●	●	●	●	○	○
5.0	6	43	17	24	2.50	1.5	1.2	12°	MTNU 65017	●	●	●	●	○	○
5.0	6	48	25	29	2.50	1.5	1.2	12°	MTNU 65025	●	●	●	●	○	○
5.0	6	53	32	34	2.50	1.5	1.2	12°	MTNU 65032	●	●	●	●	○	○
5.0	6	61	40	42	2.50	1.5	1.2	12°	MTNU 65040	●	●	●	●	○	○
6.0	6	35	12	16	2.95	2.0	1.5	12°	MTNU 66012	●	●	●	●	○	○
6.0	6	43	20	24	2.95	2.0	2.0	12°	MTNU 66020	●	●	●	●	○	○
6.0	6	53	30	34	2.95	2.0	2.0	12°	MTNU 66030	●	●	●	●	○	○
6.0	6	61	40	42	2.95	2.0	2.0	12°	MTNU 66040	●	●	●	●	○	○

Dimensions in mm

Full catalog available online

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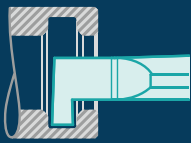


Example order number: MTNU 42006-R-TiAIN

● Ifanger Stock Items

○ Available Upon Request

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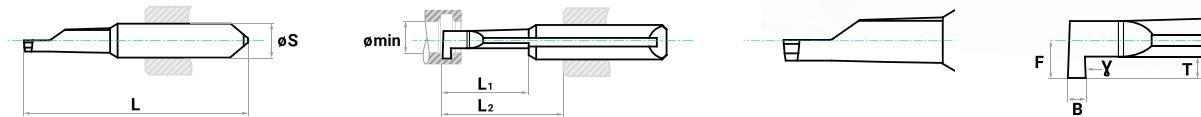


MTNN

Grooving tool neutral, $\gamma = 0^\circ$



P M K N S O



ømin	øS	L	L ₁	L ₂	F	T	B	γ	Ref. N°	Rotation		Coating			
										R	L	K10	TiAlN	DLC	SPEC
0.3	4	26	0.6	10	0.15	0.05	0.10	0°	MTNN 40301	●	●	●	●	○	○
0.4	4	26	0.8	10	0.20	0.07	0.10	0°	MTNN 40401	●	●	●	●	○	○
0.5	4	26	1.0	10	0.25	0.10	0.15	0°	MTNN 40501	●	●	●	●	○	○
0.7	4	26	1.2	10	0.35	0.15	0.20	0°	MTNN 40701	●	●	●	●	○	○
0.8	4	26	1.4	10	0.30	0.17	0.25	0°	MTNN 40801	●	●	●	●	○	○
1.0	4	26	1.5	10	0.50	0.20	0.30	0°	MTNN 41002	●	●	●	●	○	○
1.2	4	26	2.0	10	0.60	0.30	0.40	0°	MTNN 41202	●	●	●	●	○	○
1.5	4	26	3.0	10	0.75	0.40	0.40	0°	MTNN 41503	●	●	●	●	○	○
1.8	4	26	4.0	10	0.90	0.50	0.50	0°	MTNN 41804	●	●	●	●	○	○
2.0	4	31	6.0	15	1.00	0.50	0.60	0°	MTNN 42006	●	●	●	●	○	○
2.5	4	31	8.0	15	1.25	0.60	0.80	0°	MTNN 42508	●	●	●	●	○	○
3.2	4	31	8.0	15	1.60	0.80	1.00	0°	MTNN 43208	●	●	●	●	○	○
3.2	4	31	12.0	15	1.60	0.80	1.00	0°	MTNN 43212	●	●	●	●	○	○
3.2	4	36	17.0	20	1.60	0.80	1.00	0°	MTNN 43217	●	●	●	●	○	○
4.0	4	31	10.0	15	1.95	0.80	1.00	0°	MTNN 44010	●	●	●	●	○	○
4.0	4	31	14.0	15	1.95	0.80	1.00	0°	MTNN 44014	●	●	●	●	○	○
4.0	4	36	19.0	20	1.95	0.80	1.00	0°	MTNN 44019	●	●	●	●	○	○
4.0	6	48	25.0	29	1.95	0.80	1.00	0°	MTNN 64025	●	●	●	●	○	○
4.0	6	53	30.0	34	1.95	0.80	1.00	0°	MTNN 64030	●	●	●	●	○	○
5.0	6	35	12.0	16	2.50	1.50	1.20	0°	MTNN 65012	●	●	●	●	○	○
5.0	6	43	17.0	24	2.50	1.50	1.20	0°	MTNN 65017	●	●	●	●	○	○
5.0	6	48	25.0	29	2.50	1.50	1.20	0°	MTNN 65025	●	●	●	●	○	○
5.0	6	53	32.0	34	2.50	1.50	1.20	0°	MTNN 65032	●	●	●	●	○	○
5.0	6	61	40.0	42	2.50	1.50	1.20	0°	MTNN 65040	●	●	●	●	○	○
6.0	6	35	12.0	16	2.95	2.00	1.50	0°	MTNN 66012	●	●	●	●	○	○
6.0	6	43	20.0	24	2.95	2.00	2.00	0°	MTNN 66020	●	●	●	●	○	○
6.0	6	53	30.0	34	2.95	2.00	2.00	0°	MTNN 66030	●	●	●	●	○	○
6.0	6	61	40.0	42	2.95	2.00	2.00	0°	MTNN 66040	●	●	●	●	○	○

Dimensions in mm

Full catalog available online

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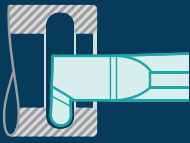
Example order number: MTNN 40301-R-TiAlN

● Ifanger Stock Items

○ Available Upon Request

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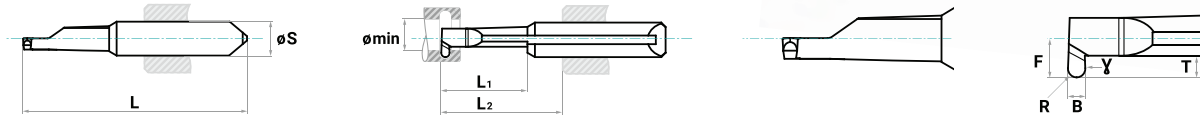


MTNR

Grooving tool
with full radius, $\gamma = 6^\circ$



P M N S O



ømin	øS	L	L ₁	L ₂	F	T	γ	B	R	Ref. N°	Rotation		Coating			
											R	L	K10	TiAIN	DLC	SPEC
2.5	4	31	6	15	1.25	0.6	6°	0.8	0.40	MTNR 425064	●	●	●	●	○	○
3.2	4	31	8	15	1.60	0.8	6°	1.0	0.50	MTNR 432085	●	●	●	●	○	○
3.2	4	31	12	15	1.60	0.8	6°	1.0	0.50	MTNR 432125	●	●	●	●	○	○
4.0	4	31	10	15	1.95	0.8	6°	1.0	0.50	MTNR 440105	●	●	●	●	○	○
4.0	4	31	14	15	1.95	0.8	6°	1.0	0.50	MTNR 440145	●	●	●	●	○	○
4.0	4	36	19	20	1.95	0.8	6°	1.0	0.50	MTNR 440195	●	●	●	●	○	○
5.0	6	35	12	16	2.50	1.5	6°	1.0	0.50	MTNR 650125	●	●	●	●	○	○
5.0	6	35	12	16	2.50	1.5	6°	1.5	0.75	MTNR 650127	●	●	●	●	○	○
5.0	6	35	12	16	2.50	1.5	6°	2.0	1.00	MTNR 650129	●	●	●	●	○	○
5.0	6	43	17	24	2.50	1.5	6°	1.0	0.50	MTNR 650175	●	●	●	●	○	○
5.0	6	43	17	24	2.50	1.5	6°	1.5	0.75	MTNR 650177	●	●	●	●	○	○
5.0	6	43	17	24	2.50	1.5	6°	2.0	1.00	MTNR 650179	●	●	●	●	○	○
6.0	6	43	20	24	2.95	2.0	6°	1.0	0.50	MTNR 660205	●	●	●	●	○	○
6.0	6	43	20	24	2.95	2.0	6°	1.5	0.75	MTNR 660207	●	●	●	●	○	○
6.0	6	43	20	24	2.95	2.0	6°	2.0	1.00	MTNR 660209	●	●	●	●	○	○

Dimensions in mm

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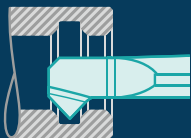
Example order number: MTNR 425064-R-TiAIN

● Ifanger Stock Items

○ Available Upon Request

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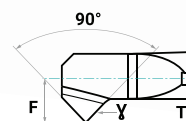
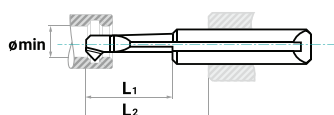
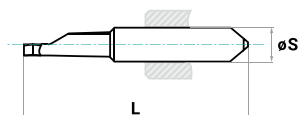


MTFA

Chamfering tool, $\gamma = 8^\circ$



P M K N S O



ϕ_{min}	ϕS	L	L ₁	L ₂	F	T	γ	Ref. N°	Rotation		Coating			
									R	L	K10	TiAIN	DLC	SPEC
2.0	4	31	5.4	15	1.00	0.50	8°	MTFA 42006	●	●	●	●	○	○
2.5	4	31	7.3	15	1.25	0.60	8°	MTFA 42508	●	●	●	●	○	○
3.2	4	31	11.0	15	1.60	0.80	8°	MTFA 43212	●	●	●	●	○	○
4.0	4	31	13.0	15	1.95	0.80	8°	MTFA 44014	●	●	●	●	○	○
4.0	4	36	18.0	20	1.95	0.80	8°	MTFA 44019	●	●	●	●	○	○
5.0	6	43	15.4	24	2.50	1.45	8°	MTFA 65017	●	●	●	●	○	○
6.0	6	43	18.4	24	2.95	1.45	8°	MTFA 66020	●	●	●	●	○	○
6.0	6	53	28.4	34	2.95	1.45	8°	MTFA 66030	●	●	●	●	○	○

Dimensions in mm

Use MTKN, MTKH, MTKO or MTKR tools for profile turning.

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Example order number: MTFA 42006-R-TiAIN

● Ifanger Stock Items

○ Available Upon Request

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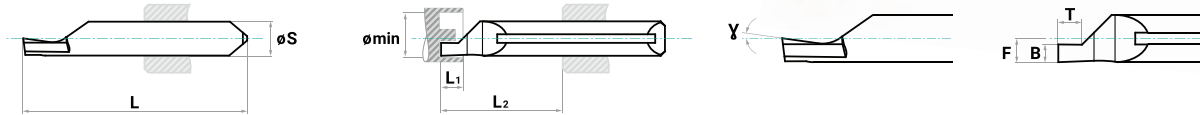


MTNX

Face grooving tool $\gamma = 6-8^\circ$
For axial grooves



P M K N S O



ømin	øS	L	L ₁	L ₂	F	T	B	γ	Ref. N°	Rotation		Coating			
										R	L	K10	TiAIN	DLC	SPEC
4.0	4	26	3	10	1.95	1.2	0.7	6°	MTNX 40710	●	●	●	●	○	○
6.0	4	26	5	10	1.95	1.5	1.0	8°	MTNX 41015	●	●	●	●	○	○
6.0	4	26	7	10	1.95	2.0	1.5	8°	MTNX 41520	●	●	●	●	○	○
6.0	6	35	8	16	2.95	2.5	1.5	8°	MTNX 61525	●	●	●	●	○	○
6.0	6	35	10	16	2.95	3.0	2.0	8°	MTNX 62030	●	●	●	●	○	○

Dimensions in mm

Full catalog available online

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Example order number: MTNX 40710-R-TiAIN

Ifanger Stock Items

Available Upon Request

alouettetool.com/micro-i-d-boring-bars/





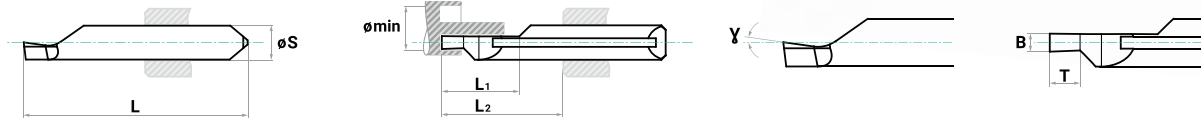
MTNY

Face grooving tool $\gamma = 6-8^\circ$

For axial grooves with collar



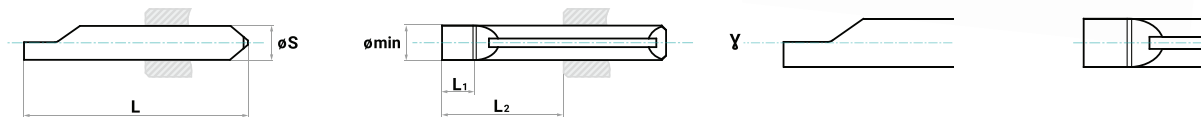
P M K N S O



ømin	øS	L	L ₁	L ₂	T	B	γ	Ref. N°	Rotation		Coating			
									R	L	K10	TIAIN	DLC	SPEC
4.0	4	26	6	10	1.20	0.70	6°	MTNY 40710	●	●	●	●	○	○
6.0	4	31	8	15	1.50	1.00	8°	MTNY 41015	●	●	●	●	○	○
6.0	4	31	12	15	2.00	1.50	8°	MTNY 41520	●	●	●	●	○	○
6.0	6	35	14	16	2.50	1.50	8°	MTNY 61525	●	●	●	●	○	○
6.0	6	43	20	24	3.00	2.00	8°	MTNY 62030	●	●	●	●	○	○

Dimensions in mm

MTRO



øS	L	L ₁	L ₂	γ	Ref. N°	Rotation		Coating			
						R	L	K10	TIAIN	DLC	SPEC
4	26	4	10	0°	MTRO 40010			●			
4	31	4	15	0°	MTRO 40015			●			
6	34	6	23	0°	MTRO 60023			●			

Dimensions in mm

Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.

Example order number: MTNY 40710-R-K10

● Ifanger Stock Items

○ Available Upon Request



alouettetool.com/micro-i-d-boring-bars/

MTHA

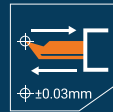
Holders with round shank and clamping surface (F)



HIGH VOLUME COOLING



QUICK CHANGE
5°

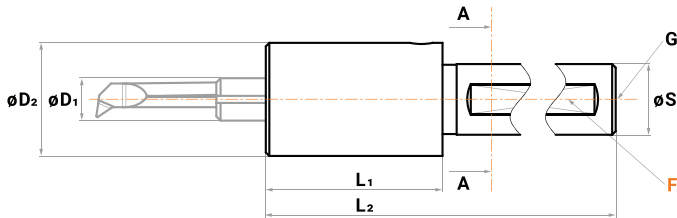


REPEATED POSITIONING ACCURACY
±0.03mm



VIBRATION ABSORBING TOOL CLAMPING

N° 1



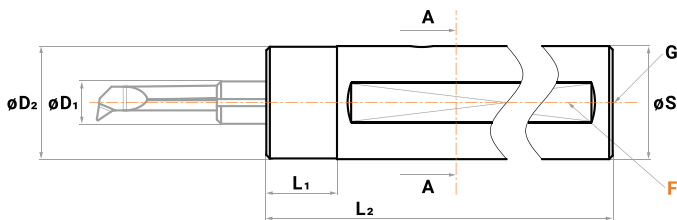
A-A



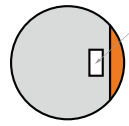
1×F



N° 2



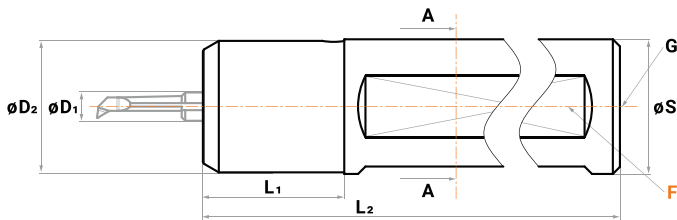
A-A Coolant channel



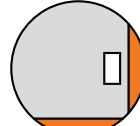
1×F



N° 3



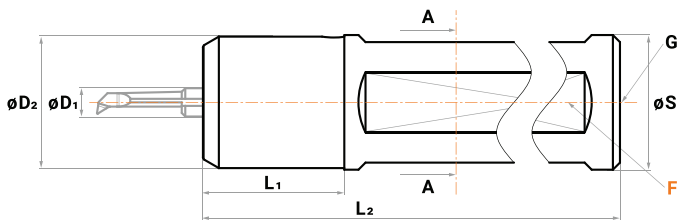
A-A



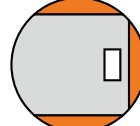
2×F



N° 4



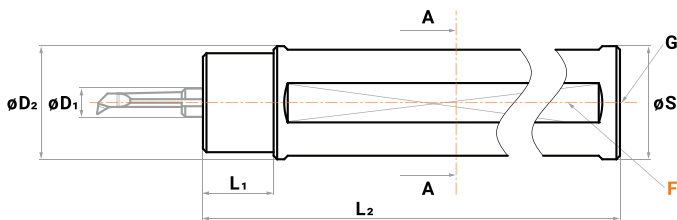
A-A



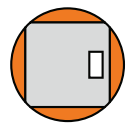
3×F



N° 5



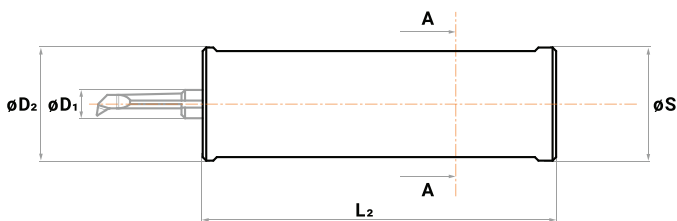
A-A



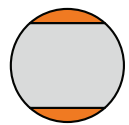
4×F



N° 6



A-A



2×F



N°	øS	øD ₁	øD ₂	L ₁	L ₂	F	Cooling (G)	Ref. N°
1	7	4	14.0	25	49	1×	–	MTHA 07049/4
1	8	4	14.0	21	60	1×	–	MTHA 08060/4
1	10	4	14.0	21	60	1×	–	MTHA 10060/4
1	10	6	16.0	25	60	1×	–	MTHA 10060/6
1	12	4	14.0	10	50	1×	–	MTHA 12050/4
1	12	4	14.0	10	90	1×	G1/8"	MTHA 12090/4
1	12	6	16.0	25	60	1×	–	MTHA 12060/6
6	5/8"	4	5/8"		50	2×	–	MTHA 15050/4
2	16	4	14.0	10	50	1×	G1/8"	MTHA 16050/4
5	16	4	14.0	10	52	4×	G1/8"	MTHA 16052/4
2	16	4	14.0	10	90	1×	G1/8"	MTHA 16090/4
2	16	6	15.8	10	60	1×	G1/8"	MTHA 16060/6
2	16	6	15.8	10	90	1×	G1/8"	MTHA 16090/6
3	3/4"	4	18.6	20	70	2×	G1/8"	MTHA 19070/4
3	3/4"	6	18.6	20	70	2×	G1/8"	MTHA 19070/6
4	3/4"	4	18.6	20	90	3×	G1/8"	MTHA 19090/4
4	3/4"	6	18.6	20	90	3×	G1/8"	MTHA 19090/6
3	3/4"	4	18.6	20	145	2×	G1/8"	MTHA 19145/4
3	3/4"	6	18.6	20	145	2×	G1/8"	MTHA 19145/6
3	20	4	19.6	20	70	2×	G1/8"	MTHA 20070/4
3	20	6	19.6	20	70	2×	G1/8"	MTHA 20070/6
3	20	4	19.6	20	160	2×	G1/8"	MTHA 20160/4
3	20	6	19.6	20	160	2×	G1/8"	MTHA 20160/6
5	22	4	21.6	20	90	4×	G1/8"	MTHA 22090/4
5	22	6	21.6	20	90	4×	G1/8"	MTHA 22090/6
3	22	4	21.6	20	130	2×	G1/8"	MTHA 22130/4
3	22	6	21.6	20	130	2×	G1/8"	MTHA 22130/6
2	25	4	24.6	20	80	1×	G1/8"	MTHA 25080/4
2	25	6	24.6	20	80	1×	G1/8"	MTHA 25080/6
2	25	4	24.6	20	100	1×	G1/8"	MTHA 25100/4
2	25	6	24.6	20	100	1×	G1/8"	MTHA 25100/6
5	25	4	24.6	20	170	4×	G1/8"	MTHA 25170/4
5	25	6	24.6	20	170	4×	G1/8"	MTHA 25170/6
3	1"	4	25.0	20	70	2×	G1/8"	MTHA 26070/4
3	1"	6	25.0	20	70	2×	G1/8"	MTHA 26070/6
3	1"	4	25.0	20	145	2×	G1/8"	MTHA 26145/4
3	1"	6	25.0	20	145	2×	G1/8"	MTHA 26145/6
3	28	4	27.6	20	100	2×	M12×1.5	MTHA 28100/4
3	28	6	27.6	23	100	2×	M12×1.5	MTHA 28100/6
4	32	4	31.6	20	80	3×	G1/8"	MTHA 32080/4
4	32	6	31.6	23	80	3×	G1/8"	MTHA 32080/6
5	32	4	22.0	25	135	4×	G1/8"	MTHA 32135/4
5	32	6	22.0	25	135	4×	G1/8"	MTHA 32135/6

Dimensions in mm

Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.



Example order number: MTHA 07049/4

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MTHA

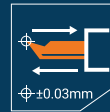
Holder with round shank
without clamping surface



HIGH VOLUME
COOLING



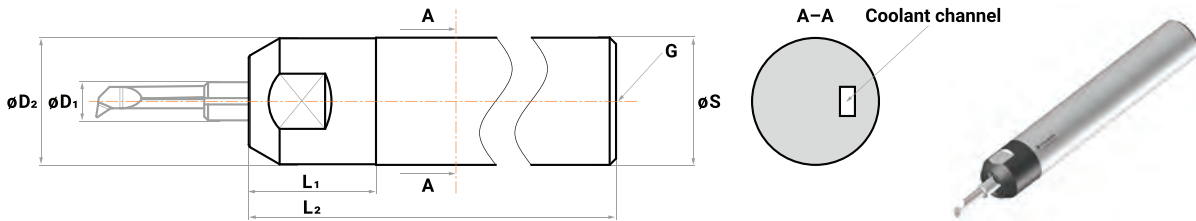
QUICK CHANGE



REPEATED
POSITIONING
ACCURACY



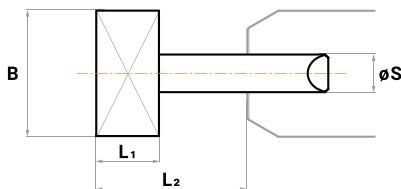
VIBRATION
ABSORBING
TOOL CLAMPING



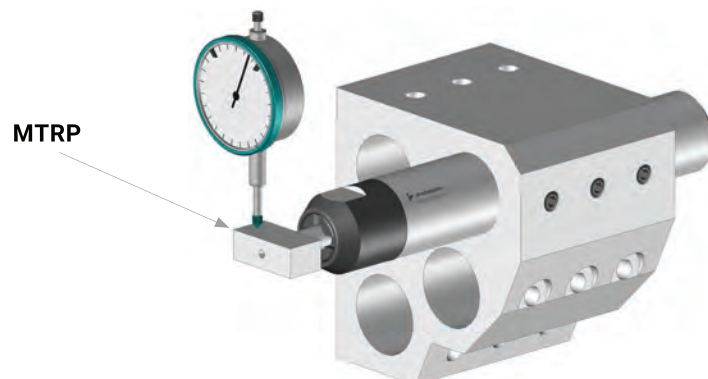
ϕS	ϕD_1	ϕD_2	L_1	L_2	Cooling (G)	Ref. N°
20	4	19.6	20	161	G1/8"	MTHA 20161/4
20	6	19.6	20	162	G1/8"	MTHA 20161/6
25	4	24.6	20	171	G1/8"	MTHA 25171/4
25	6	24.6	20	171	G1/8"	MTHA 25171/6

MTRP

Adjusting tool



ϕS	B	L_1	L_2	Ref. N°
4	20	10	17	MTRP 00004
6	20	10	18	MTRP 00006



Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.

Example order number: MTHA 20161/4



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MTHA/SK

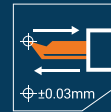
Holders with round shank
 and lateral coolant connection



HIGH VOLUME
 COOLING



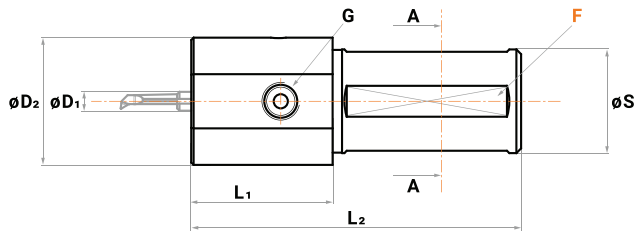
QUICK CHANGE



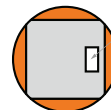
REPEATED
 POSITIONING
 ACCURACY



VIBRATION
 ABSORBING
 TOOL CLAMPING



A-A Coolant channel



4×F



ϕS	ϕD_1	ϕD_2	L_1	L_2	Cooling (G)	Ref. N°
3/4"	4	27	30	70	M8×1	MTHA 19070/4SK
3/4"	6	27	30	70	M8×1	MTHA 19070/6SK
22	4	27	30	70	M8×1	MTHA 22070/4SK
22	6	27	30	70	M8×1	MTHA 22070/6SK

Dimensions in mm



HIGH VOLUME
 COOLING



Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
 The MTSC wrench is included with every holder.

Example order number: MTHV 12085/4

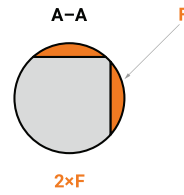
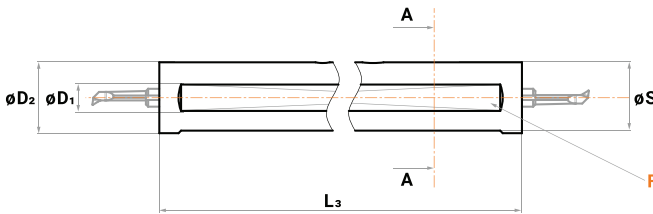


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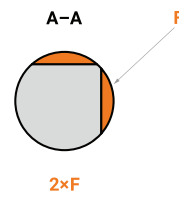
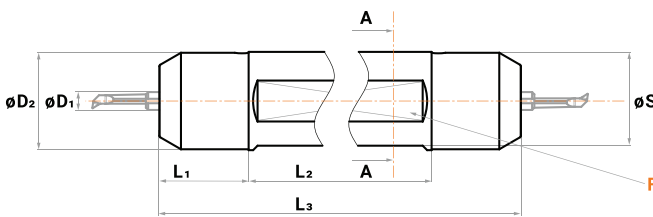
MTHC

Double holders with round shank for Swiss-MicroTurn tools

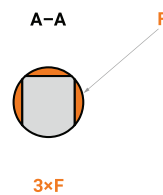
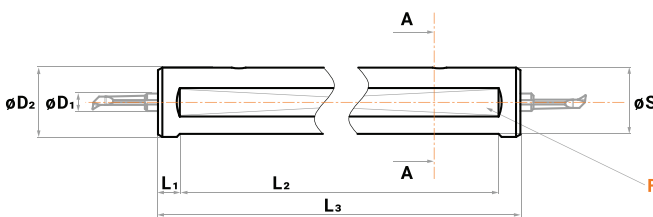
N° 1



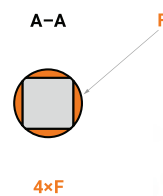
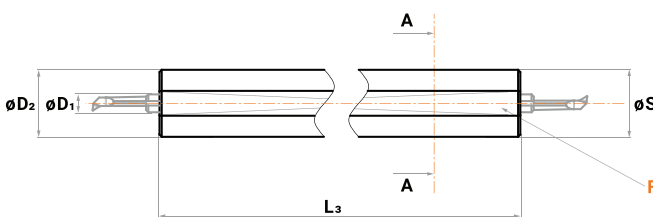
N° 2



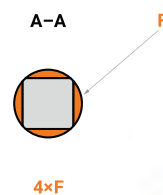
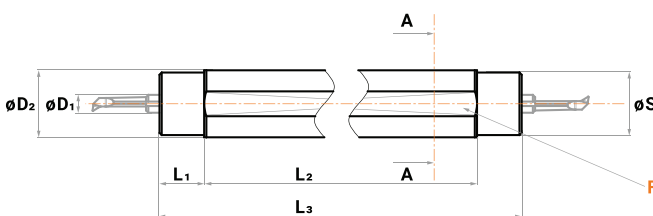
N° 3



N° 4



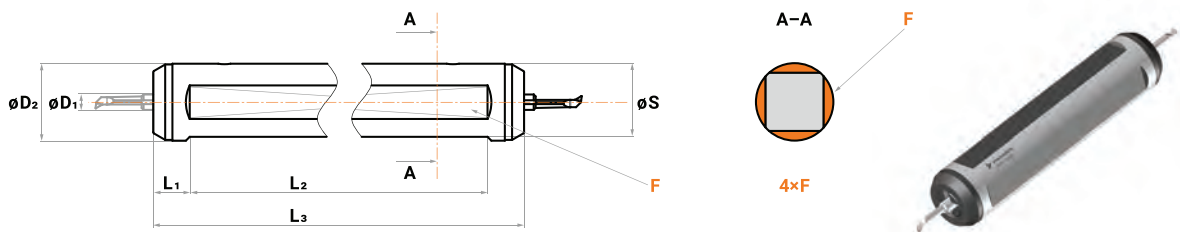
N° 5



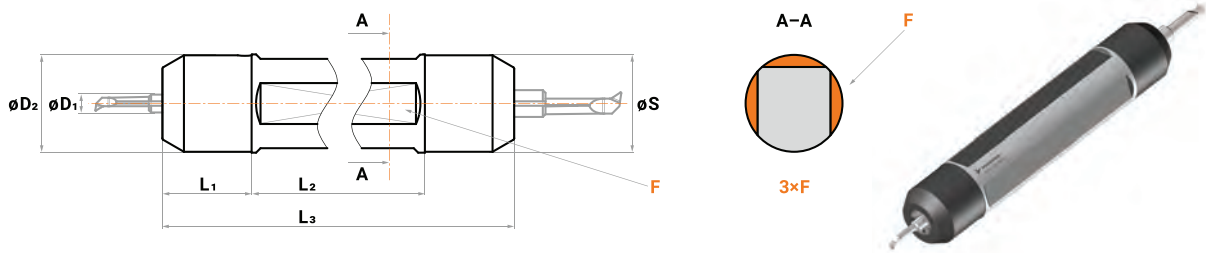
N°	øS	øD ₁	øD ₂	øD ₃	L ₁	L ₂	L ₃	F	Ref. N°
1	5/8"	4	-	4	-	-	48	2×	MTHC 15048/4
3	5/8"	4	-	4	5	45	55	3×	MTHC 15055/4
3	5/8"	4	-	4	5	55	65	3×	MTHC 15065/4
4	16	4	16.0	4	-	-	70	4×	MTHC 16070/4
5	16	4	14.0	4	10	90	110	4×	MTHC 16110/4
6	20	4	19.6	4	5	80	90	4×	MTHC 20090/4
2	22	4	21.6	4	20	74	114	2×	MTHC 22114/4
7	22	4	21.6	6	20	74	114	3×	MTHC 22114/46
2	22	6	21.6	6	20	74	114	2×	MTHC 22114/6
2	22	4	21.6	4	20	95	135	2×	MTHC 22135/4
2	22	6	21.6	6	20	95	135	2×	MTHC 22135/6
2	22	4	21.6	4	20	105	145	2×	MTHC 22145/4
2	22	6	21.6	6	20	105	145	2×	MTHC 22145/6

Dimensions in mm

N° 6



N° 7



Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.

Example order number: MTHV 12085/4

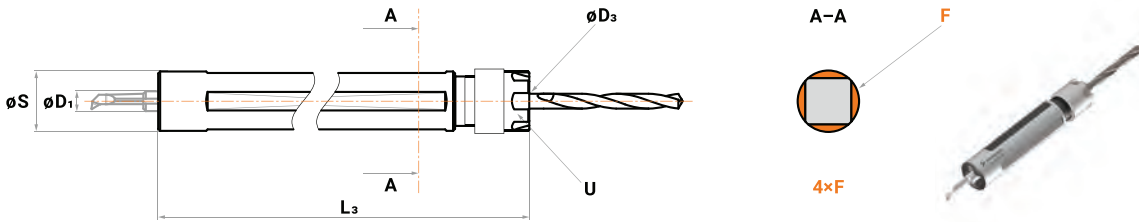


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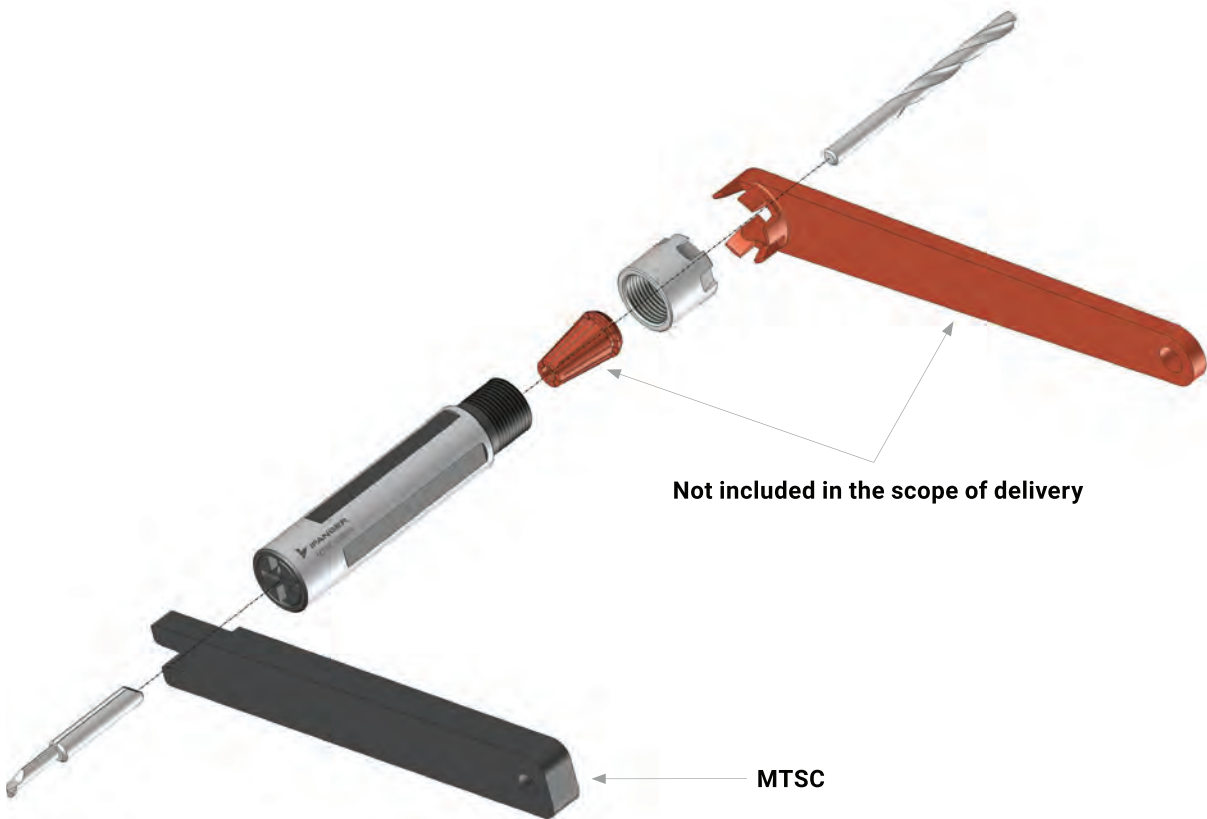
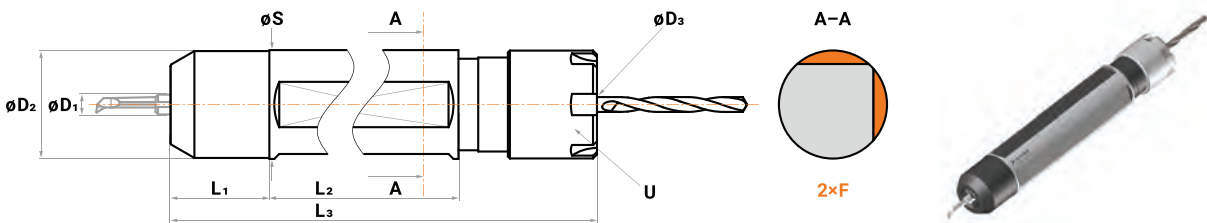
MTHE

Double holders with round shank
for Swiss-MicroTurn and collet chuck ER

N° 1



N° 2



N°	øS	øD ₁	øD ₂	øD ₃	L ₁	L ₂	L ₃	F	Ref. N°
1	12	4	–	ER8	–	–	55	4x	MTHE 12055/4
1	5/8"	4	–	ER8	–	–	55	4x	MTHE 15055/4
1	16	4	16.0	ER11	–	55	75	4x	MTHE 16071/4
2	16	4	14.0	ER11	10	85	115	2x	MTHE 16110/4
2	3/4"	4	18.6	ER11	23	70	114	2x	MTHE 19108/4
2	3/4"	6	18.6	ER11	23	70	114	2x	MTHE 19108/6
2	3/4"	4	18.6	ER11	23	100	144	2x	MTHE 19138/4
2	3/4"	6	18.6	ER11	23	100	144	2x	MTHE 19138/6
2	20	4	19.6	ER11	20	32	76	2x	MTHE 20071/4
2	22	4	21.6	ER16	20	78	126	2x	MTHE 22114/4
2	22	6	21.6	ER16	20	78	126	2x	MTHE 22114/6
2	22	4	21.6	ER16	20	109	157	2x	MTHE 22145/4
2	22	6	21.6	ER16	20	109	157	2x	MTHE 22145/6

Dimensions in mm

Full catalog available online

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The MTSC wrench is included with every holder.

Example order number: MTHV 12085/4



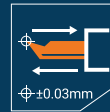
alouettetool.com/micro-i-d-boring-bars/

MTHB

Holders for back operation
 Steplessly adjustable length



QUICK CHANGE

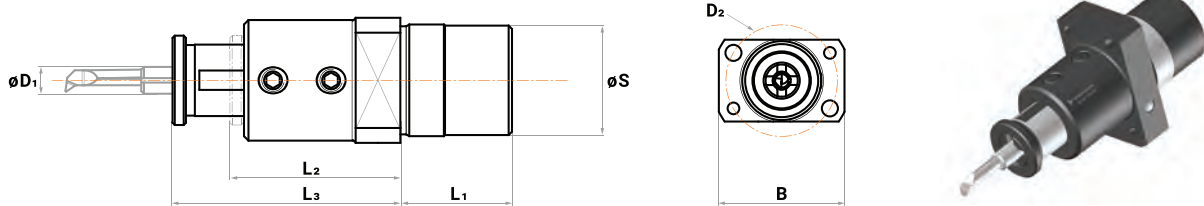


REPEATED
POSITIONING
ACCURACY

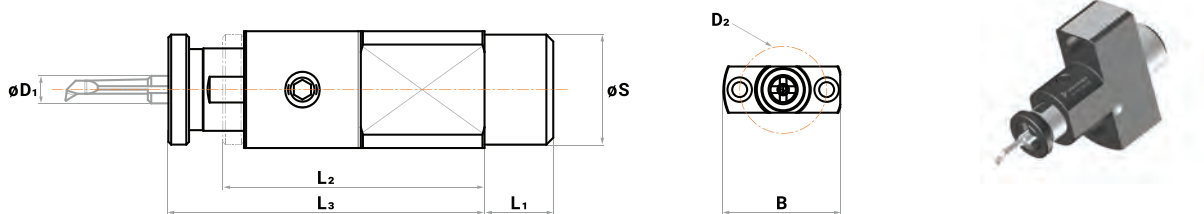


VIBRATION
ABSORBING
TOOL CLAMPING

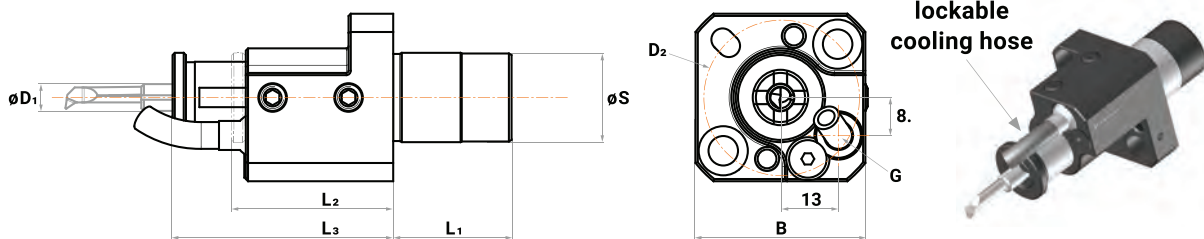
N° 1



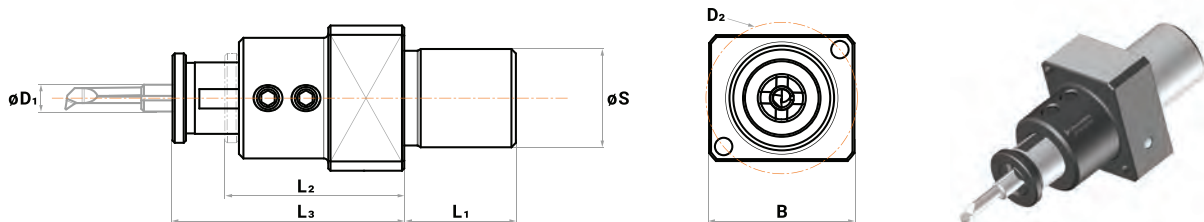
N° 2



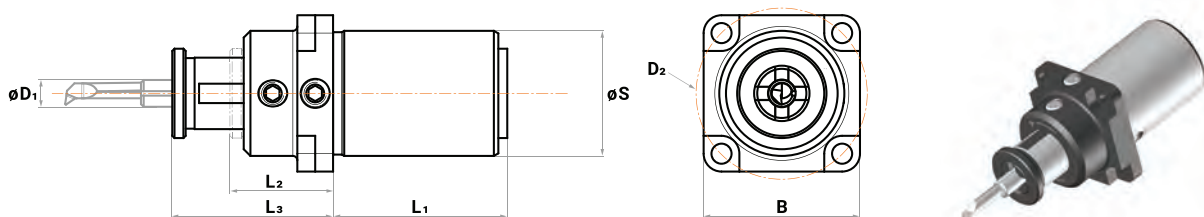
N° 3



N° 4

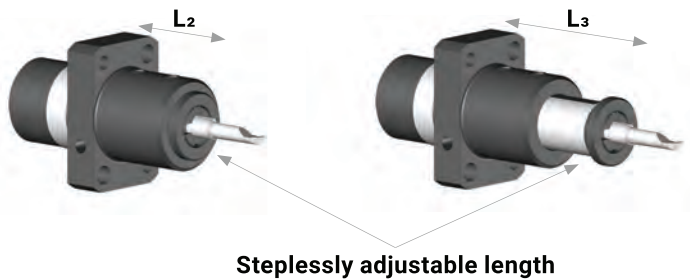


N° 5



N°	øS	øD ₁	øD ₂	L ₁	L ₂	L ₃	B	Cooling (G)	Ref. N°
1	16	4	31.0	21.0	26	42	24.0	-	MTHB 16065/4
2	16	4	32.0	10.0	38	54	17.0	-	MTHB 16074/4
3	20	4	35.0	26.5	26	49	37.5	ø6	MTHB 20061/4
3	20	6	35.0	26.5	26	49	37.5	ø6	MTHB 20061/6
1	22	4	40.0	25.0	38	58	28.0	-	MTHB 22078/4
1	22	6	40.0	25.0	38	58	28.0	-	MTHB 22078/6
4	22	4	39.0	25.0	40	62	32.5	-	MTHB 22079/4
4	22	6	39.0	25.0	40	62	32.5	-	MTHB 22079/6
1	22	4	38.0	30.0	34	56	38.0	-	MTHB 22080/4
1	22	6	38.0	30.0	34	56	38.0	-	MTHB 22080/6
1	25	4	38.1	25.0	38	83	28.0	-	MTHB 25062/4
1	25	6	38.1	25.0	38	83	28.0	-	MTHB 25062/6
5	28	4	38.1	30.0	35	59	35.0	-	MTHB 28057/4
5	28	6	38.1	30.0	35	59	35.0	-	MTHB 28057/6
4	32	4	40.0	25.0	39	59	39.0	-	MTHB 32081/4
4	32	6	40.0	25.0	39	59	39.0	-	MTHB 32081/6
1	32	4	52.0	30.0	46	64	41.0	-	MTHB 32093/4
1	32	6	52.0	30.0	46	64	41.0	-	MTHB 32093/6
1	33	4	40.0	37.0	39	59	36.0	-	MTHB 33091/4
1	33	6	40.0	37.0	39	59	36.0	-	MTHB 33091/6
1	34	4	42.0	25.0	39	59	38.0	-	MTHB 34081/4
1	34	6	42.0	25.0	39	59	38.0	-	MTHB 34081/6

Dimensions in mm



Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.



Example order number: MTHV 12085/4

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MTQC

Quick Change, BIMU – IFANGER

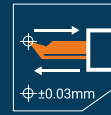
Quick change head for Swiss-MicroTurn tools



HIGH VOLUME COOLING



QUICK CHANGE



REPEATED POSITIONING ACCURACY
±0.03mm



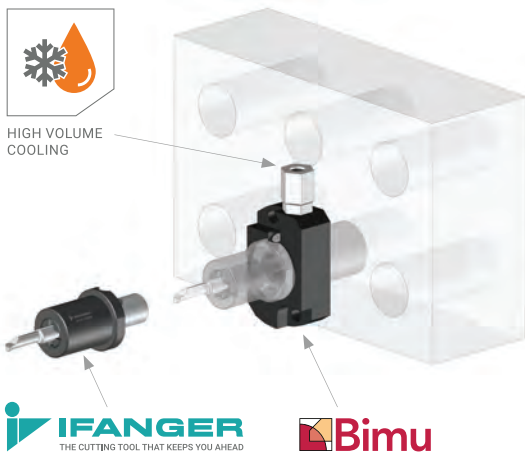
VIBRATION ABSORBING TOOL CLAMPING

Presetting the tool outside the machine

With the MTQC quick-change clamping heads Swiss-MicroTurn tools can be clamped and measured outside the lathe. This technology enables even non-specialists to quickly and reliably insert tools into the machine.

- Maximum process reliability
- Very high machine availability
- Machine operators have the freedom to look after more systems
- Extremely fast and safe use of the change head

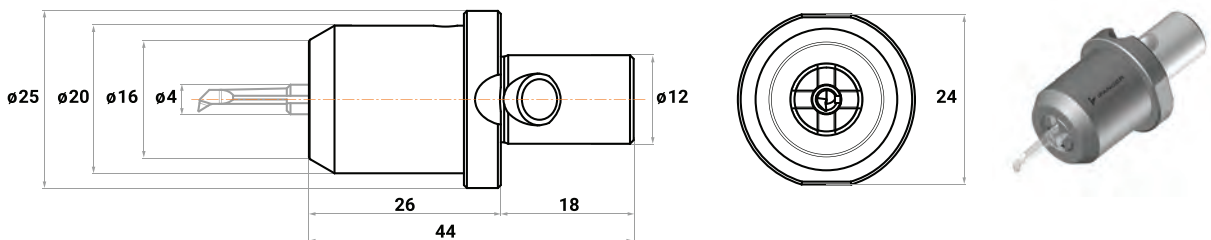
Back operation



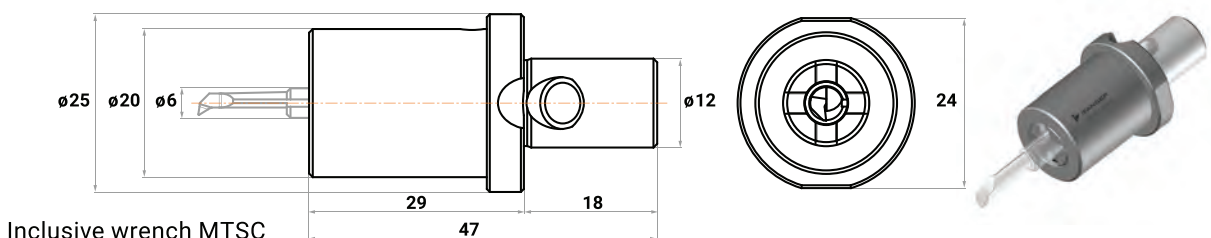
Front operation



Ref. N°: MTQC 12029/4



Ref. N°: MTQC 12029/6



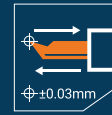
Inclusive wrench MTSC

MTHV

Holder with square shank



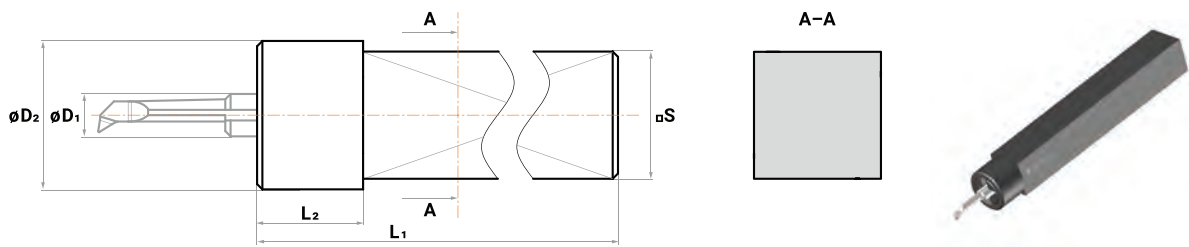
QUICK CHANGE



REPEATED
POSITIONING
ACCURACY



VIBRATION
ABSORBING
TOOL CLAMPING



s	$\varnothing D_1$	$\varnothing D_2$	L_1	L_2	Ref. N°
12×12	4	14.0	85	10	MTHV 12085/4
12×12	6	16.0	95	24	MTHV 12100/6
16×16	4	14.0	100	3	MTHV 16100/4
16×16	6	15.8	100	10	MTHV 16100/6

Dimensions in mm

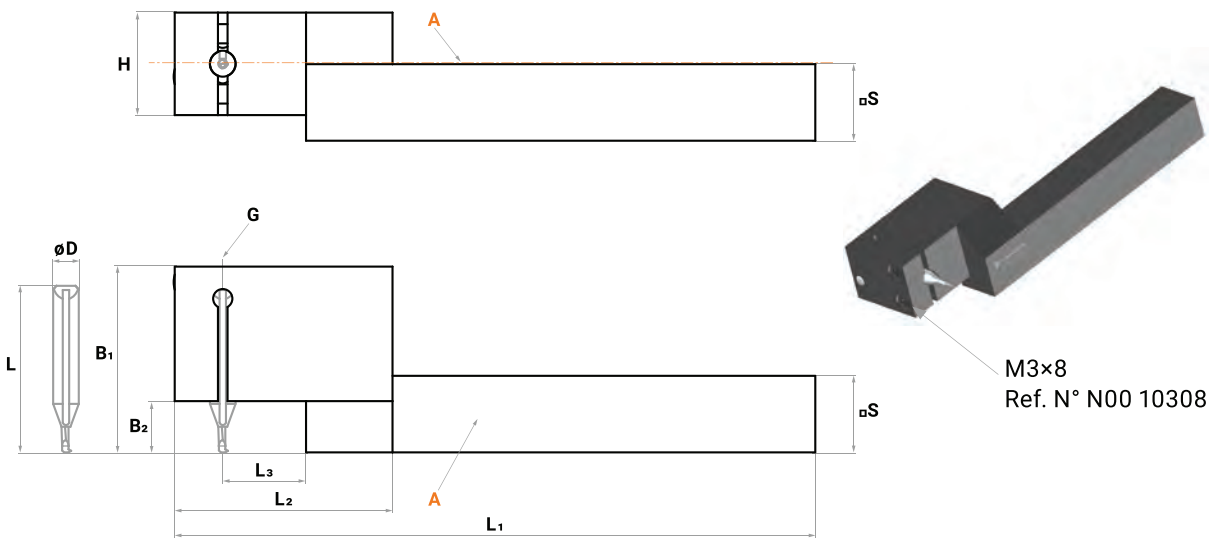
Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.

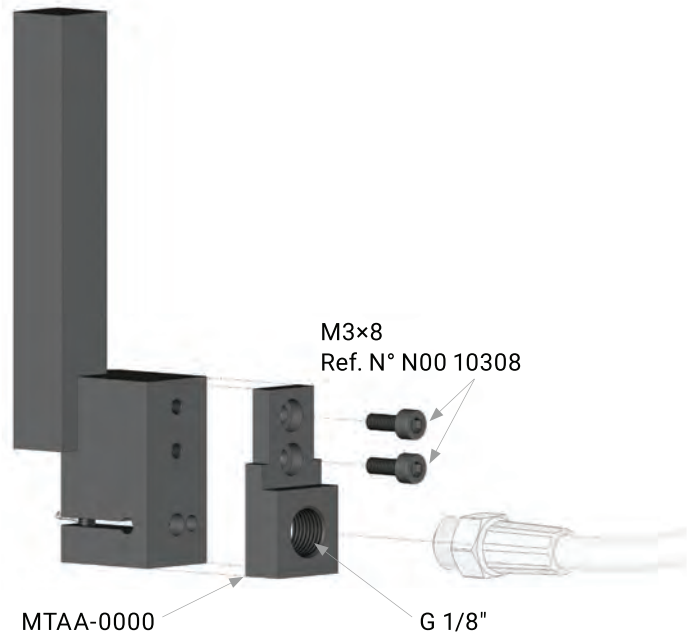
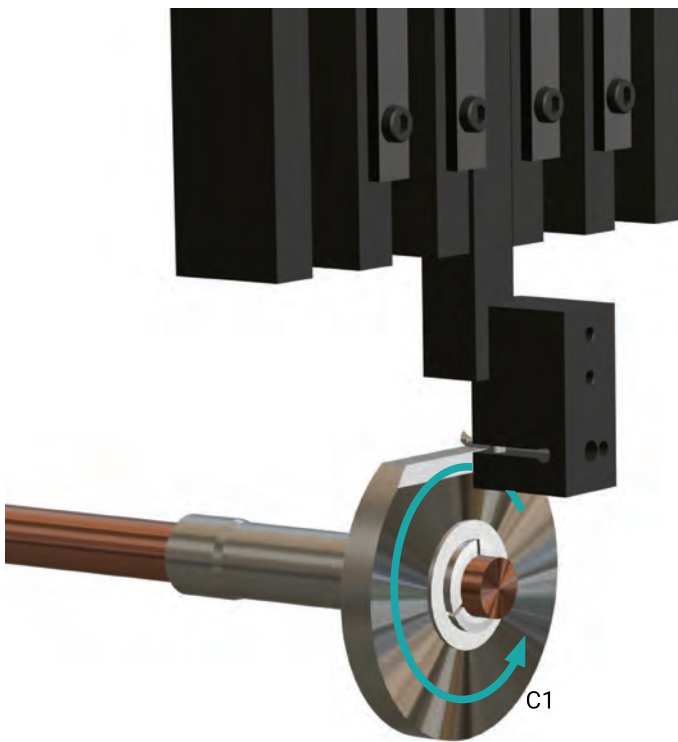
Example order number: MTHV 12085/4



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The stop surface (A) of the holder corresponds to the centre height of the tool.



øS	øD	L	L ₁	L ₂	L ₃	B ₁	B ₂	H	Cooling (G)	Ref. N°
7	4	31	100	34	13	35	15	16	Ref. N° MTAA-0000	MTAR 07100/431
8	4	26	100	34	13	29	8	16	Ref. N° MTAA-0000	MTAR 08100/426
8	4	31	100	34	13	35	15	16	Ref. N° MTAA-0000	MTAR 08100/431
10	4	26	100	34	13	29	8	16	Ref. N° MTAA-0000	MTAR 10100/426
10	4	31	100	34	13	35	15	16	Ref. N° MTAA-0000	MTAR 10100/431
10	4	36	100	34	13	40	20	16	Ref. N° MTAA-0000	MTAR 10100/436
10	6	35	100	34	13	38	14	16	Ref. N° MTAA-0000	MTAR 10100/635
10	6	43	100	34	13	45	21	16	Ref. N° MTAA-0000	MTAR 10100/643
10	6	48	100	34	13	50	26	16	Ref. N° MTAA-0000	MTAR 10100/648
12	4	26	100	34	13	29	8	16	Ref. N° MTAA-0000	MTAR 12100/426
12	4	31	100	34	13	35	15	16	Ref. N° MTAA-0000	MTAR 12100/431
12	4	36	100	34	13	40	20	16	Ref. N° MTAA-0000	MTAR 12100/436
12	6	35	100	34	13	38	14	16	Ref. N° MTAA-0000	MTAR 12100/635
12	6	43	100	34	13	45	21	16	Ref. N° MTAA-0000	MTAR 12100/643
12	6	48	100	34	13	50	26	16	Ref. N° MTAA-0000	MTAR 12100/648
12	6	53	100	34	13	55	33	16	Ref. N° MTAA-0000	MTAR 12100/653
16	4	31	130	34	13	35	15	16	Ref. N° MTAA-0000	MTAR 16130/431
16	4	36	130	34	13	40	20	16	Ref. N° MTAA-0000	MTAR 16130/436
16	6	35	130	34	13	38	14	16	Ref. N° MTAA-0000	MTAR 16130/635
16	6	43	130	34	13	45	21	16	Ref. N° MTAA-0000	MTAR 16130/643
16	6	48	130	34	13	50	26	16	Ref. N° MTAA-0000	MTAR 16130/648
16	6	53	130	38	17	55	33	16	Ref. N° MTAA-0000	MTAR 16130/653
16	6	61	130	38	17	64	42	16	Ref. N° MTAA-0000	MTAR 16130/661
16	6	71	130	38	17	74	52	16	Ref. N° MTAA-0000	MTAR 16130/671

Dimensions in mm

Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.



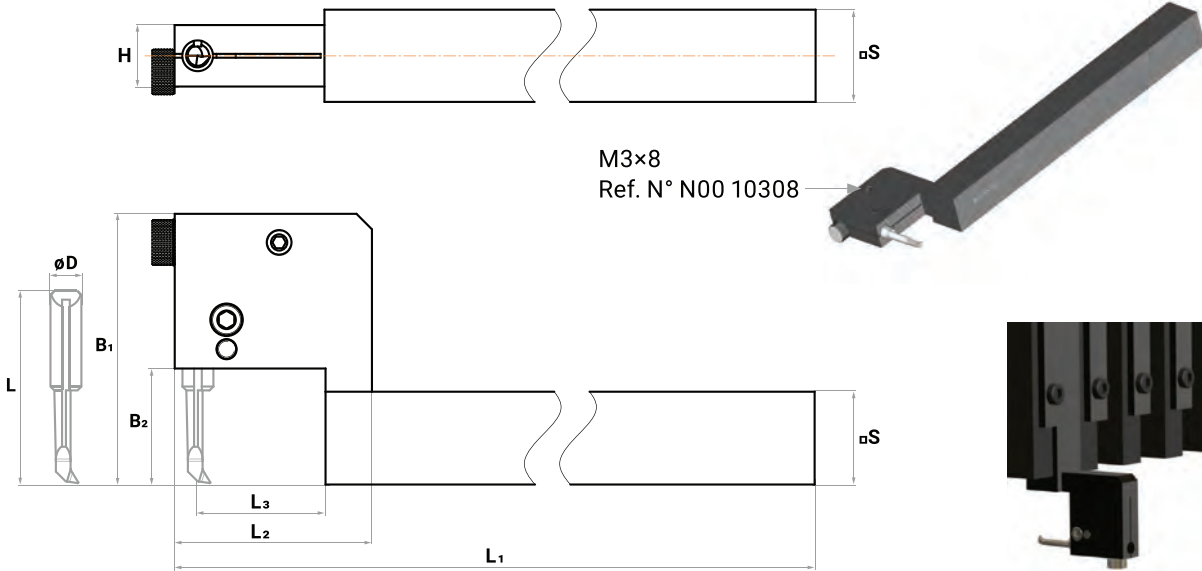
Example order number: MTAR 07100/431

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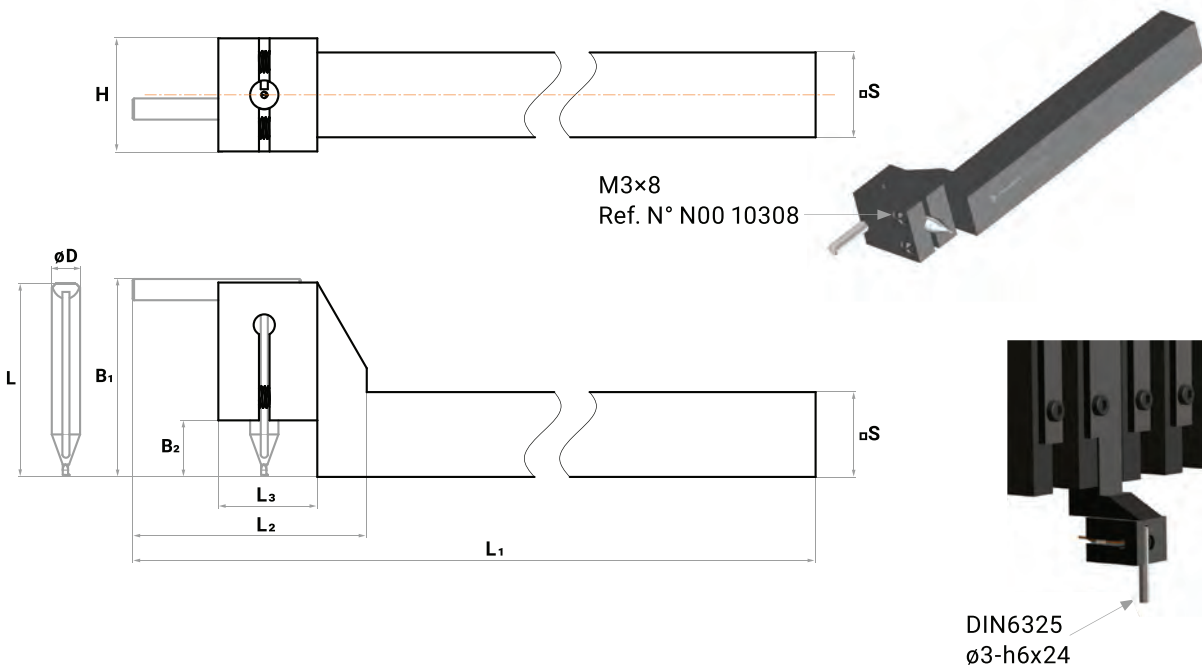
MTAN

Cranked holders, neutral
Tool insertion from the rear, for tight spaces

N° 1



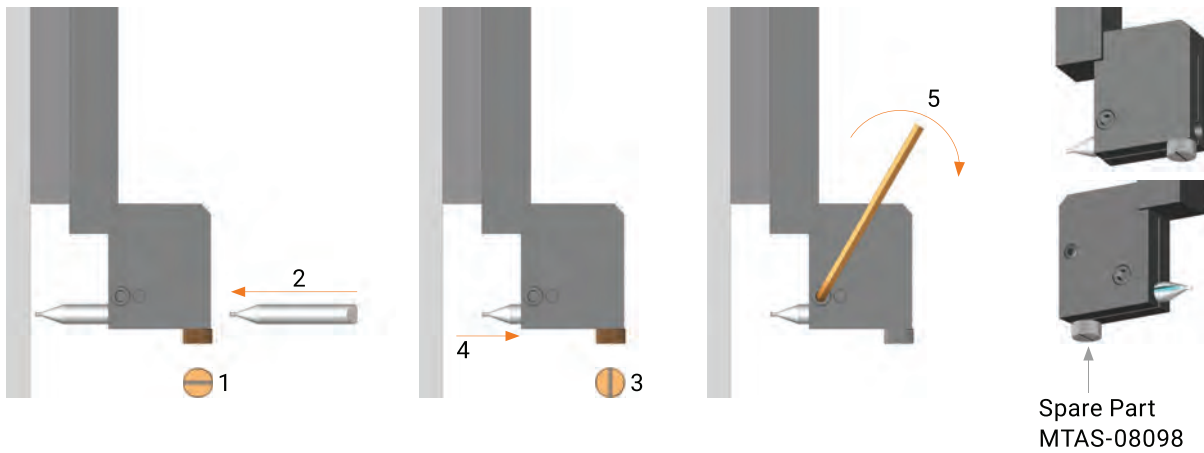
N° 2



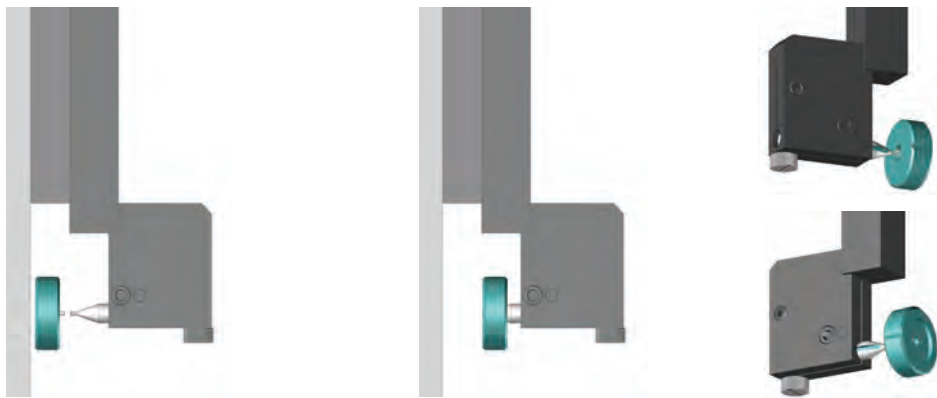
N°	□S	∅D	L	L ₁	L ₂	L ₃	B ₁	B ₂	H	Ref. N°
1	8	4	26	98	18.5	9.5	28.5	8	8	MTAN 08098/426
1	8	4	31	98	18.5	9.5	33.5	8	8	MTAN 08098/431
1	10	4	26	98	25.5	13.0	29.0	8	8	MTAN 10098/426
1	10	4	31	98	25.5	13.0	33.5	8	8	MTAN 10098/431
1	12	4	26	128	25.5	13.0	29.0	8	8	MTAN 12128/426
1	12	4	31	128	25.5	13.0	35.0	15	8	MTAN 12128/431
2	10	4	26	100	21.0	7.5	27.5	8	16	MTAN 10097/426
2	12	4	26	100	21.0	7.5	27.5	8	16	MTAN 12097/426

Dimensions in mm

MTAN instructions



Positioning tool MTAP-00426



Positioning tool MTAP-00426 and Allen key included in the scope of delivery.

Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.

Example order number: MTAN 08098/426

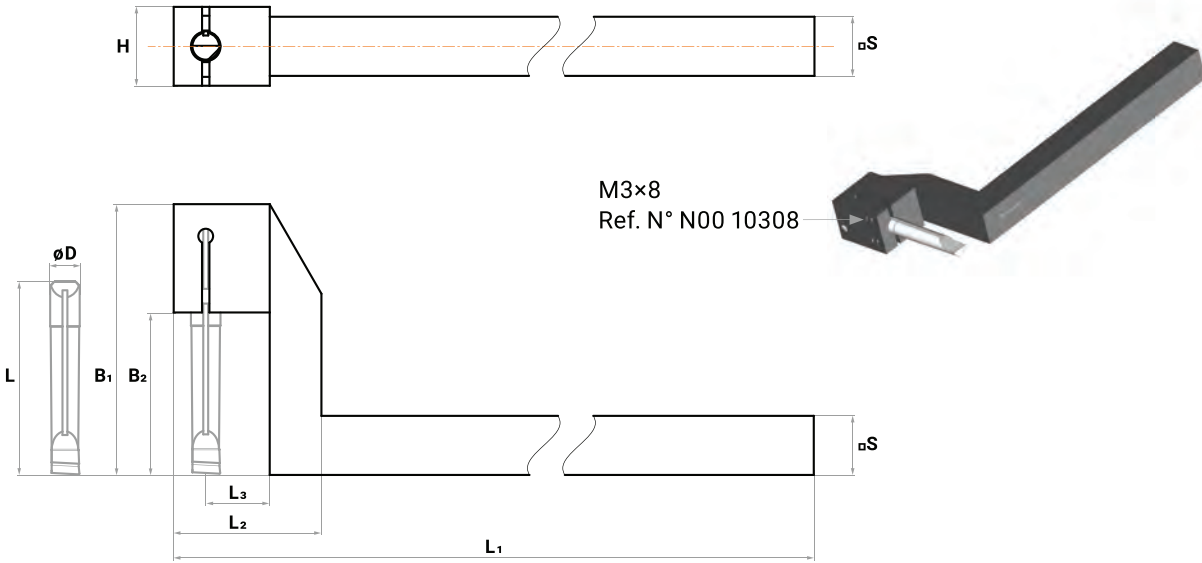


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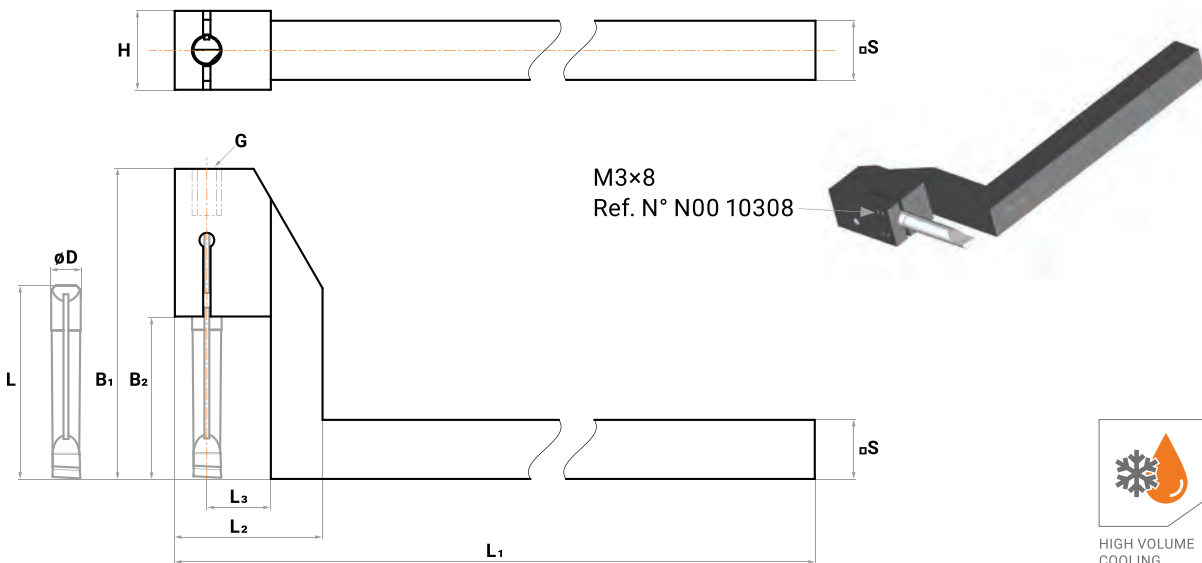
MTAN

Cranked holders, neutral

N° 1



N° 2



N°	□S	∅D	L	L ₁	L ₂	L ₃	B ₁	B ₂	H	Cooling (G)	Ref. N°
1	8	4	26	100	21	7.5	29	8	16	-	MTAN 08100/426
1	8	4	31	100	21	7.5	35	15	16	-	MTAN 08100/431
1	10	4	26	100	21	7.5	29	8	16	-	MTAN 10100/426
1	10	4	31	100	30	13.0	35	15	16	-	MTAN 10100/431
1	10	4	36	100	30	13.0	40	20	16	-	MTAN 10100/436
1	10	6	35	100	30	13.0	37	14	16	-	MTAN 10100/635
1	10	6	43	100	30	13.0	45	21	16	-	MTAN 10100/643
1	10	6	48	100	30	13.0	50	26	16	-	MTAN 10100/648
1	12	4	26	130	21	7.5	29	8	16	-	MTAN 12130/426
1	12	4	31	130	30	13.0	35	15	16	-	MTAN 12130/431
1	12	4	36	130	30	13.0	40	20	16	-	MTAN 12130/436
1	12	6	35	130	30	13.0	37	14	16	-	MTAN 12130/635
1	12	6	43	130	30	13.0	45	21	16	-	MTAN 12130/643
1	12	6	48	130	30	13.0	50	26	16	-	MTAN 12130/648
1	12	6	53	130	30	13.0	55	30	16	-	MTAN 12130/653
2	12	4	31	130	30	13.0	43	15	16	G1/8"	MTAN 12131/431
2	12	4	36	130	30	13.0	48	20	16	G1/8"	MTAN 12131/436
2	12	6	43	130	30	13.0	53	21	16	G1/8"	MTAN 12131/643
2	12	6	48	130	30	13.0	58	26	16	G1/8"	MTAN 12131/648
2	12	6	53	130	30	13.0	63	33	16	G1/8"	MTAN 12131/653
2	12	4	31	130	30	19.5	37	15	16	M12×1.5	MTAN 12132/431
1	16	4	31	130	34	13.0	35	15	16	-	MTAN 16130/431
1	16	4	36	130	34	13.0	40	20	16	-	MTAN 16130/436
1	16	6	35	130	34	13.0	37	14	16	-	MTAN 16130/635
1	16	6	43	130	34	13.0	45	21	16	-	MTAN 16130/643
1	16	6	48	130	34	13.0	50	26	16	-	MTAN 16130/648
1	16	6	53	130	38	17.0	55	33	16	-	MTAN 16130/653
1	16	6	61	130	38	17.0	64	42	16	-	MTAN 16130/661
1	16	6	71	130	38	17.0	74	52	16	-	MTAN 16130/671
2	16	4	31	130	34	13.0	43	15	16	G1/8"	MTAN 16131/431
2	16	4	36	130	34	13.0	48	20	16	G1/8"	MTAN 16131/436
2	16	6	43	130	34	13.0	53	21	16	G1/8"	MTAN 16131/643
2	16	6	48	130	34	13.0	58	26	16	G1/8"	MTAN 16131/648
2	16	6	53	130	40	17.0	63	33	16	G1/8"	MTAN 16131/653
2	16	4	31	130	30	19.5	37	15	16	G1/8"	MTAN 16132/431

Dimensions in mm

Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.

Example order number: MTAN 08100/426

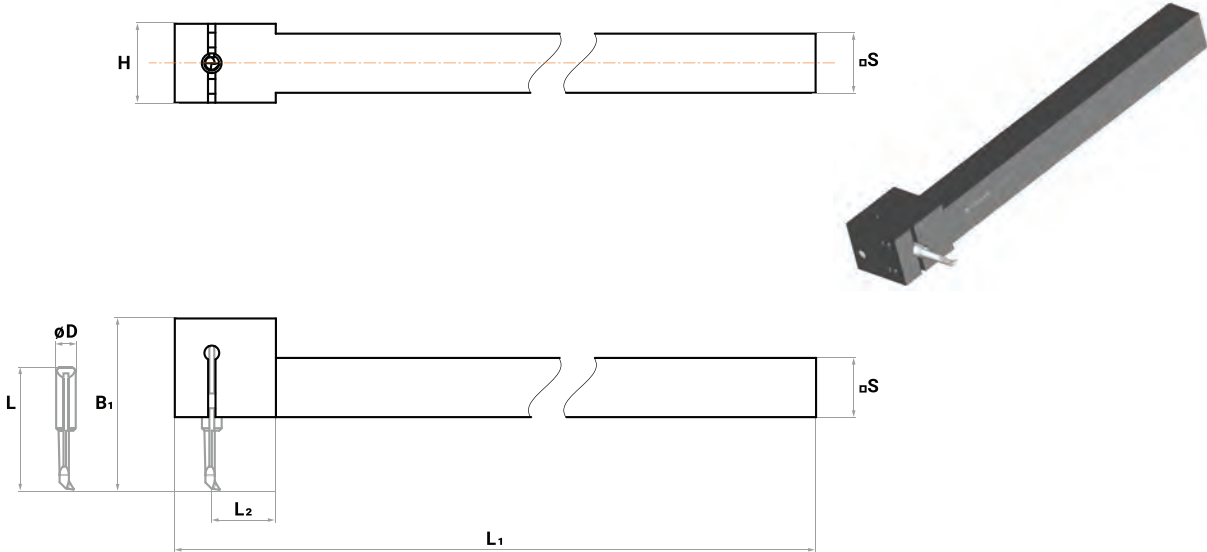


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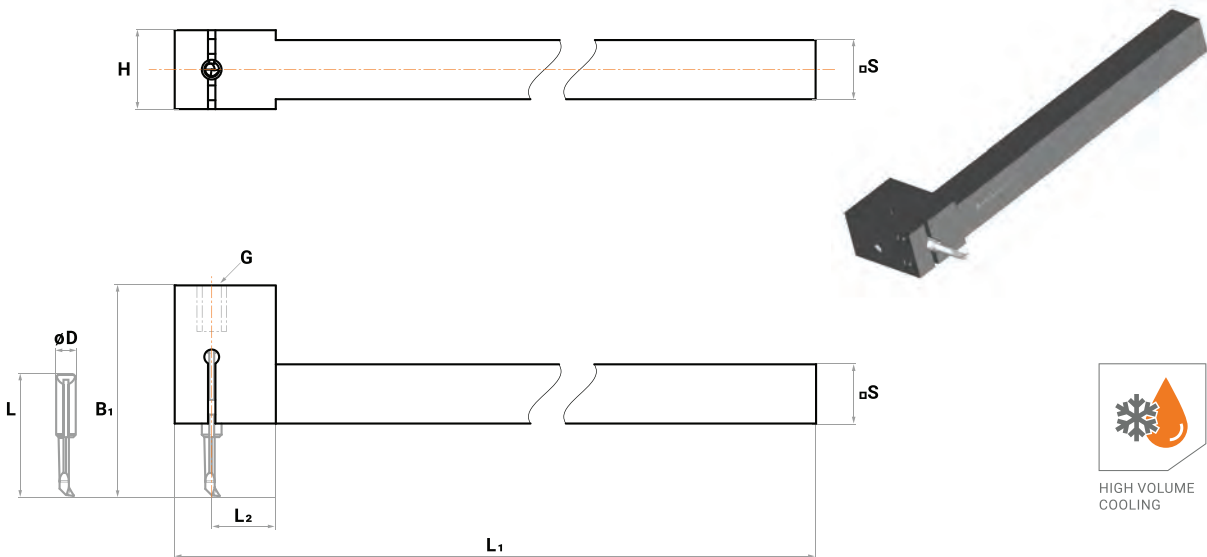
MTAT

Holders, neutral

N° 1



N° 2



N°	□S	∅D	L ₁	L ₂	B ₁	H	Cooling (G)	Ref. N°
1	8	4	100	20.5	20	16	-	MTAT 08100/4
1	10	4	100	20.5	20	16	-	MTAT 10100/4
1	12	4	130	20.5	20	16	-	MTAT 12130/4
1	12	6	130	20.5	24	16	-	MTAT 12130/6
1	16	4	130	20.5	20	16	-	MTAT 16130/4
1	16	6	130	20.5	24	16	-	MTAT 16130/6
2	12	4	130	20.5	20	16	G1/8"	MTAT 12131/4
2	12	6	130	20.5	24	16	G1/8"	MTAT 12131/6
2	16	4	130	20.5	28	16	G1/8"	MTAT 16131/4
2	16	6	130	20.5	32	16	G1/8"	MTAT 16131/6

Dimensions in mm

Full catalog available online

Download the full Ifanger Swiss-Micro Turn catalog using the QR code or web address.
The MTSC wrench is included with every holder.

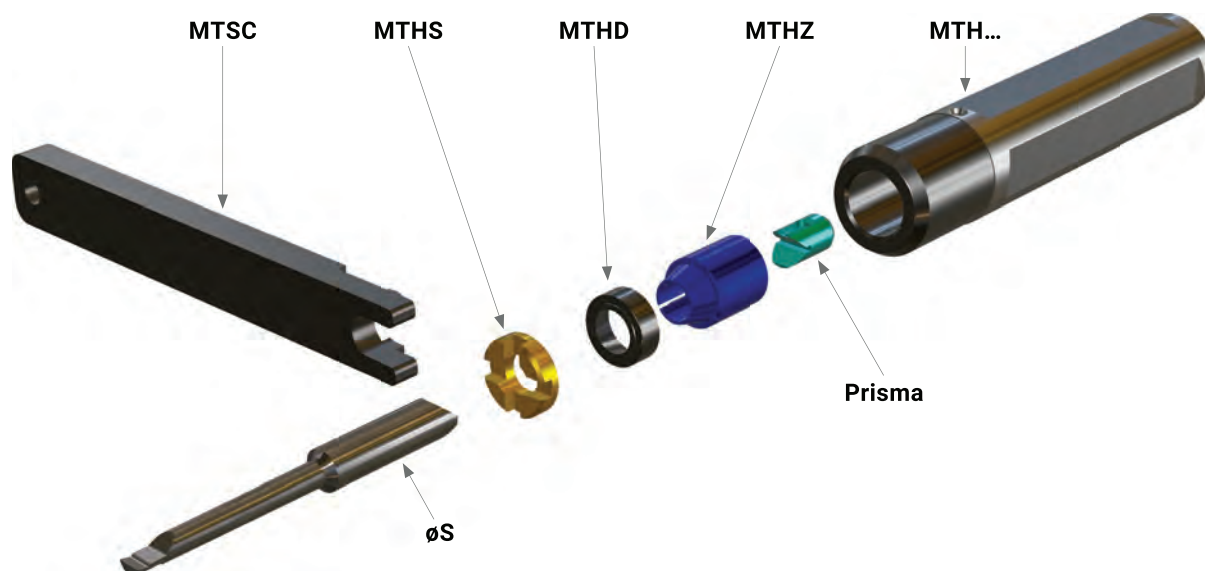
Example order number: MTAT 08100/4



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Spare parts

for holder type MTH...



$\varnothing S$	Description	Ref. N°
4	Thrust collar	MTHD-0004
6	Thrust collar	MTHD-0006
4	Screw	MTHS-0004
6	Screw	MTHS-0006
4	Collet chuck	MTHZ-0004
6	Collet chuck	MTHZ-0006
4	Wrench	MTSC-0004
6	Wrench	MTSC-0006
	Prisma	On request



Randrieren

Moletage

Knurling



Effizient. Zuverlässig. Engagiert.

Der Name Ifanger repräsentiert Qualität, Zuverlässigkeit und hohen Kundennutzen. Erfolgsfaktoren, die für Sie als Kunde vor allem bedeuten: Praxisgerechte Produkte, die ein Höchstmass an Präzision, Effizienz und Wirtschaftlichkeit garantieren. Grundlage dazu bilden technisch ausgereifte Lösungen, ein leistungsfähiger Maschinenpark und ein qualifiziertes und engagiertes Team.

Efficace. Fiable. Engagé.

Ifanger est synonyme de qualité, de fiabilité et de haute valeur ajoutée. Ces facteurs de réussite se concrétisent pour nos clients par des produits adéquats qui garantissent le plus haut niveau de précision, d'efficacité et de rentabilité, ceci grâce à des solutions techniques sophistiquées, un parc de machines de haute performance et une équipe qualifiée et engagée.

Efficient. Reliable. Committed.

The name Ifanger represents quality, reliability and high customer value. These success factors are transmitted for our customers into suitable products that guarantee the highest level of precision, efficiency and profitability. This is achieved through sophisticated technical solutions, a high-performance machine park and a qualified and committed team.



Zukunft hat Herkunft

Die Ifanger AG ist seit über 100 Jahren ein weltweit tätiges Schweizer Unternehmen. Wir entwickeln und produzieren hochwertige Zerspanungswerkzeuge der Marke Ifanger, MicroTurn und Randag. Unsere Produkte stehen für reiche Erfahrung und wegweisende Innovationen. Sie sind perfekt abgestimmt auf die Bedürfnisse der Werkstoffe und Maschinen neuester Generation.

L'avenir a son histoire

Ifanger AG est une entreprise suisse active dans le monde entier depuis plus de 100 ans. Nous développons et fabriquons des outils haut de gamme sous les marques Ifanger, MicroTurn et Randag. Nos produits sont riches d'expérience et d'innovation et répondent parfaitement aux exigences posées par les matériaux et les machines de nouvelles générations.

The future has its own history

Ifanger AG is a Swiss company that has been active worldwide for more than 100 years. We develop and manufacture high-quality cutting tools under the Ifanger, MicroTurn and Randag brands. Our products stand for rich experience and pioneering innovations. They are perfectly matched to the requirements of the latest generation of materials and machines.

Technische Hinweise	Indications techniques	Technical indications	298–305
<ul style="list-style-type: none"> • Bezeichnungserklärungen • Rändelteilung in mm und Rändelarten • Allgemeine Hinweise zum Rändeldrücken • Auftretende Rändelfräsprobleme und deren Lösung • Rändelungen am Werkstück 	<ul style="list-style-type: none"> • Explications des désignations • Pas du moletage en mm et types de moletage • Indications générales au sujet du moletage par déformation • Problèmes de moletage par fraisage et leurs solutions • Moletage de la pièce à usiner 	<ul style="list-style-type: none"> • Identification • Pitches of knurls in mm and types of knurls • General directions for knurling by deformation • Trouble-shooting guide when knurling by cutting • Knurls at the workpiece 	<ul style="list-style-type: none"> 298–299 300–301 302 303 304–305
Rändelrollen	Molettes	Rolls for knurling	306-310
<ul style="list-style-type: none"> • Rändeldrückrollen RD.. • Rändelfräsrollen RF.. • Rändelrollen aus Hartmetall 	<ul style="list-style-type: none"> • Molettes pour moletage par déformation RD.. • Molettes pour moletage par fraisage RF.. • Molettes en métal dur 	<ul style="list-style-type: none"> • Rolls for knurling by deformation RD.. • Rolls for knurling by cutting RF.. • Solid carbide knurling rolls 	<ul style="list-style-type: none"> 306–307 308–309 310
Rändelhalter zum Drücken	Porte-molettes pour moletage par déformation	Knurling roll holders for knurling by deformation	311–317
<ul style="list-style-type: none"> • Einfach-Rändeldrückhalter RASN • Rändeldrückhalter RCSL • Rändeldrückhalter RCSR • Rändeldrückhalter RCDL • Rändeldrückhalter RCDR • Rändeldrückhalter RTDL für TORNOS-Automaten • Verstellbarer Rändeldrückhalter 	<ul style="list-style-type: none"> • Porte-molettes simple RASN • Porte-molettes RCSL • Porte-molettes RCSR • Porte-molettes RCDL • Porte-molettes RCDR • Porte-molettes RTDL pour tours automatiques TORNOS • Porte-molettes réglable pour moletage par déformation 	<ul style="list-style-type: none"> • Conventional knurling roll holder RASN • Knurling roll holder RCSL • Knurling roll holder RCSR • Knurling roll holder RCDL • Knurling roll holder RCDR • Knurling roll holder RTDL for TORNOS screw machines • Adjustable knurling roll holder for knurling by deformation 	<ul style="list-style-type: none"> 311 312 313 314 315 316 317
Rändelhalter zum Fräsen	Porte-molettes pour moletage par fraisage	Knurling roll holders for knurling by cutting	318–322
<ul style="list-style-type: none"> • Rändelfräshalter RZSL • Rändelfräshalter RZSR-K/RZSR • Rändelfräshalter RKDL • Rändelfräshalter RKDR-K/RKDR • Rändelfräshalter RRTN 	<ul style="list-style-type: none"> • Porte-molettes RZSL • Porte-molettes RZSR-K/RZSR • Porte-molettes RKDL • Porte-molettes RKDR-K/RKDR • Porte-molettes RRTN 	<ul style="list-style-type: none"> • Knurling roll holder RZSL • Knurling roll holder RZSR-K/RZSR • Knurling roll holder RKDL • Knurling roll holder RKDR-K/RKDR • Knurling roll holder RRTN 	<ul style="list-style-type: none"> 318 319 320 321 330



Randrieren

Vorteile der Rändelwerkzeuge

- Grosses Angebot von Haltern speziell für die Décolletage.
- Platz sparende Bauweise, dadurch Einsatz in allen Langdrehmaschinen möglich.
- Lange Standzeiten der Rändelrollen dank fein gefrästen, spitzen Profilen.
- Feine Abstufung der Standardteilungen von 0,3 bis 2,0 mm.
- Gleiche Rändelrollen zum Fräsen von Längs- und Kreuzrändeln.
- Einfacher Rollenwechsel im in der Maschine eingebauten Halter.
- Lange Lebensdauer der Halter dank einsatzgehärteter Oberflächen.

Moletage

Les avantages des outils de moletage

- Grande offre de porte-outils spéciaux pour le décolletage.
- Possibilité d'utilisation sur tous les tours automatiques à poupée mobile, grâce à la construction favorisant l'espace d'outil.
- Longue durée de vie des molettes, grâce au fraisage fin du profil.
- Echelonnement fin des pas standards de 0,3 jusqu'à 2,0 mm.
- Molettes identiques pour fraisage longitudinal et croisé.
- Simplicité de changement de molettes sur l'outil monté sur la machine.
- Longue durée de vie du porte-outil grâce aux surfaces cémentées et trempées.

Knurling

The advantages of knurling tools

- Large range of holders especially for forming.
- Space-saving construction and therefore suitable for all type of sliding headstock lathes.
- Long running life of knurling rolls due to sharply pointed and finely milled profiles.
- Fine graduation of standard pitches from 0.3 to 2.0 mm.
- Same knurling rolls for cutting longitudinal and cross knurls.
- Easy change of rolls in the holder which is fixed in the machine.
- Long lifespan of holders thanks to case-hardened surfaces.





Leistungsfähig und innovativ

Durch den Einsatz modernster Technologie bietet die Ifanger AG innovative, benutzerfreundliche und zuverlässige Zerspanungswerkzeuge an. Sie garantieren nicht nur die gewünschte Anwendung, sie erfüllen auch technische, funktionale und ästhetische Aspekte.

Performant et innovant

Par la mise en jeu de la technologie la plus moderne, Ifanger SA vous propose des outils d'enlèvement de copeaux innovants, faciles à utiliser et totalement fiables qui ne se contentent pas d'assurer l'usinage requis – mais qui remplissent aussi les aspects techniques, fonctionnels et esthétiques.

Efficient and innovative

By using state-of-the-art technology, Ifanger AG can offer innovative, user-friendly and reliable cutting tools. They do not only guarantee to do the job, they are technically, functionally and aesthetically top of the range.



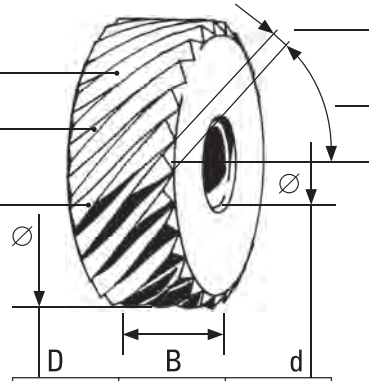
1. Rändelrollen

Molettes

Knurling rolls

RANDAG
 Randierwerkzeug
 Appareil à moleter
 Knurling tool

R



D = Rändelrückrolle mit Facetten
 Molette pour déformation avec chanfreins
 Knurling roll with chamfers deformation type

F = Rändelfrässrolle
 Molette pour fraisage
 Knurling roll cutting type

A = Zahnung gerade
 Denture droite
 Longitudinal indentation

B = Zahnung schräg
 Denture oblique
 Angular indentation

G = Zahnung links/rechts
 Denture croisée
 Cross indentation

A = 90° gerade
 90° droit
 90° straight

E = Spitzen erhöht
 Croisé saillant
 Points up

L = links
 à gauche
 left-hand

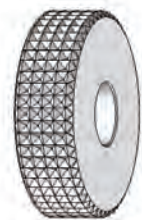
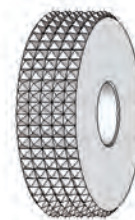
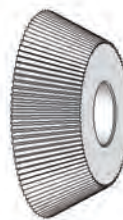
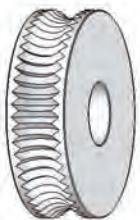
R = rechts
 à droite
 right-hand

V = Spitzen vertieft
 Croisé creux
 Points indented

Schneidstoff
 Matière de l'outil
 Cutting material

Teilung
 Pas
 Pitch

Spiralwinkel
 Angle d'hélice
 Spiral angle



Sonderrollen nach anderen Normen und nach Kundenzeichnungen teilweise ab Lager oder kurzfristig erhältlich.

Molettes spéciales selon normes différentes ou d'après dessin du client disponibles en partie du stock ou à court terme.

Special knurling rolls according to different standards or to customer's drawing available ex stock or at short-term.

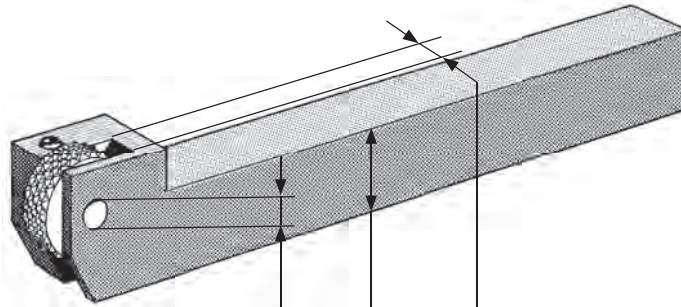
2. Rändelhalter

Porte-molettes

Knurling roll holders

RANDAG

Randierwerkzeug
Appareil à moleter
Knurling tool



R



Rändeldrückhalter
Porte-molettes pour moletage par déformation
Knurling roll holder for knurling by deformation

A Einfachhalter
Porte-molettes simple
Conventional knurling roll holder

C für Automaten
pour tours automatiques
for screw machines

T für TORNOS-Automaten
pour tours automatiques TORNOS
for TORNOS screw machines

V mit verstellbaren Rollen
avec molettes réglables
with adjustable rolls

Rändelfräshalter
Porte-molettes pour moletage par fraisage
Knurling roll holder for knurling by cutting

K für Kreuzrändel
pour moletage croisé
for cross knurl

R für Revolver-Drehmaschinen
pour tours revolver
for turret lathes

Z für Längsrändel
pour moletage longitudinal
for longitudinal knurl

L für linkslaufende Automaten
(Spitzenhöhe auf Werkzeugaufgabe)
pour automates à marche à gauche
(hauteur de pointe sur appui du porte-outil)
for screw machines with left-hand spindle rotation
(height of centre at bottom of shank)

R für rechtslaufende Maschinen
(Spitzenhöhe auf Schaftoberkante)
pour machines à marche à droite
(hauteur de pointe sur le bord supérieur du barreau)
for machines with right-hand spindle rotation
(height of centre at top of shank)

N neutral
neutre
neutral

Anzahl Rollen
Nombre de molettes
Number of knurling rolls

D 2 Rollen / 2 molettes / 2 rolls

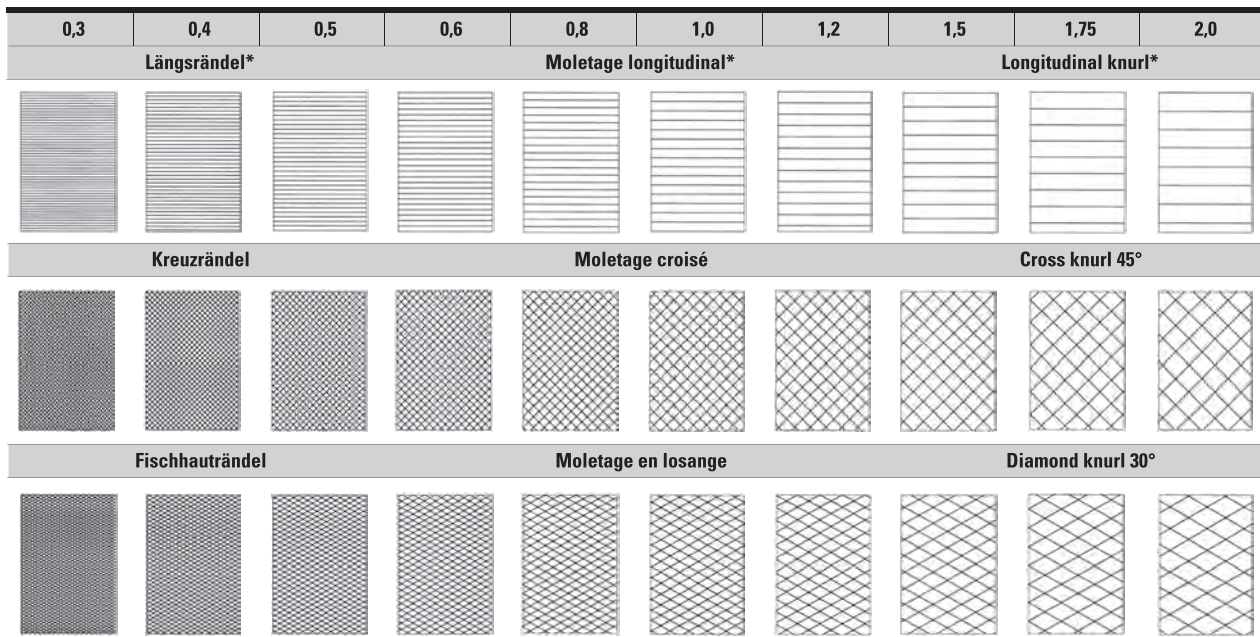
S 1 Rolle / 1 molette / 1 roll

T 3 Rollen / 3 molettes / 3 rolls

Achsdurchmesser
Diamètre de l'axe
Diameter of pin

Rollenbreite
Largeur de molette
Width of knurling roll

Schafthöhe
Hauteur du barreau
Thickness of shank



* 0,1 / 0,15 / 0,2 / 0,25 / 0,35 / 0,45 auf Anfrage / sur demande / on request

Materialverdrängung (Richtwerte) Teilung Pas Pitch	Déformation de la matière (valeurs indicatives)										Growth of diam. of workpiece (approx. value)								
	0,3		0,4		0,5		0,6		0,8		1,0		1,2		1,5		2,0		
*Zahnung *Denture *Indentation	A/B	G	A/B	G	A/B	G	A/B	G	A/B	G	A/B	G	A/B	G	A/B	G	A/B	G	
Material Matière Material	∅	Vergrößerung + mm				Augmentation + mm				Growth + mm									
Automatenstähle Aciers de décolletage Free cutting steel	10	0,09	0,05	0,14	0,10	0,18	0,12	0,20	0,15	0,22	0,16	-	-	-	-	-	-	-	-
	20	0,11	0,06	0,15	0,10	0,21	0,12	0,27	0,19	0,34	0,22	0,42	0,28	0,46	0,33	0,53	0,42	0,61	0,50
Rostfreie Stähle Aciers inoxydables Stainless steel	10	0,10	0,06	0,11	0,08	0,14	0,10	0,17	0,12	0,20	0,13	-	-	-	-	-	-	-	-
	20	0,14	0,06	0,18	0,10	0,22	0,14	0,26	0,18	0,35	0,23	0,48	0,28	0,54	0,34	0,60	0,44	-	-
Messing Laiton Brass	5	0,10	0,06	0,14	0,08	0,18	0,10	0,22	0,15	0,26	0,16	-	-	-	-	-	-	-	-
	10	0,10	0,07	0,15	0,10	0,20	0,15	0,24	0,18	0,30	0,22	0,35	0,28	0,41	0,32	-	-	-	-
Aluminium Aluminium Aluminium	5	0,10	0,06	0,12	0,08	0,18	0,11	0,22	0,15	0,26	0,21	-	-	-	-	-	-	-	-
	10	0,10	0,06	0,14	0,09	0,19	0,18	0,22	0,24	0,38	0,30	0,42	0,33	0,48	0,38	0,57	0,45	0,66	0,51

* siehe Seite 6

* voir page 6

* see page 6

Schnitt-Richtwerte		Valeurs de coupe approx.				Approx. cutting values			
Werkstoff Matière à usiner Material to be machined	Rollen- Ø Ø de molette Ø of knurling roll	Werkstück- Ø Ø de pièce à usiner Ø of workpiece		Werkstück- Ø Ø de pièce à usiner Ø of workpiece		Werkstück- Ø Ø de pièce à usiner Ø of workpiece		Werkstück- Ø Ø de pièce à usiner Ø of workpiece	
		V	s	V	s	V	s	V	s
		m/min	mm/U / t./ rev.	m/min	mm/U / t./ rev.	m/min	mm/U / t./ rev.	m/min	mm/U / t./ rev.
Stähle bis 600 N/mm ² Aciers jusqu'à 600 N/mm ² Steel up to 600 N/mm ²	8,9 – 11	30	0,05 – 0,08						
	14,5 – 15	40	0,07 – 0,09	40	0,07 – 0,09				
	20 – 21,5	60	0,07 – 0,14	60	0,07 – 0,15	55	0,07 – 0,15	50	0,10 – 0,20
	25			100	0,10 – 0,20	100	0,10 – 0,20		
Stähle bis 900 N/mm ² Aciers jusqu'à 900 N/mm ² Steel up to 900 N/mm ²	8,9 – 11	25	0,04 – 0,07						
	14,5 – 15	35	0,06 – 0,08	30	0,06 – 0,08				
	20 – 21,5	45	0,06 – 0,12	45	0,06 – 0,12	40	0,06 – 0,12	50	0,08 – 0,16
	25			60	0,08 – 0,16	55	0,08 – 0,16		
Nichtrostende Stähle Aciers inoxydables Stainless steel	8,9 – 11	20	0,04 – 0,06						
	14,5 – 15	30	0,06 – 0,08	28	0,06 – 0,08				
	20 – 21,5	40	0,06 – 0,12	35	0,06 – 0,12	32	0,06 – 0,12	40	0,08 – 0,17
	25			45	0,08 – 0,17	42	0,08 – 0,17		
Grauguss Fonte grise Grey cast iron	8,9 – 11	22	0,04 – 0,06						
	14,5 – 15	30	0,06 – 0,08	28	0,06 – 0,08				
	20 – 21,5	40	0,06 – 0,12	35	0,06 – 0,12	32	0,06 – 0,12	40	0,08 – 0,17
	25			45	0,08 – 0,17	42	0,08 – 0,17		
Stahlguss Aciers moulés Cast steel	8,9 – 11	25	0,04 – 0,07						
	14,5 – 15	35	0,05 – 0,08	30	0,05 – 0,08				
	20 – 21,5	45	0,06 – 0,12	45	0,06 – 0,12	40	0,06 – 0,12	60	0,08 – 0,15
	25			90	0,08 – 0,15	65	0,08 – 0,15		
Messing 58 Laiton 58 Brass 58	8,9 – 11	60	0,06 – 0,10						
	14,5 – 15	70	0,08 – 0,12	60	0,08 – 0,12				
	20 – 21,5	100	0,08 – 0,20	100	0,08 – 0,20	90	0,08 – 0,20	115	0,10 – 0,20
	25			140	0,10 – 0,20	130	0,10 – 0,20		
Messing 60 Laiton 60 Brass 60	8,9 – 11	50	0,05 – 0,08						
	14,5 – 15	60	0,06 – 0,10	60	0,06 – 0,10				
	20 – 21,5	90	0,07 – 0,15	90	0,07 – 0,15	80	0,07 – 0,15	105	0,08 – 0,20
	25			125	0,08 – 0,20	120	0,08 – 0,20		
Aluminium, Kupfer Aluminium, cuivre Aluminium, copper	8,9 – 11	70	0,06 – 0,13						
	14,5 – 15	80	0,08 – 0,18	70	0,08 – 0,18				
	20 – 21,5	120	0,10 – 0,25	110	0,10 – 0,25	100	0,10 – 0,25	125	0,10 – 0,35
	25			150	0,10 – 0,35	135	0,10 – 0,35		
Bronze Bronze Bronze	8,9 – 11	35	0,05 – 0,08						
	14,5 – 15	45	0,07 – 0,09	40	0,07 – 0,09				
	20 – 21,5	60	0,07 – 0,14	60	0,07 – 0,14	55	0,07 – 0,14	80	0,10 – 0,18
	25			80	0,10 – 0,18	86	0,10 – 0,18		

V= Schnittgeschwindigkeit / Vitesse de coupe / Cutting speed

s = Vorschub / Avance / Feed

Einstellen des Halters

- Beim Einstechrändeln Halter 90° zum Werkstück einspannen.
- Beim Längsrändeln kann der Halter bis zu 88° zum Werkstück eingespannt werden, um dank dem Freiwinkel von bis zu 2° das Aufstauchen des Werkstoffes zu vermindern.
- Für korrektes Rändelbild auf Werkstück Rändelhalter genau auf Spitzenhöhe einspannen.

Erzeugen des Rändels

- Kurze Rändel: Einstechen, Profillänge entspricht Rollenbreite.
- Lange Rändel: Zuerst auf Profiltiefe einstecken, dann mit Längsvorschub auf gewünschte Länge bringen. Dazu unbedingt facettierte Rollen verwenden.
- Zähne und zähnharte Werkstoffe: Qualität des Rändels und Standzeit der Rändelrolle können mit spezieller Hartstoffbeschichtung der Rolle erheblich verbessert werden. Kontaktieren Sie unseren Kundendienst.

Vorschubwerte

- Beim Einstechrändeln: zügig mit Vorschub 25–50% der Teilung pro Umdrehung auf Profiltiefe fahren.
- Beim Längsrändeln: Vorschub 0,15–0,3 mm/U.

Schnittgeschwindigkeiten

- Rändelrücken ist ein reiner Umformvorgang. Geeignete Umfangsgeschwindigkeit des Werkstückes ca. 20 m/min, für Werkstoffe hoher Festigkeit entsprechend reduzieren.

Auswahl der Rändelrollen

- RAA: gerader Rändel mit gerader Rändelrolle RDAA.
- RBL: Linksrändel mit rechter Rändelrolle RDBR.
- RBR: Rechtsrändel mit linker Rändelrolle RDBL.
- RGE: gekreuzt erhöhter Rändel entweder mit Rändelrolle RDGV oder je einer Rändelrolle RDBL und RDBR.
- RGV: gekreuzt vertiefter Rändel mit Rändelrolle RDGE, kann nur gedrückt werden.
- Gekreuzte Rändelrollen können nur zum Einstechrändeln verwendet werden.

Konische Rändel

Konische Rändel werden mit auf das Werkstück abgestimmten konischen Rändelrollen durch Einstechrändeln gefertigt. Diese Rollen werden nur auf Kundenwunsch hergestellt. Dazu benötigen wir eine Werkstückzeichnung. Wichtige Parameter eines kegeligen Rändels sind: grosser Kegeldurchmesser, Kegelbreite, Kegelwinkel (gesamter Kegel), Teilung am mittleren Kegeldurchmesser.

Stirnrändel

Stirnrändel werden mit konischen Rändelrollen hergestellt (siehe Abschnitt konische Rändel).

Réglage du porte-molettes

- Lors de moletages en plongée, serrer le porte-molettes perpendiculairement à la pièce à usiner.
- Lors de moletages en chariotant, le porte-molettes peut être serré jusqu'à 88° par rapport à la pièce à usiner. De cette manière, le refoulement de matière est réduit grâce au dégagement des 2°.
- Pour obtenir un moletage propre sur la pièce, il est impératif de placer le porte-molettes exactement à la hauteur de pointe.

Production du moletage

- Moletages courts: plonger, la longueur du profil correspond à la largeur de la molette.
- Moletages longs: plonger à la profondeur du profil, ensuite atteindre la longueur voulue avec l'avance longitudinale. Utiliser absolument des molettes chanfreinées.
- Matériaux tenaces et durs: la qualité du moletage et la longévité de la molette peuvent être nettement améliorées avec un revêtement réduisant l'usure. Contacter notre service clients.

Avance

- Lors de moletage en plongée: plonger franchement avec une avance par tour de 25% à 50% du pas jusqu'à la profondeur du profil.
- Lors de moletage en avançant: avance longitudinale 0,15 à 0,3 mm/tour.

Vitesse de coupe

- Le moletage par déformation est un procédé de transformation à froid. Une vitesse circumférentielle de la pièce à usiner d'environ 20 m/min est recommandée. Pour des matériaux à haute ténacité réduire la vitesse.

Choix de molettes

- RAA: moletage droit avec molette droite RDAA.
- RBL: moletage à gauche avec molette à droite RDBR.
- RBR: moletage à droite avec molette à gauche RDBL.
- RGE: moletage croisé à pointes saillantes avec molette RDGV ou une paire de molettes RDBL et RDBR.
- RGV: moletage croisé en creux avec molette RDGE, peut uniquement être produit par déformation.
- Les molettes croisées ne peuvent pas être utilisées en chariotage.

Moletages coniques

Les moletages coniques se font par moletage en plongée avec des molettes coniques fabriquées d'après les données de la pièce à usiner. Ces molettes sont produites sur demande. Pour ce faire, le dessin de la pièce à usiner est nécessaire. Les paramètres importants d'un moletage conique sont les suivants: grand diamètre du cône, largeur du cône, angle du cône (cône complet), le pas est défini sur le diamètre médiant du cône.

Moletage de face

Les moletages de face sont également réalisés avec des molettes coniques (voir paragraphe moletages coniques).

Adjusting the knurling holder

- When knurling by plunging, holder to be set at 90 degrees to the workpiece.
- When plunging for longitudinal knurls, the holder can be set up to 88 degrees to the workpiece. The clearance of up to 2 degrees will reduce jumping of the material.
- To get a clean knurl on the workpiece, set the holder exactly on height of centre.

Producing a knurl

- Short knurls: Plunge, length of profile equal width of roll.
- Long knurls: Plunge down to depth of profile, then use longitudinal feed to reach required length. The use of rolls with a chamfer is compulsory.
- Tough and tenace material: Quality of knurl and tool life of knurling roll are improved considerably by applying a wear-resisting coating on the roll. Contact our servicing department.

Rates of feed

- Plunge knurling: Plunge down without hesitation to depth of profile at a feed rate of 25–50% of the pitch.
- Longitudinal knurling: Feed 0.15–0.3 mm/rev.

Cutting speed

- Knurling by deformation is a pure deformation process. Suitable circumferential speed approx. 20 m/min, for material of high tenacity reduce speed accordingly.

Selection of knurling rolls

- RAA: Longitudinal knurl with roll of longitudinal toothing RDAA.
- RBL: Left-handed knurl with right-handed roll RDBR.
- RBR: Right-handed knurl with left-handed roll RDBL.
- RGE: Cross, points up knurl, either with roll RDGV or with one of each roll RDBL and RDBR.
- RGV: Cross indented knurl with roll RDGE, can only be produced by deformation.
- Cross knurling rolls can only be used for knurling by plunging.

Conical knurls

Conical knurls are being manufactured by plunge knurling with conical knurling rolls manufactured in accordance with the requirements of the workpiece. These rolls are only produced on request of a customer. To do so, we need a drawing of the workpiece. Important parameters of a conical knurl are: large diameter of the cone, width of the cone, angle of the cone (complete cone), pitch on the middle diameter of the cone.

Face knurls

Face knurls are being produced with conical knurling rolls (see section conical knurls).

Drall im Randrierbild

Halter RZSL und RZSR:

Mittels Verstellerschraube beweglichen Kopf nach oben oder unten verstellen, bis Drall aufgehoben ist. Arretierschraube festziehen.

Aufgerissene Profilflanken

Halter RZS., RKD. und RRTN:

Bei stumpfen Schneidkanten Rolle wenden oder ersetzen. Abgespannte Frässpäne mit Schneidöl oder -emulsion wegspülen.

Ungleiche Schnitttiefen bei Kreuzrandrierungen

Halter RKD.:

Rollenposition kontrollieren.
Spitzenhöhe genau einstellen.

Überschneidendes Rändelbild

Halter RKD.:

Schneller auf Rändeltiefe einfahren.

Abgeflachte Rändelspitzen

Halter RRTN:

Werkstückachse und Rändelfräsachse parallel stellen. Rollenposition kontrollieren und Andreh- \emptyset genau beachten (siehe Seite 30).

Ausbrechen der Zähne auf Rändelfräsrollen

Rändelfräswerkzeug immer nur in Spindelstockrichtung einsetzen; evtl. Schnitttiefe verringern, evtl. Vorschub reduzieren. Auf Anfrage sind speziell zum Fräsen facettierte Rollen kurzfristig lieferbar.

Angefressene Laufbüchsen oder Rändelrollenbohrungen

Laufbüchsen und Rändelrollenbohrungen mit geeigneter Paste schmieren (Fett mit Teflon-Additiven oder Molykote).

Rändelrollen lösen sich

Halter RRTN:

Drehrichtung von rechts (M3) auf links (M4) wechseln oder Vorschub beim Zurückfahren reduzieren.

Torsion du moletage

Porte-molettes RZSL et RZSR:

régler en hauteur la tête mobile avec la vis de réglage jusqu'à ce que la torsion soit éliminée. Bloquer la vis de fixation.

Flancs du profil abîmés

Porte-molettes RZS., RKD. et RRTN:

en cas d'usure du tranchant de la molette, tourner ou remplacer la molette. Bien évacuer les copeaux au moyen d'huile de coupe ou d'émulsion.

Profondeur de coupe inégale des moletages croisés

Porte-molettes RKD.:

contrôler la position des molettes. Ajuster la hauteur de pointe.

Moletages cisailés

Porte-molettes RKD.:

plonger plus rapidement à la profondeur complète du moletage.

Pointes du moletage aplaties

Porte-molettes RRTN:

placer en position parallèle l'axe de la pièce à usiner et l'axe du porte-molettes. Contrôler la position des molettes, vérifier minutieusement le \emptyset d'engagement de la pièce de réglage (voir page 30).

Ebréchures des dents des molettes par fraisage

Utiliser l'outil pour moletage par fraisage toujours en direction du mandrin; évent. diminuer la profondeur de coupe, évent. réduire l'avance. Des molettes de fraisage chanfreinées réalisées sur mesure sont livrables rapidement.

Douille de guidage ou alésage de la molette grippé

Graisser la douille de guidage et d'alésage de la molette avec un produit approprié (graisseau Téflon ou Molykote).

Molettes se dévissent

Porte-molettes RRTN:

inverser le sens de rotation de droite (M3) à gauche (M4) ou réduire l'avance en reculant.

Twisted knurling pattern

RZSL and RZSR holders:

Reset the height of the adjustable roll holder head. Tighten locking screw.

Rough surfaces

Knurling roll holders RZS., RKD. and RRTN:

The problem is a result of worn leading edge. Turn over or replace knurling roll. Flush away chips with a generous amount of cutting oil or cutting emulsion.

Uneven depth of cross knurls

Knurling roll holder RKD.:

Check the alignment of knurling rolls. Adjust the centre setting.

Overcutting of main pattern

Knurling roll holder RKD.:

Increase feed-in and roll engagement.

Flattened top of knurl

Knurling roll holder RRTN:

Re-check and correct the setting according to instructions on page 30.

Broken edges on cutting type rolls

Always operate towards the spindle, reduce depth of cut and/or feed. Knurling rolls with chamfer for knurling by cutting can be supplied at short notice.

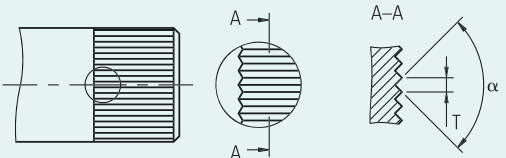
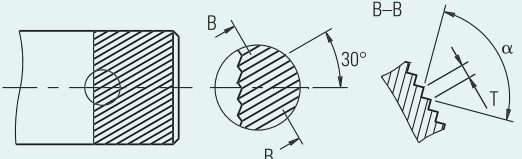
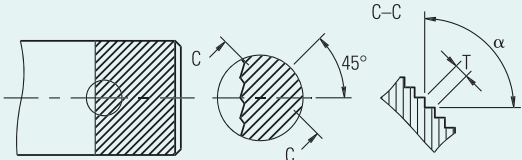
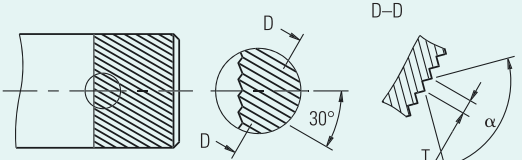
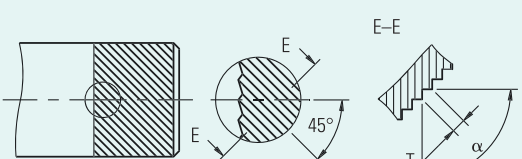
Frozen bushings and knurling rolls

Always apply a suitable lubricant (Grease with Teflon additives or graphite based) to bushings and bores.

Knurling rolls untie themselves

Holders RRTN:

Change sense of rotation from right (M3) to left (M4) or reduce the feed during moving back.

	Bezeichnung nach DIN 82 Désignation selon DIN 82 Knurls according to DIN 82	Bezeichnung nach ISO 13444 Désignation selon ISO 13444 Knurls according to ISO 13444
	<p>RAA</p>	<p>Typ A Type A Type A</p>
 	<p>RBL</p> <p>45° Linksrändel nicht nach Norm 45° moletage à gauche diffère de la norme Left-hand knurl 45° not according to standard</p>	<p>30° Linksrändel nicht genormt 30° moletage à gauche non normalisé Left-hand knurl 30° not standard</p> <p>45° Linksrändel nicht genormt 45° moletage à gauche non normalisé Left-hand knurl 45° not standard</p>
 	<p>RBR</p> <p>45° Rechtsrändel nicht nach Norm 45° moletage à droite diffère de la norme Right-hand knurl 45° not according to standard</p>	<p>30° Rechtsrändel nicht genormt 30° moletage à droite non normalisé Right-hand knurl 30° not standard</p> <p>45° Rechtsrändel nicht genormt 45° moletage à droite non normalisé Right-hand knurl 45° not standard</p>

Hinweise zur Herstellung obiger Rändel:

- Diese Rändel werden mit 1 Rolle gedrückt oder gefräst.
- Der Profilwinkel α beträgt in der Regel 90°, kann aber in Ausnahmefällen 105° sein.
- Bezeichnung einer geraden Rändelung mit Teilung 0,8 mm: RAA-0,8 DIN82 oder ISO 13444 - A p0,8
- Empfohlene Teilungen siehe Seite 13.

Indications pour la fabrication des moletages ci-dessus:

- Ces moletages sont formés ou fraisés avec 1 molette.
- L'angle de profil α est en général de 90°, exceptionnellement de 105°.
- Désignation d'un moletage droit avec pas de 0,8 mm: RAA-0,8 DIN82 ou ISO 13444 - A p0,8
- Pas recommandés voir page 13.

Directions for the production of above knurls:

- This knurls will be deformed or cutted by 1 roll.
- The profilangle α is in general 90°, but may be exceptionally 105°.
- Designation of a straight knurl with pitch of 0.8 mm: RAA-0,8 DIN82 or ISO 13444 - A p0,8
- Recommended pitches see page 13.

Bezeichnung nach DIN 82
Désignation selon DIN 82
Knurls according to DIN 82

Bezeichnung nach ISO 13444
Désignation selon ISO 13444
Knurls according to ISO 13444

	<p>RGE</p> <p>45° Kreuzrändel erhöht, nicht nach Norm</p> <p>45° moletage croisé saillant diffère de la norme</p> <p>Cross knurl 45° not according to standard</p>	<p>Typ B Type B Type B</p> <p>45° Kreuzrändel erhöht, nicht nach Norm</p> <p>45° moletage croisé saillant diffère de la norme</p> <p>Cross knurl 45° not according to standard</p>
	<p>RGV</p> <p>45° Kreuzrändel vertieft, nicht nach Norm</p> <p>45° moletage croisé creux diffère de la norme</p> <p>Cross knurl 45° impressed, not according to standard</p>	<p>30° Fischhauträndel vertieft, nicht nach Norm</p> <p>30° moletage en losange creux non normalisé</p> <p>Diamond knurl 30° impressed, not according to standard</p> <p>45° Kreuzrändel vertieft, nicht genormt</p> <p>45° moletage croisé creux non normalisé</p> <p>Cross knurl 45° impressed, not standard</p>

Hinweise zur Herstellung obiger Rändel:

- Erhöhte Rändel werden mit 2 Rollen gefräst oder mit 1 oder 2 Rollen gedrückt.
- Vertiefte Rändel können nur mit 1 Rolle gedrückt werden.
- Der Profilwinkel beträgt in der Regel 90°, kann aber in Ausnahmefällen 105° sein.
- Bezeichnung einer gekreuzten erhöhten Rändelung mit Teilung 0,8 mm:
RGE-0,8 DIN82 oder ISO 13444 - A p0,8

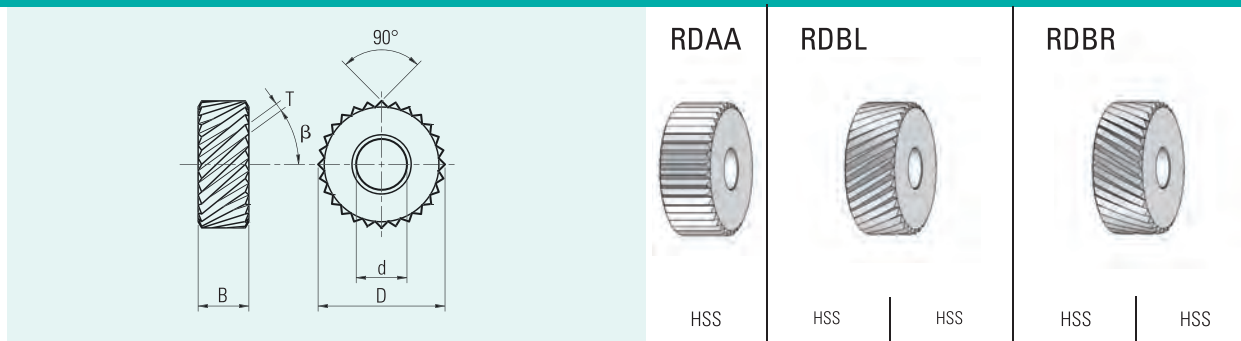
Indications pour la fabrication des moletages ci-dessus:

- Moletage saillant fraisé avec 2 molettes ou déformé avec 1 ou 2 molettes.
- Moletage creux déformé seulement avec 1 molette.
- L'angle de profil est en général de 90°, exceptionnellement de 105°.
- Désignation d'un moletage saillant et croisé avec un pas de 0,8 mm: RGE-0,8 DIN82 ou ISO 13444 - A p0,8

Directions for the production of above knurls:

- Raised knurls will be cut by 2 rolls or deformed by 1 or 2 rolls.
- Impressed knurls will be deformed by 1 roll only.
- The profilangle is in general 90°, but may be exceptionally 105°.
- Description of a raised, crossed knurl with a pitch of 0.8 mm:
RGE-0,8 DIN82 or ISO 13444 - A p0,8

Empfohlene Teilungen	Pas recommandés					Pitches recommended				
	T für Breite.. / T pour largeur.. / T for width..									
∅	2 ... <4	4 ... <8	8 ... <16	16 ... <32	... <32	2 ... <4	4 ... <8	8 ... <16	16 ... <32	... <32
... ≤3	0,4	0,4	0,5	-	-	0,4	0,4	0,5	-	-
>3 ... ≤6	0,4	0,5	0,6	0,6	0,6	0,4	0,5	0,6	0,6	0,6
>6 ... ≤10	0,5	0,6	0,6	0,8	0,8	0,5	0,6	0,6	0,8	0,8
>10 ... ≤20	0,6	0,6	0,8	1	1	0,6	0,6	0,8	1	1
>20 ... ≤30	0,6	0,8	0,8	1	1	0,6	0,8	0,8	1	1
>30 ... ≤60	0,8	0,8	1	1,2	1,2	0,8	0,8	1	1,2	1,2
>60 ... ≤100	0,8	1	1,2	1,2	1,6	0,8	1	1,2	1,2	1,6
>100 ...	-	1	1,6	1,6	1,6	-	1	1,6	1,6	1,6



Spiralwinkel β Typ	Angle d'hélice β Type	Spiral angle β Type	RDAA HSS	RDBL HSS	RDBL HSS	RDBR HSS	RDBR HSS
			0° AA	30° BL	45° BL	30° BR	45° BR

Rändelrollentyp		Type de molette		Type of roll		RDAA - ...	RDBL - ...	RDBL - ...	RDBR - ...	RDBR - ...
D	B	d	T= Teilungen	Pas	Pitches	Ident. No.	Teilung - Material Pas - Matière Dimension - β - Pitch - Material			
			0,3	0,4	0,5			0,6	0,7	0,8	1,0	1,2	1,5	1,75	2,0
8	3	3	●	●	●	●	●	●	●	●
8	4	3	●	●	●	●	●	●	●	●
10	2	3	●	●	●	●	●	●	●	●
10	3	3	●	●	●	●	●	●	●	●
10	4	3	●	●	●	●	●	●	●	●
10	4	4	●	●	●	●	●	●	●	●
10	4	4	●	●	●	●	●	●	●	●
12	4	4	●	●	●	●	●	●	●	●
15	4	4	●	●	●	●	●	●	●	●
15	5	4	●	●	●	●	●	●	●	●
15	5	5	○	●	●	●	●	●	○	●
15	6	4	○	●	●	●	●	●	○	●
15	6	5	○	●	●	●	●	●	○	●
20	6	6	○	●	●	●	●	●	○	●
20	8	6	○	●	●	●	●	●	○	●
20	10	6	●	●	●	●	●	●	●	●
25	8	6	●	●	●	●	●	●	●	●

* scharfkantig

** kleinere Teilungen siehe Seite 8

* à angles vifs

** pour des pas plus fins, voir page 8

* square angled

** for smaller pitches see page 8

- Lieferbar ab Lager
- Lieferfrist auf Anfrage

Andere Abmessungen und Spiralwinkel β sowie TiN- oder WC/C-beschichtete Rändeldrückrollen kurzfristig, teilweise ab Lager erhältlich.

Rändeldrückhalter siehe Seiten 19 – 25.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Bestell-Nr.: entsprechenden Rändelrollentyp und Ident.-Nr. (Dimension, Spiralwinkel β , Teilung, Material) in dieser Reihenfolge zusammenfügen, z.B. RDBL-08 03 03-45-0,5-HSS

- Livrable du stock
- Délai de livraison sur demande

Autres dimensions et angles d'hélice β ainsi que molettes pour moletage par déformation revêtues de TiN ou WC/C livrables à brève échéance ou du stock.

Porte-molettes pour moletage par déformation voir pages 19-25.

Indications générales au sujet du moletage par déformation en page 10.

Référence de commande: type de molettes suivi des dimensions (diamètre, angle d'hélice β , pas, matière), par exemple: RDBL-08 03 03-45-0,5-HSS

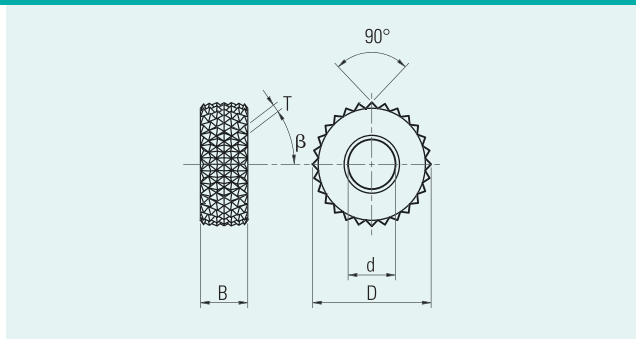
- Available ex stock
- Delivery time on request

Deformation type knurling rolls of other diameters or spiral angles β or TiN- or WC/C-coated available at short notice, or ex stock.

Knurling roll holders for knurling by deformation on pages 19 – 25.

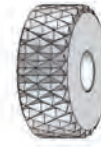
General directions for knurling by deformation on page 10.

Order number: Add ident. No. to type of roll (sequences of codes are type of roll, dimension, angle β , pitch, material), e.g.: RDBL-08 03 03-45-0,5-HSS



RDGE

RDGV



HSS

HSS

HSS

HSS

Spiralwinkel β
Typ

Angle d'hélice β
Type

Spiral angle β
Type

30°
GE

45°
GE

30°
GV

45°
GV

Rändelrollentyp			Type de molette						Type of roll		RDGE – ...	RDGE – ...	RDGV – ...	RDGV – ...
D	B	d	T = Teilungen						Ident. No.	Teilung - Material Pas - Matière Dimension - β - Pitch - Matière				
			0,3	0,4	0,5	0,6	0,7	0,8							1,0	1,2	1,5	1,75	2,0
8	3	3	●	●	●	●	●	●	●	..- 08 03 03 -...-...- HSS	●	●	○	○
8	4	3	●	●	●	●	●	●	●	..- 08 04 03 -...-...- HSS	●	●	●	●
10	3	3	●	●	●	●	●	●	●	..- 10 03 03 -...-...- HSS	○	●	●	●
10	4	3	●	●	●	●	●	●	○	..- 10 04 03 -...-...- HSS	●	●	●	●
10	4	4	●	●	●	●	●	●	●	..- 10 04 04 -...-...- HSS	●	●	●	●
12	4	4	●	●	●	●	●	●	●	..- 12 04 04 -...-...- HSS	●	●	●	●
15	4	4	●	●	●	○	●	●	●	..- 15 04 04 -...-...- HSS	●	●	●	●
15	5	4	●	●	●	○	●	●	●	..- 15 05 04 -...-...- HSS	●	●	●	●
15	5	5	●	●	●	●	●	●	●	..- 15 05 05 -...-...- HSS	○	●	●	●
15	6	4	○	●	●	●	●	●	●	..- 15 06 04 -...-...- HSS	○	●	○	○
15	6	5	●	●	●	●	●	●	●	..- 15 06 05 -...-...- HSS	●	●	●	●
20	6	6	○	●	●	●	●	●	●	..- 20 06 06 -...-...- HSS	○	●	●	●
20	8	6	○	●	●	○	●	●	●	..- 20 08 06 -...-...- HSS	●	●	●	●
20	10	6	●	●	●	●	●	●	●	..- 20 10 06 -...-...- HSS	●	●	●	●

- Lieferbar ab Lager
 - Lieferfrist auf Anfrage
- Typ GV nur Teilung \leq 1.5 lieferbar

Andere Abmessungen und Spiralwinkel β sowie TiN-beschichtete Rändeldrückrollen kurzfristig, teilweise ab Lager erhältlich.

Rändeldrückhalter siehe Seiten 19 – 21.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Bestell-Nr.: entsprechenden Rändelrollentyp und Ident.-Nr. (Dimension, Spiralwinkel β , Teilung, Material) in dieser Reihenfolge zusammenfügen, z.B. RDGE-08 03 03-45-0,5-HSS

- Livrable du stock
 - Délai de livraison sur demande
- Type GV seulement pas \leq 1.5 livrables

Autres dimensions et angles d'hélice β ainsi que molettes pour moletage par déformation revêtues de TiN livrables à brève ou du stock.

Porte-molettes pour moletage par déformation voir pages 19-21.

Indications générales au sujet du moletage par déformation en page 10.

Référence de commande: type de molettes suivi des dimensions (diamètre, angle d'hélice β , pas, matière), par exemple: RDGE-08 03 03-45-0,5-HSS

- Available ex stock
 - Delivery time on request
- Type GV only pitches \leq 1.5 available

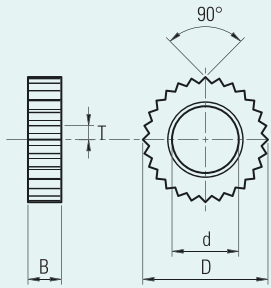
Deformation type knurling rolls of other diameters or spiral angles β or TiN-coated available at short notice, or ex stock.

Knurling roll holders for knurling by deformation on pages 19 – 21.

General directions for knurling by deformation on page 10.

Order number: Add ident. No. to type of roll (sequences of codes are type of roll, dimension, angle β , pitch, material), e.g.: RDGE-08 03 03-45-0,5-HSS

RFAA



Spiralwinkel β
Type

Angle d'hélice β
Type

Spiral angle β
Type

0°
AA

Rändelrollentyp			Type de molette			Type of knurling roll		RFAA – ...				
D	B	d	T= Teilungen			Pas Pitches		Ident. No.	Teilung - Material Pas - Matière Dimension - β - Pitch - Matière	HSS	TiN	
			0,3	0,4	0,5	0,6	0,7					0,8	1,0	1,2	1,5	1,75	2,0
8,9	2,5	4	●	●	●	●	●	●	●	..- 09 02 04 - 00 - ... - ...	●	○
11	3	6	●	●	●	●	●	●	●	..- 11 03 06 - 00 - ... - ...	●	○
14,5	3	5	●	●	●	●	●	●	●	..- 14 03 05 - 00 - ... - ...	●	○
15	4	8	●	●	●	●	●	●	●	..- 15 04 08 - 00 - ... - ...	●	○
15	4	9	○	●	●	○	●	●	●	..- 15 04 09 - 00 - ... - ...	●	○
20	5	8	●	●	●	●	●	●	●	..- 20 05 08 - 00 - ... - ...	●	○
20	5	11	●	●	●	●	●	●	●	..- 20 05 11 - 00 - ... - ...	●	○
21,5	5	8	●	●	●	●	●	●	●	..- 21 05 08 - 00 - ... - ...	●	○
25	5	11	●	●	●	●	●	●	●	..- 25 05 11 - 00 - ... - ...	●	○
25	6	8	●	●	●	●	●	●	●	..- 25 06 08 - 00 - ... - ...	●	○

- Lieferbar ab Lager
- Lieferfrist auf Anfrage

Andere Abmessungen und Spiralwinkel β sowie TiN-beschichtete Rändelfräsrollen kurzfristig, teilweise sogar ab Lager erhältlich.

Rändelfräshalter siehe Seiten 28 – 30.

Allgemeine Hinweise zum Rändelfräsen siehe Seite 11.

- Livrable du stock
- Délai de livraison sur demande

Autres dimensions et angles d'hélice β ainsi que molettes pour moletage par fraisage revêtues de TiN livrables à brève échéance ou du stock.

Porte-molettes pour moletage par fraisage voir pages 28-30.

Indications générales au sujet du moletage par fraisage en page 11.

- Available ex stock
- Delivery time on request

Cutting type knurling rolls of other diameters or spiral angles β or TiN-coated available at short notice, or ex stock.

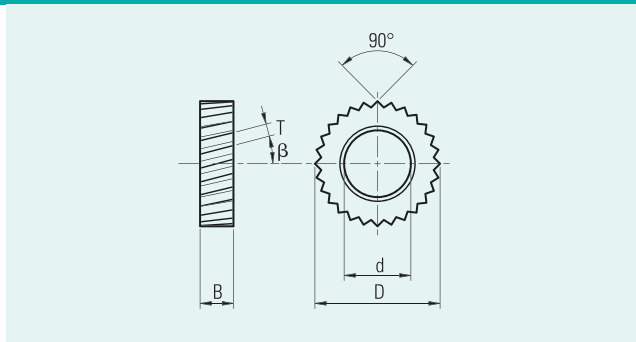
Knurling roll holders for knurling by cutting on pages 28 – 30.

General directions for knurling by cutting on page 11.

Bestell-Nr.: entsprechenden Rändelrollentyp und Ident.-Nr. (Dimension, Spiralwinkel β , Teilung, Material) in dieser Reihenfolge zusammenfügen, z.B. RFAA-09 02 04-00-0,8-HSS

Référence de commande: type de molettes suivi des dimensions (diamètre, angle d'hélice β , pas, matière), par exemple: RFAA-09 02 04-00-0,8-HSS

Order number: Add ident. No. to type of roll (sequences of codes are type of roll, dimension, angle β , pitch, material), e.g.: RFAA-09 02 04-00-0,8-HSS



RFBL



RFBR



Spiralwinkel β
Typ

Angle d'hélice β
Type

Spiral angle β
Type

15°
BL

30°
BL

15°
BR

30°
BR

Rändelrollentyp			Type de molette				Type of knurling roll				RFBL – ...		RFBR – ...				
D	B	d	T= Teilungen		Pas		Pitches		Ident. No.	Teilung - Material		HSS	TiN	HSS	TiN		
			0,3	0,4	0,5	0,6	0,7	0,8		1,0	1,2					1,5	1,75	2,0	Pas - Matière
										Dimension - β - Pitch - Material							
8,9	2,5	4	●	●	●	●	●	●	●	..- 09 02 04	...	...	...	●	○	●	○
11	3	6	●	●	●	●	●	●	●	..- 11 03 06	...	...	...	●	○	●	○
14,5	3	5		●	●	●	●	●	●	..- 14 03 05	...	...	...	●	○	●	○
15	4	8		●	●	●	●	●	●	..- 15 04 08	...	...	...	●	○	●	○
15	4	9	○	●	●	○	●	●	●	..- 15 04 09	...	...	...	●	○	●	○
20	5	8		●	●	●	●	●	●	..- 20 05 08	...	...	...			●	○
20	5	11		●	●	●	●	●	●	..- 20 05 11	...	...	...	●	○	●	○
21,5	5	8		●	●	●	●	●	●	..- 21 05 08	...	...	...	●	○	●	○
25	5	11		●	●	●	●	●	●	..- 25 05 11	...	...	...	●	○	●	○
25	6	8		●	●	●	●	●	●	..- 25 06 08	...	...	...	●	○	●	○

- Lieferbar ab Lager
- Lieferfrist auf Anfrage

Andere Abmessungen und Spiralwinkel β sowie TiN-beschichtete Rändelfräsrollen kurzfristig, teilweise ab Lager erhältlich.

Rändelfräshalter siehe Seiten 26 – 30.

Allgemeine Hinweise zum Rändelfräsen siehe Seite 11.

- Livrable du stock
- Délai de livraison sur demande

Autres dimensions et angles d'hélice β ainsi que molettes pour moletage par fraisage revêtues de TiN livrables à brève échéance ou du stock.

Porte-molettes pour moletage par fraisage voir pages 26-30.

Indications générales au sujet du moletage par fraisage en page 11.

- Available ex stock
- Delivery time on request

Cutting type knurling rolls of other diameters or spiral angles β or TiN-coated available at short notice, or ex stock.

Knurling roll holders for knurling by cutting on pages 26 – 30.

General directions for knurling by cutting on page 11.

Bestell-Nr.: entsprechenden Rändelrollentyp und Ident.-Nr. (Dimension, Spiralwinkel β , Teilung, Material) in dieser Reihenfolge zusammenfügen, z.B. RFBR-09 02 04-15-0,8-HSS

Référence de commande: type de molettes suivi des dimensions (diamètre, angle d'hélice β , pas, matière), par exemple: RFBR-09 02 04-15-0,8-HSS

Order number: Add ident. No. to type of roll (sequences of codes are type of roll, dimension, angle β , pitch, material), e.g.: RFBR-09 02 04-15-0,8-HSS

			RDA	RDBL		RDBR			
Spiralwinkel β Typ	Angle d'hélice β Type	Spiral angle β Type	HM	HM	HM	HM	HM		
			0° AA	30° BL	45° BL	30° BR	45° BR		
Rändelrollentyp	Type de molette		Type of roll		RDA – ...	RDBL – ...	RDBL – ...	RDBR – ...	RDBR – ...
D	B	d	T= Teilungen	Pas	Pitches	Ident. No.	Teilung - Material Pas - Matière Dimension - β - Pitch - Material		
			0,3 0,4 0,5 0,6 0,7 0,8 1,0						
8	3	3	•	•	•	•	•	•	•
8	4	3	•	•	•	•	•	•	•
10	3	3	•	•	•	•	•	•	•
10	4	3	•	•	•	•	•	•	•
10	4	4	•	•	•	•	•	•	•
12	4	4	•	•	•	•	•	•	•
15	4	4	•	•	•	•	•	•	•

			RFA	RFBL		RFBR			
Spiralwinkel β Typ	Angle d'hélice β Type	Spiral angle β Type	HM	HM	HM	HM	HM		
			0° AA	15° BL	30° BL	15° BR	30° BR		
Rändelrollentyp	Type de molette		Type of roll		RFA – ...	RFBL – ...	RFBL – ...	RFBR – ...	RFBR – ...
D	B	d	T= Teilungen	Pas	Pitches	Ident. No.	Teilung - Material Pas - Matière Dimension - β - Pitch - Material		
			0,3 0,4 0,5 0,6 0,7 0,8 1,0 1,2 1,5 1,75 2,0						
8,9	2,5	4	•	•	•	•	•	•	•
11	3	6	•	•	•	•	•	•	•
15	4	9	•	•	•	•	•	•	•

Lieferbarkeit:
○ Lieferfrist 2 Wochen

Disponibilité:
○ Délai de livraison 2 semaines

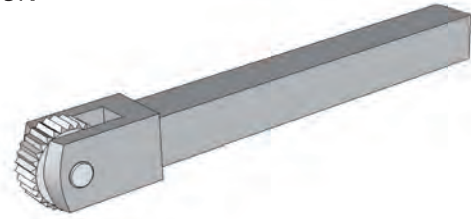
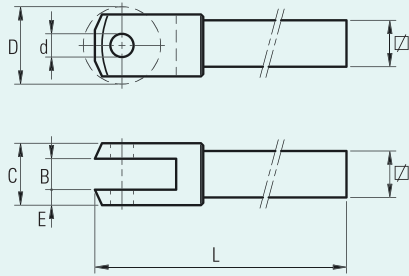
Availability:
○ Delivery time 2 weeks

Bestell-Nr.: entsprechenden Rändelrollentyp und Ident.-Nr. (Dimension, Spiralwinkel β , Teilung, Material) in dieser Reihenfolge zusammenfügen, z.B. RDBL-08 03 03-45-0,5-HM

Référence de commande: type de molettes suivi des dimensions (diamètre, angle d'hélice β , pas, matière), par exemple: RDBL-08 03 03-45-0,5-HM

Order number: Add ident. No. to type of roll (sequences of codes are type of roll, dimension, angle β , pitch, material), e.g.: RDBL-08 03 03-45-0,5-HM

RASN



Mögliche Rändelungen

Moletages possibles

Knurling applications

Längsrändel mit Rändelrollen RDAA

Moletage longitudinal avec molettes RDAA

Longitudinal knurl with knurling rolls RDAA

Kreuzrändel mit Rändelrollen RDGE/RDGV

Moletage croisé avec molettes RDGE/RDGV

Cross knurl with knurling rolls RDGE/RDGV

Für Laufrichtung der Drehmaschine

Pour le sens de rotation du tour

Spindle rotation



Haltertyp		Type de porte-molette				Type of knurling roll holder				RASN – ...	
☐	C	E	L	für Rollen / pour molettes / for rolls D min – max		x	B	x	d	Ident. No.	
☐	7	8	2	120	8	x	4	x	3	... – 0743	△
	8	8	2	120	8	x	4	x	3	... – 0843	●
	7	10	3	120	10-15	x	4	x	4	... – 0744	△
	8	10	3	120	10-15	x	4	x	4	... – 0844	●
	10	10	3	120	10-15	x	4	x	4	... – 1044	●
	8	12	3,5	120	15	x	5	x	5	... – 0855	△
	10	12	3,5	120	15	x	5	x	5	... – 1055	●
	12	12	3,5	120	15	x	5	x	5	... – 1255	●
	10	16	4	160	20	x	8	x	6	... – 1086	●
	12	16	4	160	20	x	8	x	6	... – 1286	●
	12	20	5	160	20	x	10	x	6	... – 12106	●
	20	20	5	160	20	x	10	x	6	... – 20106	●

Lieferbarkeit:

- Lieferbar ab Lager
- △ Solange Vorrat

Disponibilité:

- Livrable du stock
- △ Jusqu'à épuisement du stock

Availability:

- Available ex stock
- △ Until use up of stock

Bedienungsanleitung

- Werkzeug anstellen unter 88° (vordere Kante in Vorschubrichtung) für Rändelung > Rändelradbreite.
- 90° für Einstechrändel.
- Umfangsgeschwindigkeit V des Werkstückes ca. 20 m/min.
- Volles Rändelbild in max. 4 Umdrehungen zu erreichen. Radialvorschub s ca. ½ Teilung/U, jedoch mind. 0,3 mm/U.
- Kühlung mit Schneidemulsion empfohlen.
- Materialverdrängung siehe Seite 8.

Rändelrollen siehe Seiten 14, 15 und 18.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Mode d'emploi

- Placer l'outil à 88° par rapport à la pièce à usiner (angle avant en direction de l'avance) pour moletage > que la largeur de la molette.
- 90° pour moletage de saignée.
- Vitesse de circonférence de la pièce à usiner env. 20 m/min.
- Profondeur du moletage à atteindre en 4 rotations au maximum. Avance radiale s env. ½ pas/t, mais au moins 0,3 mm/t.
- Lubrification à l'émulsion recommandée.
- Déformation du matériel en page 8.

Molettes pour moletage par déformation voir pages 14, 15 et 18.

Indications générales au sujet du moletage par déformation en page 10.

Set-up instructions

- 2° offset (clearance) on leading edge of roll.
- No offset for plunge operation only.
- Surface speed V of workpiece approx. 20 m/min.
- Advance to full knurling depth in 4 revolutions. Radial feed s approx. half pitch/rev., but at least 0.3 mm/rev.
- Cooling by cutting emulsion recommended.
- Growth of diameter of workpiece see page 8.

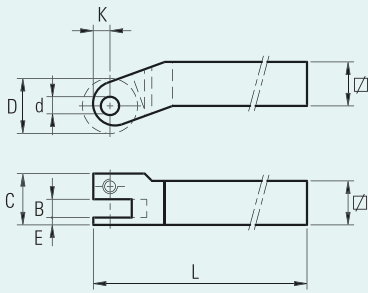
Knurling roll holders for knurling by deformation on pages 14, 15 and 18.

General directions for knurling by deformation on page 10.

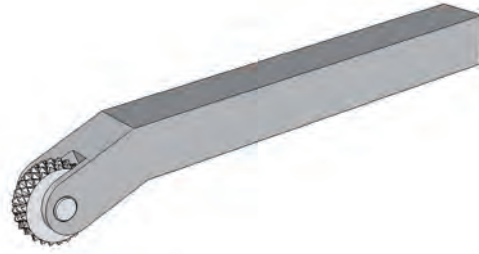
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. in dieser Reihenfolge zusammenfügen: z.B. RASN-0743

Référence de commande: type de porte-molette suivi des dimensions, par exemple: RASN-0743

Order number: Add ident. No. to type of knurling roll holder, e.g.: RASN-0743



RCSL



Mögliche Rändelungen Moletages possibles Knurling applications

Längsrändel mit Rändelrollen RDAA Moletage longitudinal avec molettes RDAA Longitudinal knurl with knurling rolls RDAA

Kreuzrändel mit Rändelrollen RDGE/RDGV Moletage croisé avec molettes RDGE/RDGV Cross knurl with knurling rolls RDGE/RDGV

Für Werkzeuglage Lauffrichtung der Drehmaschine Pour position d'outil sens de rotation du tour Positioning of roll and holder relative to spindle rotation



Haltertyp		Type de porte-molette					Type of knurling roll holder				RCSL -...	
☐	E	C	L	K	für Rollen / pour molettes / for rolls D min - max	x	B	x	d	Ident. No.		
	6	1,5	10	120	3,3	8 - 10	x	3	x	3	... - 0633	△
	7	1,5	10	120	3,3	8 - 10	x	3	x	3	... - 0733	●
	7	1,5	11	120	3,3	8 - 10	x	4	x	3	... - 0743	●
	8	1,5	10	120	3,3	10	x	2	x	3	... - 0823	●
	8	1,5	10	120	3,3	8 - 10	x	3	x	3	... - 0833	●
	8	1,5	11	120	3,3	8 - 10	x	4	x	4	... - 0843	●
	8	1,5	11	120	3,9	10 - 15	x	4	x	5	... - 0844	●
	8	1,5	13	120	3,9	15	x	5	x		... - 0855	●
	10	1,5	10	135	3,4	8 - 10	x	3	x	3	... - 1033	●
	10	1,5	11	135	4,1	10 - 15	x	4	x	4	... - 1044	●
	10	2,0	13	135	4,1	15	x	5	x	5	... - 1055	●
	12	2,0	12	150	4,1	10 - 15	x	4	x	4	... - 1244	●
	12	2,0	13	150	4,1	15	x	5	x	4	... - 1254	●
	12	2,0	13	150	4,1	15	x	5	x	5	... - 1255	●
	14	2,0	14	150	5	10 - 15	x	4	x	4	... - 1444	●
	14	2,0	14	150	5	15	x	5	x	5	... - 1455	●
	14	2,0	14	150	5	20	x	6	x	6	... - 1466	●

● Lieferbar ab Lager
△ Solange Vorrat

● Livrable du stock
△ Jusqu'à épuisement du stock

● Available ex stock
△ Until use up of stock

Rändelrollen siehe Seiten 14, 15 und 18.

Molettes pour moletage par déformation voir pages 14, 15 et 18.

Knurling roll holders for knurling by deformation on pages 14, 15 and 18.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Indications générales au sujet du moletage par déformation en page 10.

General directions for knurling by deformation on page 10.

Bedienungsanleitung siehe Seite 19.

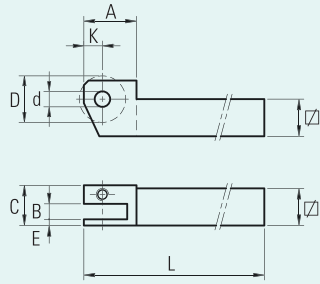
Mode d'emploi en page 19.

Set-up instructions on page 19.

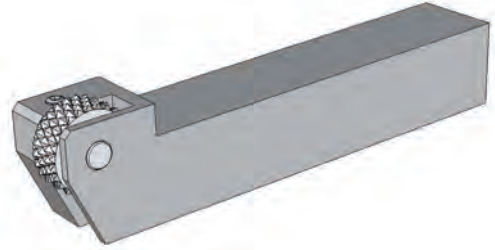
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. in dieser Reihenfolge zusammenfügen: z.B. RCSL-0633

Référence de commande: type de porte-molette suivi des dimensions, par exemple: RCSL-0633

Order number: Add ident. No. to type of knurling roll holder, e.g.: RCSL-0633



RCSR

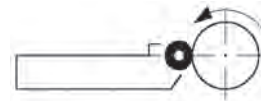


Mögliche Rändelungen Moletages possibles Knurling applications

Längsrändel mit Rändelrollen RDAA Moletage longitudinal avec molettes RDAA Longitudinal knurl with knurling rolls RDAA

Kreuzrändel mit Rändelrollen RDGE/RDGV Moletage croisé avec molettes RDGE/RDGV Cross knurl with knurling rolls RDGE/RDGV

Für Werkzeuglage Lafrichtung der Drehmaschine Pour position d'outil sens de rotation du tour Positioning of roll and holder relative to spindle rotation



Haltertyp		Type de porte-molette					Type of knurling roll holder				Ident. No.	RCSR -...
□	E	C	L	A	K	für Rollen / pour molettes / for rolls D min - max	x	B	x	d		
8	1,5	10	100	11	3	8-10	x	2	x	3	... - 0823	●
8	1,5	10	100	11	3	8-10	x	3	x	3	... - 0833	●
8	1,5	11	100	11	3	8-10	x	4	x	4	... - 0843	●
8	1,5	11	100	13	4	10-12	x	4	x	5	... - 0844	●
8	1,5	13	100	16,5	5	15	x	5	x		... - 0855	●
10	1,5	10	100	11	3	8-10	x	2	x	3	... - 1023	●
10	1,5	10	100	11	3	8-10	x	3	x	3	... - 1033	●
10	1,5	11	100	14,5	4	10-15	x	4	x	4	... - 1044	●
10	2,0	13	100	16,5	5	15	x	5	x	5	... - 1055	●
12	2,0	12	115	15	4	10-15	x	4	x	4	... - 1244	●
12	2,0	13	115	17	6	15	x	5	x	4	... - 1254	●
12	2,0	13	115	17	6	15	x	5	x	5	... - 1255	●
12	2,0	18	115	21,5	7,5	20	x	8	x	6	... - 2086	●
16	2,0	16	120	15	4	10-15	x	4	x	4	... - 1644	●
16	2,0	16	120	17	6	15	x	5	x	4	... - 1654	●
16	2,0	16	120	17	6	15	x	5	x	5	... - 1655	●
16	2,0	20	120	17	6	15	x	6	x	4	... - 1664	●
16	2,0	20	120	21,5	7,5	20	x	8	x	6	... - 1686	●
20	2,0	20	120	17	6	15	x	5	x	5	... - 2055	●
20	2,0	20	120	17	6	15	x	6	x	4	... - 2064	●
20	2,0	20	120	21,5	7,5	20	x	6	x	6	... - 2066	●
20	2,0	20	120	21,5	7,5	20	x	8	x	6	... - 2086	●
20	2,5	20	120	21,5	7,5	20	x	10	x	6	... - 20106	●
25	2,0	25	150	25	7,5	20-25	x	8	x	6	... - 2586	●

● Lieferbar ab Lager

● Livrable du stock

● Available ex stock

Rändelrollen siehe Seiten 14, 15 und 18.

Molettes pour moletage par déformation voir pages 14, 15 et 18.

Knurling roll holders for knurling by deformation on pages 14, 15 and 18.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Indications générales au sujet du moletage par déformation en page 10.

General directions for knurling by deformation on page 10.

Bedienungsanleitung siehe Seite 19.

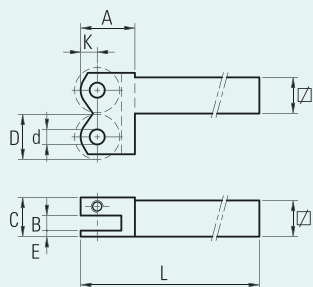
Mode d'emploi en page 19.

Set-up instructions on page 19.

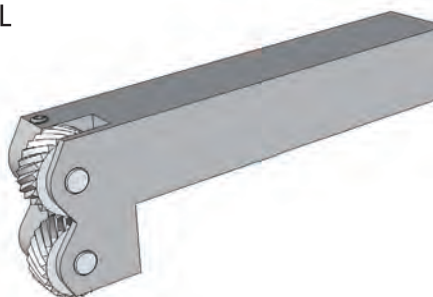
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. in dieser Reihenfolge zusammenfügen: z.B. RCSR-0833

Référence de commande: type de porte-molette suivi des dimensions, par exemple: RCSR-0833

Order number: Add ident. No. to type of knurling roll holder, e.g.: RCSR-0833



RCDL



Mögliche Rändelungen Moletages possibles Knurling applications

Kreuzrändel mit
Rändelrollen
RDBL/RDBR 45°

Moletage croisé
avec molettes
RDBL/RDBR 45°

Cross knurl 45°
with knurling rolls
RDBL/RDBR 45°

Fischhauträndel
mit Rändelrollen
RDBL/RDBR 30°

Moletage en losange
avec molettes
RDBL/RDBR 30°

Diamond knurl 30°
with knurling rolls
RDBL/RDBR 30°

Für Werkzeuglage
Laufrichtung
der Drehmaschine

Pour position d'outil
sens de rotation
du tour

Positioning of roll and
holder relative to
spindle rotation



Haltertyp	Type de porte-molettes		Type of knurling roll holder								Ident. No.	RCDL - ...	
	C	E	für Rollen / pour molettes / for knurling										
☐	C	E	L	A	K	D	x	B	x	d			
6	10	1,5	120	10	3	8	x	3	x	3	...	0633/08	●
7	10	1,5	120	10	3	8	x	3	x	3	...	0733/08	●
7	11	1,5	120	10	3	8	x	4	x	3	...	0743/08	●
8	10	1,5	135	10	3	8	x	3	x	3	...	0833/08	●
8	10	1,5	135	11,5	3,5	10	x	3	x	3	...	0833/10	●
8	12	1,5	135	10	3	8	x	4	x	3	...	0843/08	●
10	10	1,5	135	10	3	8	x	3	x	3	...	1033/08	●
10	10	1,5	135	11,5	3,5	10	x	3	x	3	...	1033/10	●
10	12	1,5	135	10	3	8	x	4	x	3	...	1043/08	●
10	12	2,0	135	11,5	3,5	10	x	4	x	4	...	1044/10	●
12	12	2,0	150	11,5	3,5	10	x	4	x	4	...	1244/10	●

● Lieferbar ab Lager

● Livrable du stock

● Available ex stock

Rändelrollen siehe Seiten 14, 15 und 18.

Molettes pour moletage par déformation voir
pages 14, 15 et 18.

Knurling roll holders for knurling by deformation
on pages 14, 15 and 18.

Allgemeine Hinweise zum Rändeldrücken
siehe Seite 10.

Indications générales au sujet du moletage par
déformation en page 10.

General directions for knurling by deformation
on page 10.

Bedienungsanleitung siehe Seite 19.

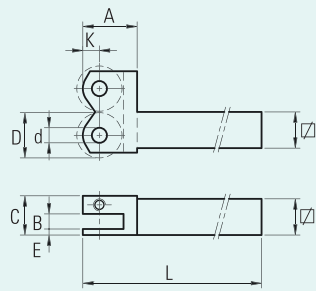
Mode d'emploi en page 19.

Set-up instructions on page 19.

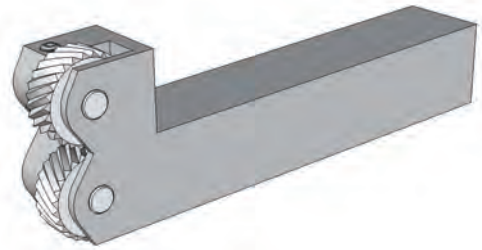
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr.
zusammenfügen, z.B. RC DL-0633/08

Référence de commande: type de porte-molettes
suivi des dimensions, par exemple: RC DL-0633/08

Order number: Add ident. No. to type of knurling roll
holder, e.g.: RC DL-0633/08



RCDR



Mögliche Rändelungen Moletages possibles Knurling applications

Kreuzrändel mit
Rändelrollen
RDBL/RDBR 45°

Moletage croisé
avec molettes
RDBL/RDBR 45°

Cross knurl 45°
with knurling rolls
RDBL/RDBR 45°

Fischhauträndel
mit Rändelrollen
RDBL/RDBR 30°

Moletage en losange
avec molettes
RDBL/RDBR 30°

Diamond knurl 30°
with knurling rolls
RDBL/RDBR 30°

Für Werkzeuglage
Laufrichtung
der Drehmaschine

Pour position d'outil
sens de rotation
du tour

Positioning of roll and
holder relative to
spindle rotation



Haltertyp		Type de porte-molettes		Type of knurling roll holder		RCDR-...																
für Rollen / pour molettes / for rolls																						
☑	C	E	L	A	K	D	x	B	x	d	Ident. No.											
8	10	1,5	100	10	3	8	x	3	x	3	... - 0833/08	•										
8	10	1,5	100	12	3,5	10	x	3	x	3	... - 0833/10	•										
8	12	1,5	100	12	3,5	10	x	4	x	3	... - 0843/10	•										
10	10	1,5	100	10	3	8	x	3	x	3	... - 1033/08	•										
10	10	1,5	100	12	3,5	10	x	3	x	3	... - 1033/10	•										
10	12	2,0	100	12	3,5	10	x	4	x	3	... - 1043/10	•										
10	12	2,0	100	12	4	10	x	4	x	4	... - 1044/10	•										
12	12	2,0	115	12	4	10	x	4	x	4	... - 1244/10	•										
12	12	2,0	115	18	5,5	15	x	4	x	4	... - 1244/15	•										
12	12	2,0	115	18	5,5	15	x	5	x	4	... - 1254/15	•										
12	12	2,0	115	18	5,5	15	x	5	x	5	... - 1255/15	•										
16	16	2,0	120	18	5,5	15	x	4	x	4	... - 1644/15	•										
16	16	2,0	120	18	5,5	15	x	5	x	4	... - 1654/15	•										
16	16	2,0	120	18	5,5	15	x	5	x	5	... - 1655/15	•										
16	16	2,0	120	18	5,5	15	x	6	x	4	... - 1664/15	•										
20	20	2,0	120	18	5,5	15	x	4	x	4	... - 2044/15	•										
20	20	2,0	120	18	5,5	15	x	5	x	4	... - 2054/15	•										
20	20	2,0	120	18	5,5	15	x	6	x	4	... - 2064/15	•										
20	20	2,0	120	21	6,5	20	x	6	x	6	... - 2066/20	•										
20	20	2,0	120	21	6,5	20	x	8	x	6	... - 2086/20	•										
25	25	2,0	150	26	9	25	x	8	x	6	... - 2586/25	•										

● Lieferbar ab Lager

● Livrable du stock

● Available ex stock

Rändelrollen siehe Seiten 14, 15 und 18.

Molettes pour moletage par déformation voir pages 14, 15 et 18.

Knurling roll holders for knurling by deformation on pages 14, 15 and 18.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Indications générales au sujet du moletage par déformation en page 10.

General directions for knurling by deformation on page 10.

Bedienungsanleitung siehe Seite 19.

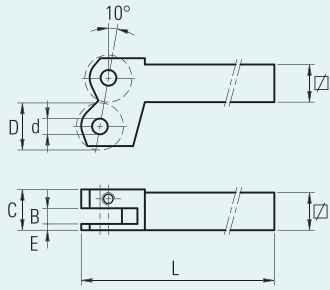
Mode d'emploi en page 19.

Set-up instructions on page 19.

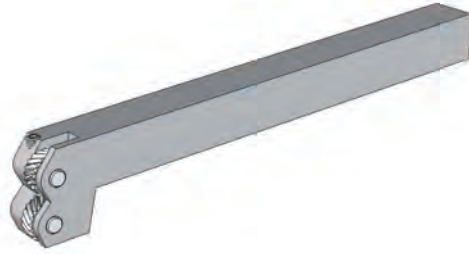
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B. RCDR-0833/08

Référence de commande: type de porte-molettes suivi des dimensions, par exemple: RCDR-0833/08

Order number: Add ident. No. to type of knurling roll holder, e.g.: RCDR-0833/08



RTDL



Mögliche Rändelungen Moletages possibles Knurling applications

Kreuzrändel mit Rändelrollen
RDBL/RDBR 45°

Moletage croisé avec molettes
RDBL/RDBR 45°

Cross knurl 45° with knurling rolls
RDBL/RDBR 45°

Fischhauträndel mit Rändelrollen
RDBL/RDBR 30°

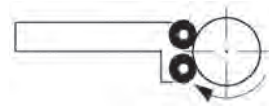
Moletage en losangé avec molettes
RDBL/RDBR 30°

Diamond knurl 30° with knurling rolls
RDBL/RDBR 30°

Verwendung:
TORNOS-Automaten,
Werkzeugstation Nr. 2

A utiliser dans le
porte-outil n° 2 du tour
automatique TORNOS

For use on TORNOS
screw machines,
tool post No. 2



Haltertyp		Type de porte-molettes				Type of knurling roll holder				Ident. No.	RTDL -...	
□	C	E	L	für Rollen / pour molettes / for rolls		D	x	B	x			d
6	10	1,5	120	8	x	3	x	3	x	3	... - 0633/08	•
7	10	1,5	120	8	x	3	x	3	x	3	... - 0733/08	•
7	10	1,5	120	8	x	4	x	3	x	3	... - 0743/08	•
8	10	1,5	120	8	x	3	x	3	x	3	... - 0833/08	•
8	10	1,5	120	8	x	4	x	3	x	3	... - 0843/08	•
10	10	1,5	150	10	x	4	x	4	x	4	... - 1044/10	•
12	12	2	150	10	x	4	x	4	x	4	... - 1244/10	•
12	12	2	150	15	x	4	x	4	x	4	... - 1244/15	•

● Lieferbar ab Lager

● Livrable du stock

● Available ex stock

Rändelrollen siehe Seiten 14 und 18.

Molettes pour moletage par déformation voir pages 14 et 18.

Knurling roll holders for knurling by deformation on pages 14 and 18.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Indications générales au sujet du moletage par déformation en page 10.

General directions for knurling by deformation on page 10.

Bedienungsanleitung siehe Seite 19.

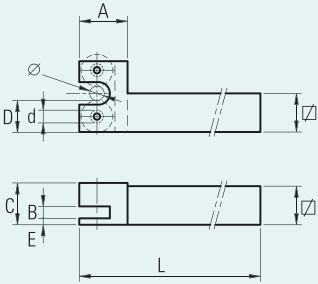
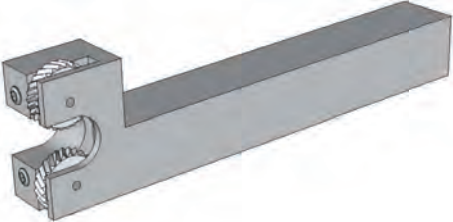
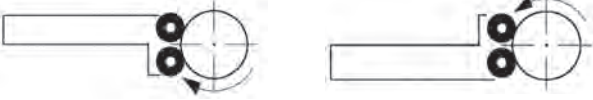
Mode d'emploi en page 19.

Set-up instructions on page 19.

Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B. RTDL-0633/08

Référence de commande: type de porte-molettes suivi des dimensions, par exemple: RTDL-0633/08

Order number: Add ident. No. to type of knurling roll holder, e.g.: RTDL-0633/08

			RVDR 		
Mögliche Rändelungen	Moletages possibles	Knurling applications	Kreuzrändel mit Rändelrollen RDBL/RDBR 45°	Moletage croisé avec molettes RDBL/RDBR 45°	Cross knurl 45° with knurling rolls RDBL/RDBR 45°
			Fischhauträndel mit Rändelrollen RDBL/RDBR 30°	Moletage en losange avec molettes RDBL/RDBR 30°	Diamond knurl 30° with knurling rolls RDBL/RDBR 30°
Für Werkzeuglage Laufrichtung der Drehmaschine	Pour position d'outil sens de rotation du tour	Positioning of roll and holder relative to spindle rotation			
			RVDL		RVDR

Funktionsweise Rändelhalter RVDR

- Die Rollen befinden sich auf exzentrischen Verstellachsen.
- Einstellen des Rändeldurchmessers durch Verdrehen der Achsen.
- Die Schraubenschlitze sind so orientiert, dass sie in senkrechter Stellung den grössten bzw. kleinsten Rollenabstand ergeben.
- Verstellachsen gleichmässig gegeneinander verdrehen, bis die Rollen genau ausgerichtet sind.
- Rollen und Werkstück müssen auf einer Linie liegen, um die Axialkräfte aufzuheben.
- Einstellen der Rollen mit in die Maschine gespanntem Dorn der Grösse des Kerndurchmessers oder freihändig mit Werkstattendmass der fraglichen Grösse. Beide Rollen gleichmässig verstellen, bis der Dorn bzw. das Endmass im Anschlag auf einer Linie rechtwinklig zum Halterschaft dazwischensteht.
- Verstellachsen mit Arretierschrauben stirnseits des Halters klemmen.
- Die Rändelhalter werden nach Vorgabe kurzfristig hergestellt.
- Für linksdrehende Maschinen als RVDL lieferbar.

Rändelrollen siehe Seiten 14 und 18.

Allgemeine Hinweise zum Rändeldrücken siehe Seite 10.

Fonctionnement de porte-molettes RVDR

- Les molettes se trouvent sur des axes excentriques réglables.
- Ajuster le diamètre du moletage en tournant les axes.
- Les fentes de serrage des vis en position verticale donnent la plus grande ou la plus petite distance entre les molettes.
- Tourner les axes de manière régulière jusqu'à ce que les molettes soient exactement positionnées l'une en face de l'autre.
- Les molettes et la pièce à usiner doivent être parfaitement alignées pour compenser les forces axiales.
- Régler l'écartement des molettes à l'aide d'une cale d'épaisseur ou sur la machine en tournant une pièce au diamètre de noyau du moletage. Déplacer régulièrement les molettes jusqu'à ce qu'elles butent contre la cale ou la pièce et qu'elles forment une ligne droite et perpendiculaire par rapport à la tige du porte-molettes.
- Bloquer les axes réglables avec les vis de blocage sur le devant du porte-molettes.
- Les porte-molettes sont fabriqués selon besoin à brève échéance.
- Pour machines à marche à gauche utiliser type RVDL.

Molettes en pages 14 et 18.

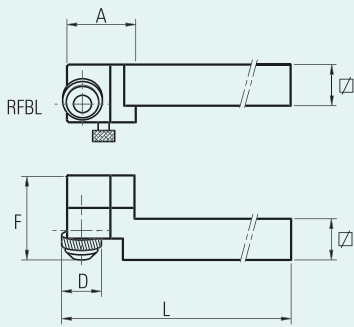
Indications générales au sujet du moletage par déformation en page 10.

How the knurling roll holder RVDR works

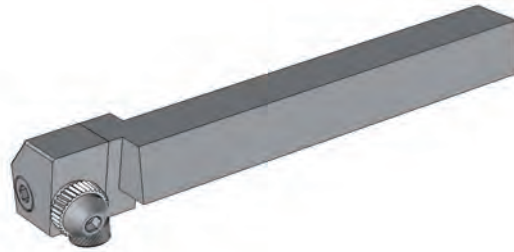
- The knurling rolls are placed on eccentric adjustable arbours.
- Set the diameter of the knurling by turning the arbours.
- The screws are positioned in the way that the smallest and the largest distance between the knurling rolls are reached when the slots of the screw heads are in vertical position.
- Twist arbours orderly against each other until the rolls are perfectly aligned.
- The knurling rolls and the part to be knurled must be perfectly aligned to compensate axial strength.
- Knurling rolls to be set freehand by means of a gauge block of the measurement of the core diameter of the knurl or by means of a mandrel of diameter of core clamped on the machine. Move the knurling rolls regularly until they touch the gauge block or the mandrel in a straight perpendicular line to the shank of the knurling holder.
- Screw down the adjustable arbours by means of fixing screws on the front of the knurling holder.
- The knurling holders are manufactured according to requirement within short time.
- For anticlockwise running machines use type RVDL.

Knurling rolls on pages 14 and 18.

General directions for knurling by deformation on page 10.



RZSL



Mögliche Rändelungen Moletages possibles Knurling applications

Längsrändel mit
Rändelrolle RFBL 15°

Moletage longitudinale
avec molette RFBL 15°

Longitudinal knurl
with roll RFBL 15°

Für Laufrichtung
der Drehmaschine

Pour sens de
rotation au tour

Positioning of roll
holder relative to
spindle rotation



Haltertyp	Type de porte-molette				Type of knurling roll holder				Ident. No.
	L	F	A	für Rollen / pour molettes / for knurling rolls					
□	L	F	A	D	x	B	x	d	
8	135	22	18	11	x	3	x	6	... - 0836
10	135	24	18	11	x	3	x	6	... - 1036
12	135	24	21	11	x	3	x	6	... - 1236

RZSL -...

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Rändelrollen siehe Seiten 17 – 18.

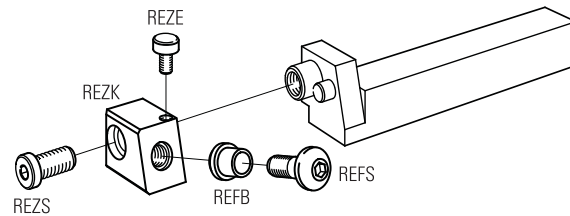
Molettes en pages 17-18.

Knurling rolls on pages 17 – 18.

Auftretende Rändelfrässprobleme siehe Seite 11.

Problèmes de moletage par fraisage et leurs solutions en page 11.

Trouble-shooting guide when knurling by cutting on page 11.



Ersatzteil für	Pièce de rechange pour	Spare part for	REFB ...	REFS ...	REZE ...	REZK ...	REZS ...
RZSL-0836		..0036	•	•			•
RZSL-0836		..0036 L			•	•	
RZSL-1036		..0136	▲	▲	•	•	▲
RZSL-1236		..0236	▲	▲	■	•	▲
RZSR-0836,	-1036, -1236, -1636	..0036	•	•	•	•	•
RZSR-1649		..1049	•	•	•	•	•
RZSR-20511		..2511	•	•	•	•	•
RZSR-25511		..3511	•	•	•	•	•

- ▲ siehe RZSL-0836 / voir RZSL-0836 / see RZSL-0836
- siehe RZSL-1036 / voir RZSL-1036 / see RZSL-1036

● Lieferbar ab Lager

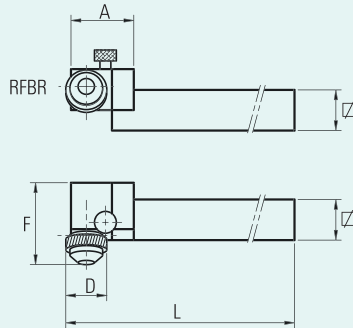
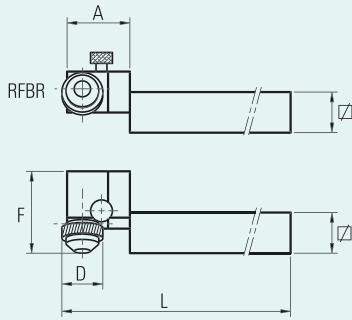
● Livrable du stock

● Available ex stock

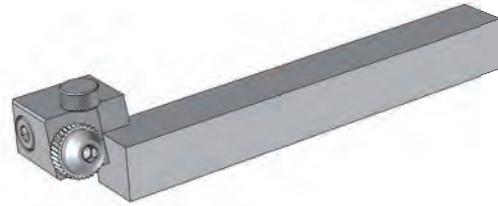
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B. RZSL-0836

Référence de commande: type de porte-molette suivi des dimensions, par exemple: RZSL-0836

Order number: Add ident. No. to type of knurling roll holder, e.g.: RZSL-0836



RZSR-K



RZSR



Mögliche Rändelungen

Moletages possibles

Knurling applications

Längsrändel mit
Rändelrolle RFBR 15°

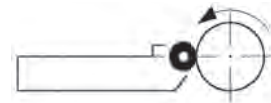
Moletage longitudinale
avec molette RFBR 15°

Longitudinal knurl
with roll RFBR 15°

Für Laufrichtung
der Drehmaschine

Pour sens de
rotation du tour

Positioning of roll
holder relative to
spindle rotation



Haltertyp	Type de porte-molette				Type of knurling roll holder				Ident. No.
	für Rollen / pour molettes / for knurling rolls								
□	L	F	A	D	x	B	x	d	
8	100	24	19	11	x	3	x	6	... - 0836
10	110	24	19	11	x	3	x	6	... - 1036
12	110	24	19	11	x	3	x	6	... - 1236
16	110	24	19	11	x	3	x	6	... - 1636
16	110	31	25	15	x	4	x	9	... - 1649
20	130	36	30	20	x	5	x	11	... - 20511
25	130	41	35	25	x	5	x	11	... - 25511

RZSR -...-K

RZSR -...-

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● Lieferbar ab Lager

● Livrable du stock

● Available ex stock

Bedienungsanleitung

- Apparat in Drehstahlhalter spannen und auf Spitzenhöhe stellen.
- Mit ca. 1/3 der Rollenbreite radial zügig einfahren. Vorschub/U ca. 1/2 Teilung. Wenn Randrierbild ausgeschnitten, Längsvorschub einschalten.
- Drall auf Randrierbild durch Verstellen des beweglichen Kopfes mittels Schrauben beheben.
- Mit Schneidöl, evtl. Schneidemulsion, die Frässpäne gut wegspülen.
- Schnittwerte (V+s) siehe Seite 9.

Mode d'emploi

- Serrer l'appareil dans le porte-outil et le régler à la hauteur de pointe.
- Approcher en direction radiale sans hésitation avec env. 1/3 de la largeur de la molette dans la pièce, avance/t. env. 1/2 pas. Mettre en marche l'avance longitudinale.
- En cas de torsion du profil, corriger en déplaçant la tête mobile au moyen des vis.
- Bien évacuer les copeaux au moyen d'huile de coupe ou d'émulsion.
- Valeurs de coupe (V+s) en page 9.

Set-up instructions

- Clamp the roll holder in the tool post and set its centre to the centre of the workpiece.
- Start knurling operation firmly with rapid infeed to half pitch with knurling roll engaged to 1/3 of width. When the initial pattern is cut, start longitudinal feed (approx. 1/2 pitch/rev.).
- Errors in knurling pattern can be corrected by resetting the adjustable roll holder head.
- Flush away the chips with cutting oil or cutting emulsion.
- Cutting data (V+s) see page 9.

Rändelrollen siehe Seiten 17 – 18.

Molettes en pages 17-18.

Knurling rolls on pages 17 – 18.

Auftretende Rändelfrässprobleme und deren Lösung siehe Seite 11.

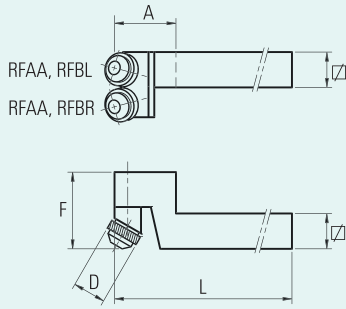
Problèmes de moletage par fraisage et leurs solutions en page 11.

Trouble-shooting guide when knurling by cutting on page 11.

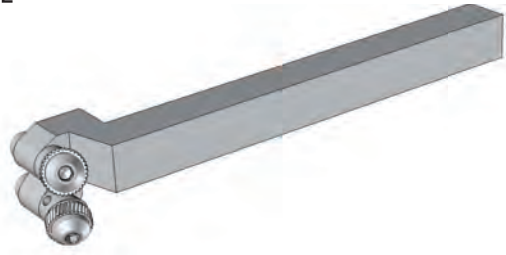
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B.: RZSR-1036 oder RZSR-1036-K

Référence de commande: type de porte-molette suivi des dimensions, par exemple: RZSR-1036 ou RZSR-1036-K

Order number: Add ident. No. to type of knurling roll holder, e.g.: RZSR-1036 or RZSR-1036-K



RKDL



Mögliche Rändelungen Moletages possibles Knurling applications

Kreuzrändel mit je einer Rändelrolle RFBR und RFBL 15°

Moletage croisé avec une molette de chaque RFBR et RFBL 15°

Cross knurl 45° with one roll each RFBR and RFBL 15°

Fischhauträndel mit 2 Rändelrollen RFAA

Moletage en losange avec 2 molettes RFAA

Diamond knurl 30° with 2 rolls RFAA

Für Laufrichtung der Drehmaschine

Pour sens de rotation du tour

Positioning of roll holder relative to spindle rotation



Haltertyp	Type de porte-molettes			Type of knurling roll holder					Ident. No.	
	für Werkstück ☐ pour pièce à usiner ☐ for workpiece ☐			für Rollen / pour molettes / for knurling rolls						
☐	L	F	A	D	x	B	x	d		
8	135	22	18	3 – 40	11	x	3	x	6	... – 0836
10	135	24	18	3 – 40	11	x	3	x	6	... – 1036
12	135	24	21	3 – 40	11	x	3	x	6	... – 1236

RKDL – ...



Rändelrollen siehe Seiten 16 – 18.

Molettes en pages 16-18.

Knurling rolls on pages 16 – 18.

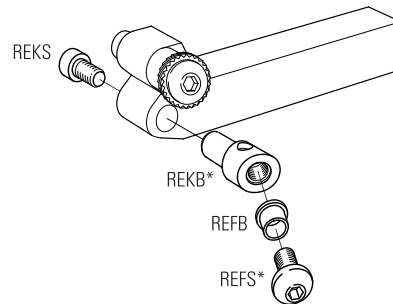
Auftretende Rändelfräsprobleme siehe Seite 11.

Problèmes de moletage par fraiseage et leurs solutions en page 11.

Trouble-shooting guide when knurling by cutting on page 11.

ACHTUNG/ATTENTION/ATTENTION:

- *Auf Wunsch auch mit Linksgewinde lieferbar.
- *Sur demande, livrable aussi avec filet à gauche.
- *On request also with left-hand thread available.



Ersatzteil für	Pièce de rechange pour	Spare part for	REFB – ...	REFS – ...	REKB – ...	REKS – ...
RKDL-0836, -1036, -1236		..0036	•	•	•	•
RKDR-0836, -1036, -1236, -1636						
RKDL-1649, RKDR-1649		..1049	•	•	•	•
RKDR-20511		..2511	•	•	•	•
RKDR-25511		..3511	•	•	•	•

● Lieferbar ab Lager

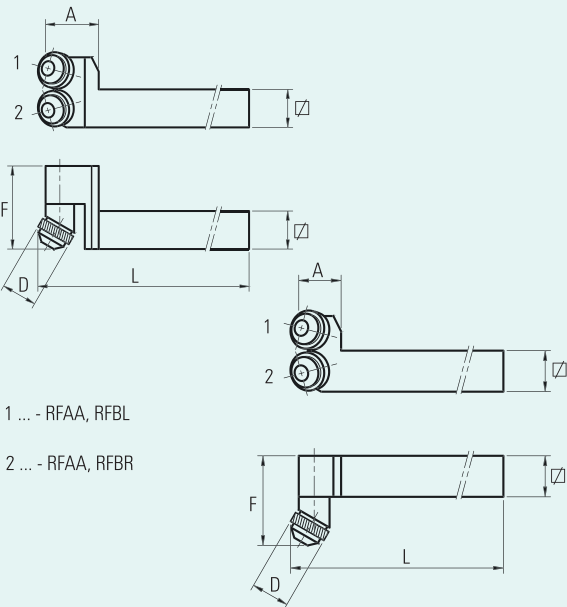
● Livrable du stock

● Available ex stock

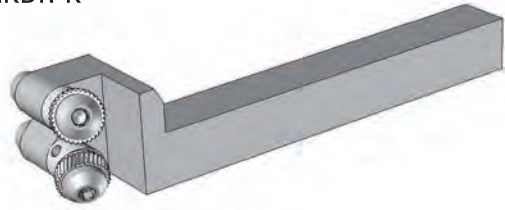
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B. RKDL-0836

Référence de commande: type de porte-molettes suivi des dimensions, par exemple: RKDL-0836

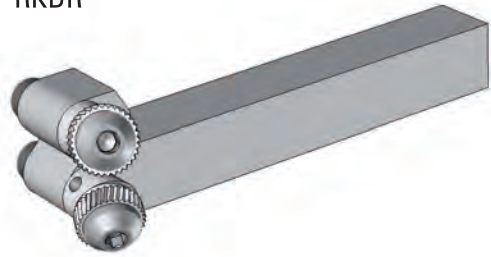
Order number: Add ident. No. to type of knurling roll holder, e.g.: RKDL-0836



RKDR-K



RKDR



Mögliche Rändelungen Moletages possibles Knurling applications

Für Laufrichtung der Drehmaschine Pour sens de rotation du tour Positioning of roll holder relative to spindle rotation

Kreuzrändel mit je einer Rolle RFBR und RFBL 15°
Fischhauträndel mit 2 Rändelrollen RFAA

Moletage croisé avec une molette de chaque RFBR et RFBL 15°
Moletage en losange avec 2 molettes RFAA

Cross knurl 45° with one roll each RFBR and RFBL 15°
Diamond knurl 30° with 2 rolls RFAA



Haltertyp	Type de porte-molettes					Type of knurling roll holder					Ident. No.
	L	F	A	für Werkstück ∅ pour pièce à usiner ∅ for workpiece ∅		für Rollen / pour molettes / for knurling rolls		x	B	x		d
8	110	24	20	3 – 40	11	x	3	x	6	...	0836
10	90	27	14	3 – 40	11	x	3	x	6	...	1036
10	110	24	20	3 – 40	11	x	3	x	6	...	1036
12	90	27	14	3 – 40	11	x	3	x	6	...	1236
12	110	24	20	3 – 40	11	x	3	x	6	...	1236
16	110	24	20	4 – 60	11	x	3	x	6	...	1636
16	105	39	17	4 – 60	15	x	4	x	9	...	1649
16	115	35	25	4 – 60	15	x	4	x	9	...	1649
20	130	49	23	6 – 100	20	x	5	x	11	...	20511
25	150	62	35	6 – 250	25	x	5	x	11	...	25511

RKDR –...-K	RKDR –...
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•	•
•	•
•	•
•	•
•	•
•	•

● Lieferbar ab Lager

● Livrable du stock

● Available ex stock

Bedienungsanleitung

- Linke Rolle oben einspannen.
- Apparat in Drehstahlhalter spannen und auf Spitzenhöhe stellen, Spitzenhöhe = zwischen Schrägbolzen.
- Apparat radial an Werkstück herantführen, Schrägbolzen mithilfe eines Stiftes (Bohrung am Schrägbolzen) so verdrehen, bis ganze Breiten der Rändelrollen am Werkstückumfang aufliegen. Inbusschrauben anziehen.
- Mit ca. 1/3 der Rollenbreite radial zügig einfahren, Vorschub/U ca. 1/2 Teilung. Wenn Rändelbild voll ausgeschnitten, Längsvorschub einschalten.
- Mit Schneidöl, evtl. Schneidemulsion, die Frässpäne gut wegspülen.
- Schnittwerte (V+s) siehe Seite 9.

Mode d'emploi

- Fixer la molette à gauche en haut.
- Serrer l'appareil dans le porte-outils et régler à la hauteur de pointe. Hauteur de pointe: entre les axes inclinés.
- Approcher l'appareil de la pièce en direction radiale, tourner les axes inclinés à l'aide d'un chasse-goupilles (trou dans l'axe) de manière à ce que la largeur entière des molettes soit placée sur le pourtour de la pièce. Serrer les vis à six pans.
- Approcher en direction radiale sans hésitation avec env. 1/3 de la largeur de la molette dans la pièce, avance/t. env. 1/2 pas. Mettre en marche l'avance longitudinale.
- Bien évacuer les copeaux au moyen d'huile de coupe ou d'émulsion.
- Valeurs de coupe (V+s) en page 9.

Set-up instructions

- Left-hand side roll to be set at the top.
- Clamp roll holder in the tool post and set its centre between the axes to the centre of the workpiece.
- With the rolls close to the workpiece adjust the roll axes to complete alignment of both rolls over their entire width. Carefully retighten the bolts.
- Start knurling operation firmly with rapid infeed to half pitch with knurling roll engaged to 1/3 width. When the initial pattern is cut, start longitudinal feed.
- Flush away the chips with cutting oil or cutting emulsion.
- Cutting data (V+s) see page 9.

Rändelrollen siehe Seiten 16 – 18.
Auf tretende Rändelfrässprobleme und deren Lösung siehe Seite 11.

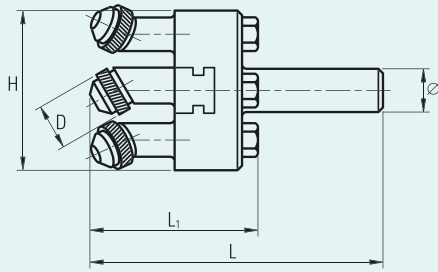
Molettes en pages 16-18.
Problèmes de moletage par fraisage et leurs solutions en page 11.

Knurling rolls on pages 16 – 18.
Trouble-shooting guide when knurling by cutting on page 11.

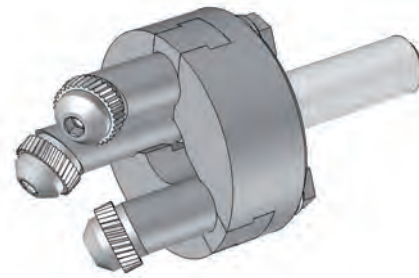
Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B.: RKDR-1036 oder RKDR-1036-K

Référence de commande: type de porte-molettes suivi des dimensions, par exemple: RKDR-1036 ou RKDR-1036-K

Order number: Add ident. No. to type of knurling roll holder, e.g.: RKDR-1036 or RKDR-1036-K



RRTN



Mögliche Rändelungen	Moletages possibles	Knurling applications	Kreuzrändel	Moletage croisé	Cross knurl 45°
			Fischhauträndel	Moletage en losange	Diamond knurl 30°
			Rändelrollenordnung beachten	Observer disposition des molettes	Match correct roll to its post
Maximale Rändellänge beachten	Respecter la longueur maximale de moletage	Pay attention to maximum knurling length	Revolver-Drehmaschinen Drehautomaten	Tours revolver Tours automatiques	Turret lathes Screw machines
Verwendbar auf	Utilisable sur	For use on			

Haltertyp		Type de porte-molettes			Type of knurling roll holder			RRTN –...		
∅ mm	L	L ₁	H	für Werkstück ∅ pour pièce à usiner ∅ for workpiece ∅	x x x	max. Rändellänge longueur max. moletage max. knurling length	für Rollen / pour molettes / for knurling rolls	D × B × d	Ident. No.	
10	71	41	38	∅ 3 – 12×20			11 × 3 × 6		... – 1036	●
12	97	55	52	∅ 6 – 19×35		∅ 20×20	15 × 4 × 9		... – 1249	●
20	133	77	70	∅ 8 – 24×45		∅ 25 – 33×20	20 × 5 × 11		... – 20511	△

- Lieferbar ab Lager
- △ Solange Vorrat

Bedienungsanleitung

- Apparat in Revolverkopf-Bohrung einsetzen.
- Damit alle 3 Rollen gleichmäßig in Eingriff kommen, auf erstem Werkstück auf 6 mm Länge Andrehung nach folgender Tabelle anbringen.

Teilung

Pas Pitch	0,3	0,4	0,5	0,6	0,7	0,8	1,0	1,2	1,5
Andreh-∅ um ... mm verringern ∅ du bout à réduire de ... mm Machined ∅ smaller by ... mm	0,25	0,3	0,4	0,5	0,55	0,6	0,8	1,0	1,2

- Schrägbolzen in Führungen gegen Mitte verschieben, bis Rollen am angedrehten Werkstück-∅ anliegen.
- Schrauben festziehen.
- Schnittwerte (V+s) siehe Seite 9.

Rändelrollen-Ordnung

- Kreuzrändel GE 45°
Nrn. 1 + 2 = RFBR 15°, Nr. 3 = RFBL 15°
- Fischhauträndel GE 30°
Nrn. 1, 2 + 3 = RFAA 0°
- Längsrändel (nicht empfohlen)
Nrn. 1 + 2 = RFBL 30°, Nr. 3 = RFBR 30°

Rändelrollen siehe Seiten 16 – 18.

Auftretende Rändelräsprobleme und deren Lösung siehe Seite 11.

Bestell-Nr.: entsprechenden Haltertyp und Ident.-Nr. zusammenfügen, z.B. RRTN-1036

- Livrable du stock
- △ Jusqu'à épuisement du stock

Mode d'emploi

- Fixer l'appareil dans l'alsage de la tête revolver.
- Pour que les 3 molettes soient en prise uniforme, réaliser par tournage un diamètre au bout de la première pièce à usiner sur une longueur de 6 mm selon tableau ci-dessous.

- Déplacer les pivots obliques dans leurs coulisses de guidage jusqu'à ce que les molettes s'appuient sur la partie usinée.
- Serrer les vis.
- Valeurs de coupe (V+s) en page 9.

Disposition des molettes

- Moletage croisé GE 45°
N° 1 + 2 = RFBR 15°, n° 3 = RFBL 15°
- Moletage en losange GE 30°
N° 1, 2 + 3 = RFAA 0°
- Moletage longitudinal (non recommandé)
N° 1 + 2 = RFBL 30°, n° 3 = RFBR 30°

Molettes en pages 16-18.

Problèmes de moletage par fraisage et leurs solutions en page 11.

Référence de commande: type de porte-molettes suivi des dimensions, par exemple: RRTN-1036

- Available ex stock
- △ Until use up of stock

Set-up instructions

- Clamp tool in a turret post.
- Test the correct settings of the rolls on a trial workpiece with a machined front section of 6 mm length as listed below.

- With the rolls close to the machined section adjust the posts to bring the rolls in a complete alignment over their width.
- Tighten screws.
- Cutting data (V+s) see page 9.

Set-up of knurling rolls

- Cross knurl GE 45°
Nos 1 + 2 = RFBR 15°, No. 3 = RFBL 15°
- Diamond knurl GE 30°
Nos 1, 2 + 3 = RFAA 0°
- Longitudinal knurling (not recommended)
Nos 1 + 2 = RFBL 30°, No. 3 = RFBR 30°

Knurling rolls on pages 16 – 18.

Trouble-shooting guide when knurling by cutting on page 11.

Order number: Add ident. No. to type of knurling roll holder, e.g.: RRTN-1036



**HAROLD
HABEGGER**



 Made in Switzerland

FILIERES A ROULER LES FILETS

GEWINDEROLLEISEN

THREAD ROLLING DIES

Fillières à rouler, réglables

Gewinderolleisen, verstellbar

Thread rolling dies, adjustable

- Ces filières sont utilisées de préférence sur des machines CNC, avec nos porte-filières à compensation.
- Le diamètre sur le flanc du filet se règle au moyen de l'écrou du porte-filière.
- Le diamètre extérieur se règle en modifiant le diamètre de tournage.
- L'utilisation de ces filières est très économique, en raison de la possibilité de réglage. En refermant les filières, l'usure est compensée.
- Nous livrons des rouleaux en pièces de rechange pour ce type de filière. Ceux-ci peuvent être changés par l'utilisateur.

- *Diese Gewinderolleisen werden vorzüglich auf CNC Maschinen zusammen mit unseren ausgleichenden Rolleisenhaltern verwendet.*
- *Der Durchmesser auf der Gewindeflanke wird mit der Mutter geregelt.*
- *Der Aussendurchmesser regelt sich durch Änderung des Drehdurchmessers.*
- *Die Verwendung dieser Gewinderolleisen ist sehr kostengünstig, da man sie einstellen kann. Beim Schliessen der Rolleisen wird der Verschleiss ausgeglichen.*
- *Wir liefern die Rollen für diese Art von Rolleisen als Ersatzteile. Der Anwender kann sie selber austauschen.*

- These rolling dies are preferably used on CNC machines, together with our die holders with compensating system.
- The diameter on the thread flank is adjusted by means of the die holder nut.
- The outside diameter is adjusted by changing the turning diameter.
- The use of these dies is very economical thanks to the possibility to adjust them. When closing these dies, the wear will be compensated.
- For this kind of dies we supply rollers as spare parts. The user can exchange the rollers himself.

Fillières à rouler, non réglables

Gewinderolleisen, nicht verstellbar

Thread rolling dies, non adjustable

- Ces filières sont utilisées de préférence pour la production de petites vis (vis d'horlogerie, de lunetterie, etc.).
- Indiquer la matière et la tolérance lors de la commande.
- Le diamètre extérieur se règle en modifiant le diamètre de tournage.
- Nous ne livrons pas de pièces de rechange.

- *Diese Rolleisen werden vorzüglich bei der Herstellung von Kleinschrauben verwendet (Schrauben für die Uhrenindustrie, für Brillen, u.s.w.).*
- *Toleranz und Werkstoff bei der Bestellung angeben.*
- *Der Aussendurchmesser regelt sich durch Änderung des Drehdurchmessers.*
- *Wir liefern keine Ersatzteile.*

- These dies are preferably chosen for the production of small screws (as screws for the watch industry, for spectacles, etc.).
- Indicate tolerance and material at order.
- The outside diameter is adjusted by changing the turning diameter.
- We do not supply any spare parts.

Diamètre de tournage avant roulage

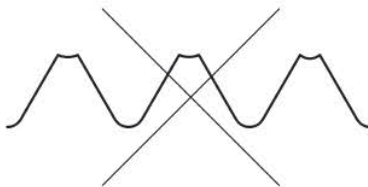
Drehdurchmesser vor dem Gewinderollen

Turning diameter before thread rolling

- Il correspond au diamètre sur flanc moins quelques centièmes. Le réglage final se fait en fonction du profil obtenu selon le croquis ci-dessous:

- *Dieser Durchmesser entspricht dem Flankendurchmesser weniger einige Hundertstel. Die endgültige Einstellung erfolgt gemäss dem erhaltenen Profil, laut Skizze:*

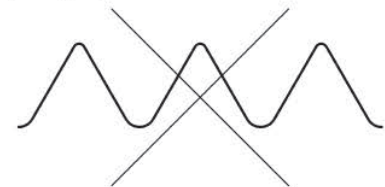
- The turning diameter corresponds to the diameter on flank, less a few hundredths. The final adjustment is effected according to the obtained profile, as per sketch below:



Ø de tournage trop petit
Vordreh-Ø zu klein
Preturned diameter too small

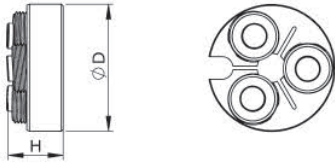


Ø de tournage idéal
Vordreh-Ø gut
Preturned diameter ok



Ø de tournage trop grand
Vordreh-Ø zu gross
Preturned diameter too large

**FILIERES A ROULER, REGLABLES
GEWINDEROLLEISEN, VERSTELLBAR
THREAD ROLLING DIES, ADJUSTABLE**



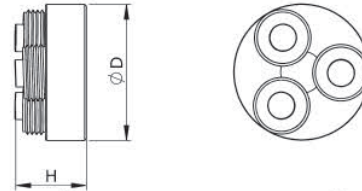
Filetage
Gewinde
Thread

Pas
Steigung
Pitch

øD x H

Porte-filières
Rolleisenhalter
Die holders

**FILIERES A ROULER, NON REGLABLES
GEWINDEROLLEISEN, NICHT VERSTELLBAR
THREAD ROLLING DIES, NON ADJUSTABLE**



Filetage
Gewinde
Thread

Pas
Steigung
Pitch

øD x H

Porte-filières
Rolleisenhalter
Die holders

ISO **NIHS** *Page/Seite 6 - 8*

RM 0.60	0.15	8 x 3	R 8
RM 0.70	0.175	8 x 3	R 8
RM 0.80	0.20	8 x 5	R 8
RM 0.90	0.225	8 x 5	R 8
RM 1.00	0.25	10 x 5	R 10
RM 1.10	0.25	10 x 5	R 10
RM 1.20	0.25	10 x 5	R 10
RM 1.30	0.30	10 x 6	R 10
RM 1.40	0.30	10 x 6	R 10
RM 1.50	0.30	10 x 6	R 10
RM 1.60	0.35	14 x 6	R 14
RM 1.70	0.35	14 x 6	R 14
RM 1.80	0.35	14 x 6	R 14
RM 2.00	0.40	14 x 6	R 14
RM 2.20	0.45	16 x 8	R 16
RM 2.50	0.45	16 x 8	R 16
RM 2.60	0.45	16 x 8	R 16
RM 3.00 PM	0.50	16 x 8	R 16
RM 3.00	0.50	25 x 11	R 25
RM 3.50	0.60	25 x 12	R 25
RM 4.00	0.70	25 x 12	R 25
RM 4.50	0.75	25 x 12	R 25
RM 5.00	0.80	27 x 13	R 27
RM 6.00	1.00	32 x 16	R 32
RM 8.00	1.25	35 x 20	R 35

ISO **NIHS** *Page/Seite 9*

M 0.30	0.08	6 x 2	N 6
M 0.35	0.09	6 x 2	N 6
M 0.40	0.10	6 x 2	N 6
M 0.50	0.125	6 x 3	N 6
M 0.60	0.15	6 x 3	N 6
M 0.70	0.175	6 x 3	N 6
M 0.80	0.20	8 x 5	N 8
M 0.90	0.225	8 x 5	N 8
M 1.00	0.25	8 x 5	N 8
M 1.10	0.25	8 x 5	N 8
M 1.20	0.25	8 x 5	N 8
M 1.30	0.30	8/10 x 6	N 8
M 1.40	0.30	8/10 x 6	N 8
M 1.50	0.30	8/10 x 6	N 8
M 1.60	0.35	12 x 6	N 12
M 1.70	0.35	12 x 6	N 12
M 1.80	0.35	12 x 6	N 12
M 2.00	0.40	12 x 6	N 12
M 2.20	0.45	12/16 x 8	N 12
M 2.50	0.45	12/16 x 8	N 12
M 2.60	0.45	12/16 x 8	N 12
M 3.00 PM	0.50	12/16 x 8	N 12
M 3.00	0.50	22 x 11	F 8
M 3.50	0.60	22 x 11	F 8
M 4.00	0.70	22 x 11	F 8
M 5.00	0.80	25 x 13	F 8
M 6.00	1.00	30 x 16	V 10 / F 10

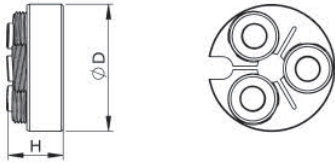
BA *Page/Seite 6 - 8*

RBA 16	8 x 5	R 8
RBA 14	8 x 5	R 8
RBA 13	10 x 6	R 10
RBA 12	10 x 6	R 10
RBA 11	10 x 6	R 10
RBA 10	14 x 6	R 14
RBA 9	14 x 6	R 14
RBA 8	16 x 8	R 16
RBA 7	16 x 8	R 16
RBA 6	16 x 8	R 16
RBA 5	25 x 11	R 25
RBA 4	25 x 11	R 25
RBA 3	25 x 12	R 25

BA *Page/Seite 9*

BA 14	8 x 5	N 8
BA 13	8 x 5	N 8
BA 12	8/10 x 6	N 8
BA 11	8/10 x 6	N 8
BA 10	12 x 6	N 12
BA 9	12 x 6	N 12
BA 7	12/16 x 8	N 12
BA 6	12/16 x 8	N 12

**FILIERES A ROULER, REGLABLES
GEWINDEROLLEISEN, VERSTELLBAR
THREAD ROLLING DIES, ADJUSTABLE**

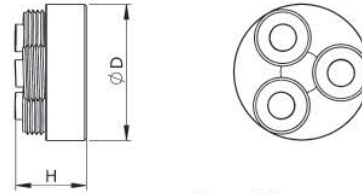


Filetage
Gewinde
Thread

ØD x H

Porte-filières
Rolleisenhalter
Die holders

**FILIERES A ROULER, NON REGLABLES
GEWINDEROLLEISEN, NICHT VERSTELLBAR
THREAD ROLLING DIES, NON ADJUSTABLE**



Filetage
Gewinde
Thread

ØD x H

Porte-filières
Rolleisenhalter
Die holders

UN Page/Seite 6 - 8

RUN 000-120	10 x 5	R 10
RUN 00-90	10 x 6	R 10
RUN 00-96	10 x 5	R 10
RUN 0-80	10 x 6	R 10
RUN 1-64	14 x 6	R 14
RUN 1-72	14 x 6	R 14
RUN 2-56	16 x 8	R 16
RUN 2-64	14 x 6	R 14
RUN 3-48	25 x 11	R 25
RUN 3-56	16 x 8	R 16
RUN 4-40	25 x 11	R 25
RUN 4-48	25 x 11	R 25
RUN 5-40	25 x 11	R 25
RUN 5-44	25 x 11	R 25
RUN 6-32	25 x 12	R 25
RUN 6-40	25 x 12	R 25
RUN 8-32	25 x 12	R 25
RUN 8-36	25 x 12	R 25
RUN 10-24	32 x 16	R 32
RUN 10-32	25 x 12	R 25
RUN 12-24	32 x 16	R 32
RUN 12-28	32 x 16	R 32
RUN 12-32	27 x 13	R 27
RUN 1/4"-28	32 x 16	R 32
RUN 1/4"-32	27 x 13	R 27
RUN 5/16"-24	35 x 16	R 35
RUN 5/16"-32	32 x 13	R 32
RUN 3/8"-24	35 x 16	R 35
RUN 3/8"-32	32 x 13	R 32
RUN 7/16"-32	32 x 13	R 32
RUN 9/16"-32	35 x 13	R 35

UN Page/Seite 9

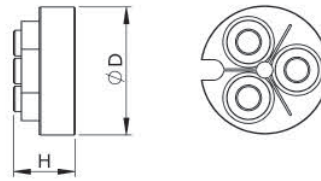
UN 000-120	8 x 5	N 8
UN 00-90	8/10 x 6	N 8
UN 00-96	8 x 5	N 8
UN 0-80	8/10 x 6	N 8
UN 1-64	12 x 6	N 12
UN 1-72	12 x 6	N 12
UN 2-56	12/16 x 8	N 12
UN 2-64	12 x 6	N 12
UN 3-48	22 x 11	F 8
UN 3-56	12/16 x 8	N 12
UN 4-40	22 x 11	F 8
UN 4-48	22 x 11	F 8
UN 5-44	22 x 11	F 8
UN 6-32	22 x 12	F 8
UN 6-40	22 x 11	F 8
UN 8-32	22 x 12	F 8
UN 10-32	22 x 12	F 8

• Sur demande : profils spéciaux, profils J et pivots dégagés laissant passer la tête de vis.
Auf Anfrage : Spezialprofile, Profil J und Ausführung mit ausgeweiteten Bolzen um den Schraubenkopf durchlaufen zu lassen.
On customer's request: special profiles, profiles J and cleared-off pivots to let the screw head pass through.

• Choix important d'autres filières à rouler dans les capacités suivantes :
Ø de filetage : 0.30 à 14.00 mm - Pas : 0.08 à 1.25 mm / 120 TPI à 20 TPI.
Grosse Liefermöglichkeiten anderer Gewinderolleisen in folgenden Fertigungsgrößen :
Ø des Gewindes : 0.30 bis 14.00 mm - Steigung : 0.08 bis 1.25 mm / 120 TPI bis 20 TPI.
Important choice of other thread rolling dies with the following capacities :
Thread dia. : 0.30 to 14.00 mm - Pitch : 0.08 to 1.25 mm / 120 TPI to 20 TPI.

• En principe, toutes les filières à rouler sont disponibles avec pas à gauche (type « L »).
Grundsätzlich sind alle Gewinderolleisen ebenfalls mit Linksgewinde verfügbar (Typ « L »).
Usually, all the rolling dies are available for L.H. threading (type « L »).

**FILIERES A GALETER, REGLABLES
GLATTWALZEISEN, VERSTELLBAR
BURNISHING DIES, ADJUSTABLE**



Ø après galetage
Ø nach dem Glätten
Dia. after burnishing

øD x H

Porte-filières
Rolleisenhalter
Die holders

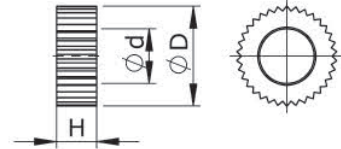
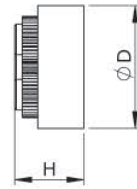
Page/Seite 6

RFG 0.30 → RFG 1.70	8 x 5	R 8
RFG 1.40 → RFG 3.80	16 x 9	R 16
RFG 3.00 → RFG 5.50	25 x 13	R 25
RFG 5.60 → RFG 7.30	27 x 13	R 27
RFG 7.40 → RFG 12.40	32 x 13	R 32

- Les dimensions des filières à galetter sont disponibles par dixième, mais uniquement pour le diamètre indiqué sur la filière.
Die Größen der Glattwalzeisen sind per Zehntel verfügbar, aber einzig nur für den Durchmesser, der auf dem Rolleisen steht.
The sizes of the burnishing dies are available per tenths of a millimetre, but each serves only for the diameter indicated on the die.
- L'opération de galetage améliore l'état de surface mais ne corrige pas le diamètre.
Das Glattwalzverfahren verbessert die Oberflächengüte, berichtigt aber den Durchmesser nicht.
The burnishing operation improves the surface finish, but does not influence the diameter.

**FILIERES A MOLETER EN BOUT, REGLABLES
VORDERE END-RÄNDEL, VERSTELLBAR
FRONT END KNURLING DIES, ADJUSTABLE**

(DIN 82)



Ø après moletage
Ø nach Randrieren
Dia. after knurling

Pas
Teilung
Pitch

øD x H

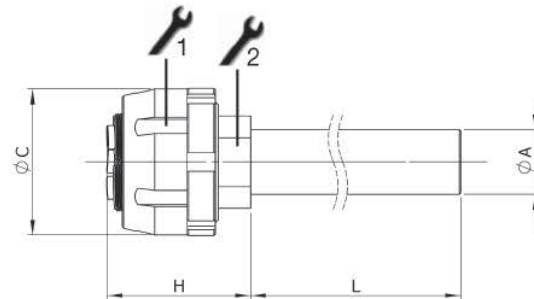
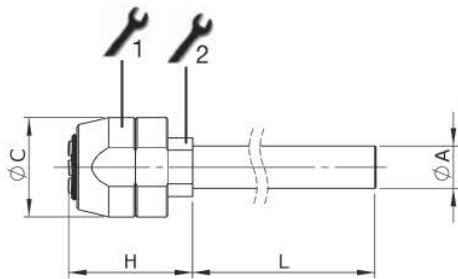
Porte-filières
Rolleisenhalter
Die holders

Molettes
Rändelräder
Knurls
øD x H x d

RAA	RBL	RBR	RGE	Page/Seite 6			Page/Seite 11
FM 0.60 → FM 1.90	0.13	8	x 5	R 8		3 x 1.15 x 1.64 (AA)	
FM 0.60 → FM 1.90	0.15	8	x 5	R 8		3 x 1.15 x 1.64 (C30°)	
FM 0.80 → FM 1.70	0.26	8	x 5	R 8		3 x 1.15 x 1.64 (AA)	
FM 1.10 → FM 2.00	0.20/0.25/0.30	14	x 8	R 14		5 x 2.00 x 2.50 (AA)	
FM 1.50 → FM 3.90	0.20 → 0.60	16	x 9	R 16		6 x 2.50 x 3.00	
FM 2.90 → FM 5.20	0.20 → 1.20	25 (27)	x 13	R 25 (R 27)		10 x 4.00 x 4.00	
FM 4.30 → FM 7.00	0.20 → 1.20	(25) 27 (32)	x 13	(R 25) R 27 (R 32)		10 x 4.00 x 4.00	
FM 6.10 → FM 12.10	0.20 → 1.20	(27) 32 (35)	x 13	(R 27) R 32 (R 35)		10 x 4.00 x 4.00	
FM 11.20 → FM 14.10	0.20 → 1.20	(32) 35	x 13	(R 32) R 35		10 x 4.00 x 4.00	

- Les dimensions des filières à moleter sont disponibles par dixième, mais uniquement pour le diamètre indiqué sur la filière.
Die Größen der End-Rändel sind per Zehntel verfügbar, aber einzig nur für den Durchmesser, der auf dem End-Rändel steht.
The sizes of the knurling dies are available per tenths of a millimetre, but each serves only for the diameter indicated on the die.
- Autres dimensions sur demande.
Sonderabmessungen auf Anfrage.
Other dimensions on request.


**PORTE-FILIERES, REGLABLES
ROLLEISENHALTER, VERSTELLBAR
DIE HOLDERS, ADJUSTABLE**

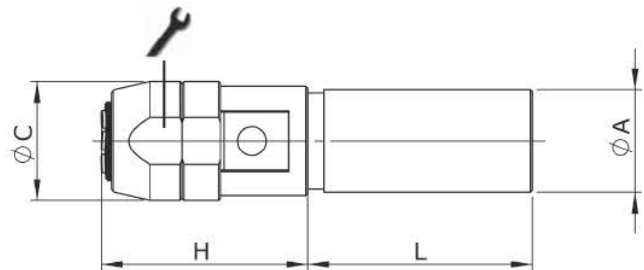
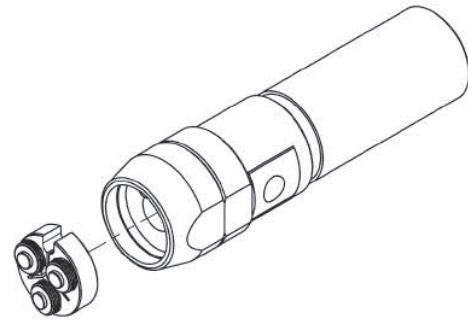


Type - øA	L	øC	1	2	H (max)
R 8 - 3	55	13	11	5.50	21
R 8 - 5	55	13	11	5.50	21
R 8 - 7	55	13	11	5.50	21
R 8 - 8	55	13	11	5.50	21
R 10 - 3	55	15	13	9	22
R 10 - 5	55	15	13	9	22
R 10 - 6	55	15	13	9	22
R 10 - 7	55	15	13	9	22
R 10 - 8	55	15	13	9	22
R 12 - 3	55	16.5	15	9	22
R 12 - 5	55	16.5	15	9	22
R 12 - 7	55	16.5	15	9	22
R 12 - 8	55	16.5	15	9	22
R 14 - 3	55	19	17	9	22
R 14 - 5	55	19	17	9	22
R 14 - 7	55	19	17	9	22
R 14 - 8	55	19	17	9	22
R 16 - 3	55	22	19	13	24
R 16 - 4	55	22	19	13	24
R 16 - 5	55	22	19	13	24
R 16 - 6	55	22	19	13	24
R 16 - 7	55	22	19	13	24
R 16 - 8	55	22	19	13	24
R 19 - 5	55	26	22	15	28
R 19 - 8	55	26	22	15	28

Type - øA	L	øC	1	2	H (max)
R 25 - 5	55	32	8025	17	32
R 25 - 6	55	32	8025	17	32
R 25 - 7	55	32	8025	17	32
R 25 - 8	80	32	8025	17	32
R 25 - 10	80	32	8025	17	32
R 25 - 14	80	32	8025	17	32
R 27 - 6	55	35	8027	19	33
R 27 - 7	55	35	8027	19	33
R 27 - 8	80	35	8027	19	33
R 27 - 10	80	35	8027	19	33
R 27 - 12	80	35	8027	19	33
R 27 - 14	80	35	8027	19	33
R 32 - 8	80	40	8032	22	37
R 32 - 10	80	40	8032	22	37
R 32 - 12	80	40	8032	22	37
R 32 - 14	80	40	8032	22	37
R 32 - 16	80	40	8032	22	37
R 35 - 10	80	45	8035	27	42
R 35 - 12	80	45	8035	27	42
R 35 - 14	80	45	8035	27	42
R 40 - 12	80	52	8035	27	45
R 40 - 14	80	52	8035	27	45
R 40 - 16	80	52	8035	27	45
R 40 - 20	80	52	8035	27	45

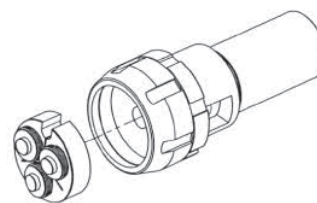
PORTE-FILIERES, REGLABLES, AVEC SYSTEME DE COMPENSATION
ROLLEISENHALTER, VERSTELLBAR, MIT AUSGLEICHVORRICHTUNG
DIE HOLDERS, ADJUSTABLE, WITH COMPENSATING SYSTEM

Type - ϕA	L	ϕC		H (max)
R 8 - 13	35	13	11	28
R 8 - 5/8"	35	13	11	28
R 8 - 16	35	13	11	28
R 10 - 13	35	15	13	29
R 10 - 5/8"	35	15	13	29
R 10 - 16	35	15	13	29
R 12 - 13	35	16.5	15	22
R 12 - 5/8"	35	16.5	15	22
R 12 - 16	35	16.5	15	22
R 14 - 13	35	19	17	29
R 14 - 5/8"	35	19	17	29
R 14 - 16	35	19	17	29
R 14 - 3/4"	35	19	17	29
R 14 - 20	35	19	17	29
R 14 - 22	35	19	17	29
R 14 - 25	35	19	17	29
R 16 - 13	35	22	19	31
R 16 - 5/8"	35	22	19	31
R 16 - 16	35	22	19	31
R 16 - 3/4"	35	22	19	31
R 16 - 20	35	22	19	31
R 16 - 22	35	22	19	31
R 16 - 25	35	22	19	31
R 19 - 13	35	26	22	28
R 19 - 5/8"	35	26	22	28
R 19 - 16	35	26	22	28
R 19 - 3/4"	35	26	22	28
R 19 - 20	35	26	22	28
R 19 - 22	35	26	22	28
R 19 - 25	35	26	22	28

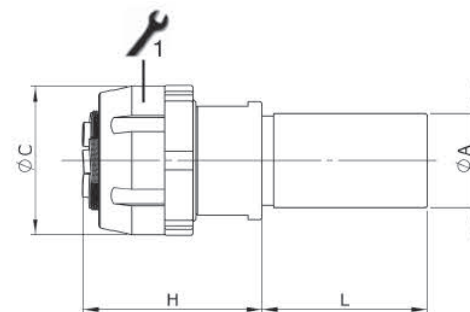


- Les porte-filières avec système de compensation s'emploient sur les machines à poupée fixe et machines CNC.
Die Rolleisenhalter mit Ausgleichvorrichtung werden auf Maschinen mit festem Spindelstock und auf CNC-Maschinen verwendet.
 The die holders with compensating system are needed on machines with fixed headstock and on CNC machines.
- La fonction « rigid tapping » ne convient pas au roulage de filets.
Die Funktion „rigid tapping“ ist beim Rollen der Gewinde nicht angebracht.
 The function "rigid tapping" is not convenient for thread rolling.

**PORTE-FILIERES, REGLABLES, AVEC SYSTEME DE COMPENSATION
 ROLLEISENHALTER, VERSTELLBAR, MIT AUSGLEICHVORRICHTUNG
 DIE HOLDERS, ADJUSTABLE, WITH COMPENSATING SYSTEM**

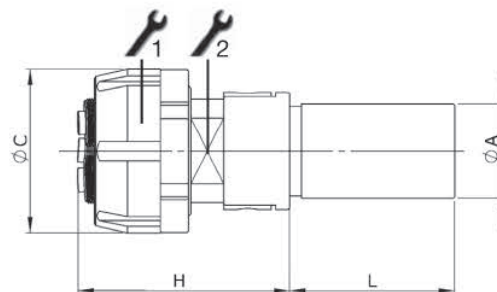


Type - øA	L	øC	1	H (max)
R 25 - 16	35	32	8025	35
R 25 - 3/4"	35	32	8025	35
R 25 - 20	35	32	8025	35
R 25 - 22	35	32	8025	35
R 25 - 25	35	32	8025	35



Type - øA	L	øC	1	2	H (max)
R 27 - 16	35	35	8027	19	43
R 27 - 3/4"	35	35	8027	19	43
R 27 - 20	35	35	8027	19	43
R 27 - 22	35	35	8027	19	43
R 27 - 25	35	35	8027	19	43

R 32 - 16	35	40	8032	22	47
R 32 - 3/4"	35	40	8032	22	47
R 32 - 20	35	40	8032	22	47
R 32 - 22	35	40	8032	22	47
R 32 - 25	35	40	8032	22	47



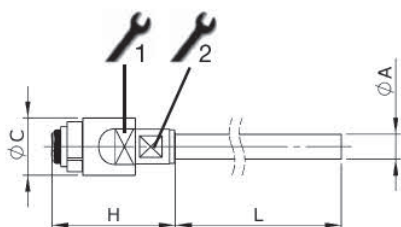
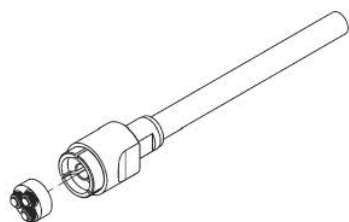
R 35 - 16	35	45	8035	27	52
R 35 - 3/4"	35	45	8035	27	52
R 35 - 20	35	45	8035	27	52
R 35 - 22	35	45	8035	27	52
R 35 - 25	35	45	8035	27	52

R 40 - 16	35	52	8035	27	55
R 40 - 3/4"	35	52	8035	27	55
R 40 - 20	35	52	8035	27	55
R 40 - 22	35	52	8035	27	55
R 40 - 25	35	52	8035	27	55

- Les porte-filières avec système de compensation s'emploient sur les machines à poupée fixe et machines CNC.
 Die Rolleisenhalter mit Ausgleichvorrichtung werden auf Maschinen mit festem Spindelstock und auf CNC-Maschinen verwendet.
 The die holders with compensating system are needed on machines with fixed headstock and on CNC machines.
- La fonction « rigid tapping » ne convient pas au roulage de filets.
 Die Funktion „rigid tapping“ ist beim Rollen der Gewinde nicht angebracht.
 The function "rigid tapping" is not convenient for thread rolling.

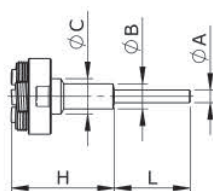
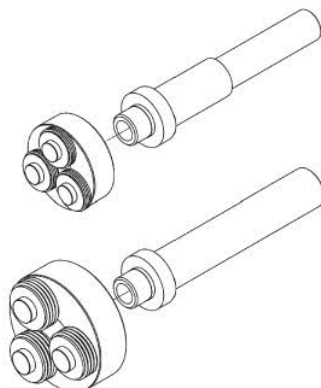
PORTE-FILIERES, NON REGLABLES
ROLLEISENHALTER, NICHT VERSTELLBAR
DIE HOLDERS, NON ADJUSTABLE

PFN



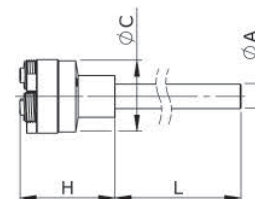
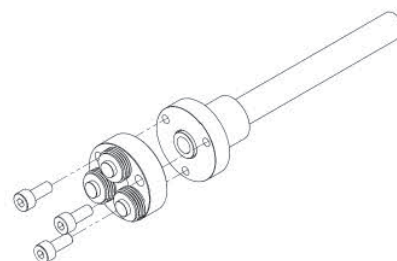
Type - øA	L	øC	H	1	2
		(max)			
N 6 - 3	53	12	24	9	5.50
N 6 - 5	53	12	24	9	5.50
N 8 - 3	53	12	27	9	5.50
N 8 - 5	53	12	27	9	5.50
N 12 - 3	46	14	33	12	7.00
N 12 - 5	46	14	33	12	7.00

PFF



Type - øA	L	øB	øC	H
				(max)
F 8 - 5	30	10	14	37
F 8 - 6	30	10	14	37
F 8 - 7	30	10	14	37
F 8 - 8	30	10	14	37
F 8 - 10	50	(10)	14	37
F 10 - 8	30	10	16	39
F 10 - 10	50	(10)	16	19
F 11 - 10	50	(10)	18	21

PFV



Type - øA	L	øC	H
			(max)
V 10 - 8	80	29	39
V 10 - 10	80	29	39
V 10 - 12	80	29	39
V 10 - 14	80	29	39

- Les porte-filières permettent de fixer toutes les filières de notre fabrication sur chaque type de tour automatique.
Die Rolleisenhalter erlauben alle unsere Rolleisen auf jeden Langdrehautomaten einzusetzen.
 The die holders permit to mount our rolling dies on all types of automatic lathes.
- Le montage sur la machine se fera, suivant le cas, au moyen d'une pince de serrage, ou directement dans le logement de la pince avec un cône de serrage (voir page 21).
Die Montage erfolgt, je nach dem einzelnen Fall, mit einer Spannzange oder direkt im Gehäuse, mit einem Spannkonus (siehe Seite 21).
 The assembly on the machine will be effected either with a clamping collet or directly into the collet housing with the help of a clamping cone (see page 21).
- Le porte-filière type V est utilisé pour les filières M 6.00 x 1.00 DE 30 uniquement.
Der Rolleisenhalter Typ V wird ausschliesslich für Rolleisen M 6.00 x 1.00 AD 30 verwendet.
 The die holder type V is exclusively used for dies M 6.00 x 1.00 OD 30.

CANONS DE GUIDAGE

FÜHRUNGSBÜCHSEN

GUIDE BUSHES

Principaux avantages

- Ils sont particulièrement appréciés lors de l'usinage de matières grippant facilement, telles que les aciers inoxydables, le nickel, etc. ainsi que lors du moletage ou de toute opération causant une forte pression radiale.
- **Fonctionnement performant avec de l'huile sans chlore.**
- Vitesse de rotation élevée (pas limitée par le canon).
- Capacité maximum de la longueur de tournage.

Wichtigste Vorteile

- *Sie werden besonders bevorzugt, wenn Material, welches sonst gerne einklemmt, bearbeitet wird, wie zum Beispiel rostfreier Stahl, Nickel, usw., beim Randrieren oder bei jeglicher Arbeit die einen starken Radialdruck verursacht.*
- **Leistungsstarker Betrieb mit Öl ohne Chlor.**
- *Hohe Drehgeschwindigkeit (keine Begrenzung durch die Führungsbüchse).*
- *Maximale Drehlänge.*

Main advantages

- They are particularly recommended for tough materials, which would easily seize, like stainless steel, nickel, etc.; or when knurling or any other operations causing a high radial effort on the bar are effected.
- **High performance with oil without chlorine.**
- High rotation speed (not limited by the bush).
- Maximum turning length.

Montage : voir page 18-20

Montage : siehe Seite 18-20

Assembly : refer to page 18-20

Réglage

- Réglage du jeu de la barre: comme un canon conventionnel, c'est-à-dire par action sur l'écrou se trouvant à l'arrière du canon.
- Eviter que la barre soit polie par un canon trop serré.

Einstellung

- *Die Einstellung des Spiels der Materialstange erfolgt wie für eine übliche Führungsbüchse, d.h. durch Wirken auf die Mutter, hinten auf der Büchse.*
- *Das Polieren der Materialstange durch eine zu fest gespannte Büchse vermeiden!*

Adjustment

- The adjustment of the bar clearance is effected as for a conventional guide bush, i.e. by acting on the nut at the back of the bush.
- Avoid polishing the material bar by a guide bush which is too tight.

Lubrification

- Le système de lubrification avec filtre empêche la pénétration d'impuretés à l'intérieur du canon et prévient l'usure prématurée de ce dernier.
- Aucune garantie n'est assurée sur les canons qui sont utilisés sans le système de lubrification muni du filtre.

Schmierung

- *Das Schmiersystem mit Filter verhindert das Eindringen von Spänen oder anderen Unreinlichkeiten in die Führungsbüchse und erhöht somit ihre Lebensdauer.*
- *Bei Gebrauch von Führungsbüchsen ohne Schmiersystem und ohne Filter wird keine Garantie gewährt.*

Lubrication

- The lubrication system with filter prevents swarf from entering into the interior of the guide bush causing premature wear of the carbide rollers.
- Guide bushes which are used without filtered lubrication will not be subject to the manufacturer's guarantee.

Kits de rechange

- Les canons de guidage sont répartis en 8 familles différentes identifiables selon le diamètre extérieur de la douille. Pour chacune de ces familles, il est possible de couvrir des plages de diamètre maximum en changeant les pièces intérieures. Des kits sont prévus à cet effet.

Auswechsel-Kits (Umbausätze)

- *Die Führungsbüchsen sind in 8 verschiedene Familien verteilt. Man erkennt sie nach dem Aussen-Durchmesser der Hülse. Für jede dieser Familien kann man ein Maximum von Durchmesser-Reihen abdecken, wenn man die inneren Teile auswechselt. Kits wurden zu diesem Zwecke vorgesehen.*

Exchange kits

- The guide bushes are divided in 8 different families which can be identified according to the outside diameter of the sleeve. For each of these families, it is possible to suit a maximum of diameter ranges, by exchanging the inside parts. Kits are foreseen for this purpose.

ARGUMENTS EN FAVEUR DU CANON DE GUIDAGE A GALETS

- Vu son contact direct avec la matière, il **évite tout problème de mal-rond** lié aux canons tournants. La concentricité entre le diamètre de matière et le tournage extérieur et intérieur est garantie.
- Il **supprime les grippages axiaux** lors de grands enlèvements de copeaux ainsi que lors de filetages par peignage.

Il **est précontraint**, grâce à son système de réglage. Ce n'est pas le cas de la pince du canon tournant. Lors d'efforts radiaux, la pince n'étant pas précontrainte, elle peut s'ouvrir légèrement (jeu du filet et élasticité de la matière de la pince).
- Il **travaille sans problème avec l'émulsion**. Plus de 50% des utilisateurs de canons à galets travaillent avec de l'émulsion et cette proportion est en constante augmentation.
- Il **n'est pas limité en vitesse de rotation** sur les machines du marché actuel, ceci étant dû au fait que le diamètre de rotation des galets est inférieur au diamètre des roulements des canons tournants.
- Il permet, en le serrant un peu plus que normal, de corriger légèrement une mauvaise géométrie des matières malléables telles que le titane, l'aluminium, etc. Il a pour action le galetage de la matière brute. **Le canon à galets peut être déplacé dans l'axe de la matière, ce qui permet de l'approcher ou de l'éloigner des outils**, ceci contrairement au canon tournant dont la position axiale est fixe.

ARGUMENTE ZU GUNSTEN DER FÜHRUNGSBÜCHSE MIT ROLLEN

- *Sie vermeidet das Problem der unrunnen Bearbeitung, die öfters im Zusammenhang mit den drehenden Führungsbüchsen steht. Die Konzentrität zwischen Material-Durchmesser und dem Aussen- und Innen-Durchmesser des Werkstückes ist garantiert.*
- *Sie vermeidet das axiale Festsitzen wenn man mit grossen Spänen arbeitet oder wenn man das Gewinde strählt.*
- *Sie ist vorgespannt, dank deren Einstellungs-System. Dies ist für die Zange der drehenden Führungsbüchse nicht der Fall. Bei seitlichem Druck kann sich die nicht vorgespannte Zange leicht öffnen (Spiel des Gewindes, Elastizität des Werkstoffes der Zange).*
- *Sie kennt keine Probleme mit Emulsionen. Über 50% der Anwender dieser Büchsen verwenden Emulsionen. Der Prozentsatz ist noch steigend.*
- *Sie läuft mit unbeschränkter Geschwindigkeit auf den heutigen Maschinen. Der Grund dafür liegt im Durchmesser der Rollen, deren Drehdurchmesser kleiner ist als der Durchmesser der Kugellager drehender Führungsbüchsen.*
- *Sie erlaubt durch etwas mehr Spannung als üblich, die Geometrie von weichem Material, wie Titan, Aluminium, u.s.w. zu korrigieren. Es erfolgt ein Glatwalzen des Rohstoffes. Die Führungsbüchse kann axial auf der Materialstange versetzt werden, was erlaubt, sie näher zu den Werkzeugen oder aber auch weiter weg von den Werkzeugen anzusetzen. Dies ist bei der drehenden Büchse nicht möglich, weil deren axiale Position fest ist.*

ARGUMENTS IN FAVOUR OF THE GUIDE BUSH WITH ROLLERS

- It permits to avoid any problem of **untrueness** in connection with usual revolving bushes, because of its direct contact with the material. The concentricity between material diameter and outside/inside turning diameters of the workpiece is warranted.
- It **avoids any axial seizing-up** when cutting large chips or when chasing a thread.

It **is preloaded** by its setting system. This, however, is not the case for the collet of a revolving bush. By radial efforts, the collet with no preload may open a bit (clearance of the thread, elasticity of the collet material).
- It **makes no problem with the emulsions**. More than 50% of the users run the machines with emulsion. The proportion increases still.
- It **has no rotation speed limits** on the present machines on the market. This is related to the fact that the rotation diameter of the rollers is smaller than the ball-bearing diameter of usual revolving bushes.
- It permits to correct slightly the geometry of smooth materials, like Titan, Aluminium, etc. by clamping it a little more than usual. The action will result in «rolling» the raw material. **The guide bush can be moved on the material axis, so that it can be brought nearer to the tools or moved a little away from them**. This, however, cannot be done with the revolving bush, as its axial position is fixed.

**ARGUMENTS EN FAVEUR DU
CANON DE GUIDAGE A
GALETS "C"**

- Il offre l'avantage d'être très court, environ la moitié de la longueur actuelle des canons de type "D", ce qui permet de **réduire la chute de manière conséquente**.
- Il est **réglable par l'avant**, ce qui évite à l'utilisateur des contorsions dues aux espaces restreints des machines CNC.
- Il permet **d'évacuer les chutes par l'avant** entre la poupée et le canon, ce qui évite des temps improductifs lors du changement de barres.

**ARGUMENTE ZU GUNSTEN DER
FÜHRUNGSBÜCHSE MIT ROLLEN
"C"**

- *Sie bietet den Vorteil sehr kurz zu sein, d.h. sie misst ca. die Hälfte der Büchsen Typ "D". Somit erlaubt sie **die Reststücke der Material-Stangen zu verkürzen und Material zu sparen.***
- *Sie wird **von vorne eingestellt**. Der Anwender hat einen **leichteren Zugriff im engen Arbeitsraum der CNC-Maschinen.***
- *Sie erlaubt **die Reststücke nach vorne auszuwerfen**, zwischen Spindelstock und Büchse. **Beim Laden der Stangen vermeidet sie somit unproduktive Zeiten.***

**ARGUMENTS IN FAVOUR OF
THE GUIDE BUSH WITH
ROLLERS "C"**

- It has the advantage of being very short. It has about the half of the length of the bushes type "D". **Thus the end piece of the material bar can be reduced in consequence.**
- It is **adjusted from the front side**. This gives the user a better access when the space on CNC machines is restricted.
- It permits **to evacuate the bar ends through the front**, between the headstock and the bush. Dead times will be avoided at changing the material bars.

- Nous sommes conscients que le canon à galets ne peut pas résoudre toutes les demandes mais les remarques ci-dessus devraient être prises en considération lors du choix d'un système de canon le plus économique.

Bestimmt kann die Führungsbüchse mit Rollen nicht alle Probleme lösen. Jedoch sollten die obenstehenden Bemerkungen in Betracht gezogen werden, weil sie dem Anwender ermöglichen, eine wirtschaftliche Wahl seines Führungsbüchsen-Systems zu treffen.

Of course, the guide bush with rollers will not solve all your problems, but the notes above should be considered when you want to select a guide bush system. The guide bush with rollers will offer an economical solution in many cases.

- Le montage sur la machine se fait comme pour un canon conventionnel. Nous proposons un grand choix de porte-canons et de douilles de réduction (voir pages 18-20).

Die Montage auf die Maschine erfolgt wie für eine übliche Führungsbüchse. Wir bieten eine grosse Auswahl von Büchsenhaltern und Reduktionshülsen an (siehe Seite 18-20).

Assembly on the machine is effected like you do for a conventional guide bush. We offer a great choice of bush holders and reduction sleeves (see page 18-20).

- Les types de canons sont à choisir en fonction des machines ou des porte-canons (voir page 18-20).

Die verschiedenen Typen von Führungsbüchsen müssen je nach Maschinen oder Büchsenhaltern gewählt werden (siehe Seite 18-20).

The different types of guide bushes must be selected according to the machines or bush holders used (see page 18-20).

- Le canon ne doit être utilisé que pour des barres du diamètre correspondant à la dimension indiquée sur le couvercle. *Die Führungsbüchse darf nur für Materialstangen des Durchmessers, der auf dem Deckel verzeichnet ist, verwendet werden.*
The guide bush can only be used for bars of the diameter which corresponds to the size indicated on the cap.

CANON 3 POSITIONS

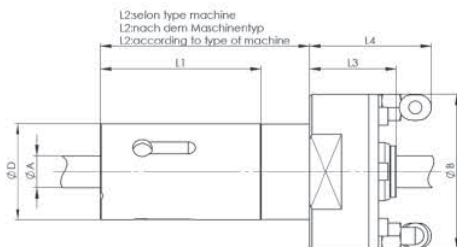
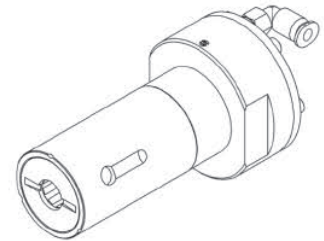
- Canon non-tournant avec galets en métal dur, en contact direct avec la barre à usiner. Réglage effectué par un vérin pneumatique permettant d'ajuster le réglage du canon.
- 3 positions: travail - serrage – ouverte.
- Avant l'usinage de chaque pièce, le canon s'ajuste à la tolérance précise (max. h11) de la barre, à l'endroit où la pièce sera usinée.
- Montage réalisable à l'aide de portecanons de notre fabrication sur la plupart des machines CNC (voir page 18).
- Lors d'un micro-fraisage ou d'un quelconque autre usinage radial, la fonction de serrage du canon permet de maintenir la barre de manière rigide et éviter ainsi une usure rapide des outils concernés.
- La même fonction de serrage peut être sollicitée pour un ravitaillement d'une longue pièce nécessitant une ouverture de pince, il remplace alors le «serre-fil» traditionnel.
- A l'opposé, la position ouverte du canon permet des avances rapides de la poupée, en évitant des marques du canon sur la matière brute.
- Lors du changement de barre, cette position ouverte facilite l'extraction de la chute et favorise l'introduction de la nouvelle barre.

FÜHRUNGSBÜCHSE 3 POSITIONEN

- *Nicht drehende Büchse mit Hartmetallrollen und direktem Kontakt mit der bearbeiteten Materialstange. Die Einstellung erfolgt durch einen pneumatischen Zylinder.*
- *3 Positionen: Arbeitsposition - Spannposition - offene Position.*
- *Vor der Bearbeitung eines jeden Werkstückes passt sich die Führungsbüchse der genauen Toleranz (Max. h11) der Materialstange an, da wo das Werkstück bearbeitet wird.*
- *Die Montage kann mit Büchsenhaltern unserer Fabrikation auf die meisten CNC Maschinen erfolgen (siehe Seite 18).*
- *Bei einer Mikro-Fräsung oder bei irgendeiner radialen Bearbeitung erlaubt die Spannfunktion der Führungsbüchse die Stange in starrer Weise zu halten und vermeidet so einen schnellen Verschleiss der Werkzeuge*
- *Die gleiche Spannfunktion kann beansprucht werden, wenn ein langes Werkstück bearbeitet wird, wobei die Spannzange sich öffnen muss. Die Führungsbüchse ersetzt dann die übliche Drahtklemmvorrichtung.*
- *Andernfalls ermöglicht die Öffnungsposition der TP Führungsbüchse Schnellvorschübe des Spindelstockes zutätigen, wobei unerwünschte Verletzungen der Stange vermieden werden.*
- *Beim Stangenwechsel erleichtert die offene Position den Auswurf des Endstückes und das Einführen der neuen Stange.*

GUIDE BUSH 3 POSITIONS

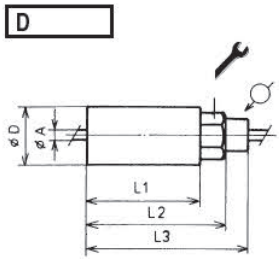
- Non-revolving bush fitted with tungsten carbide rollers. Direct contact with the machined material bar. The adjustment is done by a pneumatic cylinder.
- 3 positions: working - clamping – open.
- Before machining each workpiece, the guide bush gets adjusted to the exact tolerance (max. h11) of the material bar, there where the workpiece will be clamped.
- Assembly is possible with guide bush holders of our production on most of the CNC machines (see page 18).
- At a micro-milling operation or at any other radial machining operation, the clamping function of the TP bush permits to maintain the bar in a rigid manner, avoiding a rapid wear of the tools used.
- The same clamping function can be asked for when feeding a long workpiece requesting the clamping collet to open. The bush replaces then the conventional "thread clamping device".
- On the other side, the open position of the TP bush permits fast feeds by the headstock, avoiding eventual marks made by the bush on the raw material bar.
- When changing the bar, the open position makes easy to extract the useless end-piece of the bar. The new bar can easily be introduced.



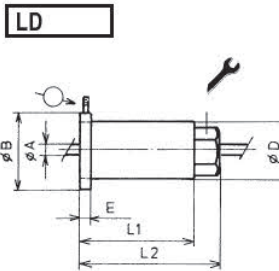
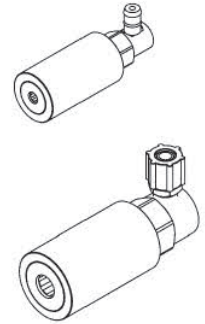
	øA	øB	øD	L1	L3	L4
TP 18	3.38 - 4.76	36	18	35	25	37
TP 22	4.77 - 5.57	38	22	40	25	37
TP 25	5.68 - 7.36	41	25	45	26	37
TP 30	7.37 - 10.45	48	30	50	27	38
TP 35	10.46 - 18.10	55	35	55	28	38
TP 40	18.11 - 22.00	66	40	60	29	41

CANONS DE GUIDAGE A GALETS EN METAL DUR, AVEC SYSTEME DE LUBRIFICATION
FÜHRUNGSBÜSCHSEN MIT HARTMETALLROLLEN, MIT SCHMIERSYSTEM
GUIDE BUSHES WITH CARBIDE ROLLERS, WITH LUBRICATING SYSTEM

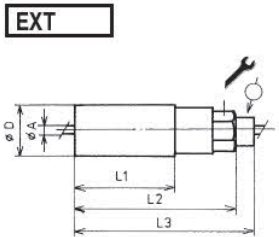
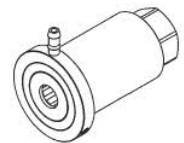
Type de canon
 Führungsbüchse-Typ
 Guide bush type



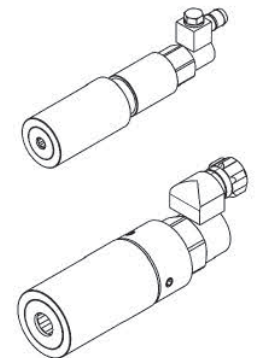
	øA	øD	L1	L2	L3	↗
D 15	1.59 - 3.37	15	35	59	71	10
D 18	3.38 - 4.76	18	35	59	71	12
D 22	4.77 - 5.67	22	40	59	73	14
D 25	5.68 - 7.36	25	45	59	73	17
D 30	7.37 - 10.45	30	50	62	76	22
D 35	10.46 - 18.10	35	55	67	81	25
D 40	18.11 - 22.00	40	60	72	86	30
D 50	22.01 - 26.00	50	65	79	93	36

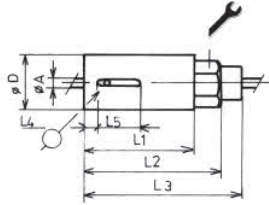



	øA	øD	L1	L2	øB	E	↗
LD 15	1.59 - 3.37	15	35	59	25	5	10
LD 18	3.38 - 4.76	18	35	59	28	5	12
LD 22	4.77 - 5.67	22	40	59	32	5	14
LD 25	5.68 - 7.36	25	45	59	35	5	17
LD 30	7.37 - 10.45	30	50	62	40	6	22
LD 35	10.46 - 18.10	35	55	67	45	6	25
LD 40	18.11 - 22.00	40	60	72	50	6	30
LD 50	22.01 - 26.00	50	65	79	60	6	36

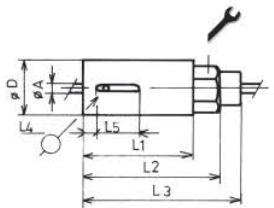



	øA	øD	L1	L2	L3	↗
EXT 15	1.59 - 3.37	15	35	81	93	10
EXT 18	3.38 - 4.76	18	35	81	93	12
EXT 22	4.77 - 5.67	22	40	81	93	14
EXT 25	5.68 - 7.36	25	45	84	98	17
EXT 30	7.37 - 10.45	30	50	84	98	22
EXT 35	10.46 - 18.10	35	55	84	98	25

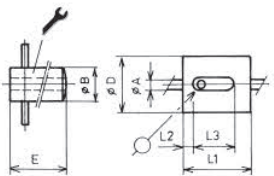



CNC


	$\varnothing A$	$\varnothing D$	L1	L2	L3	L4	L5	
CNC 15	1.59 - 3.37	15	35	59	71	5	12	10
CNC 18	3.38 - 4.76	18	35	59	71	11.5	12	12
CNC 22	4.77 - 5.67	22	40	59	73	11.5	12	14
CNC 25	5.68 - 7.36	25	45	59	73	11.5	12	17
CNC 30	7.37 - 10.45	30	50	62	76	10.5	14	22
CNC 35	10.46 - 18.10	35	55	67	81	10.5	14	25
CNC 40	18.11 - 22.00	40	60	72	86	10.5	14	30
CNC 50	22.01 - 26.00	50	65	79	93	10.5	14	36


EN


	$\varnothing A$	$\varnothing D$	L1	L2	L3	L4	L5	
EN 15	1.59 - 3.37	15	35	59	71	11.5	15	10
EN 18	3.38 - 4.76	18	35	59	71	11.5	15	12
EN 22	4.77 - 5.67	22	40	59	73	11.5	25	14
EN 25	5.68 - 7.36	25	45	59	73	11.5	30	17
EN 30	7.37 - 10.45	30	50	62	76	10.5	32	22
EN 35	10.46 - 18.10	35	55	67	81	10.5	32	25
EN 40	18.11 - 22.00	40	60	72	86	10.5	32	30
EN 50	22.01 - 26.00	50	65	79	93	10.5	32	36


C


	$\varnothing A$	$\varnothing D$	L1	L2	L3	$\varnothing B$	E	
C 15	1.59 - 3.37	15	27	10	9	11	45	C 15
C 18	3.38 - 4.76	18	30	10	9	14	60	C 18
C 22	4.77 - 5.67	22	32	10	12	17	60	C 22
C 25	5.68 - 7.36	25	36	10	15	19	60	C 25
C 30	7.37 - 10.45	30	40	10	19	22	60	C 30
C 35	10.46 - 18.10	35	42	10	22	26	60	C 35
C 40	18.11 - 22.00	40	50	10	27	32	80	C 40
C 50	22.01 - 26.00	50	55	10	30	38	80	C 50
C 66	26.01 - 32.00	66	60	10	30	45	80	C 66



- La clé de réglage du canon C est pré-guidée sur la matière, il est donc nécessaire d'avoir une clé par diamètre de passage de barre.
Der Einstell-Schlüssel für Büchse C wird auf dem Material vorgeleitet. Man muss deshalb für jeden Materialdurchlass einen Schlüssel vorrätig halten.
 The setting key for C bush is pre-guided on the material bar. Therefore it is necessary to hold one key per material diameter.

**PORTE-CANONS
BÜSCHSENHALTER
BUSH HOLDERS**

Pour tour
Für Automaten
For lathe

Type de canon
Führungsbüchse-Typ
Guide bush type

TORNOS		
ENC - 16 / 162 / 164	CNC / C	
ENC - 26 / 262 / 264 / TOP 200	EN / C	
ENC - 74 / 75	CNC / C	
ENC - 163 / 167	CNC / C	
DECO 2000 - 7/10	CNC / C	
DECO 2000 - 13 / 16	C	
DECO 2000 - 20	CNC / C	
DECO 2000 - 26	CNC / C	
DECO Sigma 20	CNC / C	
DECO Sigma 32	CNC / C	SP. Ø 26.00 - Ø 32.00
DELTA 12 / 20	CNC / C	
EvoDECO 10	CNC / C	
EvoDECO 16	C	
Gamma 20	CNC / C	

MANURHIN		
Swing 13	CNC / C	
Swing 20	CNC / C	
Twin	CNC / C	
K'MX 20/26	LD	
K'MX 413	CNC / C	

STAR		
RNC 16	CNC / C	
SW 7R / SW10	CNC / C	
SH 7/12/16	CNC / C	
SE 7/12/16	CNC / C	
SA12/16	CNC / C	
SB 16	CNC / C	
SV 12	CNC / C	
SV 20	CNC / C	
SV 32 / SV 32-J	CNC / C	SP. Ø 26.00 - Ø 32.00
SR-10J	CNC / C	
SR 16 / SR 20 R I-II-III	CNC / C	
ECAS 12/20	CNC / C	

TSUGAMI		
NP4	CNC / C	
NP11 / NP17	CNC / C	
BW07 / BW12	CNC / C	
BO20 / BO205	CNC / C	

Pour tour
Für Automaten
For lathe

Type de canon
Führungsbüchse-Typ
Guide bush type

CITIZEN		
L 16	EXT	
L 20	CNC / C	
L 20 V - VI - VII	CNC / C	
M 12	CNC / C	
M 16	CNC / C	
M 20	CNC / C	
M 32	CNC / C	SP. Ø 26.00 - Ø 32.00
K 12 / K 16	CNC / C	
C 16	CNC / C	
R 04	CNC / C	
R 07	CNC / C	
A 20 VI - VII	CNC / C	

TRAUB		
TNL 7 / 12	CNC / C	
TNL 16	CNC / C	
TC 32 HOEFLIGER	CNC / C	

HANWHA		
SL 16 S	CNC / C	
XD 20 H	CNC / C	
SL 20 HP II	CNC / C	
STL 32 H / SL 32 J	CNC / C	SP. Ø 26.00 - Ø 32.00
SL 12 H	CNC / C	
XP 12 S	CNC / C	
XD 12 J	CNC / C	
XD 07	C	

NEXTURN		
SA 18	CNC / C	
SA 32	CNC / C	SP. Ø 26.00 - Ø 32.00

MICROSWISS		
MST-07	CNC / C	

GILDEMEISTER		
GLD 16 / 22	CNC / C	
SPEED 12	CNC	

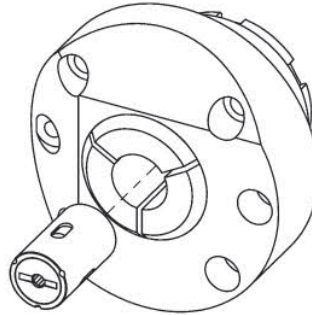
• L'utilisation du canon type CNC, EN ou C est possible avec les porte-canons de notre fabrication uniquement.
Die Anwendung der Führungsbüchsen Typ CNC, EN oder C ist nur mit den Büchsenhaltern unserer Herstellung möglich.
The use of guide bushes type CNC, EN or C is only possible together with the bush holders of our own make.

• Notre site internet vous renseigne sur les nouvelles fabrications de porte-canons.
Unsere Web-Seite gibt Ihnen Bescheid über die neuen Herstellungen von Büchsenhaltern.
Our home page gives you information about our new productions of bush holders.

EXEMPLES DE MONTAGE
MONTAGE-BEISPIELE
ASSEMBLY EXAMPLES

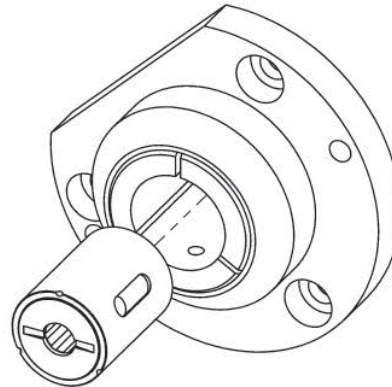
STAR SR-10J

(avec canon type C)
(mit Führungsbüchse Typ C)
(with guide bush type C)



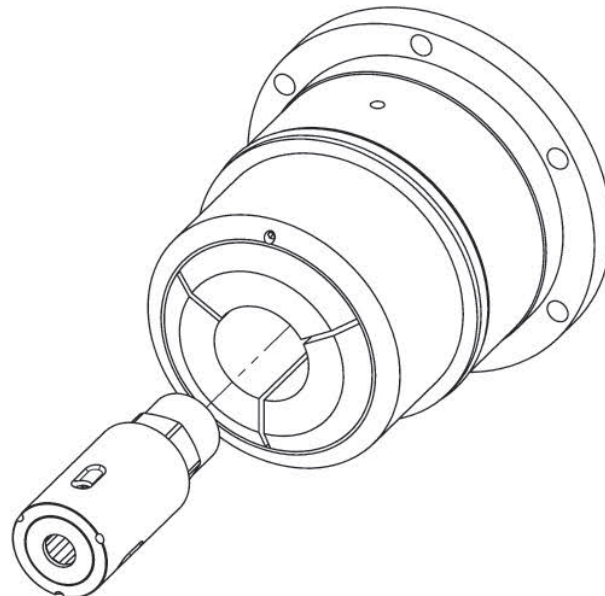
CITIZEN M12/M16

(avec canon type C)
(mit Führungsbüchse Typ C)
(with guide bush type C)



TORNOS DECO 20/26A/Sigma20

(avec canon type CNC)
(mit Führungsbüchse Typ CNC)
(with guide bush type CNC)



PORTE-CANONS POUR MACHINES CONVENTIONNELLES
BÜCHSENHALTER FÜR KONVENTIONNELLE DREHMASCHINEN
BUSH HOLDERS FOR CONVENTIONAL MACHINES

Pour tour Für Automaten For lathe		Alésage Bohrung Bore dia.					Type de canon Führungsbüchse-Typ Guide bush type			
TORNOS	M4-T4	15	18							D
TORNOS	M7		18	22		25				D
TORNOS	M10					25	30			D
TORNOS	R10-MS7					25	30			D
TORNOS	M15-R16						30	35		D
BECHLER	AR-AS	15	18	22		25	30			D
BECHLER	BR-BE					25	30	35	40	50 D
BECHLER	CR						30	35	40	50 D
PETERMANN	P4	15	18							D
PETERMANN	P7 - P7R					25	30			D
STAR	VNC-32							35		50 LD
STROHM	125					25	30			D
MANURHIN	TRAMINER 16								40	LD
NOMURA	Ø 24	15	18	22						D
NOMURA	Ø 30	15	18	22	24	25				D
NOMURA	Ø 40			22		25	30	35		D
NOMURA	Ø 48					25	30	35	40	D
NOMURA	Ø 50					25	30	35	40	D



serge meister  **sa**

P R E C I S I O N C A R B I D E T O O L S

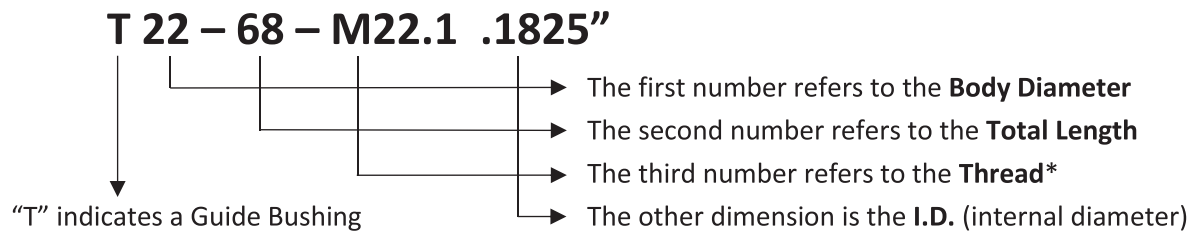


Guide to Serge Meister Article Numbers

Guide Bushings prefix = T
Headstock Collets prefix = F
Pickoff Collets prefix = F
All dimensions are in metric

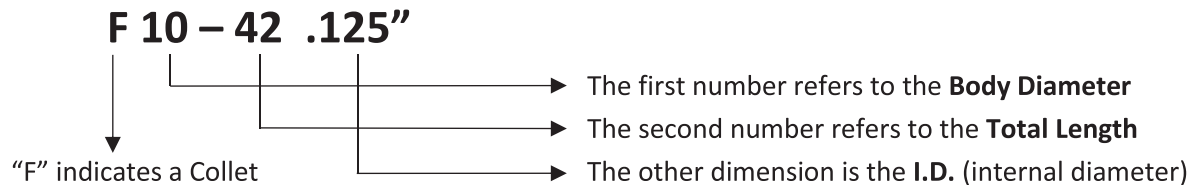
Canon = Guide Bushing
Pince = Collet
LMD refers to the pads inside of guide bushings
^what Southwick & Meister refer to as Max Land. See below.

Guide Bushings are broken into 2 or 3 numbers + an I.D. For example:

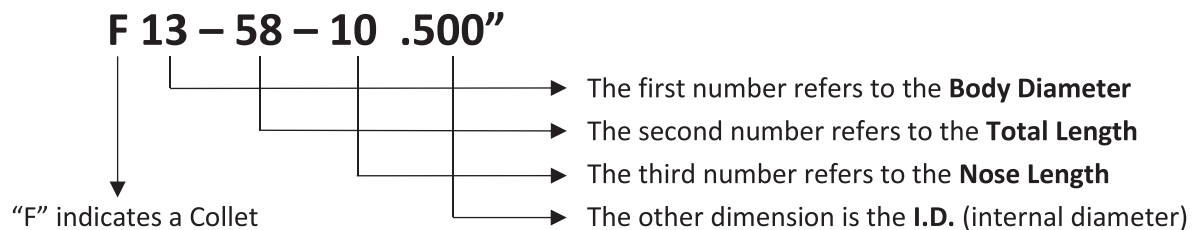


**If the article number is only 2 numbers + an I.D. (ex. F15-58 .218”), then there is no thread on the back*

Headstock Collets are broken into 2 numbers + an I.D. For example:

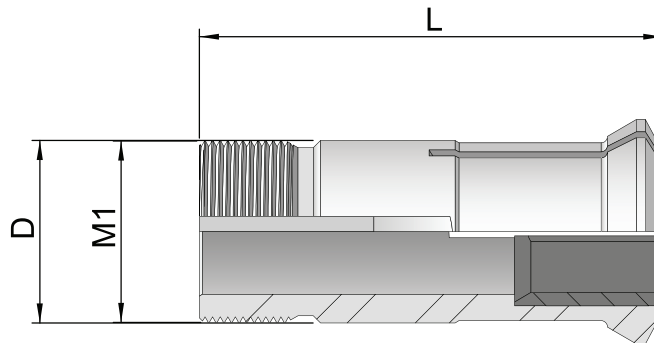


Pickoff Collets are broken into 3 numbers + an I.D. For example:

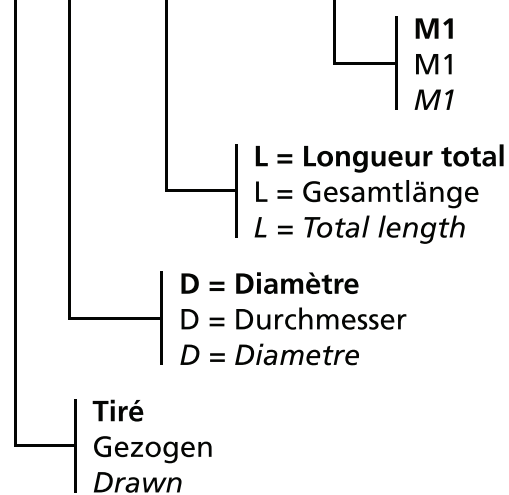


Standard Guide Bushings & Collets for each manufacturer are found at the end of Serge Meister section
Standard Precision .008 - .012μ | Ultra Precision = <.005μ | Ultra Precision is standard for Pickoff Collets
Extended Carbide Pads available in 28, 30, 32, 35mm | All Carbide Pads Radiused for I.D. > 1.80mm
See Options section for Wave & Zig-Zag Slots, Special Coatings, Shaped Bores, Ejectors, etc.

	Canons	Führungsbüchsen	Guide bushes
T	= Tiré	Gezogen	Drawn
PO	= Poussé	Gestossen	Pushed
FI	= Fixe	Fest	Plain
MAG	= Magic	Magic	Magic
ES	= ESCO	ESCO	ESCO
TOR	= TOR 4	TOR 4	TOR 4
TOP	= TOP	TOP	TOP
AUT	= Automatique	Automatisch	Automatic
PD	= Porte Douille	Hülsen-Halter	Sleeve holder

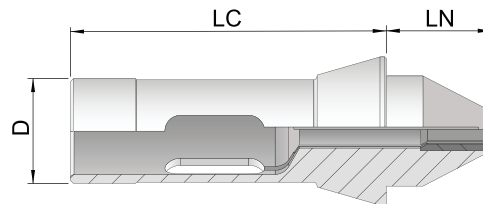
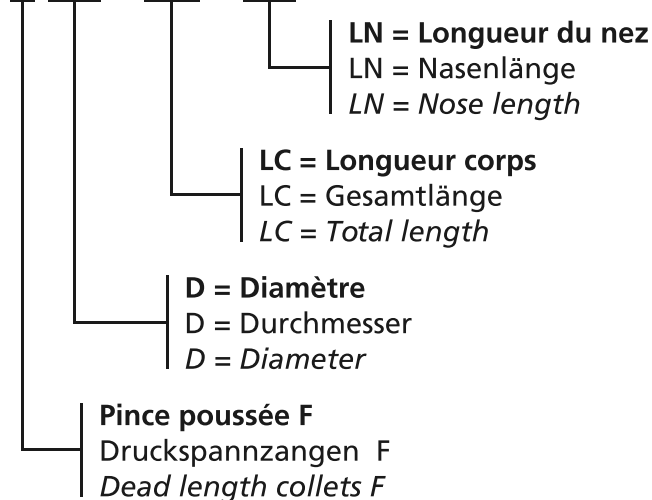


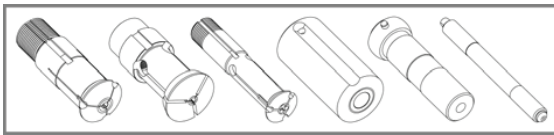
T 11 - 53 - M10.080



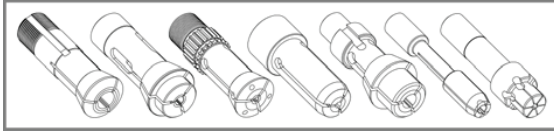
Exemple : 605 = T24-61

Pinces		Spannzangen	Collets
F	= Pinces poussées F	Druckspannzangen F	Dead length collets F
W	= Pinces tirées W	Zugspannzangen W	Pull-type collets W
B	= Pinces tirées B	Zugspannzangen B	Pull-type collets B
P	= Pinces tirées P	Zugspannzangen P	Pull-type collets P
PR	= Pinces tirées PR	Zugspannzangen PR	Pull-type collets PR
L	= Lambert	Lambert	Lambert
MS	= MultiSwiss	MultiSwiss	MultiSwiss
DC	= Double cône	Doppelkegel	Double cone
PC	= Pinces de ravitaillement	Span. Stangenlader	
TB	= Transporteur B	Transport B	Transporter B
TT	= Transporteur T	Transport T	Transporter T
ROL8	= Rol 8	Rol 8	Rol 8
TOR4	= Tor 4	Tor 4	Tor 4
LNS	= LNS	LNS	LNS
EXP	= Expansible	Dehnbar	Expanding

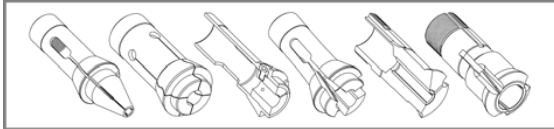

F 20 - 49 - 15

F10-42
F (Normal) / D=10 / LC=42
F10-42-10
F (Long Nez) / D=10 / LC=42 / LN=10



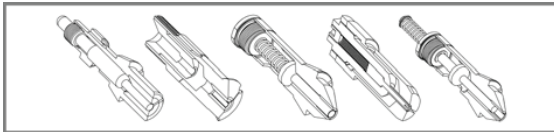
Canons Führungsbüchsen <i>Guide bushes</i>	347
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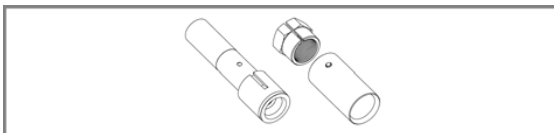
Pinces Spannzangen <i>Collets</i>	359
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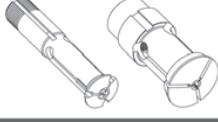





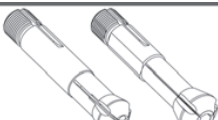
Options Optionen <i>Options</i>	376
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Options supplémentaires Zusatz-Optionen <i>Additional options</i>	386
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Douilles Hülsen <i>Sleeves & Nuts</i>	388
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	Tiré Gezogen <i>T - Drawn</i>	347		TOR 4 TOR 4 TOR 4	357
	Poussé Gestossen <i>Pushed</i>	350		TOP TOP TOP	357
	Fixe Fest <i>Plain</i>	352		Automatique Automatisch <i>Automatic</i>	358
	Magic Type A Magic Typ A <i>Magic Type A</i>	353		Porte Douille Hülsen-Halter <i>Sleeve holder</i>	358
	Magic Type B Magic Typ B <i>Magic Type B</i>	353			
	ESCO D2 ESCO D2 <i>ESCO D2</i>	354			
	ESCO D2 (ajustable) ESCO D2 (einstellbar) <i>ESCO D2 (adjustable)</i>	354			
	ESCO D5 ESCO D5 <i>ESCO D5</i>	355			
	ESCO D6 ESCO D6 <i>ESCO D6</i>	355			
	ESCO D6 (à boule) ESCO D6 (Kugel) <i>ESCO D6 (ball)</i>	356			
	ESCO New Mach ESCO New Mach <i>ESCO New Mach</i>	356			

Tiré

Gezogen

T - Drawn

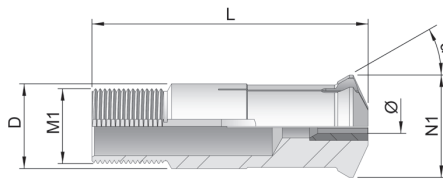


fig.1

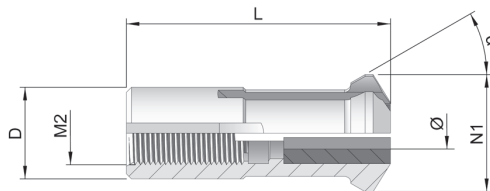


fig.2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	M2	Max			fig.
							Ø	⬡	■	
T7-29	7	29	30°	10	M6 x 0.5		3.0	3.5	3.0	1
T7-30	7	30	16°	9.5	M6 x 0.5		3.5	3.0	2.5	1
T9-26	9	26	30°	11.5		M6 x 0.5	4.0	4.0	3.0	2
T9-44	9	44	16°	12.5	M8 x 0.75		4.0	4.5	3.5	1
T9-50	9	50	30°	12.3	M8 x 0.6		4.0	4.5	3.5	1
T11-50	11	50	30°	15	M10 x 0.6		6.0	5.5	4.5	1
T11-53-M10.075	11	53	16°	14.5	M10 x 0.75		6.5	6.0	4.5	1
T11-53-M10.080	11	53	16°	14.5	M10 x 0.8		6.5	5.5	4.5	1
T12-50-M10.075	12	50	16°	15.5	M10 x 0.75		6.0	5.5	4.5	1
T12-50-M12.1	12	50	30°	15	M12 x 1		7.0	6.5	5.5	1
T13-41.5	13	41.5	15°	16	M12.5 x 0.75		7.0	6.0	5.0	1
T14-64	14	64	16°	18	M13 x 0.75		10.0	8.5	7.0	1
T16-52	16	52	30°	20	M16 x 1		10.0	9.0	7.0	1
T16-58	16	58	16°	19.8	M14 x 1		10.0	9.0	7.0	1
T16-59	16	59	16°	20.5	M14 x 1		10.0	9.0	7.0	1
T16-59-M15.1	16	59	16°	20.5	M15 x 1		10.0	9.0	7.0	1
T16-61	16	61	30°	19.8	M15 x 1		10.0	9.0	7.0	1
T17-61	17	61	30°	21	M15 x 1		12.0	10.5	8.5	1
T18-59-M16.1	18	59	30°	21.8	M16 x 1		12.0	10.5	8.5	1
T18-60-M18.1	18	60	30°	21.8	M18x1		13.0	11.0	9.0	1
T20-55	20	55	30°	25	M20 x 1		13.0	11.0	9.0	1
T21-56.4	21	56.4	12°	24	M18 x 1		14.0	12.0	9.5	1
T21-57.4	21	57.4	12°	24	M18 x 1		14.0	12.0	9.5	1

Tiré

Gezogen

T - Drawn

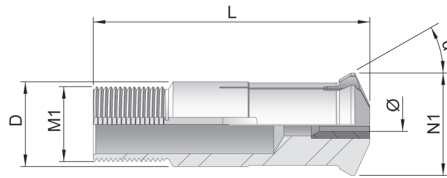


fig.1

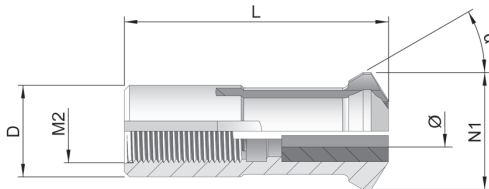


fig.2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max			fig.
						Ø	⬢	■	
T21-65.5	21	65.5	12°	24	M18 x 1	14.0	12.0	9.5	1
T22-68-M19.1	22	68	16°	29	M19 x 1	15.0	13.0	10.5	1
T22-68-M22.1	22	68	16°	29	M22 x 1	16.0	14.5	12.0	1
T22-68-M22.1-R	22	68	16°	29	M22 x 1	17.0	14.5	12.0	1
T23-72	23	72	16°	28	M22 x 1	17.0	14.5	12.0	1
T24-61	24	61	30°	29.5	M24 x 1	16.0	14.0	11.5	1
T25-71	25	71	30°	30	M25 x 1	17.5	15.5	12.5	1
T26-77	26	77	16°	29	M25 x 1	20.0	17.5	14.0	1
T27-57.5	27	57.5	12°	30	M24 x 1	18.0	16.0	13.0	1
T27-67.5	27	67.5	12°	30	M24 x 1	18.0	16.0	13.0	1
T28-81	28	81	30°	38	M25 x 1	20.0	17.0	14.0	1
T28-81-TRAUB	28	81	30°	38	M25 x 1	20.0	17.0	14.0	1
T28-82-M25.1	28	82	16°	34	M25 x 1	20.0	17.0	14.0	1
T28-82-M27.1	28	82	16°	34	M27 x 1	22.0	19.0	15.5	1
T30-59	30	59	16°	35	M30 x 1	22.0	19.0	16.0	1
T30-70	30	70	16°	36	M28 x 1	20.5	18.0	14.5	1
T32-71	32	71	30°	39.8	M32 x 1	22.5	19.5	16.0	1
T34-87.5	34	87.5	10°	41	M34 x 1	27.5	24.0	19.5	1
T40-72-M36.1	40	72	30°	47.8	M36 x 1	26.5	23.0	19.0	1
T40-72-M40.1	40	72	30°	48	M40 x 1	28.0	24.0	20.0	1
T41-54	41	54	10°	46	M38 x 1	32.0	28.0	23.0	1
T42-82-C16	42	82	16°	49	M40 x 1	33.0	29.0	24.0	1
T42-82-TRAUB	42	82	16°	49	M42 x 1	33.0	29.0	23.0	1

Tiré

Gezogen

T - Drawn

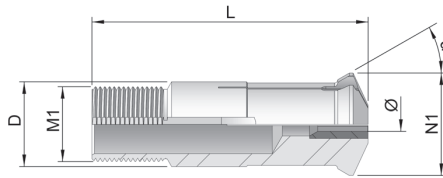


fig.1

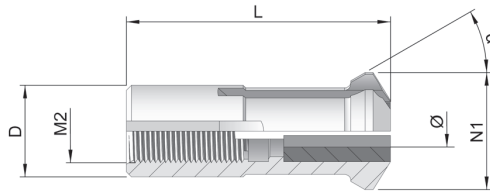


fig.2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max			fig.
						∅	⬡	■	
T42-82-C16-M	42	82	16°	49	M42 x 1	35.0	30.0	25.5	1
T42-82-C20	42	82	20°	49	M40 x 1	33.0	29.0	24.0	1
T44-87	44	87	20°	53	M40 x 1	32.0	28.0	23.0	1
T45-82	45	82	16°	52	M42 x 1	37.0	32.0	26.0	1
T46-82	46	82	16°	53	M45 x 1	38.0	32.5	26.5	1
T46-92	46	92	16°	53	M45 x 1	38.0	32.5	26.5	1
T48-81	48	81	10°	54	M46 x 1	38.0	33.0	27.0	1
T48-81-C30	48	81	30°	56	M48 x 1.25	38.0	33.0	27.0	1
T48-82	48	82	16°	54	M46 x 1	38.0	33.0	27.0	1

Poussé

Gestossen

Pushed

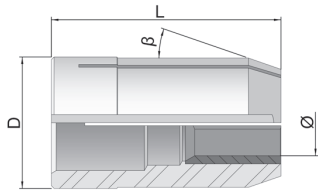


fig.1

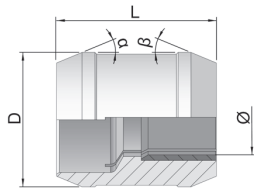


fig.2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	β	Max			fig.
					Ø	⬠	■	
PO7-19	7	19	45°	30°	3	2.7	2.2	2
PO8.6-34	8.6	34	28°	28°	3	2.7	2.2	2
PO9-30-C19	9	30		19°	4	3.5	3	1
PO9-30-C30	9	30	45°	30°	4	3.5	3	2
PO11-30	11	30		19°	6	5.5	4.5	1
PO13-30	13	30	45°	40°	7	6	5	2
PO14-35	14	35		19°	8	7	5.5	1
PO15-35	15	35		19°	8	7	5.5	1
PO16-30	16	30	45°	40°	11	9	7.5	2
PO16-35	16	35		19°	10	8.5	7	1
PO16-40	16	40	30°	30°	8	7	5.5	2
PO18-40	18	40		19°	12	10.5	8	1
PO20-40	20	40	30°	30°	11	9	7.5	2
PO22-42	22	42	45°	40°	14	12.5	10	2
PO24-42	24	42		19°	15	13	10.5	1
PO26-42	26	42	45°	30°	16	14	11	2
PO28-45	28	45		29°	20	17.5	14	1
PO30-42-C29	30	42		29°	18	15	13	1
PO30-42-C30	30	42	45°	30°	20	17.5	14	2
PO30-60	30	60	29°	29°	18	14.5	12	2
PO32-45	32	45		19°	22	19.5	15.5	1
PO34-42	34	42		29°	22	19.5	15.5	1
PO34-48	34	48	45°	30°	23	20	16	2

Poussé

Gestossen

Pushed

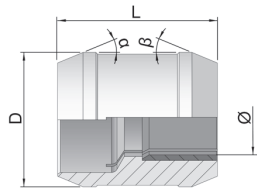
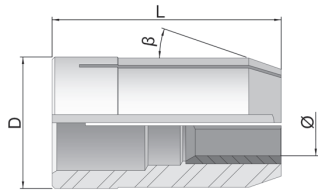


fig.1



fig.2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

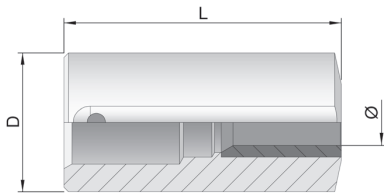
Maximum Ø through carbide

N° Serge Meister	D	L	α	β	Max			fig.
					Ø	⬡	■	
PO34-60	34	60	29°	29°	22	19.5	15.5	2
PO38-45	38	45		19°	28	24	19.5	1
PO38-60	38	60		19°	28	24	19.5	1
PO42-50	42	50	22.5°	22.5°	32	25	20	2
PO42-60	42	60		19°	28	24	19.5	1
PO42-72	42	72	29°	29°	26	22	18	2
PO46-60	46	60		19°	32	28	23	1
PO48-72	48	72	29°	29°	28	24	19.5	2
PO52-72	52	72	29°	29°	33	28	23	2

Fixe

Fest

Plain



Ø maximum passant en métal dur rond

Maximaler Ø durchgehend Hartmetall Runde

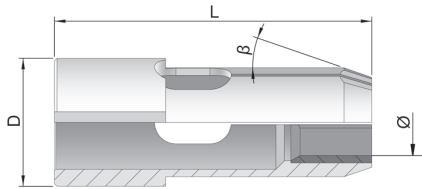
Maximum Ø through carbide round

N° Serge Meister	D	L	Max		
			Ø	⬡	■
FI6	6	11	4.0	3.5	3
FI10	10	20	5.0	4.5	3.5
FI12	12	20	6.0	5.0	4.0
FI13	13	25	7.0	6.0	5.0
FI15	15	30	10.0	8.5	7.0
FI16	16	30	10.0	8.5	7.0
FI20	20	30	12.0	10.5	8.5
FI22	22	32	13.0	11.0	9.0
FI24	24	34	16.0	14.0	11.0
FI25	25	35	16.0	14.0	11.0
FI30	30	35	20.0	17.0	14.0
FI32	32	45	21.0	18.0	17.0
FI34	34	34	22.0	19.0	15.5
FI35	35	35	25.0	21.5	17.5
FI36	36	45	25.0	21.5	17.5
FI40	40	45	25.0	21.5	17.5
FI50	50	46	30.0	26.0	21.0

Magic Type A

Magic Typ A

Magic Type A



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

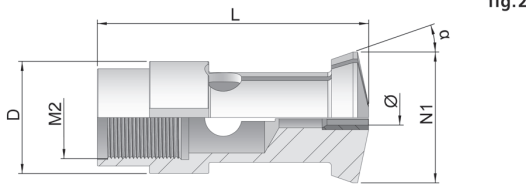
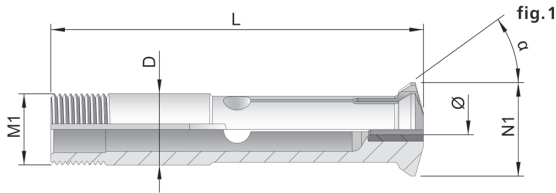
Maximum Ø through carbide

N° Serge Meister	D	L	β	Max		
				Ø	⬡	■
MAG-A-30	30	74.5	19°	15.0	13.0	10.5
MAG-A-38	38	74.5	19°	20.0	17.0	14.0

Magic Type B

Magic Typ B

Magic Type B



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

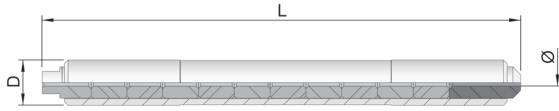
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	M2	Max			fig.
							Ø	⬡	■	
MAG-B-10	10	56.5	36°	14	M10 x 1		4.5	4.0	3.5	1
MAG-B-13	13	68	36°	17	M13 x 1		7.0	6.0	5.0	1
MAG-B-18	18	68	36°	24	M18 x 1		12.0	10.5	8.5	1
MAG-B-30	30	73	19°	35		M22 x 1	16.0	14.0	11.5	2
MAG-B-36	36	73.5	19°	43		M27 x 1	24.0	21.0	17.0	2

ESCO D2

ESCO D2

ESCO D2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

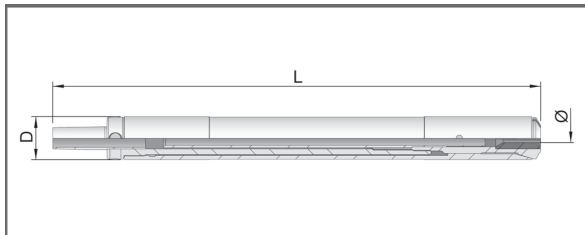
Maximum Ø through carbide

N° Serge Meister	D	L	Max		
			Ø	⬡	■
ES-D2-10-115	10	115	0.5	0.4	0.35
ES-D2-10-110	10	110	1.0	0.8	0.7
ES-D2-10-107	10	107	5.0	4.0	3.5
ES-D2-10-CNC	10	113	5.0	4.0	3.5

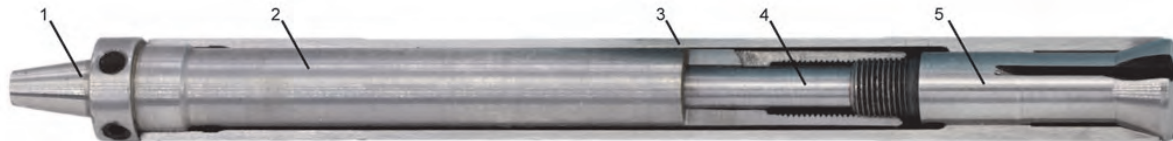
ESCO D2 (ajustable)

ESCO D2 (einstellbar)

ESCO D2 (adjustable)



- 1 ES-AJ-01
- 2 ES-AJ-02
- 3 ES-AJ-03
- 4 ES-AJ-04
- 5 T7-30



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

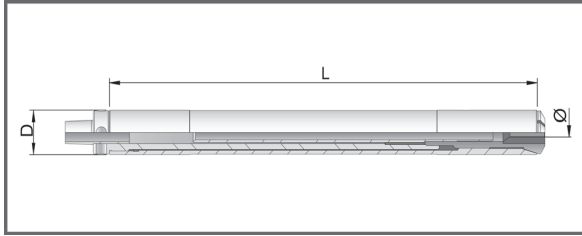
Maximum Ø through carbide

N° Serge Meister	D	L	Max		
			Ø	⬡	■
ES-D2-10-113-AJ	10	113	3.5	3.0	2.5

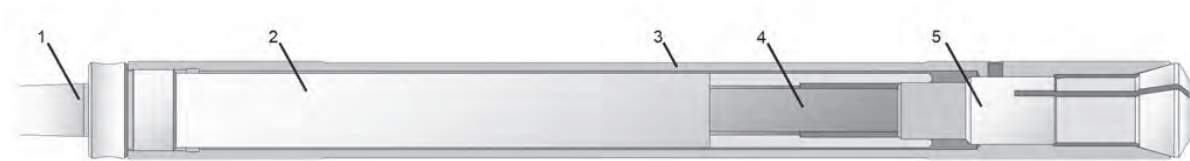
ESCO D5

ESCO D5

ESCO D5



- 1 ES-D5-01
- 2 ES-D5-02
- 3 ES-D5-03
- 4 ES-D5-04
- 5 T7-30



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

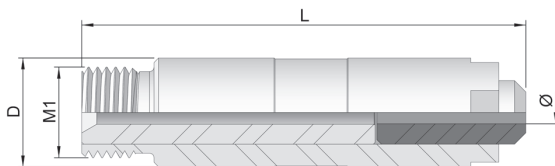
Maximum Ø through carbide

N° Serge Meister	D	L	Max		
			Ø	⬡	■
ES-D5-10-107	10	107	3.5	3.0	2.5

ESCO D6

ESCO D6

ESCO D6



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

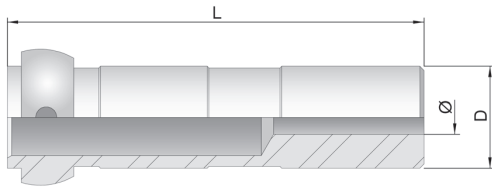
Maximum Ø through carbide

N° Serge Meister	D	L	M1	Max		
				Ø	⬡	■
ES-D6-12-49.2	12	49.2	M10 x 0.75 G	7.0	6.0	5.0

ESCO D6 (à boule)

ESCO D6 (Kugel)

ESCO D6 (ball)



Ø maximum passant en acier

Maximaler Ø durchgehend Stahl

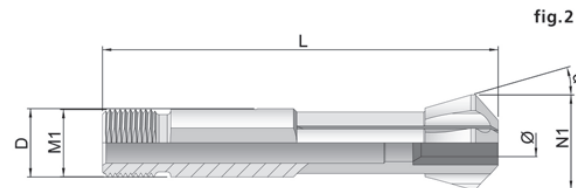
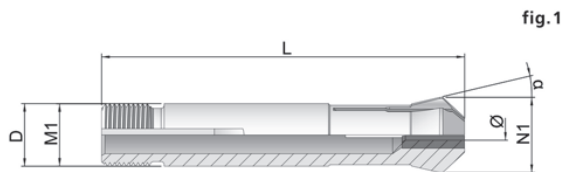
Maximum Ø through steel

N° Serge Meister	D	L	Max		
			Ø	●	■
ES-D6-12-49-B	12	49	9.0	7.5	6.0

ESCO New Mach

ESCO New Mach

ESCO New Mach



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

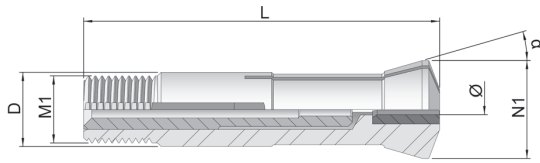
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max			fig.
						Ø	●	■	
ES-MC-10-58-C	10	58	13	12	M10 x 0.75	5.5	4.5	4.0	1
ES-MC-10-58-P	10	58	16	14	M10 x 0.75	5.0	4.5	4.0	2

TOR 4

TOR 4

TOR 4



avec guide laiton

mit Messing-führungs

with brass guide



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

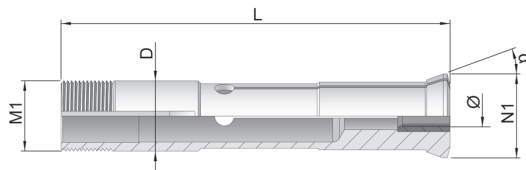
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max		
						Ø	⬡	■
TOR411G	11	53	16°	1.45	M10 x 0.75	4.0	3.5	3.0
TOR411	11	53	16°	14.5	M10 x 0.75	5.5	4.5	4.0

TOP

TOP

TOP



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

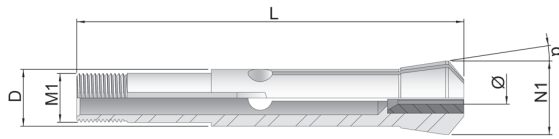
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max		
						Ø	⬡	■
TOP100	18	100	20°	21.5	M18 x 1	12.5	11.0	9.0
TOP200	34	150	20°	42	M32 x 1.5	26.5	23.0	19.0
TBM-32	44	166	20°	53	M42 x 1.5	32.0	28.0	22.5

Automatique

Automatisch

Automatic



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

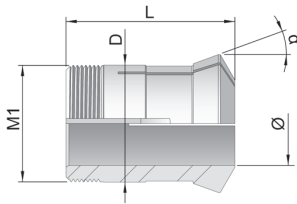
Maximum Ø through carbide

N° Serge Meister	D	L	α	M1	Max		
					Ø	⬡	■
AUT-9-51	9	51	8°30'	6.82 x 0.62	4.5	4.0	3.5
AUT-9-63	9	63	8°30'	6.82 x 0.62	4.5	4.0	3.5

Porte Douille

Hülsen-Halter

Sleeve holder




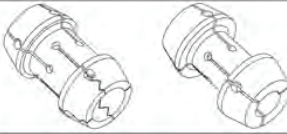





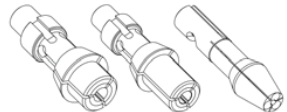


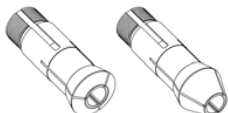

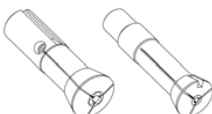







Ø maximum passant en acier

Maximaler Ø durchgehend Stahl

Maximum Ø through steel

N° Serge Meister	D	L	α	M1	Ø
PD20-37	20	37	20°	M20 x 1	15.0
PD20-43.5	20	43.5	20°	M20 x 1	13.0 / 15.0
PD23-45	23	45	20°	M23 x 1	15.0
PD28-40.5	28	40.5	20°	M28 x 1	20.0 / 22.0

	F (Normal) F (Normal) F (Normal)	360		MultiSwiss MultiSwiss MultiSwiss	371
	F (Long nez) F (Lange Nase) F (Extended nose)	362		Double cône Doppelkegel double cone	371
	F Wahli F Wahli F Wahli	364		Pince de ravitaillement Spannzangen Stangenlader Feed finger	373
	W (Normal) W (Normal) W (Normal)	365		Transporteur Type B Transport-Zangen Typ B Transporter Type B	373
	W (Long nez) W (Lange Nase) W (Extended nose)	367		Transporteur Type T Transport-Zangen Typ T Transporter Type T	373
	W (SAS 16) W (SAS 16) W (SAS 16)	368		ROL 8 ROL 8 ROL 8	374
	B B B	368		TOR 4 TOR 4 TOR 4	374
	P P P	369		LNS LNS LNS	375
	P (AS 14) P (AS 14) P (AS 14)	369		Expansible Dehnbar Expanding	375
	PR PR PR	370			
	Lambert Lambert Lambert	372			

F (Normal)

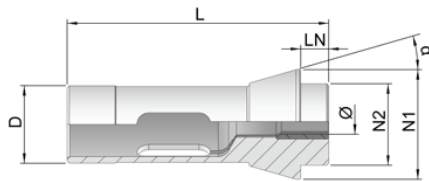


fig.1

F (Normal)

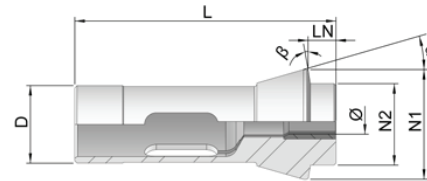


fig.2

F (Normal)

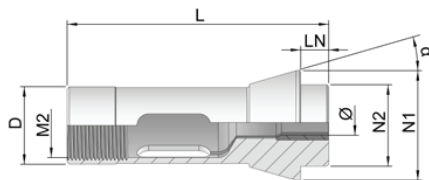


fig.3



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	β	N1	N2	M2	Max			fig
									Ø	⬡	■	
F4.5-15.45	4.5	17.25	1.8	15°		6.75	4.5		2.3	1.5	1.5	1
F6-27	6	30	3	15°		10	6		3.0	2.5	2	1
F7-23	7	26	3	15°		10.5	7		3.5	3.0	2.5	1
F7-36	7	41	5	16°		11	7		3.5	3.0	2.5	1
F8-37.5	8	42	4.5	16°		12	8		4.0	3.5	3.0	1
F10-42	10	47.5	5.5	20°		15.5	10		5.5	5.0	4.0	1
F10-42.6	10	47.5	4.9	20°	12°	16	10		5.5	5.0	4.0	2
F12-40.2	12	44.5	4.3	15°	5°	18.1	12		7.0	6.0	5.0	2
F12-58	12	64	6	16°		18	12		7.0	6.0	5.0	2
F13-58	13	64	6	16°		19	13		7.0	6.0	5.0	1
F13-58-M	13	64	6	16°		19	13	M11 x 0.75	7.0	6.0	5.0	3
F14-40	14	46	6	15°		19.5	15		8.0	7.0	5.5	1
F14-42	14	46	4	13°	12°	18	14		8.0	7.0	5.5	2
F15-22	15	24	2	15°		19.2	15		9.0	7.5	6.0	1
F15-42	15	47	5	20°		22	15		9.0	7.5	6.0	1
F15-58	15	64	6	16°		21	15		9.0	7.5	6.0	1
F16-50	16	55	5	15°		22	16		10.0	8.5	7.0	1
F16-58	16	64	6	16°		21	16		10.0	8.5	7.0	1
F18-58	18	64	6	16°		24	18	M15 x 1	12.0	10.5	8.5	3
F18-60	18	67	7	15°	12°	25	19.5		13.0	11.0	9.0	2
F18-61	18	67	6	15°		25	18		13.0	11.0	9.0	1
F20-49	20	54	5	15°		26	19		13.0	11.0	9.0	1
F20-55	20	60	5	15°		27	20		14.0	12.0	10.0	1

F (Normal)

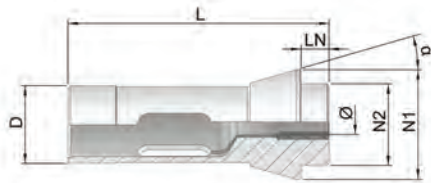


fig.1

F (Normal)

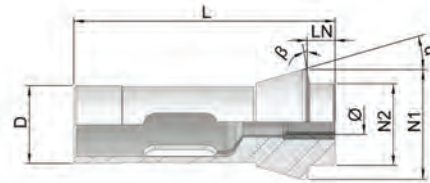


fig.2

F (Normal)

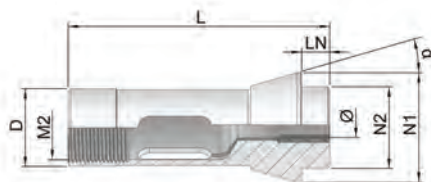


fig.3



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

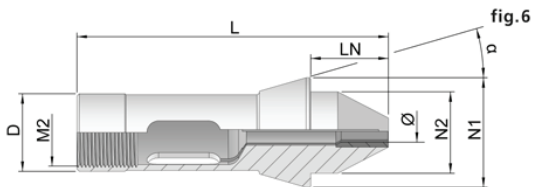
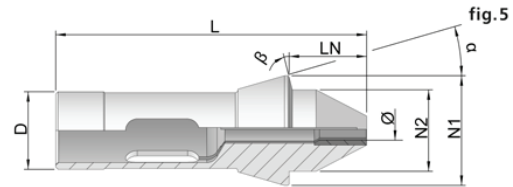
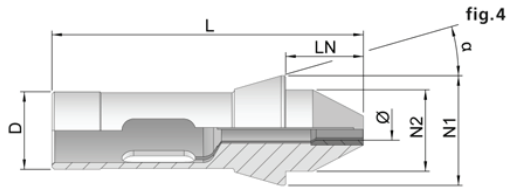
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	β	N1	N2	Max			fig.
								Ø	⬡	■	
F20-60	20	67	7	16°		28	21	15.0	13.0	10.5	1
F22-49	22	55	6	15°	10°	30	21	15.0	13.0	10.5	2
F22-59	22	66	7	16°		32	25	17.0	14.5	12.0	1
F22-60	22	67	7	13°	12°	28	23.5	16.0	14.0	11.5	2
F24-55	24	62	7	15°		28	22	15.0	13.0	10.5	1
F25-59	25	65	6	15°		34	25	18.0	15.5	12.5	1
F25-67	25	77	10	16°		35	27	20.0	17.0	14.0	1
F26-60	26	67	7	15°		36	28	20.0	17.0	14.0	2
F26-60-C13	26	67	7	13°	12°	32	27.5	20.0	17.0	14.0	2
F27-64.7	27	72.7	8	15°		38	30	22.0	19.0	15.5	1
F28-63	28	70	7	15°	10°	38	28	21.0	18.0	14.5	2
F30-59	30	65	6	15°		38	32	24.0	21.0	17.0	1
F30-70	30	80	10	16°		42	34	24.0	21.0	17.0	1
F32-59	32	65	6	15°		40	34	25.0	21.5	17.5	1
F32-67	32	75	8	15°	10°	45	34	25.0	21.5	17.5	2
F34-70	34	80	10	16°		44	37	28.0	24.5	20.0	1
F35-63	35	70	7	15°	10°	43	34	25.0	21.5	17.5	2
F35-72	35	80	8	15°	10°	48	38	29.0	25.0	20.5	2
F37-82	37	92	10	16°		47	40	31.0	27.0	22.0	1
F38.08-98.5	38.08	107.5	9	15°	6°	49	38	29.0	25.0	20.5	2
F39-71	39	80	9	15°	12°	46	39.5	31.0	27.0	22.0	2
F42-85	42	94	9	15°	10°	55	42	34.0	29.5	24.0	2
F48-85	48	94	9	15°	10°	60	50	39.0	34.0	27.5	2

F (Long nez)

F (Lange Nase)

F (Extended nose)



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

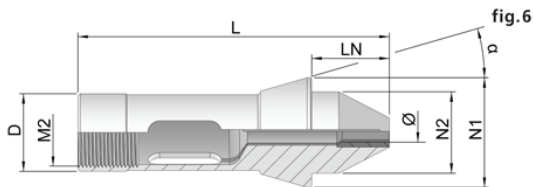
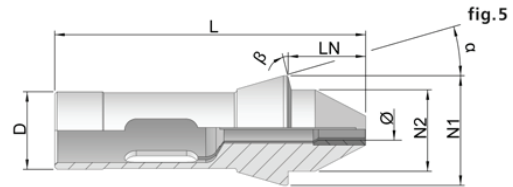
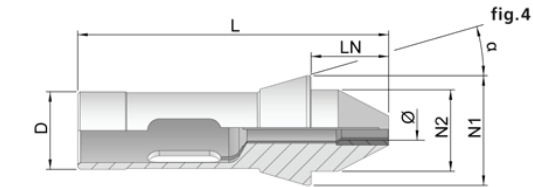
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	β	N1	N2	M2	Max			fig
									∅	⬢	■	
F7-36-10	7	46	10	16°		11	7		3.5	3.0	2.5	4
F8-37.5-8	8	45.5	8	16°		12	8	M6 x 0.5	4.0	3.5	3.0	6
F8-37.5-10	8	47.5	10	16°		12	8	M6 x 0.5	4.0	3.5	3.0	6
F8-37.5-12	8	49.5	12	16°		12	8	M6 x 0.5	4.0	3.5	3.0	6
F10-42-8	10	50	8	20°		15.5	10	M8 x 0.5	5.5	5.0	4.0	6
F10-42-10	10	52	10	20°		15.5	10	M8 x 0.5	5.5	5.0	4.0	6
F10-42-12	10	54	12	20°		15.5	10	M8 x 0.5	5.5	5.0	4.0	6
F10-42-16	10	58	16	20°		15.5	10	M8 x 0.5	5.5	5.0	4.0	6
F12-40.2-10	12	50.2	10	15°	5°	18.1	12		7.0	6.0	5.0	5
F13-58-10	13	68	10	16°		19	13	M11 x 0.75	7.0	6.0	5.0	6
F13-58-12	13	70	12	16°		19	13	M11 x 0.75	7.0	6.0	5.0	6
F15-58-13	15	71	13	16°		21	15	M12 x 0.75	9.0	7.5	6.0	6
F15-58-15	15	73	15	16°		21	15	M12 x 0.75	9.0	7.5	6.0	6
F15-58-20	15	78	20	16°		21	15	M12 x 0.75	9.0	7.5	6.0	6
F16-50-20	16	70	20	15°		22	16		10.0	8.5	7.0	4
F16-58-8	16	66	8	16°		21	16	M14 x 0.75	10.0	8.5	7.0	6
F16-58-13	16	71	13	16°		21	16	M14 x 0.75	10.0	8.5	7.0	2
F16-58-15	16	73	15	16°		21	16	M14 x 0.75	10.0	8.5	7.0	2
F16-58-20	16	78	20	16°		21	16	M14 x 0.75	10.0	8.5	7.0	2
F20-49-13	20	62	13	15°		26	19	M18 x 1	13.0	11.0	9.0	6
F20-49-15	20	64	15	15°		26	19	M18 x 1	13.0	11.0	9.0	6
F20-49-20	20	69	20	15°		26	19	M18 x 1	13.0	11.0	9.0	6
F20-60-15	20	75	15	16°		28	21	M17 x 0.75	15.0	13.0	10.5	6

F (Long nez)

F (Lange Nase)

F (Extended nose)



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

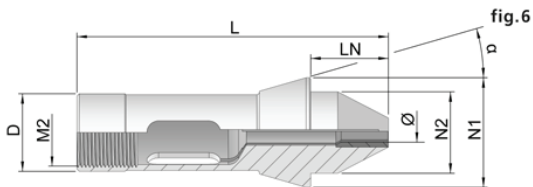
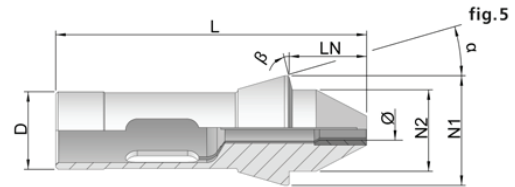
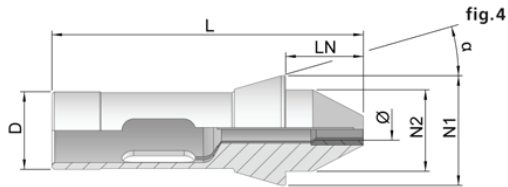
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	β	N1	N2	M2	Max			fig
									Ø	⬢	■	
F20-60-20	20	80	20	16°		28	21	M17 x 0.75	15.0	13.0	10.5	6
F22-49-15	22	64	15	15°	10°	30	21		15.0	13.0	10.5	5
F22-49-20	22	69	20	15°	10°	30	21		15.0	13.0	10.5	5
F24-55-15	24	70	15	15°		28	22		15.0	13.0	10.5	4
F24-55-20	24	75	20	15°		28	22		15.0	13.0	10.5	4
F25-67-18	25	85	18	16°		35	27	M 22 x 1	20.0	17.0	14.0	6
F25-67-25	25	92	25	16°		35	27	M 22 x 1	20.0	17.0	14.0	6
F27-65-8	27	73	8	15°		38	30		22.0	19.0	15.5	4
F27-65-18	27	83	18	15°		38	30		22.0	19.0	15.5	4
F27-65-25	27	90	25	15°		38	30		22.0	19.0	15.5	4
F28-63-20	28	83	20	15°	10°	38	28		21.0	18.0	14.5	5
F28-63-25	28	88	25	15°	10°	38	28		21.0	18.0	14.5	5
F30-59-20	30	79	20	15°		38	32		24.0	21.0	17.0	4
F32-67-15	32	82	15	15°	10°	45	34		25.0	21.5	17.5	5
F32-67-20	32	87	20	15°	10°	45	34		25.0	21.5	17.5	5
F32-67-25	32	92	25	15°	10°	45	34		25.0	21.5	17.5	5
F35-63-27	35	90	27	15°	10°	43	34		25.0	21.5	17.5	5
F35-72-28	35	100	28	15°	10°	48	38		29.0	25.0	20.5	5
F37-82-20	37	102	20	16°		47	40		31.0	27.0	22.0	4
F37-82-25	37	107	25	16°		47	40		31.0	27.0	22.0	4
F37-82-30	37	112	30	16°		47	40		31.0	27.0	22.0	4
F38.08-98.5-24.5	38.08	123	24.5	15°	6°	49	38		29.0	25.0	20.5	5
F42-85-20	42	105	20	15°	10°	55	42		34.0	29.5	24.0	5

F (Long nez)

F (Lange Nase)

F (Extended nose)



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

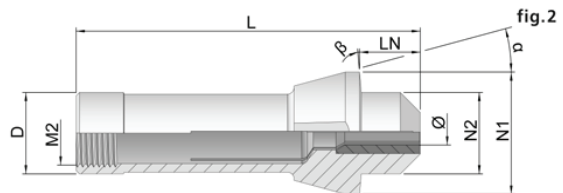
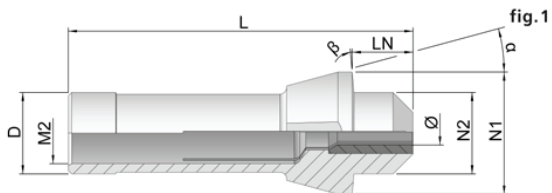
N° Serge Meister	D	L	LN	α	β	N1	N2	Max			fig.
								Ø	●	■	
F42-85-25	42	110	25	15°	10°	55	42	34.0	29.5	24.0	5
F48-85-28	48	113	28	15°	10°	60	50	39.0	34.0	27.5	5



F Wahli

F Wahli

F Wahli



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

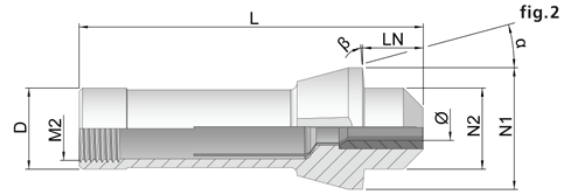
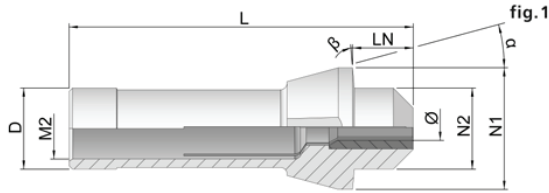
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	β	N1	N2	M2	Max			fig
									Ø	●	■	
WA12-9	12	51	9	15°	5°	18	12	8.0 ±0.01	7.0	6.0	5.0	1
WA12-9-M	12	51	9	15°	5°	18	12	M9 x 0.5	7.0	6.0	5.0	2

F Wahli

F Wahli

F Wahli



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	β	N1	N2	M2	Max			fig
									Ø	⬡	■	
WA12-11	12	53	11	15°	5°	18	12	8.0 ±0.01	7.0	6.0	5.0	1
WA12-11-M	12	53	11	15°	5°	18	12	M9 x 0.5	7.0	6.0	5.0	2



W (Normal)

W (Normal)

W (Normal)

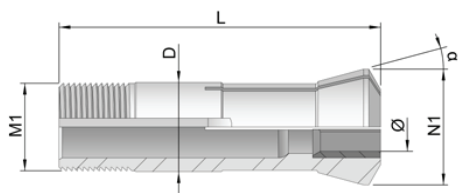


fig.1

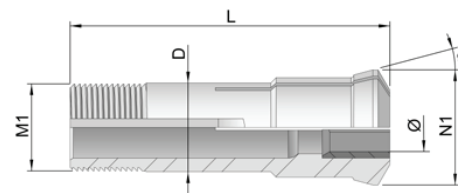


fig.2

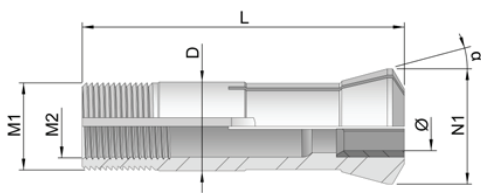


fig.3



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max			fig.
						Ø	⬡	■	
W10	10	43.6	15°	14	Ø 9.83 x 0.83	6.0	5.0	4.0	1
W12	12	46	15°	16	Ø 11.75 x 1.2	7.0	6.0	5.0	1

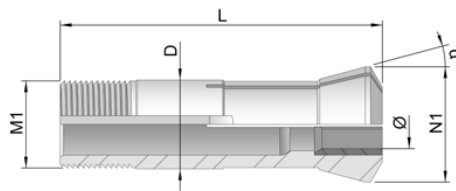
W (Normal)**W (Normal)**

fig.1

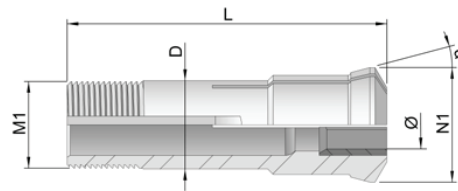


fig.2

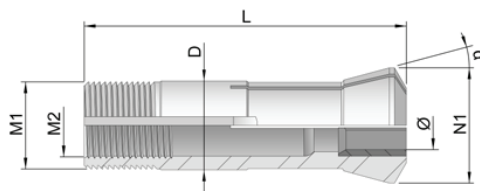


fig.3



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

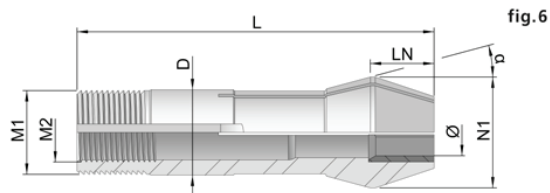
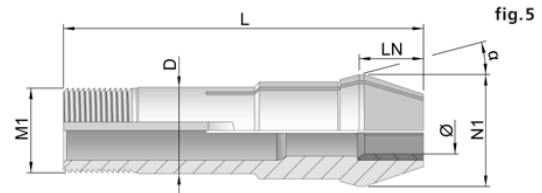
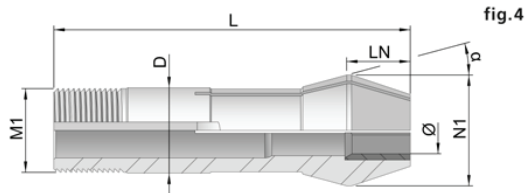
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	M2	Max			fig.
							Ø	⬡	■	
W15	15	58.3	15°	20.2	Ø 14.75		10.0	8.5	7.0	1
W20	20	73	15°	26.3	Ø 19.7		15.0	13.0	10.5	1
W20-R	20	73	15°	26.3	Ø 19.7		20.0	17.0	14.0	2
W25	25	97.6	15°	33.7	Ø 24.7		18.0	15.5	12.5	1
W31.75	31.75	87	10°3'	37.4	Ø 31.4	Ø 26.441 x	25.0	21.5	17.5	3

W (Long nez)

W (Lange Nase)

W (Extended nose)



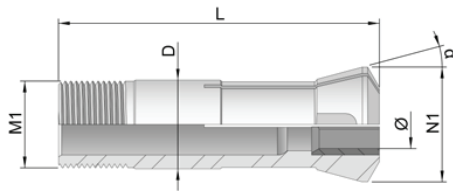
Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	N1	M1	M2	Max			fig
								Ø	⬠	■	
W10-8.6	10	49.6	8.6	15°	14	Ø 9.83 x		6.0	5.0	4.0	4
W12-8.8	12	52	8.8	15°	16	Ø 11.75 x		7.0	6.0	5.0	4
W15-12	15	67	12	15°	20.2	Ø 14.75 x		10.0	8.5	7.0	4
W15-15	15	73.5	15	15°	20.2	Ø 14.75 x		10.0	8.5	7.0	4
W15-20	15	78.5	20	15°	20.2	Ø 14.75 x		10.0	8.5	7.0	4
W20-15.5	20	84.5	15.5	15°	26.3	Ø 19.7 x		15.0	13.0	10.5	4
W20-15.5-R	20	84.5	15.5	15°	26.3	Ø 19.7 x		20.0	17.0	14.0	5
W20-25.5	20	94.5	25.5	15°	26.3	Ø 19.7 x		15.0	13.0	10.5	4
W25-19.7	25	112.2	19.7	15°	33.7	Ø 24.7 x		18.0	15.5	12.5	4
W25-19.7-R	25	112.2	19.7	15°	33.7	Ø 24.7 x		18.0	15.5	12.5	5
W25-19.7-M	25	112.2	19.7	15°	33.7	Ø 24.7 x	M14	12.0	10.5	8.5	6
W31.75-25.4	31.7!	108.7	25.4	10°3'	37.4	Ø 31.4 x	Ø 26.441 x	25.0	21.5	17.5	6

W (SAS 16)



W (SAS 16)

fig.7



W (SAS 16)

Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M1	Max			fig.
						Ø	●	■	
W25-94	25	94	16°	35	M25 x 1	18.0	15.5	12.5	7

B

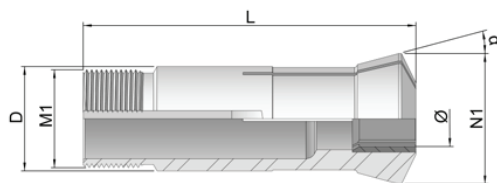


fig.1

B

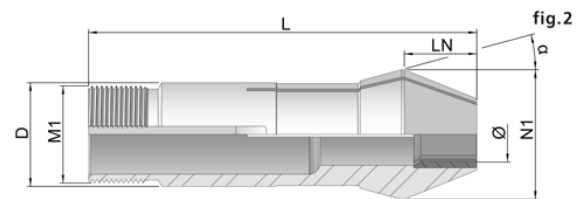


fig.2

B



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

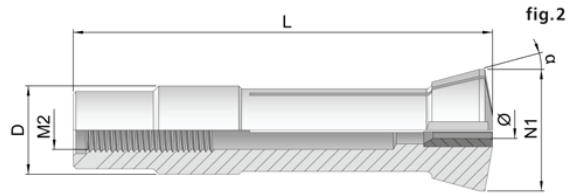
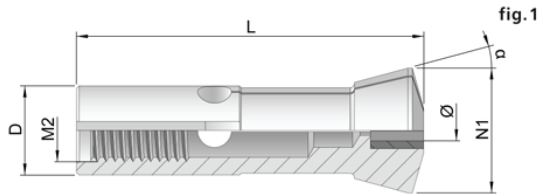
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	N1	M1	Max			fig.
							Ø	●	■	
B6-31.3	6	31.3		20°	10.5	Ø5 x 0.706	2.5	2.0	1.5	1
B6-31.3-V2	6	31.3		20°	9	Ø5 x 0.706	2.5	2.0	1.5	1
B6.5-35.5	6.5	35.5		20°	10.5	Ø5.5 x 40f	2.5	2.0	1.5	1
B8-35.5	8	35.5		20°	13	Ø6.82x0.625	4.0	3.5	3.0	1
B8-35.5-7	8	40.5	7	20°	13	Ø6.82x0.625	4.0	3.5	3.0	2
B32-102	32	102		15°	40	M30 x 1.5	23.0	20.0	16.5	1
B32-106	32	106		15°	40	Ø29.7 x 15f"	23.0	20.0	16.5	1
B32-106-24	32	124	24	15°	40	Ø29.7 x 15f"	23.0	20.0	16.5	2
B45-115	45	115		15°	53	M42 x 1.5	35.0	30.0	25.0	1

P

P

P



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M2	Max			fig.
						Ø	⬡	■	
P4.5-22.9	4.5	22.9	15°	6.75	M3.35	1.0	0.8	0.7	1
P5-22.9	5	22.9	15°	7	M3.5	1.0	0.8	0.7	1
P6-24.1	6	24.1	20°	8.5	M4	2.0	1.7	1.4	1
P6-27.2	6	27.2	15°	8.5	M4	2.0	1.7	1.4	1
P10-39	10	39	15°	14	M7	4.0	3.5	2.8	1
P16-76	16	76	15°	22	M8 x 1	6.0			2

P (AS 14)

P (AS 14)

P (AS 14)

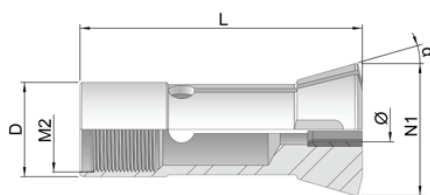


fig.3



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

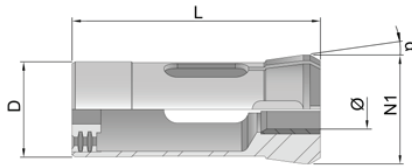
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	M2	Max			fig.
						Ø	⬡	■	
P25-75	25	75	16°	35	M22 x 1	16.0	14.0	11.5	3

PR

PR

PR



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

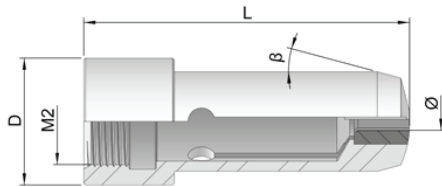
Maximum Ø through carbide

N° Serge Meister	D	L	α	N1	Max		
					Ø	⬡	■
PR28-73	28	73	8	32	20.0	17.0	14.0
PR35.5-80	35.5	80	8	40	25.0	21.5	17.5

Lambert

Lambert

Lambert



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

Maximum Ø through carbide

N° Serge Meister	D	L	β	M2	Max		
					Ø	⬡	■
L14-34	14	34	15°	M10 x 0.5	6.0		
L14-36	14	36	15°	M10 x 0.5	6.0		

MultiSwiss

MultiSwiss

MultiSwiss

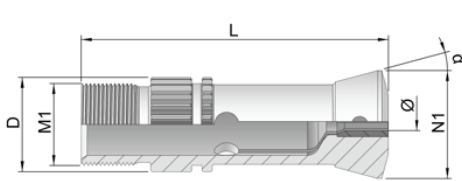


fig.1

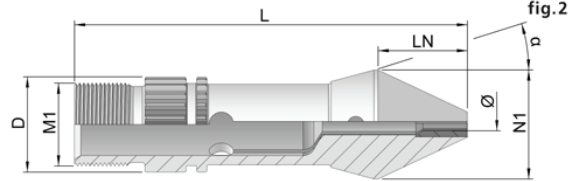


fig.2



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

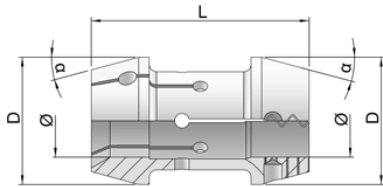
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	N1	M1	Max			fig.
							Ø	⬡	■	
MS23-75	23	75		15°	26.3	M20 x 1	14.0	12.0	10.0	1
MS23-75-20	23	95	20	15°	26.3	M20 x 1	14.0	12.0	10.0	2

Double cône

Doppelkegel

double cone



Ø maximum passant en acier

Maximaler Ø durchgehend Stahl

Maximum Ø through steel

N° Serge Meister	D	L	α	Max		
				Ø	⬡	■
DC35-60	35	60	15°	26.0	22.5	18.0
DC43-68	43	68	14°	32.0	27.5	22.5

Pince de ravitaillement

Spannzangen Stangenlader

Feed finger

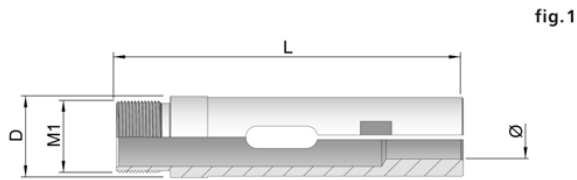


fig.1

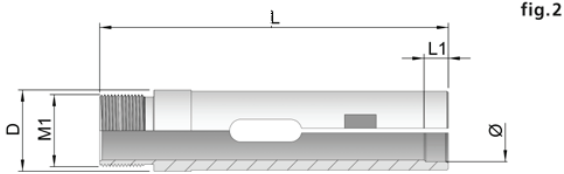


fig.2

Ø maximum passant en acier

Maximaler Ø durchgehend Stahl

Maximum Ø through steel

N° Serge Meister	D	L	M1	L1	Ø	Fig.
PC18-77.3-A	18.0	77.3	M16.0x0.75		13.0	1
PC18-77.3-B	18.0	77.3	M16.0x0.75	5	16.0	2

Transporteur Type B

Transport-Zangen Typ B

Transporter Type B

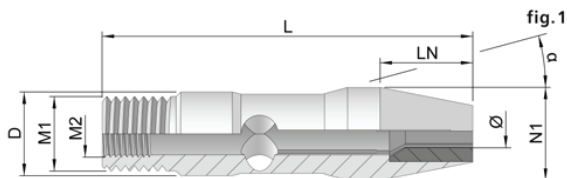


fig.1

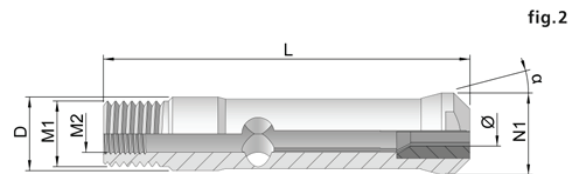


fig.2

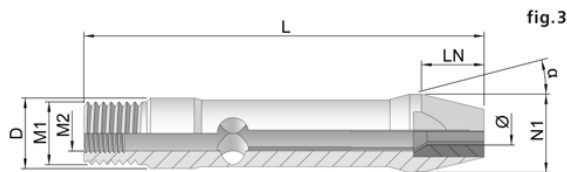


fig.3



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

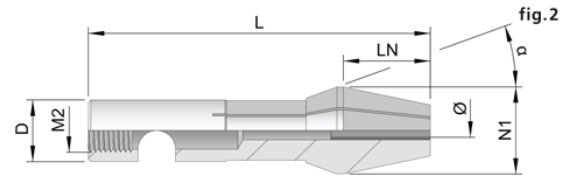
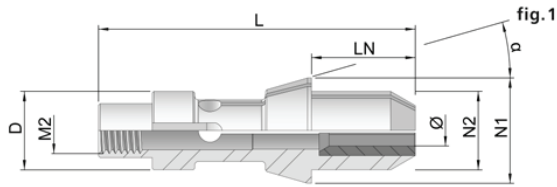
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	N1	M1	M2	Max			fig
								Ø	●	■	
TB9-30-11	9	41	11	15°	10	M8 x 0.75	M5 x 0.5	4.0	3.5	3.0	1
TB9-45	9	45		15°	10	M8 x 0.75	M5 x 0.5	4.0	3.5	3.0	2
TB9-45-6	9	51	6	15°	10	M8 x 0.75	M5 x 0.5	4.0	3.5	3.0	3

Transporteur Type T

Transport-Zangen Typ T

Transporter Type T



LN sur demande

LN Anfrage

LN upon request

LN sur demande

LN Anfrage

LN upon request



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

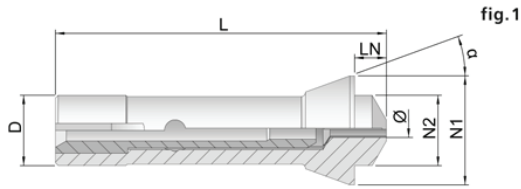
Maximum Ø through carbide

N° Serge Meister	D	L	LN	α	N1	N2	M2	Max			fig.
								Ø	⬢	■	
TT5	5	26	10	16°	7	5		1.5	1.3	1.0	1
TT05	5	27.5	7	20°	7		M3.5	1.5	1.3	1.0	2
TT7	7	28.5	10	16°	9.5	7	M4 x 0.5	2.0	1.7	1.4	1
TT8	8	44.5	14	16°	11	8	M4 x 0.5	2.0	1.7	1.4	1
TT10	10	41	13	16°	13.5	10	M6 x 0.5	5.0	4.5	3.5	1
TT12	12	46	14.5	16°	16	12	M6 x 0.5	5.0	4.5	3.5	1

ROL 8

ROL 8

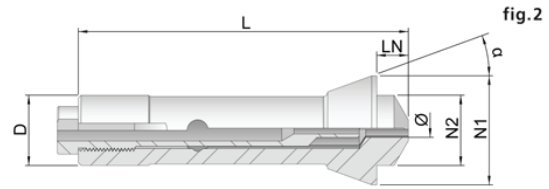
ROL 8



avec guide laiton

mit Messing-führungs

with brass guide



avec guide acier

mit Stahl-führungs

with steel guide



Ø maximum passant en acier

Maximaler Ø durchgehend Stahl

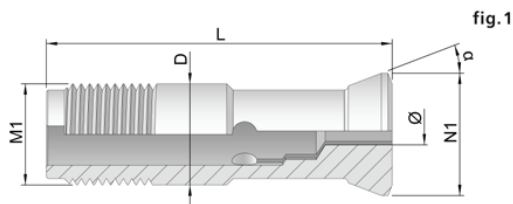
Maximum Ø through steel

N° Serge Meister	D	L	LN	α	N1	N2	M2	Max			fig.
								Ø	●	■	
ROL8	10	47.5	5	20°	15.5	10		5.0	4.0	3.5	1
ROL8-M	10	47.5	5	20°	15.5	10	M6 x 0.5	5.0	4.0	3.5	2

TOR 4

TOR 4

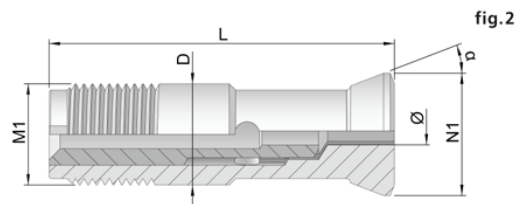
TOR 4



avec guide laiton

mit Messing-führungs

with brass guide



Ø maximum passant en acier

Maximaler Ø durchgehend Stahl

Maximum Ø through steel

N° Serge Meister	D	L	α	N1	M1	Max			fig.
						Ø	●	■	
TOR4	12	41	21°	14.5	M12 x 1	6.5	5.5	4.5	1
TOR4-G	12	41	21°	14.5	M12 x 1	4.5	4.0	3.0	2

Pinces

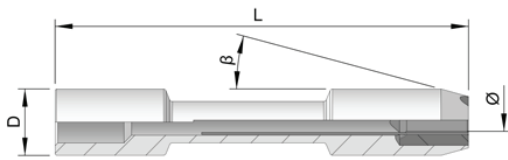
Spannzangen

Collets

LNS

LNS

LNS



Ø maximum passant en métal dur

Maximaler Ø durchgehend Hartmetall

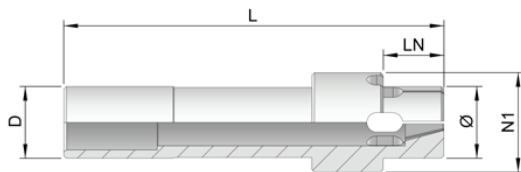
Maximum Ø through carbide

N° Serge Meister	D	L	β	Max		
				Ø	⬡	■
LNS4.8	4.8	30	15°	2.7	2.3	1.9

Expansible

Dehnbar

Expanding



4 ou 6 Fentes acier

4 oder 6 Schlitz Stahl

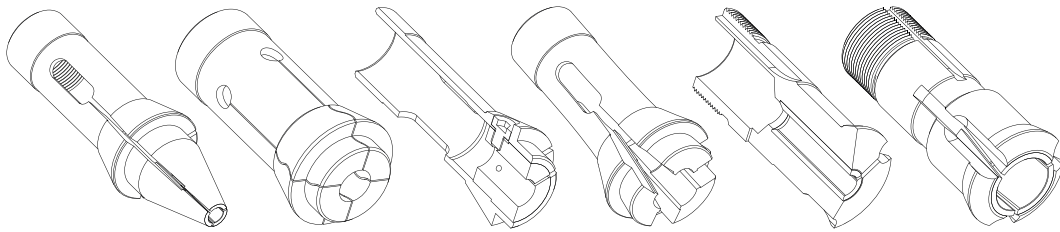
4 or 6 slot steel

N° Serge Meister	D	L	LN	N1	Ø
EXP13-57	13	69	12	18	3.5

Options

Optionen

Options



Options

Optionen

Options



Canon
Führungsbüchsen
Guide bushes



Pince
Spannzangen
Collets

Option

Optionen

Options

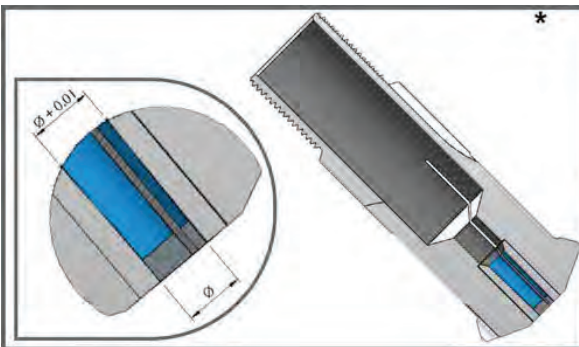


Canon + Pince
Führungsbüchsen + Spannzangen
Guide bushes + Collets

Option

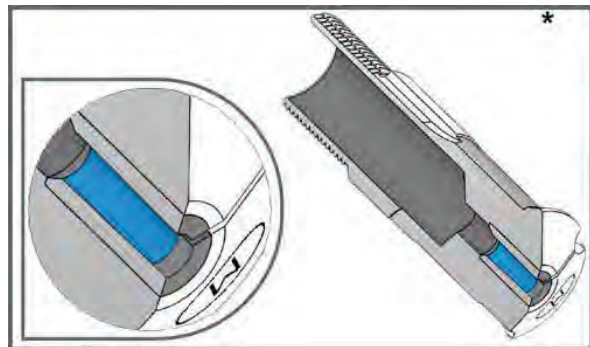
Optionen

Options



Rôdage inox

Ø 1mm - 8mm



Rodieren Inox

Ø 1mm - 8mm

Stainless-steel lapping

Ø 1mm - 8mm

Options

Optionen

Options



Insert ou complet bronze

Einfügen oder vervollständigen Bronze

Insert or complete bronze



Traitement de surface

Oberflächenbehandlung

Surface traitement (coating)

TiN

TiN

TiN



Traitement de surface

Oberflächenbehandlung

Surface traitement (coating)

CROMVlc ®

CROMVlc ®

CROMVlc ®

Options

Optionen

Options



Traitement de surface

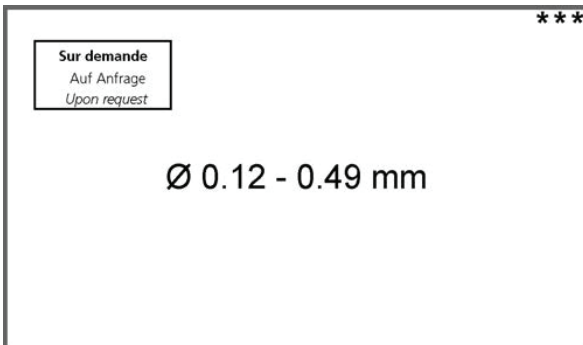
Oberflächenbehandlung

Surface traitement (coating)

MOVIC ®

MOVIC ®

MOVIC ®



Petits Ø

Kleine Ø

Small Ø



Long métal dur

Lang Hartmetall

Long carbide

Longueurs standard : 28, 30, 35, 40mm

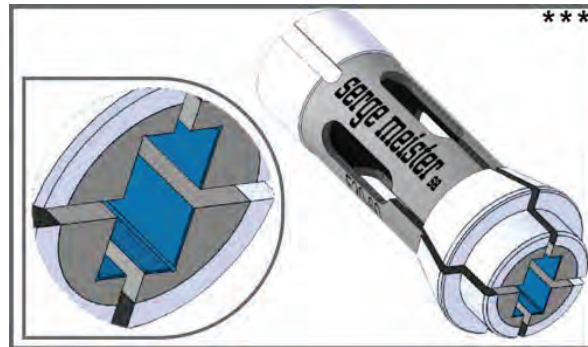
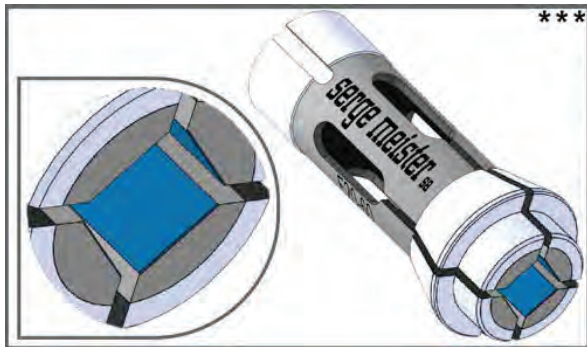
Standard-Längen : 28, 30, 35, 40mm

Standard lengths : 28, 30, 35, 40mm

Options

Optionen

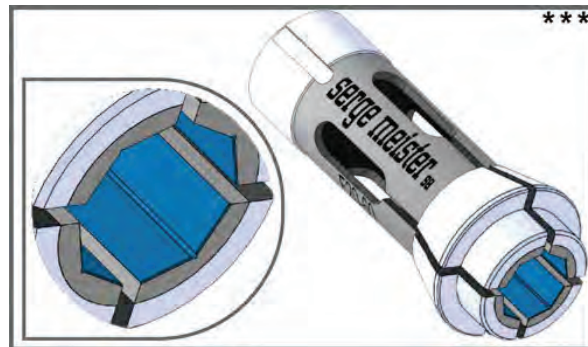
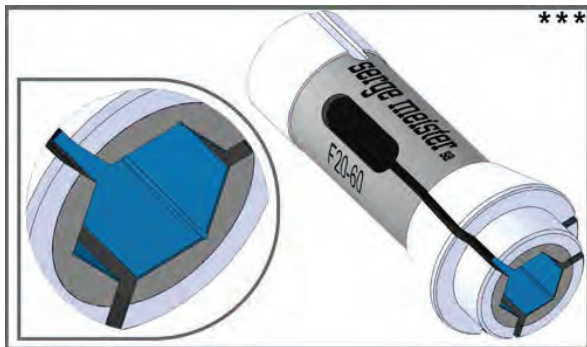
Options



Alésage carré, rectangle

4-kant, Rechteck Bohrung

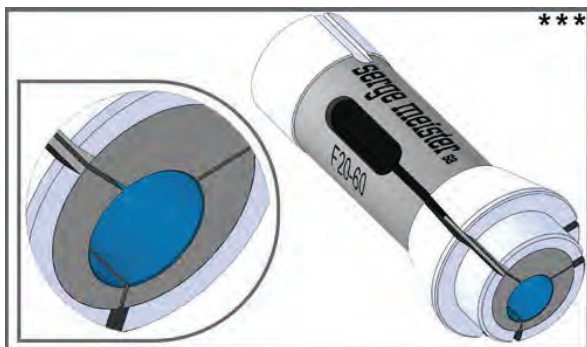
Square, rectangle bore



Alésage 6, 8 pans

6, 8-kant Bohrung

hex, octa bore



Alésage excentrique

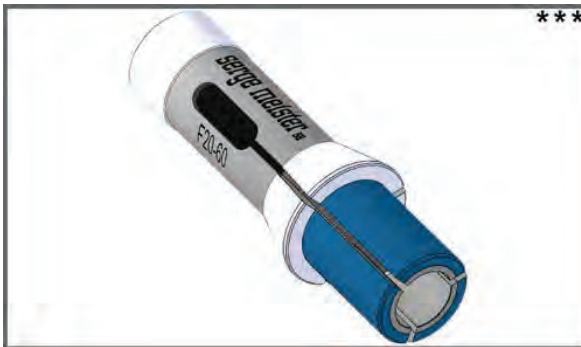
Exzentrische Bohrung

Excentric bore

Options

Optionen

Options



Longueur du nez hors standard

Nasenlänge

Nose length



Cône métal dur

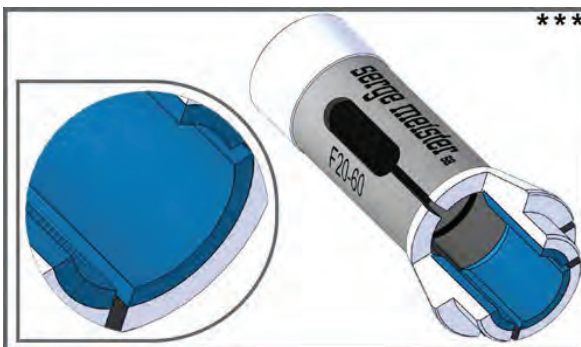
Hartmetall - Konus

Carbide cone

Disponible pour la plupart des références.

Verfügbar für fast alle Büchsen.

Available for most bush types according to application.



Angle vif

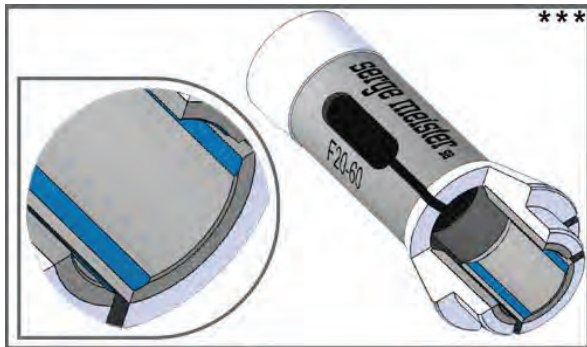
Ohne Fase

Sharp edge

Options

Optionen

Options



Anglage fentes

Fase an Schlitze

Relieved slots



Fentes "Wave"

"Wave" Schlitze

"Wave" Slots



Fentes "Zigzag"

"Zigzag" Schlitze

"Zigzag" Slots



Options

Optionen

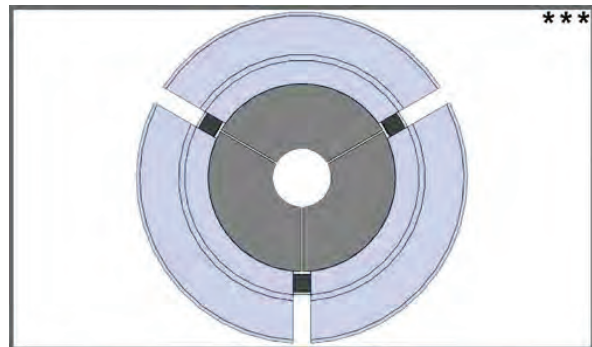
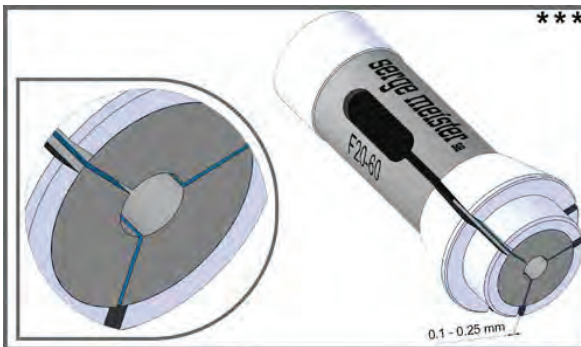
Options



Entrée(s) de clavette(s)

Nute

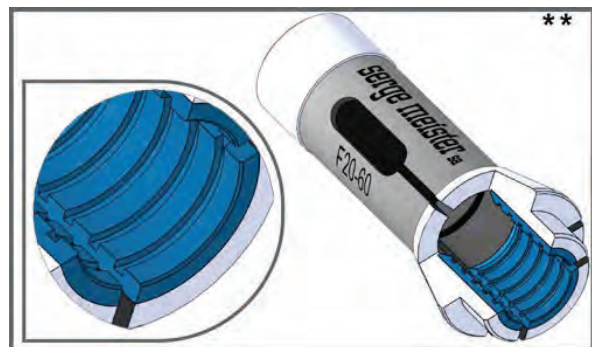
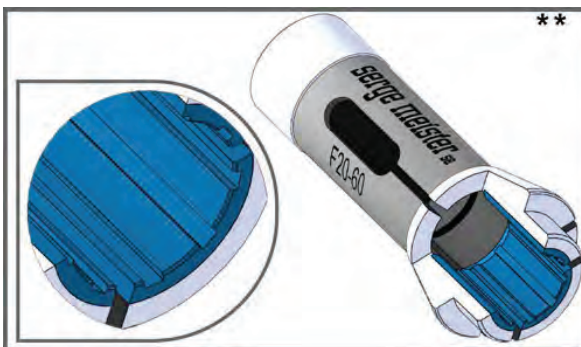
Keyway



Fentes fines

Feine Schlitzte

Narrow slots



Alésages rainurés, striés

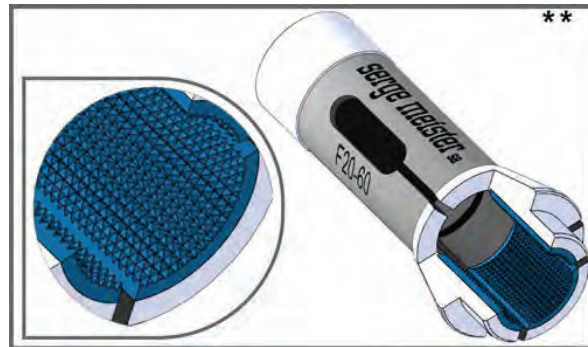
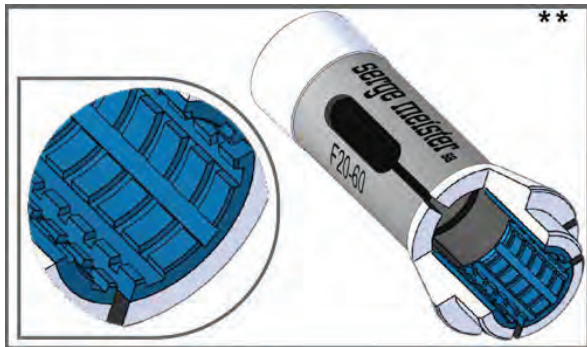
Bohrung mit Querrillen

Grooved and serrated bore

Options

Optionen

Options



Alésages rainurés, striés

Bohrung mit Querrillen

Grooved and serrated bore



Ouverture de la pince

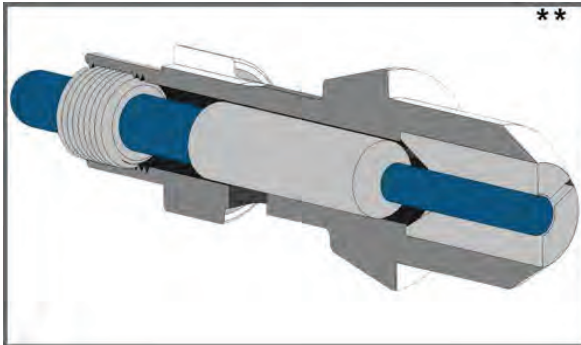
Oeffnung der Zangen

Opening of collets

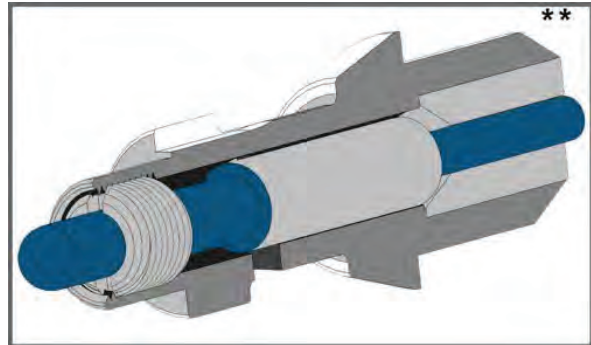
Options supplémentaires

Zusatz-Optionen

Additional options

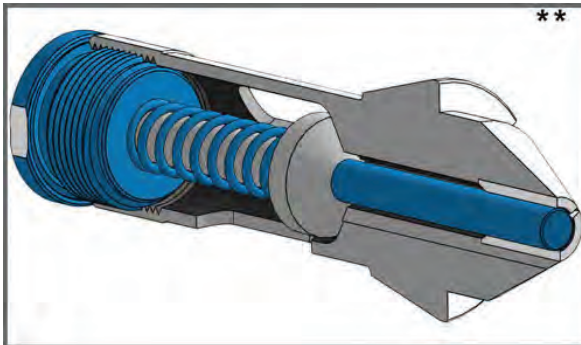


Ejecteur

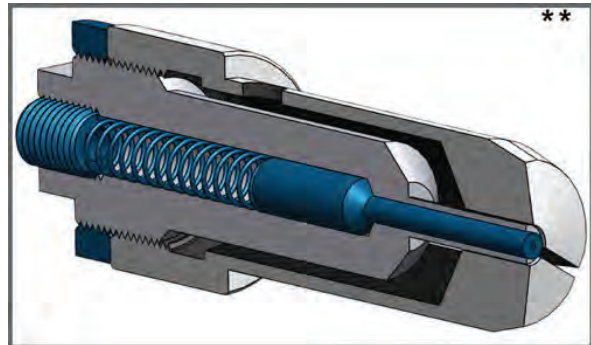


Ausswerfer

Ejector

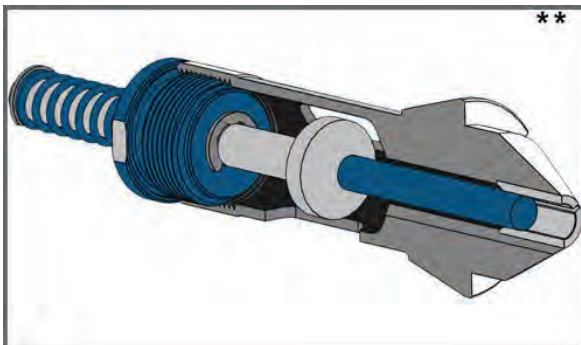


Ejecteur Type A

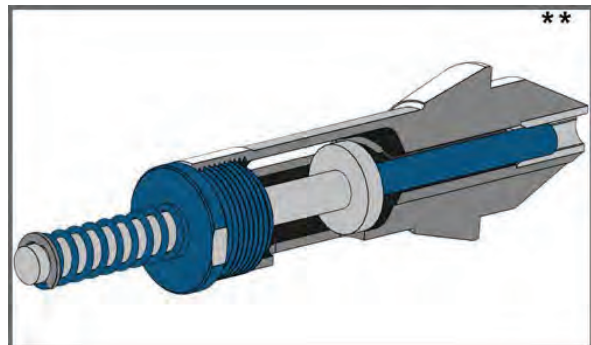


Ausswerfer Typ A

Ejector Type A



Ejecteur Type B



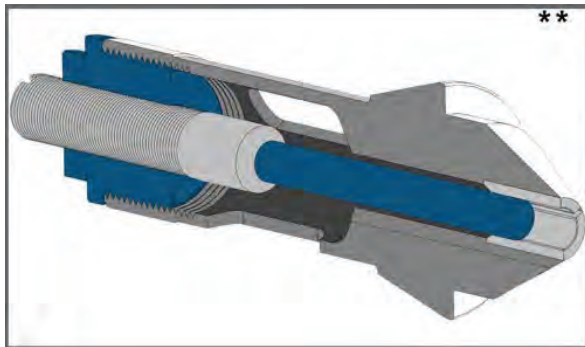
Ausswerfer Typ B

Ejector Type B

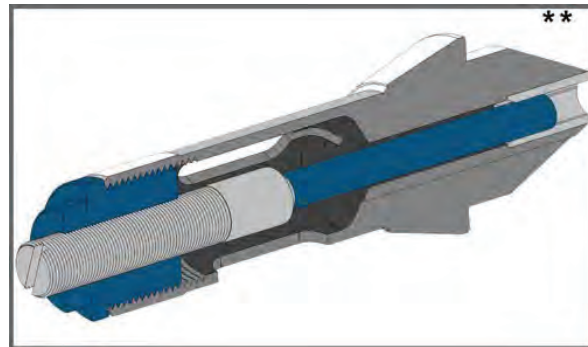
Options supplémentaires

Zusatz-Optionen

Additional options

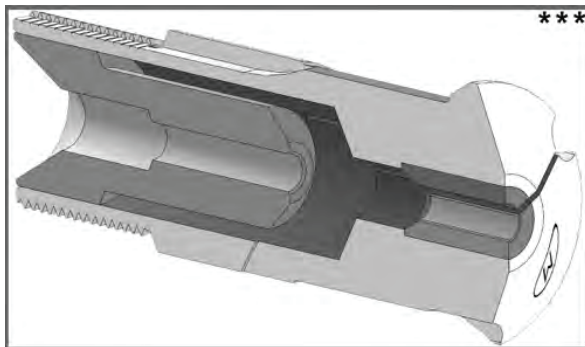


Butée

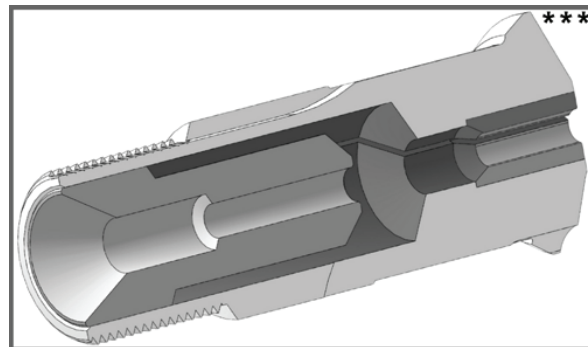


Anschlag

Back stops

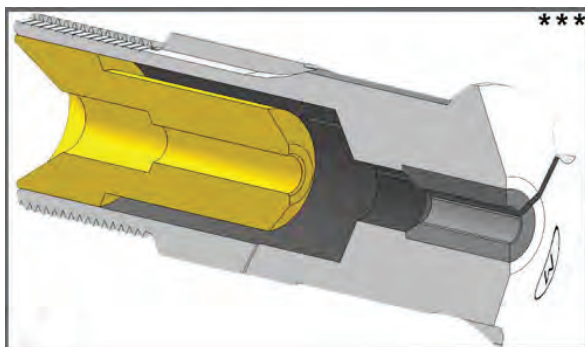


Guide de précision acier

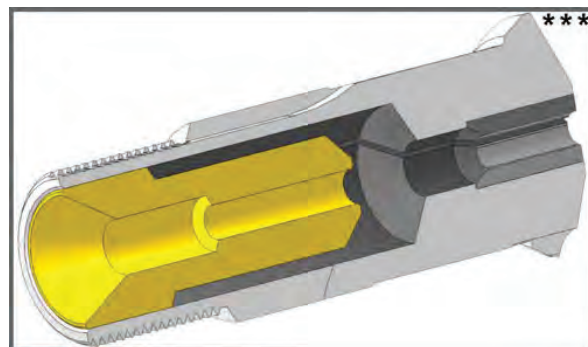


Präzisionsführung Stahl

Precision guide steel



Guide laiton



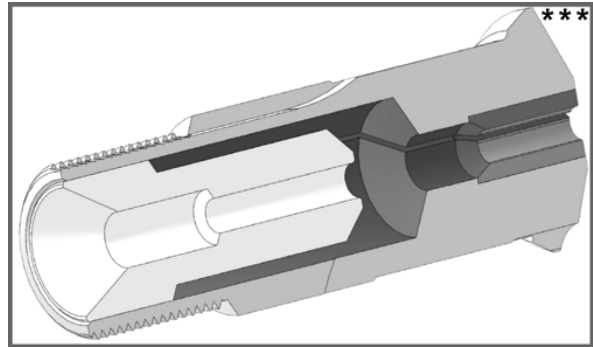
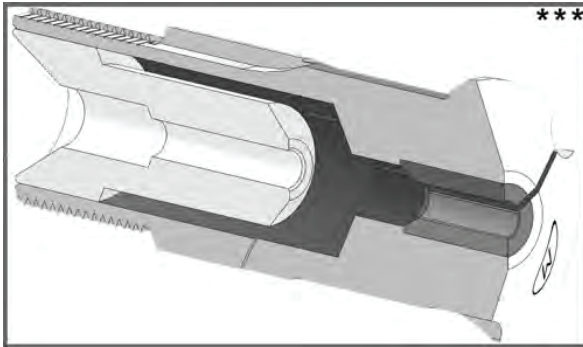
Messing-Führung

Brass guide

Options supplémentaires

Zusatz-Optionen



Additional options

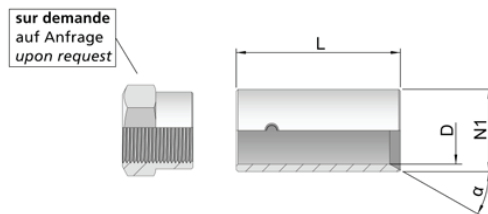


Guide plastique

Kunststoffführung

Plastic guide

	<p>Douille + écrou Hülse + Mutter <i>Sleeve + nut</i></p> <p>389</p>
	<p>Porte Pince Zangenhülse <i>Collet sleeve</i></p> <p>390</p>

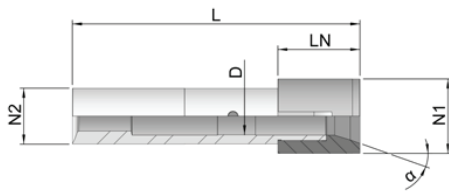
Douille + écrou
Hülse + Mutter
Sleeve + nut


N° Serge Meister	D	L	α	N1
D7-10-25-16	7	24	16°	10
D9-12-39-16	9	39	16°	12
D9-13-39-16	9	39	16°	13
D9-13-40-60	9	40	30°	13
D9-15-40-30	9	40	30°	15
D11-15-40-30	11	40	30°	15
D11-15-50-16	11	50	16°	15
D12-16-40-30	12	40	30°	16
D12-16-48.5-16	12	48.5	16°	16
D16-20-50-30	16	50	30°	20
D16-22-52-16	16	52	16°	22
D16-20-56-16	16	56	16°	20
D17-22-50-30	17	50	30°	22
D18-22-44-30	18	44	30°	22
D18-22-50-30	18	50	30°	22
D20-25-45-30	20	45	30°	25
D22-30-63-16	22	63	16°	30
D22-32-63-16	22	63	16°	32
D22-32-64-16	22	64	16°	32
D22-34-64-16	22	64	16°	34
D22-36-64-16	22	64	16°	36
D24-30-50-30	25	50	30°	30
D25-32-50-30	25	50	30°	32
D28-40-71-30	28	71	30°	40
D28-56-71-30	28	71	30°	56
D32-40-50-30	32	50	30°	40

Porte Pince

Zangenhülse

Collet sleeve



N° Serge Meister	D	L	LN	α	N1	N2
PP7-13-36-15	7	36	25	15°	14	13
PP8-12-66-16	8	66	16	16°	15	12
PP10-15-60-20	10	60	34	20°	20	15
PP10-20-62.7-20	10	62.7	7	20°	24	20
PP10-14-77-20	10	77	22	20°	19	14
PP10-15-77-20	10	77	22	20°	20	15
PP10-18-85.5-20	10	85.5	32	20°	23.8	18
PP10-18-88-20	10	88	22	20°	23	18
PP10-18-93-20	10	93	22	20°	21	18
PP13-18-85.5-16	13	85.5	32	16°	23.8	18
PP13-18-88-16	13	88	22	16°	23	18
PP14-20-62.7-13	14	62.7	7	13°	24	20
PP14-21-66-13	14	66	22	13°	24	21
PP15-21-54.7-20	15	54.7	11.4	20°	25	21
PP15-20-85-16	15	85	21	16°	24	20
PP15-20-86-16	15	86	14	16°	27	20
PP15-22-90-16	15	90	22	16°	26	22
PP15-22-91-16	15	91	30	16°	26	22
PP16-22-90-16	16	90	22	16°	26	22
PP16-22-91-16	16	91	30	16°	26	22
PP20-28-114-16	20	114	38	16°	33	28

Bechler

Bechler

Bechler



André Bechler SA Moutier

Fabrique de machines

Type de machine	Canon	Pince broche principale
A-4	T9-44 / T9-50	F10/1178 (111E)
A-7	T12-50-M10.075 / T11-50 / T12-50-M12.1	F10-42.6
A-10 / AR-10	T12-50-M10.075 / T11-50 / T12-50-M12.1	F14-42
BR-12 / BR-16 / BR-20	T22-68-M19.1 / T28-81 / T32-71 /	

Citizen

Citizen

Citizen



CITIZEN

Type de machine	Canon	Pince broche principale
A-20	T28-82-M25.1	F25-67
B-12	T18-59-M16.1	F16-58
B-20	T28-82-M25.1	F25-67
C-16	T24-61	F20-60
E-16	T24-61	F25-67
E-20	T32-71	F25-67
E-25	T34-87.5	F30-70
E-32	T42-82-C16	F37-82
F-12	T18-59	F16-58
F-16	T24-61	F20-60
F-20	T32-71	F25-67
F-25	T34-87.5	F30-70
K-12	T18-59	F16-58
K-16	T24-61	F25-67
L-10 I	T16-58	F15-58
L-10 Watch	T9-44	F15-58

Citizen

Citizen

Citizen



CITIZEN

Type de machine	Canon	Pince broche principale
L-12	T18-59	F16-58
L-16	T24-61	F25-67
L-20	T28-82-M25.1	F25-67
L-25	T34-87.5	F30-70
L-32	T42-82-C16	F37-82
M-12	T18-59	F16-58
M-16	T24-61	F20-60
M-20	T28-82-M25.1	F25-67
M-32	T42-82-C16	F37-82
MSL-12	T18-59	F16-58
R-04	T9-44	F8-37.5
R-07	T11-53	F15-58

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Hanwha

Hanwha

Hanwha




Hanwha

Type de machine	Canon	Pince broche principale
SL-12 S/H	T18-59-M16.1	F15-58 / F16-58
SL-16 S/H	T22-68-M22.1	F22-49
SL-20 S	T28-82-M25.1	F25-67
SL-26 HP II	T34-87.5	F32-67
SL-26 S/H	T34-87.5	F32-67
SL-32 HP II	T42-82-C16	F37-82
SL-32 HPD	T42-82-C16	F37-82

Hanwha

Hanwha

Hanwha



Type de machine	Canon	Pince broche principale
SL-32 S/HE	T42-82-C16	F37-82
SL-35 HP	T45-82	?
STL-32H	T42-82-C16	F37-82
XD-07	T11-53	F10-42
XD-12 H	T18-59-M16.1	F15-58
XD-12 J	T18-59-M16.1	F16-58
XD-16 H	T22-68-M22.1	F22-49
XD-20 H	T28-82-M25.1	F25-67
XD-20 M	T28-82-M25.1	F25-67
XD-20 N	-	F25-67
XD-20 V	T28-82-M25.1	F25-67
XDI-20	T28-82-M25.1	F25-67
XD-26 H	T34-87.5	F32-67
XD-32 H	T42-82-C16	F37-82
XD-35	T45-82	T45-82??
XD-38	- JBS	F48-85
XP-12 S	T18-59-M16.1	F15-58
XP-16 S	T22-68-M22.1	F22-49
XP-20 S	T28-82-M25.1	F25-67
XP-26 S	T34-87.5	F32-67

MANURHIN K'MX

MANURHIN K'MX

MANURHIN K'MX




Type de machine	Canon	Pince broche principale
Compact	T24-61	F20-49
First 226/326C	T22-68 / T25-81 / T34-87.5	F20-49
KMX-20/220	T25-81 / T22-68	F25-67 / F32-67
KMX-26/226	T22-68 / T25-81 / T34-87.5	F25-67 / F32-67
Mirabel PM32	T22-68 / T25-81 / T42-82	F25-67 / F42-85
OM-98/KL-32	T42-82	
Swing-13	T18-59	
Swing-20	T25-81	
Swing-26	T22-68 / T34-87.5	F38.08-98.5
Swing-32	T22-68 / T25-81 / T34-87.5 / T42-82	F42-85
Traminer-13	T18-59	F18-60
Traminer-16	T22-68	F20-60
Traminer-20	T22-68 / T25-81	F25-67
Twin-13	T22-68	F20-49
Twin-20	T22-68 / T25-81	F20-49
XL-32	T42-82	F42-85
XL-36	T48-81	F42-85 / F48-85

Nexturn

Nexturn

Nexturn




Type de machine	Canon	Pince broche principale
SA-12A	T18-59-M16.1	F16-58
SA-12B	T18-59-M16.1	F16-58

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NEXTURN

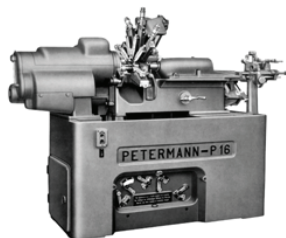
SWISS TURN LEADER

Type de machine	Canon	Pince broche principale
SA-18A	T28-82-M25.1	F25-67
SA 20B	T28-82-M25.1	F25-67
SA-20D	T28-82-M25.1	F25-67
SA-20E	T28-82-M25.1	F25-67
SA 20PII	T28-82-M25.1	F25-67
SA 20PYII	T28-82-M25.1	F25-67
SA 20XII	T28-82-M25.1	F25-67
SA-26D	T34-87.5	F32-67
SA-26E	T34-87.5	F32-67
SA 26PII	T34-87.5	F32-67
SA 26PYII	T34-87.5	F32-67
SA 26XII	T34-87.5	F32-67
SA-32D	T42-82-C16	F37-82
SA-32E	T42-82-C16	F37-82
SA 32B	T42-82-C16	F37-82
SA 32PII	T42-82-C16	F37-82
SA 32PYII	T42-82-C16	F37-82
SA 32XII	T42-82-C16	F37-82
SA 32XIII	T42-82-C16	F37-82
SA-38E	T46-92	F42-85
SA 38PII	T46-92	F42-85
SA 38PYII	T46-92	F42-85
SA 38XIII	T46-92	F42-85

Petermann

Petermann

Petermann




Type de machine	Canon	Pince broche principale
P-3	T7-30 / T7-29	F7-36
P-4	T9-44 / T9-50 / T9-26	F8-37.5
P-7	T12-50-M10.075 / T12-50-M12.1	F10-42
P-7R	T12-50-M10.075 / T12-50-M12.1	F15-42 / F16-50
P-16/P-16R	T22-68-M19.1 / T28-81 / T32-71 / T24-61	F22-59
P-20R/P-25	T32-71 / T40-72-M40.1	F32-59
10-HS	T16-58 / T20-55 / T22-68-M19.1	F16-50 / F20-55

Star

Star

Star




Type de machine	Canon	Pince broche principale
ECAS-20	T28-82-M25.1	F25-67
ECAS-32	T42-82-C16	F37-82
JNC-10	T16-58 / év.T16-59	F15-58
JNC-16	T22-68-M22.1	F20-60
JNC-32	T42-82-C16	F37-82
KJR-16	T22-68-M22.1	F20-60
KJR-25	-	F30-70
KNC-20	T28-82-M25.1	F25-67
KNC-32	T42-82-C16	F37-82
RNC-10	T16-58	F15-58
RNC-16	T22-68-M22.1	F20-60
SA-12/16	T22-68-M22.1	F20-60

Star

Star

Star



Type de machine	Canon	Pince broche principale
SB-12	T18-59-M16.1	F16-58
SB-16	T22-68-M22.1	F20-60
SB-20	T28-82-M25.1	F25-67
SB-20RG	T28-82-M25.1	F25-67
SE-16	T22-68-M22.1	F20-60
SF-25	-	F37-82
SH-7	T16-58	F15-58
SH-12	T21-57.4	F20-60
SH-16	T22-68-M22.1	F20-60
SI-12 NP	T22-68-M22.1	F20-60
SNC-15	T22-68-M22.1	F20-60
SR-10J	T16-58 (év. T16-59)	F15-58
SR-16	T22-68-M22.1	F20-60
SR-20J	T28-82-M25.1	F25-67
SR-20JN	-	F25-67
SR-20R	T28-82-M25.1	F25-67
SR-20RIV -/B	T28-82-M25.1	F25-67
SR-32	T42-82-C16	F37-82
SR-32J	T42-82-C16	F37-82
SR-32JN	-	F37-82
SR-32JII-A / B	T42-82-C16	F37-82
SR-38-A / B	T42-82-C16	F37-82
SST-16	T22-68-M22.1	F20-60
ST-20	T28-82-M25.1	F25-67
ST-38	T48-82	F48-85
SV-12	T22-68-M22.1	F20-60
SV-20	T28-82-M25.1	F25-67
SV-20R	T28-82-M25.1	F25-67
SV-32	T42-82-C16	F37-82
SV-38R	T48-82	F48-85

Star

Star

Star



Type de machine	Canon	Pince broche principale
SW-12R11	T18-59-M16.1	F16-58
SW-20	T28-82-M25.1	F25-67
SW-7	T11-53	F15-58
SW-7R	T16-58 (év. T16-59)	F15-58
VNC-12	T21-57.4	F20-60
VNC-20	T28-82-M25.1	F25-67
VNC-32	T42-82-C16	F37-82

Tornos

Tornos

Tornos



Type de machine	Canon	Pince broche principale
CT-20	T28-82	F25-67
DECO-7	T11-53	F10-42
DECO-8 SP	-	W15
DECO-10	T16-59	F13-58 (F10-42)
DECO-13	T24-61	F20-49 (F13-58/F15-58/F16-58)
DECO-20	T28-81/T34-87.5	F25-67 (F30-59/F20-60)
DECO-26 (32)	T34-87.5 / T42-82-C16	F37-82/(F30-59/F25-67)
DELTA-12	T24-61	F20-60/F13-58/F15-58
DELTA-12 version III	T26-77 / T24-61	F20-60/F13-58/F15-58
DELTA-20	T28-81 / T26-77	F25-67 / F13-58
DELTA-20 version III	T28-81 / T26-77	F25-67 / F13-58
DT26	T34-87.5	F25-67 / F30-59

Tornos

Tornos

Tornos



TORNOS

Type de machine	Canon	Pince broche principale
ENC-74/75	T16-59	F13-58
ENC-163/164/167	T24-61/T28-81/T16-59	F25-67/F20-60/F15-58
ENC-262/264	TOP-200	F30-59
EVODECO-20	T34-87.5 / T28-81	F25-67 / F30-59
EVODECO-32	T42-82	F25-67 / F30-59 / F37-82
GAMMA-20/6	T26-77 / T28-81	F25-67
GT-13	T18-59-M16.1	F13-58 / F16-58
GT-26	T34-87.5	F25-67 / F30-59
GT-32	T42-82	F37-82
EVODECO-10	T16-59	F13-58 / F15-58 / F16-58 / F20-49 /
EVODECO-16	T24-61	F13-58 / F15-58 / F16-58 / F20-49 /
M-4	T9-50 / T9-44 / MAG-B-10	F8-37.5
M-7	T11-53 / MAG-B-13 / T12-50-M12.1	F10-42
MS-7	T18-59 / MAG-B-18	F13-58 / F15-58
MICRO-7	T11-53	F13-58
MICRO-8	-	W15
MR-28/32	T42-82-C16 / T44-87	F37-82
NAT-125	T16-59	F16-58
R-10	T18-59 / T16-59 / MAG-B-18	F15-58 / F16-58
R-16	T22-68	F20-60
RR-20	T28-81 / MAG-B-36	F25-67
SIGMA-8	-	W15
SIGMA-20	T34-87.5 / T28-81	F30-59/F25-67/F20-60
SIGMA-32	T42-82-C16/T34-87.5	F37-82/F30-59/F25-67
ST-26	T34-87.5	F20-49 / F25-67 / F26-60 / F30-59
Swiss NANO	T11-53	F8-37.5 / F10-42 / F13-58
Swiss NANO 7	T11-53	F13-58 / F10-42
TOP-100	TOP-100	F15-58/F16-58
TOP-200	TOP-200	F25-67/F30-59

Tornos Multibroches

Tornos Multibroches

Tornos Multibroches



TORNOS

Type de machine	Pince broche	Pince contre-broche	Pince de ravitaillement
MultiAlpha 6x32	-	PR35.5-80	
MultiAlpha 8x20	B34-90	PR28-73	
MultiAlpha 8x28	-	PR35.5-80	
MultiDeco 20/6	B34-90	PR28-73	
MultiDeco 20/6b	B34-90	PR28-73	
MultiDeco 20/8	B34-90	PR28-73	
MultiDeco 20/8b	B34-90	PR28-73	
MultiDeco 26/6	-	PR35.5-80	
MultiDeco 32/6i	-	PR35.5-80	
MultiSigma 8x20	B34-90	PR28-73	
MultiSigma 8x28	-	PR35.5-80	
MultiSwiss 6x16	MS23-75	F20-49	F16-58-8
MultiSwiss 6x32	DC43-68	F37-82	PR35.5-80
MultiSwiss 8x26	DC35-60	F37-82	PR35.5-80
SAS 16.6	W25-94	F16-58-8	

Tsugami

Tsugami

Tsugami



TSUGAMI


SWISS

Type de machine	Canon	Pince broche principale
B-32	T41-54	F37-82
B007E	T11-53	F10-42
B074E	T11-53	F10-42
B012AE/CE	T24-61	F22-49

Tsugami

Tsugami

Tsugami



TSUGAMI



Type de machine	Canon	Pince broche principale
B018AE/CE	T24-61	F22-49
B020AE/CE	T28-81	F25-67
B0123E/4E/5E	T24-61	F22-49
B0126	T26-77	F22-49
B0128WE	T24-61	F22-49
B0203E/4E/5E	T28-81	F25-67
B0206	T26-77 / T28-81	F25-67
B0208WE	T28-81	F25-67
B0265E/6E	T34-87.5	F30-59
B038ME	T48-81-C10	F48-85
B038TE	T42-82-C16	F37-82
B0325E/6E	T42-82-C16	F37-82
B0385E, Bar Ø 32	T42-82-C16	F37-82
B0385E, Bar Ø 38	T48-81-C10	
BH20E/ZE	T28-81	F25-67
BH38E, Bar Ø 32	T42-82-C16	F37-82
BH38E, Bar Ø 38	T48-81-C10	
BN12E	T24-61	F22-49
BN20E	T28-81	F25-67
BS 007	T11-53	F10-42
BS12AE/BE/CE	T24-61	F22-49
BS125HE/6HE	T24-61	F22-49
BS18AE/BE/CE	T24-61	F22-49
BS20AE/BE/CE	T28-81	F25-67
BS32CE	T41-54	F37-82
BS205HE/6HE	T28-81	F25-67
BS26AE/BE/CE	T34-87.5	F32-67
BU20E	T28-81	F25-67
BU26E	T34-87.5	F32-67
BU/MU 26	T34-87.5	F32-67

Tsugami

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Tsugami



TSUGAMI



Type de machine	Canon	Pince broche principale
BU/MU 38	T48-81-C10	F37-82
BW07E	T11-53	F10-42
BW12E	T24-61	F22-49
BW20E	T28-81	F25-67
BW127E/8E/8ZE/9ZE	T24-61	F22-49
BW207E/8E/8ZE/9ZE	T28-81	F25-67
H205E/6E	T28-81	F25-67
HS20	T28-81	F25-67
HS26	T34-87.5	F30-59
HS32	T42-82-C16	F37-82
HS38MH	T48-81-C10	F48-85
HS38MH/5AX	T48-81-C10	F37-82
HS207	T28-81	F25-67
NP-4W	T11-53	F10-42
NT-NP 11	T18-59	F15-58
NT-NP 16	T22-68	F22-49
NT-NP 16-II	T24-61 / T22-68	F22-49
NT-NP 17	T24-61 / T22-68	F22-49
NT-NP 20	T32-71	F25-67
NT-NP 20-II	T28-81	F25-67
NT-NP 32	T42-82-C16	F37-82
P01E	T11-53	F10-42
P03E	T11-53	F10-42
P014E/HE	T11-53	F10-42
P034E/HE	T11-53	F10-42
S20	T28-81	F25-67
S205E/6E	T28-81	F25-67
TMU1E, Bar Ø 32	T42-82-C16	F37-82
TMU1E, Bar Ø 38	T48-81-C10	F48-85



CUSTOM CARBIDE TOOLING

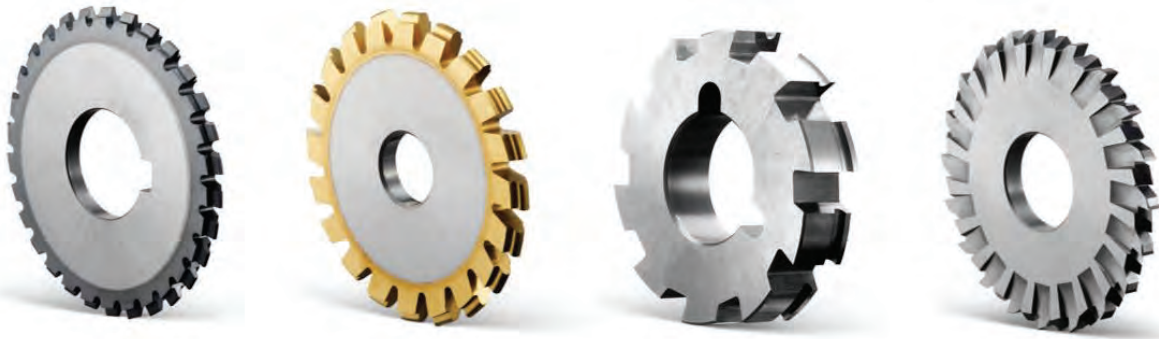
Meccanotecnica Veneta have partnered with Alouette Tool Co. to bring customized high quality precision carbide tooling to North America at competitive pricing. MTV provides specialized tooling for Aerospace, Automotive, Eyewear, Jewelry, Key Making, Medical and Watch Making industries – accomplishing each sector’s unique demands and specifications.

Products include Carbide Form Cutters, Milling Cutters, Circular Cutters, Micro Tools, Special Carbide End Mills, Twist Drills, and Standard Carbide Circular Saws.

LOGARITHMIC RELIEF GRINDING

MTV’s “logarithmic relief grinding”, also known as “constant profile” tooling, refers to the logarithmic fall-off on the back of the cutting edge of their circular tools. This guarantees the constancy of the rake and profile after the tooth’s face has been reground. This significantly helps tool life by allowing an increased number of regrindings.

When regrinding the face of the tooth and maintaining the exact same cutting angle as original, the rake and the profile remain unchanged. The tool’s output does not change and the profile is not deformed. The operation can be repeated as long as the tooth maintains its mechanical strength. The rake angle is always the same as the initial angle & the profile remains unchanged.



Alouette Tool stocks MTV's Fine Tooth Solid Carbide Saws in .05mm (or .002") Width Increments in the following O.D. and I.D. sizes:

- 20mm OD x 5mm ID, 80 Teeth
- 25mm OD x 5mm ID, 80 Teeth
- 25mm OD x 8mm ID, 80 Teeth
- 30mm OD x 8mm ID, 100 Teeth
- 40mm OD x 10mm ID, 100 Teeth
- 50 mm OD x 10mm ID, 100 Teeth

Through MTV, we can quote copies of Louis Belet geometries at a much lower cost. We can also provide quotes for any radius or specialized cutters in 1-2 business days.

Circular Cutters are produced from 5 mm diameter up to 200 mm O.D. or 160mm for Profiled Circular Cutters with ability to apply coatings and suit ISO DIN or other standards.



ISO STANDARD MEDICAL & DENTAL TOOLING

Patient safety is MTV's top priority. Tools used in the medical & dental sector, which come into contact with tissues, even for a short time, need to guarantee cell compatibility. The hard metal corrosion-resistant quality of MTV tooling is verified in vitro cytotoxicity tests according to DIN EN ISO 10993-5 to guarantee maximum safety and reliability. MTV is also ISO certified 9001 – 14001 – 45001. Extreme hardness and breakage resistance for maximum precision work and a long service life.



AEROSPACE & AUTOMOTIVE

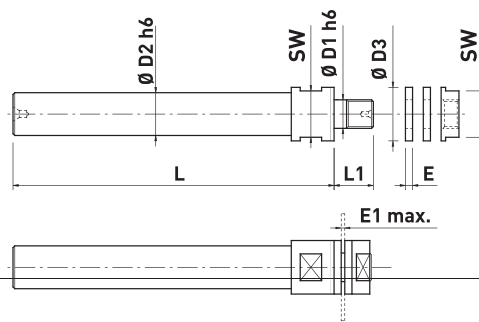
MTV is ISO 9001:2015 certified. Thanks to highly specialised technical qualification and the latest generation machinery, MTV manufactures and supplies mechanical parts for assembly units for various aerospace and automotive applications. Designing in close collaboration with the customer the most suitable chip solutions on a case-by-case basis.

Impeccable service, vast technical know-how, and constant attention to the development of customized solutions make MTV the perfect partner for any project.

- Precision milling, turning, and grinding
- Quality control of mechanical parts
- Wear resistance



Carbide Saw Arbors Front Loaded



Right hand rotation (right hand thread)

Art. N°	D1 h6	D2 h6	D3	L	L1	E	SW	E1 max.
2810-5-6-N	5.0	6.0	10.0	70	9.0	2.0	8.0	6.0
2810-5-10-N	5.0	10.0	10.0	80	9.0	2.0	8.0	6.0
2810-6-10-N	6.0	10.0	12.0	80	9.5	2.0	10.0	6.0
2810-8-10-N	8.0	10.0	15.0	80	10.0	2.0	13.0	6.0
2810-8-12-N	8.0	12.0	15.0	90	10.0	2.0	13.0	6.0
2810-10-6-N	10.0	6.0	18.0	80	10.5	2.0	15.0	6.0
2810-10-10-N	10.0	10.0	18.0	80	10.5	2.0	15.0	6.0
2810-10-16-N	10.0	16.0	18.0	100	10.5	2.0	15.0	6.0
2810-13-16-N	13.0	16.0	22.0	110	11.0	2.0	19.0	6.0
2810-16-20-N	16.0	20.0	26.0	120	12.0	2.0	22.0	6.0
2810-22-16-N	22.0	16.0	32.0	120	12.0	2.0	27.0	6.0

Art. N°	D1 h6	D2 h6	D3	L	L1	E	SW	E1 max.
2811-16-10-N	16.0	10.0	22.0	80	8.0	2.0	19.0	3.0

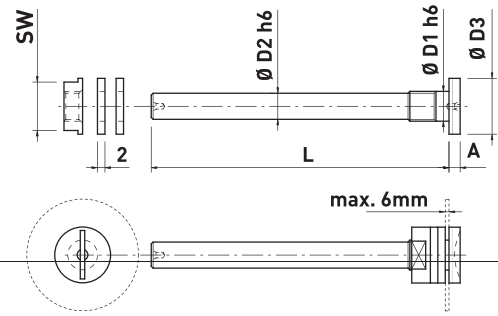
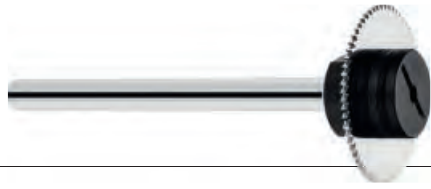
For small slitting saws (right hand thread)

Art. N°	D1 h6	D2 h6	D3	L	L1	E	SW	E1 max.
2815-3-5-N	3.0	5.0	5.0	60	7.0	1.0	4.0	3.0
2815-5-6-N	5.0	6.0	7.5	70	7.0	1.0	6.0	3.0



2 distance rings and 1 nut are included with each arbor

Carbide Saw Arbors Back Loaded



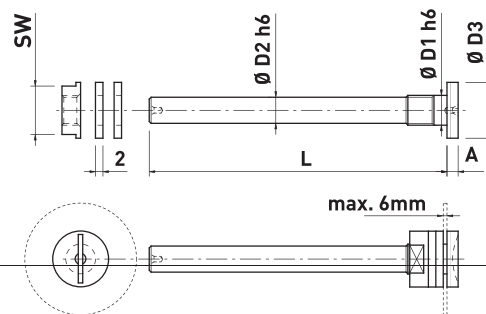
Right hand rotation (left hand thread)

Art. N°	D1 h6	D2 h6	D3	L	L1	E	SW	E1 max.
2820-5-4-N	5.0	4.0	10.0	50	3.0	2.0	8.0	6.0
2820-6-5-N	6.0	5.0	12.0	60	3.0	2.0	10.0	6.0
2820-8-6-N	8.0	6.0	15.0	80	3.0	2.0	13.0	6.0
2820-8-7-N	8.0	7.0	15.0	80	3.0	2.0	13.0	6.0
2820-10-6-N	10.0	6.0	18.0	70	3.5	2.0	15.0	6.0
2820-10-8-N	10.0	8.0	18.0	90	3.5	2.0	15.0	6.0
2820-13-10-N	13.0	10.0	22.0	110	3.5	2.0	19.0	6.0
2820-16-12-N	16.0	12.0	26.0	120	3.5	2.0	22.0	6.0



2 distance rings and 1 nut are included with each arbor

Carbide Saw Arbors Back Loaded



Left hand rotation (right hand thread)

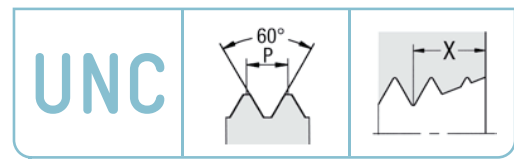
Art. N°	D1 h6	D2 h6	D3	L	L1	E	SW	E1 max.
1820-5-4-N	5.0	4.0	10.0	50	3.0	2.0	8.0	6.0
1820-6-5-N	6.0	5.0	12.0	60	3.0	2.0	10.0	6.0
1820-8-6-N	8.0	6.0	15.0	70	3.0	2.0	13.0	6.0
1820-10-6-N	10.0	6.0	18.0	70	3.5	2.0	15.0	6.0



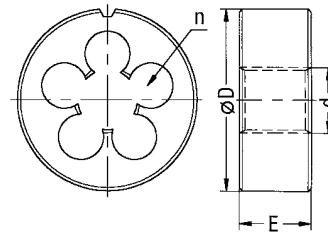
2 distance rings and 1 nut are included with each arbor



Precision thread cutting dies
DIN EN 22568
 Unified national coarse thread
 ASME B1.1



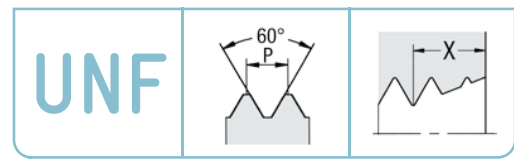
Form "A" Adjustable
 Split Dies Available Upon
 Request.



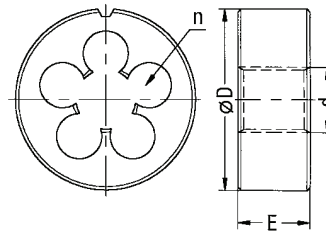
ORDER-CODE → RU					1	Schäl	2	LH	3	3A	4	VA	5
d	Ø d	P	Ø D x E	n	HSS Tol. 2A	HSS Tol. 2A	HSS Tol. 2A links	HSS Tol. 3A	HSSE Tol. 2A				
↓	mm	Gg/1" tpi	mm		x = 1.75 · P	spiral entry	left hand spiral entry	spiral entry No.5 and above	spiral entry, lapped, nitrided No.5 and above				
					Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.
UNC Nr. 1	1,85	64	16 x 5	3	103171								
UNC Nr. 2	2,18	56	16 x 5	4	103183							104565	
UNC Nr. 3	2,52	48	16 x 5	4	103185								
UNC Nr. 4	2,85	40	16 x 5	4	103187					103196		104568	
UNC Nr. 5	3,18	40	20 x 5	4	103200	105474				141095		104570	
UNC Nr. 6	3,51	32	20 x 7	4	103202	105476				103206		104572	
UNC Nr. 8	4,17	32	20 x 7	4	103210	105478				103213		104576	
UNC Nr. 10	4,83	24	20 x 7	4	103174	105468	105469					104563	
UNC Nr. 12	5,49	24	20 x 7	4	103177	105470						104564	
UNC 1/4"	6,35	20	20 x 7	4	103229	105491	105492			103233		104583	*
UNC 5/16"	7,94	18	25 x 9	4	103247	105499	105500			103250		104588	*
UNC 3/8"	9,53	16	30 x 11	4	103240	105497	105498			103244		104586	
UNC 7/16"	11,11	14	30 x 11	4	103255	105504	105505			103258		104590	*
UNC 1/2"	12,70	13	38 x 14	4	103226	105488	105489			103227		104581	*
UNC 9/16"	14,29	12	38 x 14	4	103262	105509	105510					104592	*
UNC 5/8"	15,88	11	45 x 18	4	103252	105502	105503					104589	*
UNC 3/4"	19,05	10	45 x 18	5	103237	105495	105496					104585	
UNC 7/8"	22,23	9	55 x 22	5	103260	105506	105507					104591	**
UNC 1"	25,40	8	55 x 22	5	103216	105480	105481					104577	**
UNC 1 1/8"	28,58	7	65 x 25	5	103223	105484							
UNC 1 1/4"	31,75	7	65 x 25	6	103221	105483	141108						
UNC 1 3/8"	34,93	6	65 x 25	6		105487							
UNC 1 1/2"	38,10	6	75 x 30	6	103219	105482							
UNC 1 3/4"	44,45	5	90 x 36	6		105485							
UNC 2"	50,80	4 1/2	90 x 36	7		105494							






For lapped threads 20% extra charge
 Prices for other sizes available upon request
 * with 5 chip holes
 * with 6 chip holes

Precision thread cutting dies
DIN EN 22568
 Unified national coarse thread
 ASME B1.1



Form "A" Adjustable
 Split Dies Available Upon
 Request.

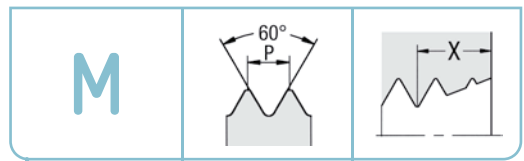


ORDER-CODE → RU					1	2	3	4	5
d ↓	Ø d mm	P Gg/1" tpi	Ø D x E mm	n	HSS Tol. 2A x = 1.75 · P 	HSS Tol. 2A spiral entry x = 1.75 · P 	HSS Tol. 2A links left hand spiral entry x = 1.75 · P 	HSS Tol. 3A spiral entry No.5 and above x = 1.75 · P 	HSSE Tol. 2A spiral entry, lapped, nitrided No.5 and above x = 2 · P 
					Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.
UNF Nr. 0	1,52	80	16 x 5	3	103266				
UNF Nr. 1	1,85	72	16 x 5	3	103268				
UNF Nr. 2	2,18	64	16 x 5	4	103279				
UNF Nr. 3	2,52	56	16 x 5	4	103282				
UNF Nr. 4	2,85	48	16 x 5	4	103284			103287	104603
UNF Nr. 5	3,18	44	20 x 5	4	103289	105519		103290	104605
UNF Nr. 6	3,51	40	20 x 5	4	103293	105521		103296	104607
UNF Nr. 8	4,17	36	20 x 7	4	103297	105522		108406	104609
UNF Nr. 10	4,83	32	20 x 7	4	103269	105512	105513	103272	104595
UNF Nr. 12	5,49	28	20 x 7	4	103276	105514		108742	104600
UNF 1/4"	6,35	28	20 x 7	4	103317	105531	105532	103320	104618
UNF 5/16"	7,94	24	25 x 9	4	103342	105538	105539	103348	104628
UNF 3/8"	9,53	24	30 x 11	4	103332	105535	105536	103336	104624 *
UNF 7/16"	11,11	20	30 x 11	5	103359	105542	105543	103366	104634
UNF 1/2"	12,70	20	38 x 10	5	103310	105529	105530	103313	104614
UNF 9/16"	14,29	18	38 x 10	5	103375	105545	105546	103377	104639
UNF 5/8"	15,88	18	45 x 14	5	103351	105540	105541	103357	104631
UNF 3/4"	19,05	16	45 x 14	6	103325	105533	105534	103330	104621
UNF 7/8"	22,23	14	55 x 16	5	103370	105544	108656	103373	104636
UNF 1"	25,40	12	55 x 16	6	103299	105523	105524		
UNF 1 1/8"	28,58	12	65 x 18	6	103308	105527			
UNF 1 1/4"	31,75	12	65 x 18	7	103306	105526	108652		
UNF 1 3/8"	34,93	12	65 x 18	8	103309	105528			
UNF 1 1/2"	38,10	12	75 x 20	7	103302	105525			

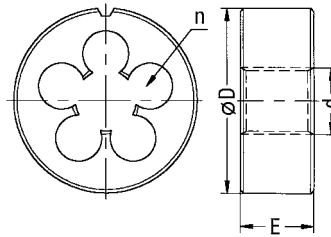
For lapped threads 20% extra charge
 Prices for other sizes available upon request







- * with 5 chip holes
- * with 6 chip holes

Precision thread cutting dies
DIN EN 22568
 ISO metric thread DIN13



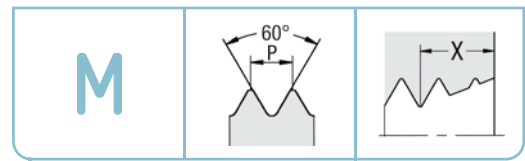
Form "A" Adjustable Split Dies Available Upon Request.



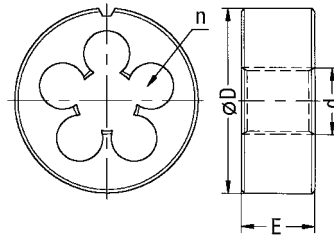
ORDER-CODE → RU →				Schäl	Autom	70°	6e	LH	
d ↓	P mm	Ø D x E mm	n	HSS 6g ≤ M 1,4 Tol. 6h x = 1.75 · P 	HSS 6g spiral entry x = 1.75 · P 	HSS 6g spiral entry M3 and above x = 1.75 · P 	HSS 6g short chamfer spiral entry M3 and above x = 1.25 · P 	HSS 6e spiral entry M3 and above x = 1.75 · P 	HSS 6g links left hand spiral entry M3 and above x = 1.75 · P 
				Art.-Nr.					Art.-Nr.
M 1	0,25	16 x 5	3	101212					
M 1,1	0,25	16 x 5	3	101222					
M 1,2	0,25	16 x 5	3	101224					
M 1,4	0,3	16 x 5	3	101238					
M 1,6	0,35	16 x 5	3	101261					
M 1,7	0,35	16 x 5	3	101276					
M 1,8	0,35	16 x 5	3	101291					
M 2	0,4	16 x 5	3	101816					
M 2	0,4	16 x 5	4		101821	141023	101828	101835	
M 2,2	0,45	16 x 5	3	101852					
M 2,2	0,45	16 x 5	4						
M 2,3	0,4	16 x 5	3	101865					
M 2,3	0,4	16 x 5	4		101868				
M 2,5	0,45	16 x 5	3	101879					
M 2,5	0,45	16 x 5	4		101881	101895	101888	101893	
M 2,6	0,45	16 x 5	3	101911					
M 2,6	0,45	16 x 5	4		101914			101921	
M 3	0,5	20 x 5	3	102207	105131				
M 3	0,5	20 x 5	4		102210	102244	102225	105132	
M 3	0,5	20 x 5	5						
M 3,5	0,6	20 x 5	3	102272	105143				
M 3,5	0,6	20 x 5	4		102275		102284	105144	
M 4	0,7	20 x 5	3	102470	105234				
M 4	0,7	20 x 5	4		102473	102501	102484	105235	
M 4-5	0,7	20 x 5	5						
M 4,5	0,75	20 x 7	4	102552	105243				
M 5	0,8	20 x 7	4	102642	105289	102676	102659	105290	
M 5-5	0,8	20 x 7	5						

For lapped threads 20% extra charge

Precision thread cutting dies
DIN EN 22568
 ISO metric thread DIN13



Form "A" Adjustable Split Dies Available Upon Request.



ORDER-CODE → RU		→ MS		VA	6e-VA	LL (Long Life)	
d ↓	P mm	Ø D x E mm	n	HSS 6g brass lapped, spiral entry M3 and above $x = 1.25 \cdot P$	HSSE 6g spiral entry, lapped ≥ M3 nitrid. $x = 2 \cdot P$	HSSE 6e spiral entry, lapped, nitrided $x = 2 \cdot P$	HSSE 6g spiral entry, lapped, nitrided $x = 2.25 \cdot P$
				Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.
M 1	0,25	16 x 5	3				
M 1,1	0,25	16 x 5	3				
M 1,2	0,25	16 x 5	3				
M 1,4	0,3	16 x 5	3				
M 1,6	0,35	16 x 5	3				
M 1,7	0,35	16 x 5	3				
M 1,8	0,35	16 x 5	3				
M 2	0,4	16 x 5	3				
M 2	0,4	16 x 5	4	101822	104225		
M 2,2	0,45	16 x 5	3				
M 2,2	0,45	16 x 5	4		104239		
M 2,3	0,4	16 x 5	3				
M 2,3	0,4	16 x 5	4		104242		
M 2,5	0,45	16 x 5	3				
M 2,5	0,45	16 x 5	4	101882	104245		104773
M 2,6	0,45	16 x 5	3				
M 2,6	0,45	16 x 5	4	101915	104255		
M 3	0,5	20 x 5	3				
M 3	0,5	20 x 5	4	102213	104306	104310	
M 3	0,5	20 x 5	5				104776
M 3,5	0,6	20 x 5	3				
M 3,5	0,6	20 x 5	4	102277	104332		
M 4	0,7	20 x 5	3				
M 4	0,7	20 x 5	4	102475	104373	104381	
M 4	0,7	20 x 5	5				104781
M 4,5	0,75	20 x 7	4		104402		
M 5	0,8	20 x 7	4	102645	104418	104423	
M 5	0,8	20 x 7	5				104784

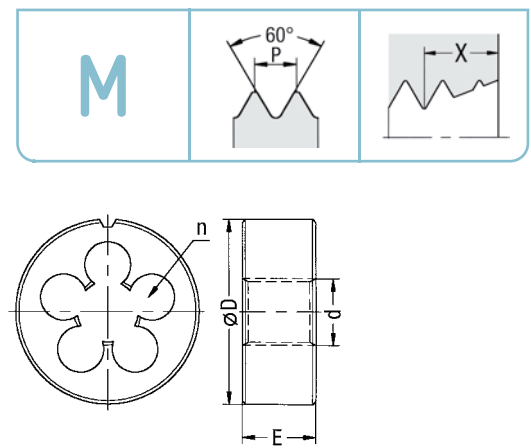
Prices for other sizes available upon request

Precision thread cutting dies with special outside dimensions

ISO metric thread DIN 13

Specification chamfered on both sides, lapped

Form "A" Adjustable Split Dies Available Upon Request.



ORDER-CODE → RU			→	6e	VA	6e-VA	LL (Long Life)	
d	P mm	Ø D x E mm	n	HSS 6g spiral entry M3 and above ≤ M 1,4 Tol. 6h $x = 1.75 \cdot P$	HSS 6e spiral entry M3 and above $x = 1.75 \cdot P$	HSSE 6g spiral entry M2 and above ≥ M 3 nitr. ≤ M 1,4 Tol. 6h $x = 2 \cdot P$	HSSE 6e spiral entry ≥ M 3 nitr. $x = 2 \cdot P$	HSSE 6g spiral entry ≥ M 3 nitr. $x = 2.25 \cdot P$
↓		↓						
				Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.	Art.-Nr.
M 1	0,25	16 x 2	3	101214		104035		
M 1,2	0,25	16 x 2	3	101226		104040		
M 1,4	0,3	12 x 2,6	4	101239				
M 1,4	0,3	16 x 2,6	4	101240		104044		
M 1,6	0,35	12 x 2,6	4	101262				
M 1,6	0,35	16 x 2,6	4	101263		104049		
M 1,7	0,35	12 x 2,6	4	101277				
M 1,7	0,35	16 x 2,6	4	101278		104053		
M 1,8	0,35	16 x 2,6	4	101293		104056		
M 2	0,4	12 x 3,5	4	101817				
M 2	0,4	16 x 3,5	4			104223	104228	104772
M 2,2	0,45	16 x 3,5	4			104238		
M 2,3	0,4	12 x 3	4					
M 2,3	0,4	16 x 3,5	4			104240		
M 2,5	0,45	12 x 3,5	4	101880				
M 2,6	0,45	12 x 3,5	4					
M 3	0,5	12 x 4	4	102208		141027		
M 3	0,5	16 x 5	4	102209	102227	104307	104312	104777 *
M 3,5	0,6	16 x 5	4	102274	102285	104333		
M 4	0,7	16 x 5	4	102472	102485	104374	104382	104782 *
M 5	0,8	16 x 5	4	102643	102660	104419	104424	104785 *
M 6	1	16 x 5	5	102772	102786	104454	104463	106174
M 7	1	20 x 7	5	102889				
M 8	1,25	20 x 7	5	102960	102976	104512	104517	
M 10	1,5	25 x 9	5	101299	101316	104061	104064	
M 12	1,75	25 x 9	5	101440				
M 12	1,75	30 x 11	5	101441				

* with 5 chip holes

Prices for other sizes available upon request

titecswiss

Your partner for
swiss quality thread gauges

Thread plug and thread ring gauges diameter 0.30 – 1.60mm

Standard tolerance NIHS

Special tolerances (UNM, ISO, DIN, etc.) on demand

Special diameter and/or special pitch on demand



www.titecswiss.com

titec swiss

Art.01

Go



Thread plug gauge (Go)
handle diameter 4.5 mm
Standard sizes 0.30 - 1.60mm
Tolerance NIHS
Color: green

Art.02

NoGo



Thread plug gauge (NoGo)
handle diameter 4.5 mm
Standard sizes 0.30 - 1.60mm
Tolerance NIHS
Color: red

Art.03

Go/NoGo



Thread plug gauge (Go/NoGo)
handle diameter 4.5 mm
Standard sizes 0.30 - 1.60mm
Tolerance NIHS
Color: black

Art.04

Go



Thread ring gauge (Go)
handle diameter 6.0 mm
Standard sizes 0.30 - 1.60mm
Tolerance NIHS
Color: green

Art.05

NoGo



Thread ring gauge (NoGo)
handle diameter 6.0 mm
Standard sizes 0.30 - 1.60mm
Tolerance NIHS
Color: red

Art.06

Go/NoGo



Thread ring gauge (Go/NoGo)
handle diameter 6.0 mm
Standard sizes 0.30 - 1.60mm
Tolerance NIHS
Color: black

Art.07

Go



Thread plug gauge (Go)
handle diameter 2.0 mm
Standard sizes 0.30 - 1.20mm
Tolerance NIHS
Color: green

Art.08

NoGo



Thread plug gauge (NoGo)
handle diameter 2.0 mm
Standard sizes 0.30 - 1.20mm
Tolerance NIHS
Color: red

Art.09

Go



Thread ring gauge (Go)
handle diameter 20mm
Standard size 0.30-1.60mm
Tolerance NIHS
Color: green

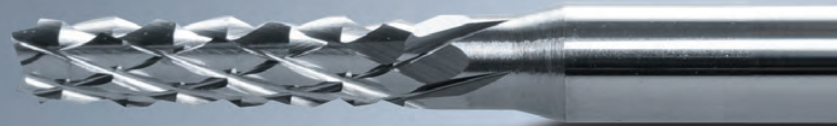
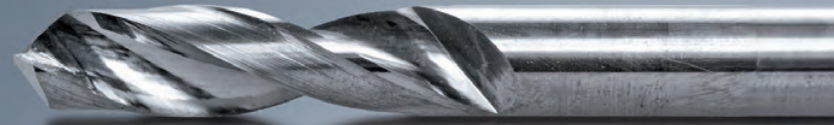
Art.10














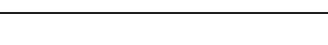

NoGo



Thread ring gauge (NoGo)
handle diameter 20mm
Standard size 0.30-1.60mm
Tolerance NIHS
Color: red





Solid carbide drill similar DIN 1897/6539 right-hand	Typ 30	
Solid carbide drill similar DIN 1897/6539 left-hand	Typ 31	
Solid carbide NC-Center drill right-hand	Typ 60/90/120 R	
Solid carbide NC-Center drill left-hand	Typ 60/90/120 L	
Solid carbide drill DIN 338	Typ 600	
Solid carbide reinforced shank drill similar DIN 1899	Typ 620	
Solid carbide center drill right-hand 60° DIN 333 A	Typ 700	
Solid carbide diamond cut router shank 1/8" or 3,0 mm	Typ 100	
Solid carbide two flute end mill shank 1/8" or 3,0 mm	Typ 200	
Solid carbide two flute end mill for aluminium and non-ferrous metal shank 1/8" or 3,0 mm	Typ 200 AL	
Solid carbide three blade end mill shank 1/8" or 3,0 mm	Typ 300	
Solid carbide single flute end mill shank 1/8"	Typ 400	
Solid carbide router spiral cut shank 1/8" or 3,0 mm	Typ 500	
Solid carbide engraver straight flute shank 1/8" or 3,0 mm	Typ GVS	
Solid carbide engraver spiral flute shank 1/8"	Typ FRS	
Custom dia. available upon request		

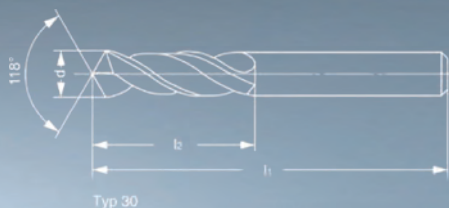
RH Solid Carbide Twist Drill Typ 30

Similar to DIN 1897 / 6539
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Right Hand
Helix Angle: ca. 30°



Art. - Number	Ø h6	l ₂	l ₁
30 030	0,30 x	4 x	30
30 035	0,35 x	4 x	30
30 040	0,40 x	6 x	30
30 045	0,45 x	6 x	30
30 050	0,50 x	6 x	30
30 055	0,55 x	6 x	30
30 060	0,60 x	6 x	30
30 065	0,65 x	6 x	30
30 070	0,70 x	6 x	30
30 075	0,75 x	8 x	30
30 080	0,80 x	8 x	30
30 085	0,85 x	8 x	30
30 090	0,90 x	9 x	30
30 095	0,95 x	9 x	30
30 100	1,00 x	10 x	30
30 105	1,05 x	10 x	30
30 110	1,10 x	10 x	30
30 115	1,15 x	10 x	30
30 120	1,20 x	12 x	30
30 125	1,25 x	12 x	30
30 130	1,30 x	12 x	30
30 135	1,35 x	12 x	30
30 140	1,40 x	12 x	30
30 145	1,45 x	12 x	30
30 150	1,50 x	12 x	30
30 155	1,55 x	16 x	40
30 160	1,60 x	16 x	40
30 165	1,65 x	16 x	40
30 170	1,70 x	16 x	40

Art. - Number	Ø h6	l ₂	l ₁
30 175	1,75 x	16 x	40
30 180	1,80 x	16 x	40
30 185	1,85 x	16 x	40
30 190	1,90 x	16 x	40
30 195	1,95 x	16 x	40
30 200	2,00 x	18 x	40
30 205	2,05 x	18 x	40
30 210	2,10 x	18 x	40
30 215	2,15 x	18 x	40
30 220	2,20 x	18 x	40
30 225	2,25 x	18 x	40
30 230	2,30 x	18 x	40
30 235	2,35 x	18 x	40
30 240	2,40 x	18 x	40
30 245	2,45 x	18 x	40
30 250	2,50 x	18 x	40
30 255	2,55 x	18 x	40
30 260	2,60 x	18 x	40
30 265	2,65 x	18 x	40
30 270	2,70 x	20 x	50
30 275	2,75 x	20 x	50
30 280	2,80 x	20 x	50
30 285	2,85 x	20 x	50
30 290	2,90 x	20 x	50
30 295	2,95 x	20 x	50
30 300	3,00 x	20 x	50
30 305	3,05 x	22 x	50
30 310	3,10 x	22 x	50
30 315	3,15 x	22 x	50

- Special tools by request
- Typ 30 in 1/100 steppings from Ø 0,25 - 3,0 mm in stock
- Coating at short notice available

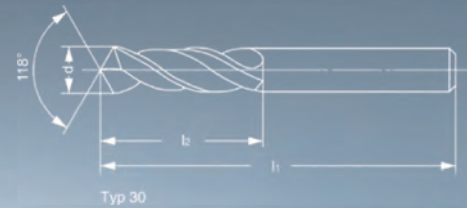
RH Solid Carbide Twist Drill Typ 30

Similar to DIN 1897 / 6539
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Right Hand
Helix Angle: ca. 30°



Art. - Number	Ø h6	l ₂	l ₁
30 320	3,20	x 22	x 50
30 325	3,25	x 22	x 50
30 330	3,30	x 22	x 50
30 335	3,35	x 22	x 50
30 340	3,40	x 22	x 50
30 345	3,45	x 22	x 50
30 350	3,50	x 22	x 50
30 355	3,55	x 22	x 50
30 360	3,60	x 22	x 50
30 365	3,65	x 22	x 50
30 370	3,70	x 22	x 50
30 375	3,75	x 22	x 50
30 380	3,80	x 22	x 50
30 385	3,85	x 22	x 50
30 390	3,90	x 22	x 50
30 395	3,95	x 22	x 50
30 400	4,00	x 22	x 50
30 405	4,05	x 25	x 50
30 410	4,10	x 25	x 50
30 415	4,15	x 25	x 60
30 420	4,20	x 25	x 60
30 425	4,25	x 25	x 60
30 430	4,30	x 25	x 60
30 435	4,35	x 25	x 60
30 440	4,40	x 25	x 60
30 445	4,45	x 25	x 60
30 450	4,50	x 25	x 60
30 455	4,55	x 25	x 60
30 460	4,60	x 25	x 60

Art. - Number	Ø h6	l ₂	l ₁
30 465	4,65	x 25	x 60
30 470	4,70	x 25	x 60
30 475	4,75	x 26	x 60
30 480	4,80	x 26	x 60
30 485	4,85	x 26	x 60
30 490	4,90	x 26	x 60
30 495	4,95	x 26	x 60
30 500	5,00	x 26	x 60
30 505	5,05	x 26	x 60
30 510	5,10	x 26	x 60
30 515	5,15	x 26	x 60
30 520	5,20	x 26	x 60
30 525	5,25	x 26	x 60
30 530	5,30	x 26	x 60
30 535	5,35	x 28	x 60
30 540	5,40	x 28	x 60
30 545	5,45	x 28	x 60
30 550	5,50	x 28	x 60
30 555	5,55	x 28	x 60
30 560	5,60	x 28	x 60
30 565	5,65	x 28	x 60
30 570	5,70	x 28	x 60
30 575	5,75	x 28	x 60
30 580	5,80	x 28	x 60
30 585	5,85	x 28	x 60
30 590	5,90	x 28	x 60
30 595	5,95	x 28	x 60
30 600	6,00	x 28	x 60
30 610	6,10	x 31	x 70

- Special tools by request
- Typ 30 in 1/100 steppings from Ø 0,25 - 3,0 mm in stock
- Coating at short notice available

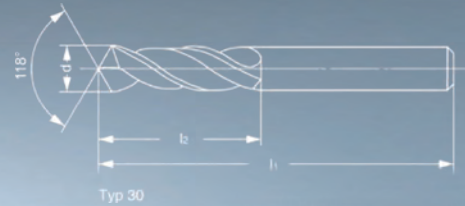
RH Solid Carbide Twist Drill Typ 30

Similar to DIN 1897 / 6539
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Right Hand
Helix Angle: ca. 30°



Art. - Number	Ø h6	l ₂	l ₁
30 620	6,20	31	70
30 630	6,30	31	70
30 640	6,40	31	70
30 650	6,50	31	70
30 660	6,60	31	70
30 670	6,70	31	70
30 680	6,80	34	74
30 690	6,90	34	74
30 700	7,00	34	74
30 710	7,10	34	74
30 720	7,20	34	74
30 730	7,30	34	74
30 740	7,40	34	74
30 750	7,50	34	74
30 760	7,60	37	79
30 770	7,70	37	79
30 780	7,80	37	79
30 790	7,90	37	79
30 800	8,00	37	79
30 810	8,10	37	79
30 820	8,20	37	79
30 830	8,30	37	79
30 840	8,40	37	79
30 850	8,50	37	79

Art. - Number	Ø h6	l ₂	l ₁
30 860	8,60	40	84
30 870	8,70	40	84
30 880	8,80	40	84
30 890	8,90	40	84
30 900	9,00	40	84
30 910	9,10	40	84
30 920	9,20	40	84
30 930	9,30	40	84
30 940	9,40	40	84
30 950	9,50	40	84
30 960	9,60	43	89
30 970	9,70	43	89
30 980	9,80	43	89
30 990	9,90	43	89
30 1000	10,00	43	89

- Solid carbide drills bigger than Ø 10,0 mm also available
- Special tools by request
- Typ 30 in 1/100 steppings from Ø 0,25 - 3,0 mm in stock
- Coating at short notice available

LH Solid Carbide Twist Drill Typ 31

Similar to DIN 1897 / 6539
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Left Hand
Helix Angle: ca. 30°



Art. - Number	Ø h6	l ₂	l ₁
31 030	0,30 x	4 x	30
31 035	0,35 x	4 x	30
31 040	0,40 x	6 x	30
31 045	0,45 x	6 x	30
31 050	0,50 x	6 x	30
31 055	0,55 x	6 x	30
31 060	0,60 x	6 x	30
31 065	0,65 x	6 x	30
31 070	0,70 x	6 x	30
31 075	0,75 x	8 x	30
31 080	0,80 x	8 x	30
31 085	0,85 x	8 x	30
31 090	0,90 x	9 x	30
31 095	0,95 x	9 x	30
31 100	1,00 x	10 x	30
31 105	1,05 x	10 x	30
31 110	1,10 x	10 x	30
31 115	1,15 x	10 x	30
31 120	1,20 x	12 x	30
31 125	1,25 x	12 x	30
31 130	1,30 x	12 x	30
31 135	1,35 x	12 x	30
31 140	1,40 x	12 x	30
31 145	1,45 x	12 x	30
31 150	1,50 x	12 x	30
31 155	1,55 x	16 x	40
31 160	1,60 x	16 x	40
31 165	1,65 x	16 x	40
31 170	1,70 x	16 x	40

Art. - Number	Ø h6	l ₂	l ₁
31 175	1,75 x	16 x	40
31 180	1,80 x	16 x	40
31 185	1,85 x	16 x	40
31 190	1,90 x	16 x	40
31 195	1,95 x	16 x	40
31 200	2,00 x	18 x	40
31 205	2,05 x	18 x	40
31 210	2,10 x	18 x	40
31 215	2,15 x	18 x	40
31 220	2,20 x	18 x	40
31 225	2,25 x	18 x	40
31 230	2,30 x	18 x	40
31 235	2,35 x	18 x	40
31 240	2,40 x	18 x	40
31 245	2,45 x	18 x	40
31 250	2,50 x	18 x	40
31 255	2,55 x	18 x	40
31 260	2,60 x	18 x	40
31 265	2,65 x	18 x	40
31 270	2,70 x	20 x	50
31 275	2,75 x	20 x	50
31 280	2,80 x	20 x	50
31 285	2,85 x	20 x	50
31 290	2,90 x	20 x	50
31 295	2,95 x	20 x	50
31 300	3,00 x	20 x	50
31 305	3,05 x	22 x	50
31 310	3,10 x	22 x	50
31 315	3,15 x	22 x	50

■ Special tools by request
■ Coating at short notice available

LH Solid Carbide Twist Drill Typ 31

Similar to DIN 1897 / 6539
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Left Hand
Helix Angle: ca. 30°



Art. - Number	Ø h6	l ₂	l ₁
31 320	3,20	x 22	x 50
31 325	3,25	x 22	x 50
31 330	3,30	x 22	x 50
31 335	3,35	x 22	x 50
31 340	3,40	x 22	x 50
31 345	3,45	x 22	x 50
31 350	3,50	x 22	x 50
31 355	3,55	x 22	x 50
31 360	3,60	x 22	x 50
31 365	3,65	x 22	x 50
31 370	3,70	x 22	x 50
31 375	3,75	x 22	x 50
31 380	3,80	x 22	x 50
31 385	3,85	x 22	x 50
31 390	3,90	x 22	x 50
31 395	3,95	x 22	x 50
31 400	4,00	x 22	x 50
31 405	4,05	x 25	x 50
31 410	4,10	x 25	x 50
31 415	4,15	x 25	x 60
31 420	4,20	x 25	x 60
31 425	4,25	x 25	x 60
31 430	4,30	x 25	x 60
31 435	4,35	x 25	x 60
31 440	4,40	x 25	x 60
31 445	4,45	x 25	x 60
31 450	4,50	x 25	x 60
31 455	4,55	x 25	x 60
31 460	4,60	x 25	x 60

Art. - Number	Ø h6	l ₂	l ₁
31 465	4,65	x 25	x 60
31 470	4,70	x 25	x 60
31 475	4,75	x 26	x 60
31 480	4,80	x 26	x 60
31 485	4,85	x 26	x 60
31 490	4,90	x 26	x 60
31 495	4,95	x 26	x 60
31 500	5,00	x 26	x 60
31 505	5,05	x 26	x 60
31 510	5,10	x 26	x 60
31 515	5,15	x 26	x 60
31 520	5,20	x 26	x 60
31 525	5,25	x 26	x 60
31 530	5,30	x 26	x 60
31 535	5,35	x 28	x 60
31 540	5,40	x 28	x 60
31 545	5,45	x 28	x 60
31 550	5,50	x 28	x 60
31 555	5,55	x 28	x 60
31 560	5,60	x 28	x 60
31 565	5,65	x 28	x 60
31 570	5,70	x 28	x 60
31 575	5,75	x 28	x 60
31 580	5,80	x 28	x 60
31 585	5,85	x 28	x 60
31 590	5,90	x 28	x 60
31 595	5,95	x 28	x 60
31 600	6,00	x 28	x 60
31 610	6,10	x 31	x 70

- Special tools by request
- Coating at short notice available

LH Solid Carbide Twist Drill Typ 31

Similar to DIN 1897 / 6539
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Left Hand
Helix Angle: ca. 30°



Art. - Nummer	Ø h6 l ₂ l ₁
31 620	6,20 x 31 x 70
31 630	6,30 x 31 x 70
31 640	6,40 x 31 x 70
31 650	6,50 x 31 x 70
31 660	6,60 x 31 x 70
31 670	6,70 x 31 x 70
31 680	6,80 x 34 x 74
31 690	6,90 x 34 x 74
31 700	7,00 x 34 x 74
31 710	7,10 x 34 x 74
31 720	7,20 x 34 x 74
31 730	7,30 x 34 x 74
31 740	7,40 x 34 x 74
31 750	7,50 x 34 x 74
31 760	7,60 x 37 x 79
31 770	7,70 x 37 x 79
31 780	7,80 x 37 x 79
31 790	7,90 x 37 x 79
31 800	8,00 x 37 x 79
31 810	8,10 x 37 x 79
31 820	8,20 x 37 x 79
31 830	8,30 x 37 x 79
31 840	8,40 x 37 x 79
31 850	8,50 x 37 x 79
31 860	8,60 x 40 x 84
31 870	8,70 x 40 x 84
31 880	8,80 x 40 x 84
31 890	8,90 x 40 x 84
31 900	9,00 x 40 x 84

Art. - Nummer	Ø h6 l ₂ l ₁
31 910	9,10 x 40 x 84
31 920	9,20 x 40 x 84
31 930	9,30 x 40 x 84
31 940	9,40 x 40 x 84
31 950	9,50 x 40 x 84
31 960	9,60 x 43 x 89
31 970	9,70 x 43 x 89
31 980	9,80 x 43 x 89
31 990	9,90 x 43 x 89
31 1000	10,00 x 43 x 89

- Solid carbide drills bigger than Ø 10,0 mm also available
- Special tools by request
- Coating at short notice available

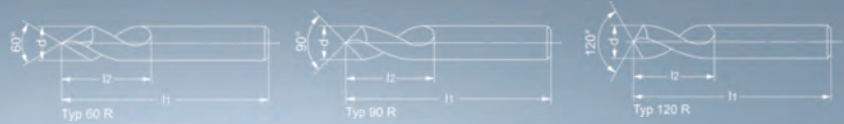
RH NC-Center Drill

Similar to Louis Belet 337
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Right Hand



Typ 60

Point Angle: 60°



Art. - Number	Ø h6	Spiral Length l ₂	Total Length l ₁
60 200 R	2,0	8	40
60 300 R	3,0	12	50
60 400 R	4,0	14	50
60 500 R	5,0	16	60
60 600 R	6,0	16	60

Typ 90

Point Angle: 90°



Art. - Number	Ø h6	Spiral Length l ₂	Total Length l ₁
90 200 R	2,0	8	40
90 300 R	3,0	12	50
90 400 R	4,0	14	50
90 500 R	5,0	16	60
90 600 R	6,0	16	60
90 800 R	8,0	25	60
90 1000 R	10,0	27	70

Typ 120

Point Angle: 120°



Art. - Number	Ø h6	Spiral Length l ₂	Total Length l ₁
120 200 R	2,0	8	40
120 300 R	3,0	12	50
120 400 R	4,0	14	50
120 500 R	5,0	16	60
120 600 R	6,0	16	60
120 800 R	8,0	25	60
120 1000 R	10,0	27	70

- Special tools by request
- Coating at short notice available

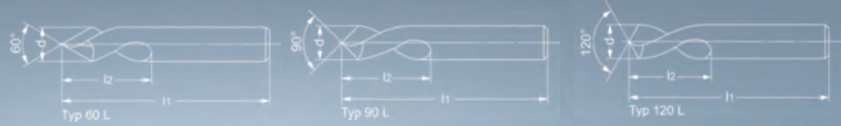
LH NC-Center Drill

Similar to Louis Belet 337-1
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Left Hand



Typ 60

Point Angle: 60°



Art. - Number	Ø h6	Spiral Length l_2	Total Length l_1
60 200 L	2,0	8	40
60 300 L	3,0	12	50
60 400 L	4,0	14	50
60 500 L	5,0	16	60
60 600 L	6,0	16	60

Typ 90

Point Angle: 90°



Art. - Number	Ø h6	Spiral Length l_2	Total Length l_1
90 200 L	2,0	8	40
90 300 L	3,0	12	50
90 400 L	4,0	14	50
90 500 L	5,0	16	60
90 600 L	6,0	16	60
90 800 L	8,0	25	60
90 1000 L	10,0	27	70

Typ 120

Point Angle: 120°



Art. - Number	Ø h6	Spiral Length l_2	Total Length l_1
120 200 L	2,0	8	40
120 300 L	3,0	12	50
120 400 L	4,0	14	50
120 500 L	5,0	16	60
120 600 L	6,0	16	60
120 800 L	8,0	25	60
120 1000 L	10,0	27	70

- Special tools by request
- Coating at short notice available

RH Long Spiral Carbide Twist Drill

Typ 600

DIN 338

Made of fine-grain tungsten carbide of the highest quality

DESCRIPTION:

Carbide: Ultra - Fine Grain
 Shaft: Cylindrical
 Orientation: Right Hand
 Helix Angle: ca. 30°



Art. - Number	Ø h6 l ₂ l ₁
600 005	0,5 x 6 x (22)
600 006	0,6 x 7 x (24)
600 007	0,7 x 9 x 28
600 008	0,8 x 10 x 30
600 009	0,9 x 11 x 32
600 010	1,0 x 12 x 34
600 011	1,1 x 14 x 36
600 012	1,2 x 16 x 38
600 013	1,3 x 16 x 38
600 014	1,4 x 18 x 40
600 015	1,5 x 18 x 40
600 016	1,6 x 20 x 43
600 017	1,7 x 20 x 43
600 018	1,8 x 22 x 46
600 019	1,9 x 22 x 46
600 020	2,0 x 24 x 49
600 021	2,1 x 24 x 49
600 022	2,2 x 27 x 53
600 023	2,3 x 27 x 53
600 024	2,4 x 30 x 57
600 025	2,5 x 30 x 57
600 026	2,6 x 30 x 57
600 027	2,7 x 33 x 61
600 028	2,8 x 33 x 61
600 029	2,9 x 33 x 61
600 030	3,0 x 33 x 61
600 031	3,1 x 36 x 65
600 032	3,2 x 36 x 65
600 033	3,3 x 36 x 65
600 034	3,4 x 39 x 70

Art. - Number	Ø h6 l ₂ l ₁
600 035	3,5 x 39 x 70
600 036	3,6 x 39 x 70
600 037	3,7 x 39 x 70
600 038	3,8 x 43 x 75
600 039	3,9 x 43 x 75
600 040	4,0 x 43 x 75
600 041	4,1 x 43 x 75
600 042	4,2 x 43 x 75
600 043	4,3 x 47 x 80
600 044	4,4 x 47 x 80
600 045	4,5 x 47 x 80
600 046	4,6 x 47 x 80
600 047	4,7 x 47 x 80
600 048	4,8 x 52 x 86
600 049	4,9 x 52 x 86
600 050	5,0 x 52 x 86
600 051	5,1 x 52 x 86
600 052	5,2 x 52 x 86
600 053	5,3 x 52 x 86
600 054	5,4 x 57 x 93
600 055	5,5 x 57 x 93
600 056	5,6 x 57 x 93
600 057	5,7 x 57 x 93
600 058	5,8 x 57 x 93
600 059	5,9 x 57 x 93
600 060	6,0 x 57 x 93

Larger Diameters Upon Request!

- Special tools by request
- Typ 600 in 5/100 steppings (e.g. Ø 2,65 mm) in stock
- Coating at short notice available

RH Reinforced Shank Carbide Twist Drill

Typ 620

Similar to DIN 1899
Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Right Hand
Helix Angle: ca. 30°



Art. - Number	d ₁ h6	l ₂	l ₁	d ₂
620 030	0,3 x	3,0 x	30	1,0
620 040	0,4 x	4,0 x	30	1,0
620 050	0,5 x	4,5 x	30	1,0
620 060	0,6 x	5,0 x	30	1,0
620 070	0,7 x	6,0 x	30	1,0
620 080	0,8 x	6,5 x	30	1,5
620 090	0,9 x	8,0 x	30	1,5
620 100	1,0 x	8,0 x	30	1,5
620 110	1,1 x	8,0 x	30	1,5
620 120	1,2 x	12,0 x	30	1,5
620 130	1,3 x	12,0 x	30	1,5
620 140	1,4 x	12,0 x	30	1,5
620 150	1,5 x	12,0 x	30	2,0

Art. - Number	d ₁ h6	l ₂	l ₁	d ₂
620 160	1,6 x	12,0 x	30	2,0
620 170	1,7 x	12,0 x	30	2,0
620 180	1,8 x	12,0 x	30	2,0
620 190	1,9 x	12,0 x	30	2,0
620 200	2,0 x	12,0 x	38	3,0
620 210	2,1 x	12,0 x	38	3,0
620 220	2,2 x	12,0 x	38	3,0
620 230	2,3 x	12,0 x	38	3,0
620 240	2,4 x	12,0 x	38	3,0
620 250	2,5 x	12,0 x	38	3,0

■ Special tools by request
■ Coating at short notice available

RH Carbide Center Drill Typ 700

DIN 333 Form A

Made of fine-grain tungsten carbide of the highest quality



DESCRIPTION:

Carbide: Ultra - Fine Grain
Shaft: Cylindrical
Orientation: Right Hand
Helix Angle: Spiral
Countersink Angle: 60°



Art. - Number	d ₁	d ₂	l ₁	l ₂
700 050	0,50 x	3,15 x	31,5 x	0,8
700 080	0,80 x	3,15 x	31,5 x	1,1
700 100	1,00 x	3,15 x	31,5 x	1,3
700 125	1,25 x	3,15 x	31,5 x	1,6
700 160	1,60 x	4,00 x	35,5 x	2,0
700 200	2,00 x	5,00 x	40,0 x	2,5
700 250	2,50 x	6,30 x	45,0 x	3,1

Art. - Number	d ₁	d ₂	l ₁	l ₂
700 315	3,15 x	8,00 x	50,0 x	3,9
700 400	4,00 x	10,00 x	56,0 x	5,0
700 500	5,00 x	12,50 x	63,0 x	6,3
700 630	6,30 x	16,00 x	71,0 x	8,0

■ Special tools by request
■ Coating at short notice available

Solid Carbide Diamond Cut Reamer

Typ 100

Made of fine-grain tungsten carbide of the highest quality
Solid carbide diamond cut router, shank 1/8"



DESCRIPTION:

Total Length: 38 mm
Carbide: Ultra - Fine Grain
Execution: RH Spiral x RH Cutting = Typ 100 R
LH Spiral x RH Cutting = Typ 100 L
Fishtail Grind (FiS) or Drill Point (BS) – Please specify!



Shank Diameter: 1/8"

Diameter (mm)	Work Length (mm)
0,5	3
0,6	3
0,8	5
1,0	5 / 7
1,2	5 / 7
1,4	5 / 7
1,5	6 / 8,5

Diameter (mm)	Work Length (mm)
1,6	6 / 8,5
1,8	8,5
2,0	9 / 10,5
2,4	9 / 10,5
2,5	9 / 10,5
3,0	9 / 10,5
3,175	9 / 10,5

■ If you know your number of pieces
we can give you a detailed offer!

■ For more details about item numbers **see last page**

Solid Carbide Two Flute End Mill

Typ 200

DESCRIPTION:

Total Length: 38 mm
Carbide: Ultra - Fine Grain
Execution: RH Spiral x RH Cutting = Typ 200 R
LH Spiral X RH Cutting = Typ 200 L
Fishtail Grind (FiS) or Flat Face Grind (FSA)
Please specify!



Shank Diameter: 1/8"

Diameter (mm)	Work Length (mm)
0,5	3
0,6	3
0,8	3 / 5
1,0	5
1,2	5
1,4	5
1,5	6

Diameter (mm)	Work Length (mm)
1,6	6
1,8	6
2,0	8 / 10
2,4	8 / 10
2,5	8 / 10
3,0	8 / 10
3,175	8 / 10

■ If you know your number of pieces
we can give you a detailed offer!

■ For more details about item numbers **see last page**

Solid Carbide Three Blade End Mill

Typ 300



DESCRIPTION:

Total Length: 38 mm
 Carbide: Ultra - Fine Grain
 Execution: RH Spiral x RH Cutting = Typ 300 R
 LH Spiral X RH Cutting = Typ 300 L
 Fishtail Grind (FIS) or Flat Surface Grind (FSA)
 Please specify!



Shank Diameter: 1/8"

Diameter (mm)	Work Length (mm)
0,5	3
0,6	3
0,8	3 / 5
1,0	5
1,2	5
1,4	5
1,5	5

Diameter (mm)	Work Length (mm)
1,6	5
1,8	7
2,0	7 / 10
2,4	7 / 10
2,5	7 / 10
3,0	7 / 10
3,175	10

- If you know your number of pieces we can give you a detailed offer!
- For more details about item numbers see last page

Solid Carbide Single Flute End Mill

Typ 400



DESCRIPTION:

Execution: RH Spiral x RH Cutting = Typ 400 R
 Flat Surface Grind (FSA)
 Total Length: 38 mm
 Carbide: Ultra - Fine Grain



Shank Diameter: 1/8"

Diameter (mm)	Work Length (mm)
0,5	3
0,6	3
0,8	3
1,0	3
1,2	4
1,4	4

Diameter (mm)	Work Length (mm)
1,5	4
1,6	5
2,0	8
2,4	8
3,0	9
3,175	9

- If you know your number of pieces we can give you a detailed offer!
- For more details about item numbers see last page

Solid Carbide Router Spiral Cut

Typ 500

Made of solid carbide with spiral teeth



DESCRIPTION:

Total Length: 38 mm
Carbide: Ultra - Fine Grain
Execution: RH Spiral x RH Cutting = Typ 500 R
LH Spiral X RH Cutting = Typ 500 L
Fishtail Grind (FIS) or Flat Surface Grind (FSA)
Please specify!



Shank Diameter: 1/8"

Diameter (mm)	Work Length (mm)
0,5	3
0,6	3
0,8	5
1,0	5 / 7
1,2	5 / 7
1,4	5 / 7
1,5	7 / 8,5

Diameter (mm)	Work Length (mm)
1,6	7 / 8,5
1,8	7 / 8,5
2,0	9
2,4	9
2,5	9
3,0	9
3,175	9

- If you know your number of pieces we can give you a detailed offer!
- For more details about item numbers see **last page**

Solid Carbide Engraver Typ GVS

Straight flute

DESCRIPTION:

Total Length: 38 mm
Carbide: Ultra - Fine Grain
Execution: RH Cutting



Typ GVS



Shank Diameter: 1/8"

Point Angle

30°

30° with 45° break

60°

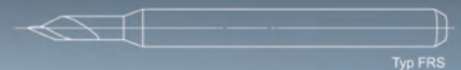
■ For more details about item numbers **see last page**
■ Special tools by request

Solid Carbide Engraver Typ FRS

Spiral flute

DESCRIPTION:

Total Length: 38 mm
Carbide: Ultra - Fine Grain
Execution: RH Cutting



Typ FRS



Shank Diameter: 1/8"

Point Angle

30°

45°

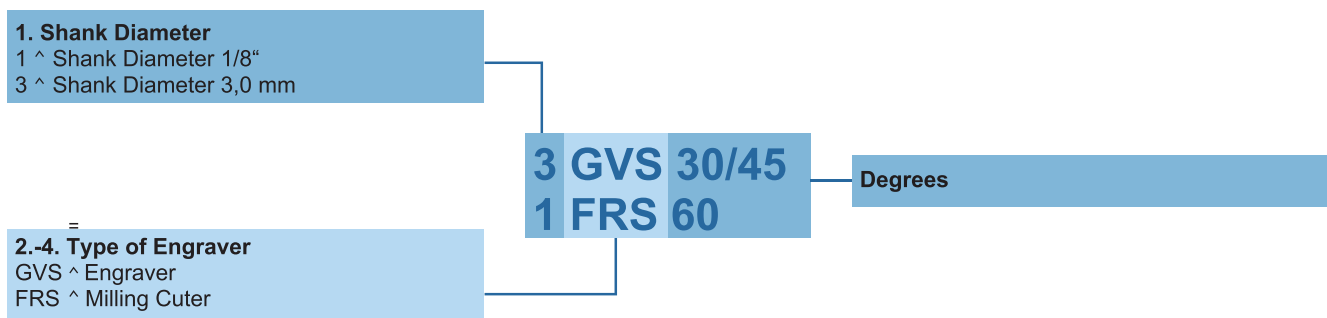
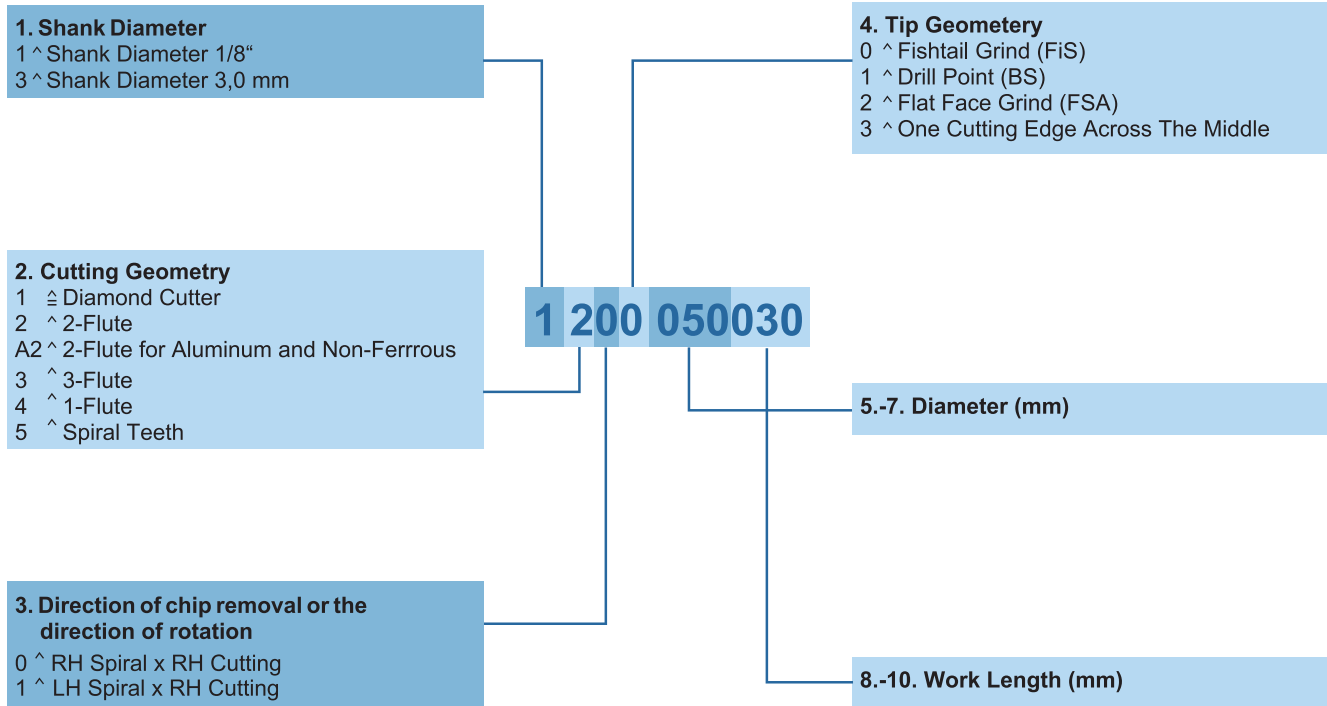
60°

90°

120°

140°

■ For more details about item numbers **see last page**
■ Special tools by request





MICRO TAPS – HSS

- Style #11 – Two Flute Plug Tap for Through Holes
- Style #12 – Three Flute Plug Tap for Through Holes
- Style #18 – Three Flute Bottoming Tap for Blind Holes
- Stocked Sizes 0.30 – 1.60 UNM, #000-120, #00-96, #00-90, #0-80
- Special Size and Class Available Upon Request
- Tungsten Vanadium Tool Steel and Other Material Available Upon Request



MICRO DRILLS – COBALT HSS

- Style #100 - Cobalt HSS 2 Flute Pivot Drills, Available in RH & LH
 - Helix 24° Point 120°
 - Available from Ø 0.10mm
- Style #102 - Cobalt HSS 2 Flute Pilot / Spot Drills, Available in RH & LH
 - Helix 35° Point 90°
 - Available from Ø 0.20mm
- Special Sizes and Point Angle Available Upon Request



CARBIDE TOOL GRINDING AND LAPPING MACHINE TYPE AB-175 WITH MOTOR-BRAKE

This machine is intended especially for the grinding and lapping of carbide tipped cutting tools, such as used on automatic lathes etc.

Its distinguishing merits are precision, speed and minimum grinding wheel wear.

Supplementary attachments permit the grinding of small end mills and drills, and of chip-breaker grooves.

The type AB-175 High Precision Tool Grinding and Lapping Machine offers, in its latest development, essential improvements and advantages. It is designed to the unit-compound system and suits also serial production. Machining large serial components or finishing after heat treatment leads to economical production time. Handy extra equipment increases the field application.

The easy and foolproof control as well as the logical distribution of the control elements ensure high accuracy and grinding to the true angle.

TECHNICAL DATA

Clamping Capacity: 4-30 mm (5/32" – 1 3/16")

3-Phase Motor: 0,55 Kw and 0,75 CV, 1400 rpm. voltage to be specified

Pump Driving Motor: 1/10 CV, 2900 rpm. voltage to be specified

Grinding Spindle Speed: 3000 rpm.

Dimensions of Machine: 900 x 600 x 1500 mm (35 x 24 x 59")

Dimensions of Packing Case: 1000 x 700 x 1700 mm (40 x 28 x 59")

Net Weight: approx. 210 kg (465 lbs)

Gross Weight: approx. 300 kg (660 lbs)

GRINDING WHEELS

Double-side coated cup wheel:

OD: 175 mm (7")

Width: 30-35 mm (1 3/16 – 1 3/8")

ID: Ø 20 mm (.7874")

Chip-breaking flute grinding wheel:

OD: 75 mm (3")

Width: 4-5 mm (5/32 – 3/16")

ID: Ø 12 mm (.4724")



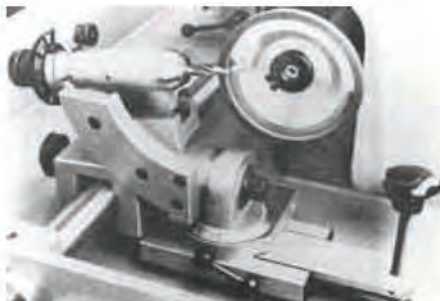
EXTRAS



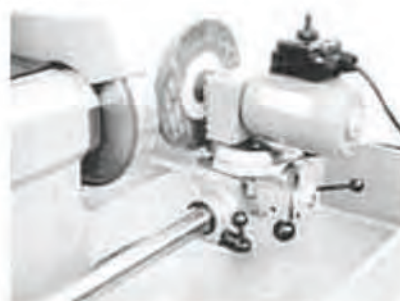
End mill and drill attachment,
type 6.20



Chip-breaker grooving attachment,
type 6.21



Universal grinding attachment,
type 6.22



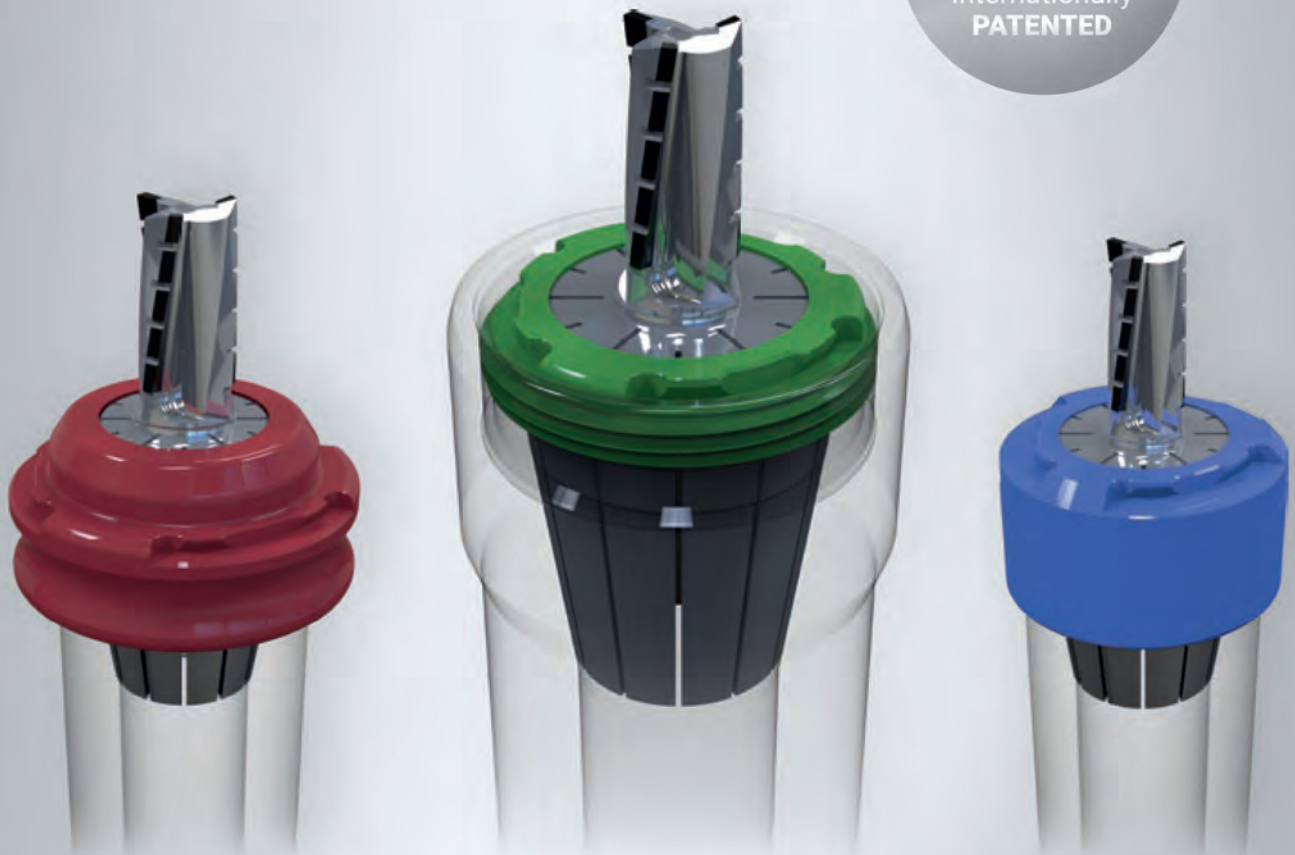
To face off the grinding wheel,
type 6.24





THE
ORIGINAL!

Internationally
PATENTED



SICHERHEITSSPANNNSYSTEME
GESAMTKATALOG
SAFETY COLLET CLAMPING SYSTEMS CATALOG



Entwickelt von
praktischen Ingenieuren
für geniale Praktiker.

Designed by our
engineers for
practical machinists.

THE
ORIGINAL!

Internationally
PATENTED

INHALTSVERZEICHNIS | INDEX

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DIE VORTEILE VON ZETA

THE ADVANTAGES OF ZETA

Wir wollen das unsere Kunden **das beste Ergebnis** mit dem ZETA-System erreichen. Das ermöglichen wir durch eine **einfache, sichere und intuitive Nutzung**, damit Sie in Zukunft noch effektiver und vor allem verletzungsfrei arbeiten können.

Einer der vielen Gründe warum das System so zuverlässig und sicher funktioniert, ist das sogenannte Umsetzen beim Anziehen der Spannmutter. Das Bedienelement ist **formschlüssig** mit dem Zetaprofil der Mutter verbunden. Dadurch ist es nahezu ausgeschlossen, dass das Bedienelement während des Spannvorgangs von der Mutter rutscht.

Das **stufenlose und unabhängige Umsetzen** wird durch die Eindrehhilfe und die Drehmomentstecknuss ermöglicht. Somit muss der Spannschlüssel nur noch in Notsituationen (Überlange Bohrer, etc.) oder zum letzten Zuziehen der Spannmutter eingesetzt werden. Denn ein Spannschlüssel ist nicht für das optimale Übertragen der Anzugskraft geeignet, da er nicht mit Adaptionswerkzeugen (z.B. Drehmomentschlüssel) kombiniert werden kann.

We want our customers to get the best results out of our ZETA-system. We are making this possible with an easy, safe, and intuitive system, so you can work even more effective and injury-free than ever before.

One of the many reasons why our system works so reliable and safely is the way you clamp collet nuts. The operating tool fits exactly into the ZETA-profile which connects it with the collet nut. As a consequence it is almost impossible that the operating tools can detach during the clamping operation.

We facilitate smooth clamping with the ZETA screw-on adapter and torque socket. These operating tools make the use of a standard spanner wrench obsolete. This is extremely important since a standard spanner wrench is not suitable for the optimal clamping of collet nuts.

Once the collet nut is in place by use of the screw-on adapter the torque socket can be used with a torque wrench for proper tightening of your tools.

- 1** **Einsetzbar von ER08 bis ER50 (DIN 6499) und OZ25 (DIN 6388)**
Applicable from ER08 to ER50 (DIN 6499) and OZ25 (DIN 6388)
- 2** **Erhöhte Spannkraft gegenüber herkömmlichen Systemen.**
Improved clamping forces over current systems.
- 3** **Kontrolliertes und schnelles spannen.**
Controlled and fast clamping.
- 4** **Keine Verletzungsgefahr durch abrutschsicheres Spannsystem!**
Prevents injury due to unique clamping properties.
- 5** **Definiertes Anzugsmoment beim Einsatz der Drehmomentschlüssel- / Adapterkombination.**
More accurate clamping forces with use of torque wrench- / adapter combination.

Mit ZETA Bedienelementen spannen Sie an besten **außerhalb** der Werkzeugschneiden.

With the ZETA operating tools you should always clamp away from the cutting tools.



IM VERGLEICH IN COMPARISON

HERKÖMMLICHES SPANNSYSTEM STANDARD CLAMPING SYSTEM



- Keine 360° Spannvorgänge möglich
No 360° clamping operations possible
- Abrutschgefahr des Spannschlüssels, somit hohes Verletzungspotential
Operating tools can slip off which can lead to injuries
- Keine Auswahl vers. Bedienelemente
No choice of different operating tools
- Kein optimales Anzugsmoment
No optimal Lbf.ft while clamping

NUR 150°
UMDREHUNGEN



ZETA Sicherheitssystem ZETA safety clamping system



- + Schnelles und komfortables Spannen dank 360° Spannvorgang
Fast and easy 360° clamping operations
- + Keine Verletzungsgefahr, da außerhalb der Schneidwerkzeuge gespannt wird
No danger of potential injuries
- + Auswahl aus vers. Bedienelementen
Choice of different operating tools
- + Kein Abrutschen möglich dank dem ZETA Sicherheitsprofil
Impossible to slip off because of the ZETA safety profile
- + Sicheres und genaues Anzugsmoment beim Spannen
Precise torque while clamping



ÜBERSICHT DER ZETA PROFILE

OVERVIEW OF THE ZETA PROFILES

Um die Orientierung bei der Suche nach den jeweils zusammengehörigen ZETA Muttern und Bedienelementen zu erleichtern, haben wir ein System für die ZETA Profile eingeführt. Bei der jeweiligen Mutter erkennen Sie bereits an der **Profilkennung**, welche Bedienelemente dafür geeignet sind.

To facilitate the search for the right operating tool of a specific collet nut we have introduced a new ZETA-profile system. The Zeta profile code is matched to the specific collet nut. See example below.

BEISPIEL: Spannmutter **ER 20 Zeta = Profil D**

Das bedeutet **alle Bedienelemente** mit der **Profilkennung D** sind für diese Mutter geeignet!

EXAMPLE: Collet nut **ER 20 Zeta = Profile D**

That means that **all operating tools** with a **D Profile** are suitable for this nut!

Typ Type	Profilgröße Profile size	Zeta Profil Zeta profile
ERM	08	A
ER / ERM	11-12	B
ER / ERM	16	C
ER / ERM	20	D
ER / ERM	25	E
ER / ERM	32	F
ER	40	G
ER	50	H
OZ	25	I
ERST	16	J
ERST	20	K
ERST	25	L
ERST	32	M
ERST	40	N
WOODLINE	ERW32 / OZ25 Kompakt	O
WOODLINE	ERW40 / OZ25 / Kugelgelagert	P

NACHFOLGEND:

ER UND ERM SICHERHEITSSPANNNSYSTEME

NEXT:

ER AND ERM SAFETY CLAMPING SYSTEMS

ER-ZETA SPANNMUTTERN

ER-ZETA COLLET NUTS



ER-Zeta Standard Spannmuttern
innenliegende Zeta Mutter

ER-Zeta standard collet nut
internal Zeta collet nut



ERAXC-Zeta Dichtspannmutter
für rego-fix Dichtscheiben

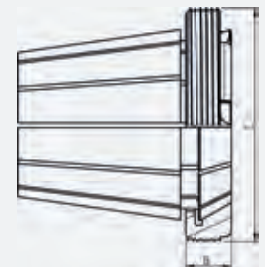
ERAXC-Zeta seal nut
for rego-fix sealing washers

ER-ZETA SPANNMUTTER DIN 6499

ER-ZETA collet nut, DIN 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ER 11 Zeta	-	6	M18x1,0	B	SPAMUER11ZETA
ER 16 Zeta	-	6,5	M24x1,0	C	SPAMUER16ZETA
ER 20 Zeta	-	6,5	M28x1,5	D	SPAMUER20ZETA
ER 25 Zeta	-	7	M32x1,5	E	SPAMUER25ZETA
ER 32 Zeta	-	7,5	M40x1,5	F	SPAMUER32ZETA
ER 40 Zeta	-	10	M50x1,5	G	SPAMUER40ZETA
ER 50 Zeta	-	15	M68x1,5	H	SPAMUER50ZETA
OZ 25 Zeta	-	10,5	M43x1,5	I	SPAMUOZ25ZETA

Auch als Linksausführung (ERL/OZL) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERL/OZL). Prices on request.

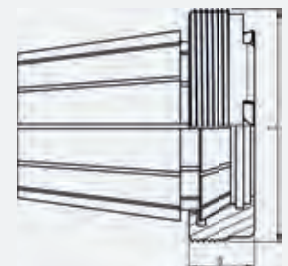


ERAXC-ZETA DICHTSPANNMUTTER FÜR REGO FIX, DIN 6499

ERAXC-ZETA seal nut for rego fix, DIN 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERAXC 16 Zeta	-	10	M24x1,0	C	SPAMUERAXC16ZETA
ERAXC 20 Zeta	-	11	M28x1,5	D	SPAMUERAXC20ZETA
ERAXC 25 Zeta	-	11,5	M32x1,5	E	SPAMUERAXC25ZETA
ERAXC 32 Zeta	-	12,5	M40x1,5	F	SPAMUERAXC32ZETA
ERAXC 40 Zeta	-	14,5	M50x1,5	G	SPAMUERAXC40ZETA

Auch als Linksausführung (ERAXCL) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERAXCL). Prices on request.



ER-ZETA SPANNMUTTERN

ER-ZETA COLLET NUTS



ERZD-Zeta Dichtspannmutter
für Zollmann Dichtscheiben

ERZD-Zeta seal nut
for Zollmann sealing nuts



ERAXD-Zeta Verschlussmutter
(Blindstopfen)

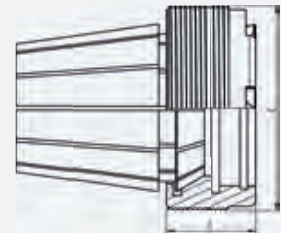
zum Verschließen nicht belegter Spindeln

ERAXD-Zeta closed end cap nut
closing of unused spindleheads

ERZD-ZETA DICHTSPANNMUTTER FÜR ZOLLMANN, DIN 6499

ERZD-ZETA seal nut for Zollmann, Din 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERZD 32 Zeta	-	18	M40x1,5	F	ERZD32ZETA
ERZD 40 Zeta	-	22	M50x1,5	G	ERZD40ZETA
ERZD 50 Zeta	-	24	M68x1,5	H	ERZD50ZETA

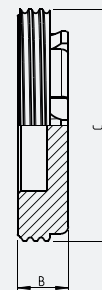


Auch als Linksausführung (ERZDL) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERZDL). Prices on request.

ERAXD-ZETA VERSCHLUSSMUTTER (BLINDSTOPFEN)

ERAXD-ZETA closed end cap nuts

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERAXD 16 Zeta	-	6,5	M24x1,0	C	SPAMUERAXD16ZETA
ERAXD 20 Zeta	-	6,5	M28x1,5	D	SPAMUERAXD20ZETA
ERAXD 25 Zeta	-	7	M32x1,5	E	SPAMUERAXD25ZETA
ERAXD 32 Zeta	-	7,5	M40x1,5	F	SPAMUERAXD32ZETA
ERAXD 40 Zeta	-	10	M50x1,5	G	SPAMUERAXD40ZETA



ER-ZETA SPANNMUTTERN

ER-ZETA COLLET NUTS



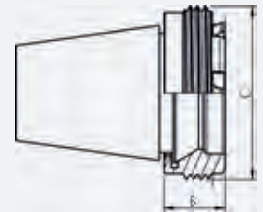
ERS-Zeta Spannmutter
für TER Schrumpfspannzangen

ERS-Zeta collet nut
for TER shrink collets

ERS-ZETA SPANNMUTTER DIN 6499

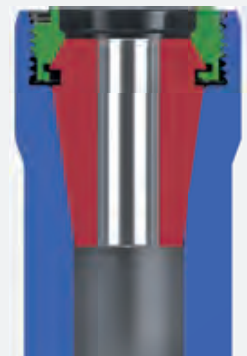
ERS-ZETA collet nut, DIN 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERS 11 Zeta	-	6,1	M18x1,0	B	SPAMUERS11ZETA
ERS 16 Zeta	-	9,5	M24x1,0	C	SPAMUERS16ZETA
ERS 20 Zeta	-	10,5	M28x1,5	D	SPAMUERS20ZETA
ERS 25 Zeta	-	11,5	M32x1,5	E	SPAMUERS25ZETA
ERS 32 Zeta	-	12	M40x1,5	F	SPAMUERS32ZETA



ERS-ZETA ist **die** Lösung für die Anwendung von TER-Schrumpfspannzangen in unseren innenliegenden "Superspeed"-Spannzangenaufnahmen.

ERS-Zeta is the best solution for TER-shrink collets within our "Superspeed" collet chucks.



ZETA KOMPATIBILITÄT

ZETA COMPATIBILITY



SO
EINFACH
IST
INNO-
VATION.

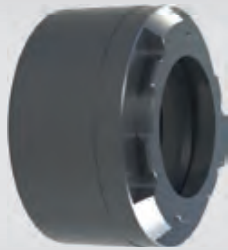


Unsere ZETA Sicherheitsspannmuttern sind natürlich auch für **CNC Holzbearbeitungs-
aggregate** geeignet und austauschbar gegen sämtliche gängigen Standardspannmuttern.

Our ZETA safety clamping nuts are also suitable for CNC woodworking aggregates and interchangeable with all standard nuts.

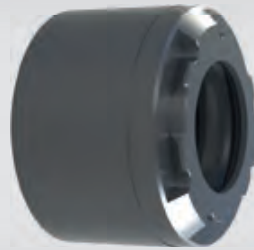
ERM-ZETA SPANNMUTTERN

ERM-ZETA COLLET NUTS



ERM-Zeta Spannmuttern
Mini Zeta Spannmuttern

ERM-Zeta collet nut
mini Zeta collet nut



ERMD-Zeta Dichtspannmutter
für rego-fix Dichtscheiben

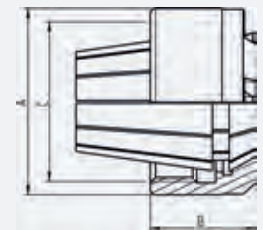
ERM-Zeta seal nut
for rego-fix sealing washers

ERM-ZETA SPANNMUTTER DIN 6499

ERM-ZETA collet nut, DIN 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERM 08 Zeta	Ø12	11,3	M10x0,75	A	SPAMUERM08ZETA
ERM 11 Zeta	Ø16	11,3	M13x0,75	B	SPAMUERM11ZETA
ERM 12 Zeta	Ø17	11,3	M14x0,75	B	SPAMUERM12ZETA
ERM 16 Zeta	Ø22	17	M19x1,0	C	SPAMUERM16ZETA
ERM 20 Zeta	Ø28	19	M24x1,0	D	SPAMUERM20ZETA
ERM 25 Zeta	Ø35	20	M30x1,0	E	SPAMUERM25ZETA
ERM 32 Zeta	Ø43	23	M38x1,0	F	SPAMUERM32ZETA

Auch als Linksausführung (ERML) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERML). Prices on request.

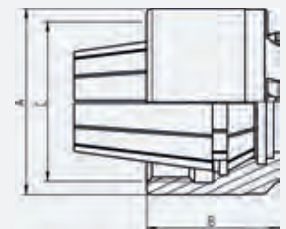


ERMD-ZETA DICHTSPANNMUTTER FÜR REGO FIX, DIN 6499

ERMD-ZETA seal nut for rego fix, DIN 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERMD 16 Zeta	Ø22	22,5	M19x1,0	C	SPAMUERMD16ZETA
ERMD 20 Zeta	Ø28	24	M24x1,0	D	SPAMUERMD20ZETA
ERMD 25 Zeta	Ø35	25	M30x1,0	E	SPAMUERMD25ZETA
ERMD 32 Zeta	Ø43	28	M38x1,0	F	SPAMUERMD32ZETA

Auch als Linksausführung (ERMDL) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERMDL). Prices on request.



ER & ERM-ZETA BEDIENELEMENTE

ER & ERM-ZETA OPERATING TOOLS



EC-Zeta Drehmomentstecknuss
zum Ansetzen der Spannmutter,
Spannmöglichkeit über 1/2"
Vier- und Sechskantanschluss

EC-Zeta torque-nut
for installation of the collet nut
with 1/2" square connection



ECM-Zeta Mini Drehmomentstecknuss
kurze Ausführung, zum Ansetzen der Spannmutter

ECM-Zeta torque-nut
short version, for installation of the collet nut



ED-Zeta Eindrehhilfe
zum manuellen Ansetzen der Spannmutter

ED-Zeta screw-on-adapter
for manual placement of the collet nut on the thread



E-Zeta Spannschlüssel
die Standardlösung für die einfache Handspannung

E-Zeta spanner wrench
the simple solution for easy accessible tooling



ET-Zeta Drehmomentadapter
für das definierte Anziehen mit dem Drehmomentschlüssel

ET-Zeta torque wrench adapter
for accurate tightening with a torque wrench



ETA-Zeta Drehmomentadapter
abgesetzte Ausführung

ETA-Zeta torque wrench adapter
for accurate tightening with a torque wrench

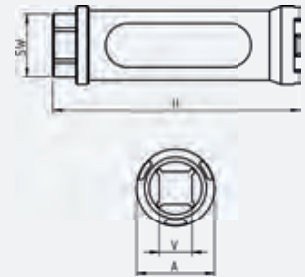
ER & ERM-ZETA BEDIENELEMENTE

ER & ERM-ZETA OPERATING TOOLS

ER UND ERM-ZETA DREHMOMENTSTECKNUSS

ER and ERM-ZETA torque nut

Typ Type	A	H	SW	V	Profil Profile	Artikelnummer Part number
EC 08 Zeta	Ø12	75	12	1/4"	A	STEC08ZETA
EC 11-12 Zeta	Ø16	75	13	1/4"	B	STEC11-12ZETA
EC 16 Zeta	Ø16	85	17	3/8"	C	STEC16ZETA
EC 20 Zeta	Ø26	90	19	3/8"	D	STEC20ZETA
EC 25 Zeta	Ø30	96	22	1/2"	E	STEC25ZETA
EC 32 Zeta	Ø38	96	27	1/2"	F	STEC32ZETA
EC 40 Zeta	Ø48	110	27	1/2"	G	STEC40ZETA
EC 50 Zeta	Ø66	120	27	1/2"	H	STEC50ZETA
OC 25 Zeta	Ø41	110	27	1/2"	I	STOC25ZETA



ER UND ERM-ZETA MINI-DREHMOMENTSTECKNUSS (kurze Ausführung)

ER and ERM-ZETA mini torque nut (short version)

Typ Type	A	H	SW	V	Profil Profile	Artikelnummer Part number
ECM 08 Zeta	Ø12	38	12	3/8"	A	STECM08ZETA
ECM 11-12 Zeta	Ø16	40	13	3/8"	B	STECM11-12ZETA
ECM 16 Zeta	Ø22	49	17	3/8"	C	STECM16ZETA
ECM 20 Zeta	Ø26	54	19	3/8"	D	STECM20ZETA
ECM 25 Zeta	Ø30	60	22	1/2"	E	STECM25ZETA
ECM 32 Zeta	Ø38	70	27	1/2"	F	STECM32ZETA
ECM 40 Zeta	Ø48	80	27	1/2"	G	STECM40ZETA



ER & ERM-ZETA BEDIENELEMENTE

ER & ERM-ZETA OPERATING TOOLS

ER UND ERM-ZETA EINDREHHILFE

ER and ERM-ZETA srew-on-adapter

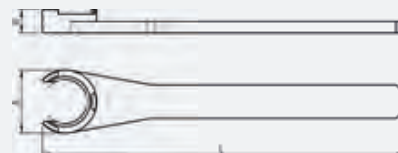
Typ Type	A	H	SW	V	Profil Profile	Artikelnummer Part number
ED 08 Zeta	Ø12	16	10	-	A	SCHED08ZETA
ED 11-12 Zeta	Ø16	16,5	13	-	B	SCHED11-12ZETA
ED 16 Zeta	Ø22	18,5	19	-	C	SCHED16ZETA
ED 20 Zeta	Ø26	19	22	-	D	SCHED20ZETA
ED 25 Zeta	Ø30	20	27	-	E	SCHED25ZETA
ED 32 Zeta	Ø38	21	30	-	F	SCHED32ZETA
ED 40 Zeta	Ø48	24	36	-	G	SCHED40ZETA
ED 50 Zeta	Ø66	33	46	-	H	SCHED50ZETA
OD 25 Zeta	Ø41	21	36	-	I	SCHOD25ZETA



ER UND ERM-ZETA STANDARDSPANNSCHLÜSSEL

ER and ERM-ZETA standard spanner wrench

Typ Type	A	L	Profil Profile	Artikelnummer Part number
E 08 Zeta	Ø12	150	A	SCHE08ZETA
E 11-12 Zeta	Ø16	93	B	SCHE11-12ZETA
E 16 Zeta	Ø22	146	C	SCHE16ZETA
E 20 Zeta	Ø26	154	D	SCHE20ZETA
E 25 Zeta	Ø30	175	E	SCHE25ZETA
E 32 Zeta	Ø38	220	F	SCHE32ZETA
E 40 Zeta	Ø48	245	G	SCHE40ZETA
E 50 Zeta	Ø66	280	H	SCHE50ZETA
O 25 Zeta	Ø41	123	I	SCHO25ZETA



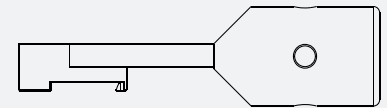
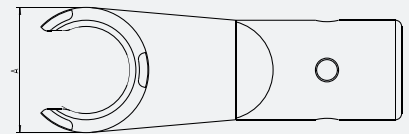
ER & ERM-ZETA BEDIENELEMENTE

ER & ERM-ZETA OPERATING TOOLS

ER UND ERM-ZETA DREHMOMENTADAPTER

ER and ERM-ZETA torque wrench adapter

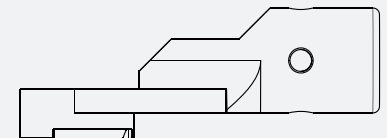
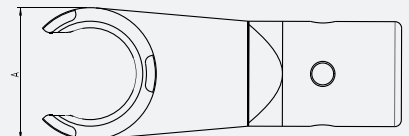
Typ Type	A	Profil Profile	Artikelnummer Part number
ET 11-12 Zeta	Ø16	B	THET11-12ZETA
ET 16 Zeta	Ø22	C	THET16ZETA
ET 20 Zeta	Ø16	D	THET20ZETA
ET 25 Zeta	Ø30	E	THET25ZETA
ET 32 Zeta	Ø38	F	THET32ZETA
ET 40 Zeta	Ø48	G	THET40ZETA
ET 50 Zeta	Ø66	H	THET50ZETA
OT 25 Zeta	Ø41	I	THOT25ZETA



ER UND ERM-ZETA DREHMOMENTADAPTER (abgesetzte Ausführung)

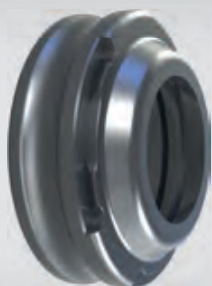
ER and ERM-ZETA torque wrench adapter (straight version)

Typ Type	A	Profil Profile	Artikelnummer Part number
ETA 11-12 Zeta	Ø16	B	THETA11-12ZETA
ETA 16 Zeta	Ø22	C	THETA16ZETA
ETA 20 Zeta	Ø16	D	THETA20ZETA
ETA 25 Zeta	Ø30	E	THETA25ZETA
ETA 32 Zeta	Ø38	F	THETA32ZETA
ETA 40 Zeta	Ø48	G	THETA40ZETA
ETA 50 Zeta	Ø66	H	THETA50ZETA
OTA 25 Zeta	Ø41	I	THOTA25ZETA



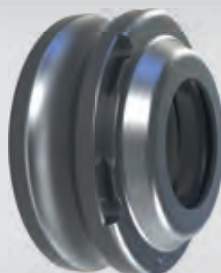
ERST-ZETA SPANNMUTTERN

ERST-ZETA COLLET NUTS



ERST-Zeta Spannmutter

ERST-Zeta collet nut



ERSD-Zeta Dichtspannmutter
für rego-fix Dichtscheiben

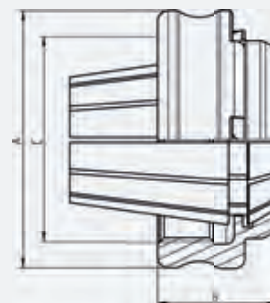
ERSD-Zeta seal nut
for rego-fix sealing washers

ERST-ZETA SPANNMUTTER DIN 6499

ERST-ZETA collet nut, DIN6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERST 16 Zeta	Ø28	17,5	M22x1,5	J	SPAMUERST16ZETA
ERST 20 Zeta	Ø34	19	M25x1,5	K	SPAMUERST20ZETA
ERST 25 Zeta	Ø40	20	M32x1,5	L	SPAMUERST25ZETA
ERST 32 Zeta	Ø50	23	M40x1,5	M	SPAMUERST32ZETA
ERST 40 Zeta	Ø63	25	M50x1,5	N	SPAMUERST40ZETA

Auch als Linksausführung (ERSTL) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERSTL). Prices on request.

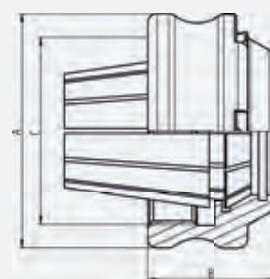


ERSD-ZETA DICHTSPANNMUTTER FÜR REGO FIX, DIN 6499

ERSD-ZETA seal nut for rego fix, DIN 6499

Typ Type	A	B	C	Profil Profile	Artikelnummer Part number
ERSD 16 Zeta	Ø28	22,5	M22x1,5	J	SPAMUERSD16ZETA
ERSD 20 Zeta	Ø34	24	M25x1,5	K	SPAMUERSD20ZETA
ERSD 25 Zeta	Ø40	25	M32x1,5	L	SPAMUERSD25ZETA
ERSD 32 Zeta	Ø50	27,5	M40x1,5	M	SPAMUERSD32ZETA
ERSD 40 Zeta	Ø63	30,5	M50x1,5	N	SPAMUERSD40ZETA

Auch als Linksausführung (ERSDL) verfügbar. Preise auf Anfrage.
Also available as left-hand version (ERSDL). Prices on request.



ERST-ZETA BEDIENELEMENTE

ERST-ZETA OPERATING TOOLS



ECS-Zeta Drehmomentstecknuss
zum Ansetzen der Spannmutter,
Spannmöglichkeit über 1/2"
Vier- und Sechskantanschluss

ECS-Zeta torque-nut
for installation of the collet nut
with 1/2" square connection



ECSM-Zeta Mini Drehmomentstecknuss
kurze Ausführung, zum Ansetzen
der Spannmutter

ECS-Zeta torque-nut
short version, for installation of
the collet nut



EDS-Zeta Eindrehhilfe
zum manuellen Ansetzen der
Spannmutter

EDS-Zeta screw-on-adapter
for manual placement of the
collet nut on the thread



E-SP-Zeta Spanschlüssel
die Standardlösung für die
einfache Handspannung

E-SP Zeta spanner wrench
the simple solution for easy
accessible tooling



ETET-Zeta Drehmomentadapter
für das definierte Anziehen mit
dem Drehmomentschlüssel

ETET-Zeta torque wrench adapter
for accurate tightening with a
torque wrench

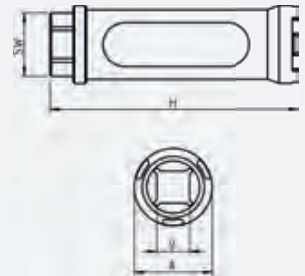
ERST-ZETA BEDIENELEMENTE

ERST-ZETA OPERATING TOOLS

ERST-ZETA DREHMOMENTSTECKNUSS

ERST-ZETA torque nut

Typ Type	A	H	SW	V	Profil Profile	Artikelnummer Part number
ECS 16 Zeta	Ø28	85	19	3/8"	J	STECS16ZETA
ECS 20 Zeta	Ø34	102	27	1/2"	K	STECS20ZETA
ECS 25 Zeta	Ø40	112	27	1/2"	L	STECS25ZETA
ECS 32 Zeta	Ø50	122	27	1/2"	M	STECS32ZETA
ECS 40 Zeta	Ø63	140	32	1/2"	N	STECS40ZETA



ERST-ZETA MINI-DREHMOMENTSTECKNUSS (kurze Ausführung)

ERST-ZETA mini torque nut (short version)

Typ Type	A	H	SW	V	Profil Profile	Artikelnummer Part number
ECSM 16 Zeta	Ø28	50	19	3/8"	J	STECSM16ZETA
ECSM 20 Zeta	Ø34	65	27	1/2"	K	STECSM20ZETA
ECSM 25 Zeta	Ø40	68	27	1/2"	L	STECSM25ZETA
ECSM 32 Zeta	Ø50	70	27	1/2"	M	STECSM32ZETA
ECSM 40 Zeta	Ø63	75	32	1/2"	N	STECSM40ZETA



ERST-ZETA EINDREHHILFE

ERST-ZETA srew-on-adapter

Typ Type	A	H	SW	V	Profil Profile	Artikelnummer Part number
EDS 16 Zeta	Ø28	19	22	-	J	SCHEDES16ZETA
EDS 20 Zeta	Ø34	21	27	-	K	SCHEDES20ZETA
EDS 25 Zeta	Ø40	24	30	-	L	SCHEDES25ZETA
EDS 32 Zeta	Ø50	24	36	-	M	SCHEDES32ZETA
EDS 40 Zeta	Ø63	30,5	46	-	N	SCHEDES40ZETA



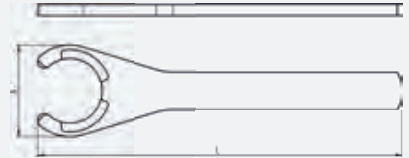
ERST-ZETA BEDIENELEMENTE

ERST-ZETA OPERATING TOOLS

ERST-ZETA STANDARDSPANNSCHLÜSSEL

ERST-ZETA standard spanner wrench

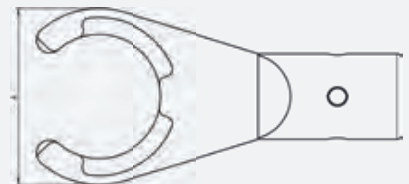
Typ Type	A	L	Profil Profile	Artikelnummer Part number
E-SP 16 Zeta	Ø34	160	J	SCHESP16ZETA
E-SP 20 Zeta	Ø44	175	K	SCHESP20ZETA
E-SP 25 Zeta	Ø49	196	L	SCHESP25ZETA
E-SP 32 Zeta	Ø66	265	M	SCHESP32ZETA
E-SP 40 Zeta	Ø76	287	N	SCHESP40ZETA



ERST-ZETA DREHMOMENTADAPTER

ERST-ZETA torque wrench adapter

Typ Type	A	Profil Profile	Artikelnummer Part number
THETET16	Ø28	J	THETET16ZETA
THETET20	Ø34	K	THETET20ZETA
THETET25	Ø40	L	THETET25ZETA
THETET32	Ø50	M	THETET32ZETA
THETET40	Ø63	N	THETET40ZETA



DREHMOMENTSCHLÜSSEL

TORQUE WRENCH

DREHMOMENTSCHLÜSSEL FÜR ER, ERM, ERST

Torque wrench for ER, ERM, and ERST

Größe Size	Artikelnummer Part number
10-80 Nm	80TH 6-60Lbf.ft
40-200Nm	200TH 44-150Lbf.ft
40-300Nm	300TH 44-200Lbf.ft



ZETA-Drehmomentadapter oder Drehmomentstecknuss benötigt.
ZETA-torque wrench adapter or torque nut necessary.

DREHMOMENTE

TORQUE SIZES

ANZUGSMOMENTE FÜR ER-MUTTERN

Torque values for ER-nuts

Typ Type	Nm	Lbf.ft
ER 11/12	40	30
ER 16	50	44
ER 20	75	56
ER 25	90	74
ER 32	130	96
ER 40	150	110
ER 50	170	125
OZ 25	150	110

ANZUGSMOMENTE FÜR ERM-MUTTERN

Torque values for ERM-nuts

Typ Type	Nm	Lbf.ft
ERM 08	12	9
ERM 11/12	25	18
ERM 16	40	30
ERM 20	55	40
ERM 25	60	44
ERM 32	70	50

DREHMOMENTE FÜR ERST-MUTTERN

Torque values for ERST-nuts

Typ Type	Nm	Lbf.ft
ERST 16	50	44
ERST 20	75	56
ERST 25	90	74
ERST 32	130	96
ERST 40	150	110

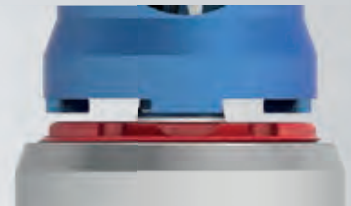
BEDIENHINWEIS ZETA

USE NOTE FOR ZETA

1.

Positionieren Sie das ZETA Bedienelement **mittig** über der Sicherheitsspannmutter.

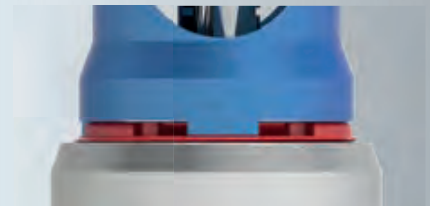
Position the ZETA operating tool centered above the collet nut.



2.

Setzen Sie das Bedienelement **senkrecht** in die dafür vorgesehenen Aussparungen des ZETA Profil ein.

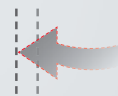
Set the operating tool vertical in the center of the notches of the ZETA profile.



3.

Durch eine **Links- oder Rechtsdrehung** arretieren Sie das Bedienelement direkt auf dem ZETA Profil. Nun sitzt es fest und Sie können das Werkzeug problemlos und sicher spannen.

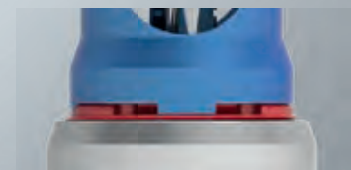
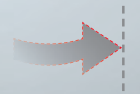
Now you can lock the ZETA safety system with a left- or right rotation. Now it is locked on and you can clamp easily and safe.



4.

Zum Entfernen des Bedienelementes führen Sie einfach eine Rechts- oder Linksdrehung aus und lösen Sie danach das Werkzeug von der Mutter.

To remove the operating tool rotate back to the center of the Zeta profile and lift away from the collet nut.



ALOUETTE TOOL COMPANY LTD.

Live Tool Catalog

Switek - STAR - Tsugami - Citizen
Hanwha - Nexturn - Ganesh
Doosan - Nakamura - Miyano



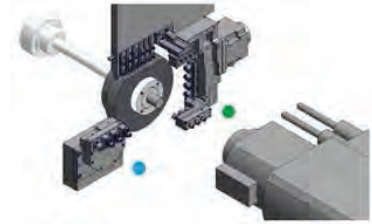


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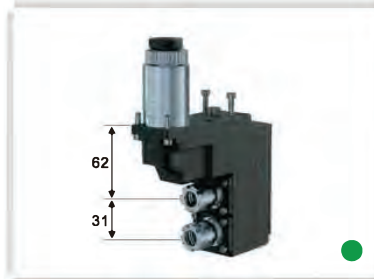
STAR	465-474
TSUGAMI	475-481
CITIZEN	482-490
MIYANO	491-494
GANESH	495-497
NOMURA	498-500
HANWHA	501-503
SWISTEK	504-512
DOOSAN	513
NAKAMURA	514
NEXTURN	515

STAR

ECAS, SB, SR, SW

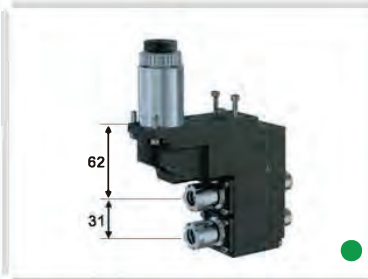


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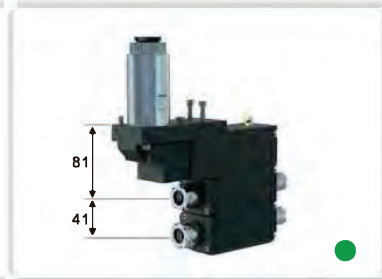
2-spindle drilling/milling unit

Product No.	STRA2A2204	
Ref. No.	54151	STR446200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



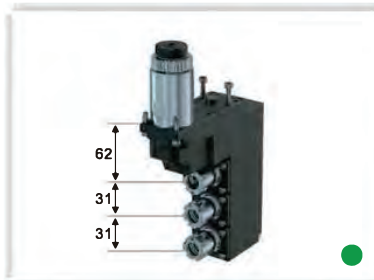
2-spindle double drilling/milling unit

Product No.	STRA2B2202	
Ref. No.	66159	STR546200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



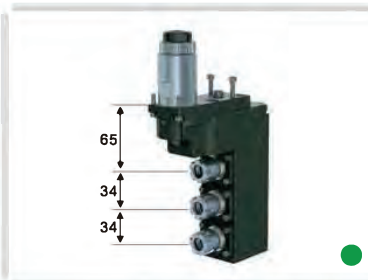
2-spindle double drilling/milling unit

Product No.	STRA2B2302	
Ref. No.	10169	STJA5N22000
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER20M/ER16M	



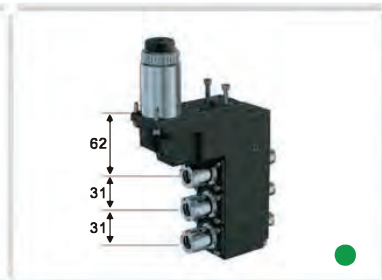
3-spindle drilling/milling unit

Product No.	STRA2A3201	
Ref. No.	66151	STR446300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



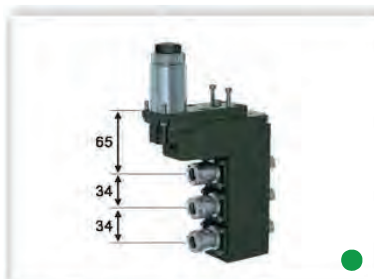
3-spindle drilling/milling unit

Product No.	STRA2A3301	
Ref. No.	67151	STR446300-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



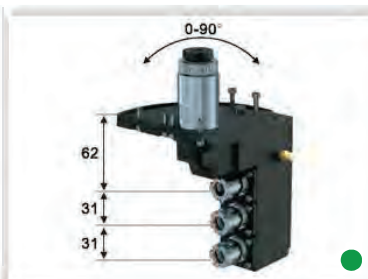
3-spindle double drilling/milling unit

Product No.	STRA2B3201	
Ref. No.	67161	STR546300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



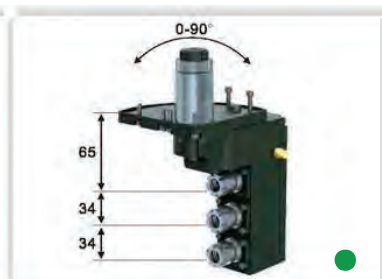
3-spindle double drilling/milling unit

Product No.	STRA2B3301	
Ref. No.	67159	STR546300-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



3-spindle drilling/milling unit ⚙️

Product No.	STRA2A3202	
Ref. No.	—	STR496300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



3-spindle drilling/milling unit ⚙️

Product No.	STRA2A3302	
Ref. No.	—	STR496300-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	

Symbology



Internal Coolant/BAR



Speeder



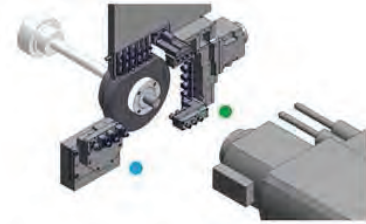
Reducer



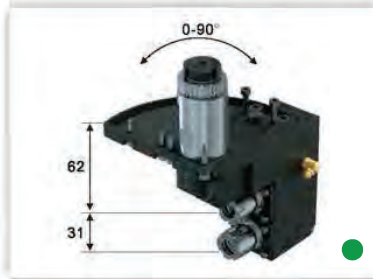
Adjustable

STAR

ECAS, SB, SR, SW

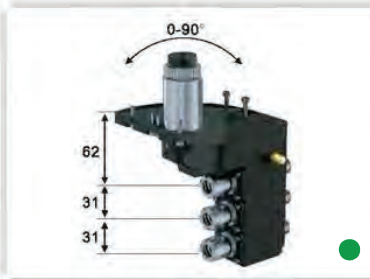


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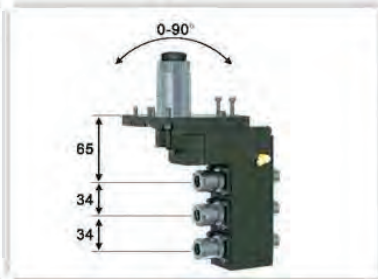
2-spindle drilling/milling unit ⚙️

Product No.	STRA2A2202
Ref. No.	— STR496200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



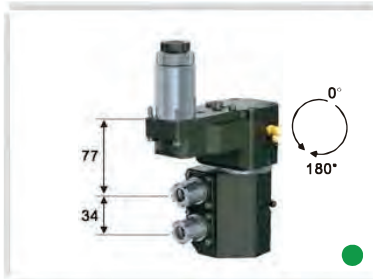
3-spindle double drilling/milling unit ⚙️

Product No.	STRA2B3202
Ref. No.	— STR596300
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M/ER11M



3-spindle double drilling/milling unit ⚙️

Product No.	STRA2B3302
Ref. No.	— STR596300-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M/ER11M



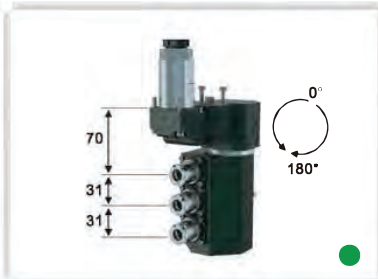
2-spindle drilling/milling unit ⚙️

Product No.	STRA2A2303
Ref. No.	— STR496200-2
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



3-spindle drilling/milling unit ⚙️

Product No.	STRA2A3203
Ref. No.	— STR496300-2
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



3-spindle drilling/milling unit ⚙️

Product No.	STRA2A3207
Ref. No.	— STR496300-5
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



Cross drilling/milling unit

Product No.	STRA116202 / STRA120201
Ref. No.	33150 STR161000
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER16M / ER20M



Cross drilling/milling unit

Product No.	STRA116201
Ref. No.	57155 STR166100
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER16M

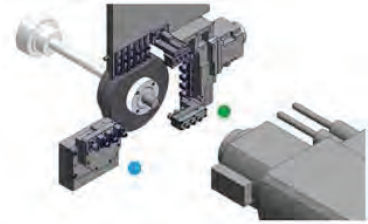


Cross drilling/milling unit

Product No.	STRA111202
Ref. No.	— STR161100
Speed ratio	1:3 ⬆️
RPM Max.	18000
Tool clamping	ER11A

STAR

ECAS, SB, SR, SW



STAR



Cross drilling/milling unit, 3-spindle

Product No.	STRA111201	
Ref. No.	—	STR261300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M	



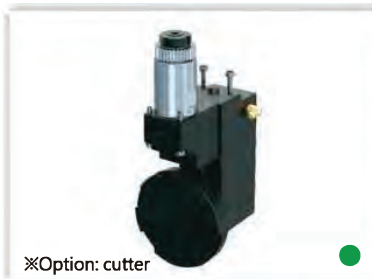
Slotting unit

Product No.	STRA712201	
Ref. No.	54153	STR301000
Speed ratio	1:0.374	
RPM Max.	4000	
Tool clamping	Ø12.7xØ50	



Thread whirling unit

Product No.	STRA545203	
Ref. No.	68172	STR260100N
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	Utilis no.119287	



Polygon unit

Product No.	STRA400201	
Ref. No.	54191	STR150100
Speed ratio	1:1	
RPM Max.	3000	
Tool clamping	—	



Gear hobbing unit

Product No.	STRA613201	
Ref. No.	—	STR130100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	Ø13xØ30x20	



Idler shaft

Product No.	STRA100000	
Ref. No.	57189	STR160000
Speed ratio	—	
RPM Max.	—	
Tool clamping	—	



Boring bar holder

Product No.	STRA803307	
Ref. No.	—	STR14036200
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22	



Air tool holder

Product No.	STRA0002	
Ref. No.	—	STR210300
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22	

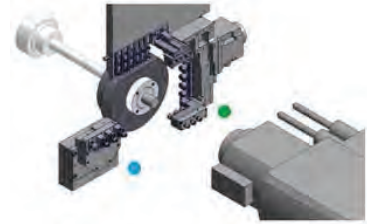


Air tool holder

Product No.	STBA0004	
Ref. No.	—	STB410100
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22	

STAR

ECAS, SB, SR, SW



STAR



Air tool holder for sub spindle

Product No.	STRB0001	
Ref. No.	—	STR14036200
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22.8	



Slotting unit for sub spindle ⚙️

Product No.	STRB700201	
Ref. No.	69166/69165	STR731000
Speed ratio	1:0.55 ⬇️	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7/13xØ50	



Slotting unit for sub spindle ⚙️

Product No.	STRB700202	
Ref. No.	0R165	STR731000-1
Speed ratio	1:0.55 ⬇️	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7/13xØ50	



Drilling/milling unit for sub spindle

Product No.	STRB111208	
Ref. No.	54161	STR711000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11M	



Drilling/milling unit for sub spindle

Product No.	STRB116202	
Ref. No.	57161	STR761000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



Drilling/milling unit for sub spindle

Product No.	STRB116201	
Ref. No.	0R161	STR766100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



Drilling/milling unit for sub spindle

Product No.	STRB111204	
Ref. No.	—	STR761200
Speed ratio	1:3 ⬆️	
RPM Max.	18000	
Tool clamping	ER11	



Drilling/milling unit for sub spindle, 3-spindle

Product No.	STRB108101	
Ref. No.	—	STR748400
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER8M	



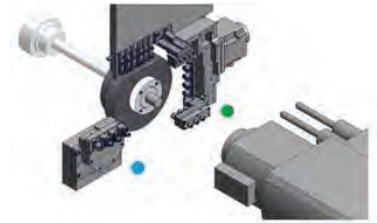
Drilling/milling unit for sub spindle, 3-spindle

Product No.	STRB111201	
Ref. No.	0E151	STR741300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M	



STAR

ECAS, SB, SR, SW



STAR



Cross drilling/milling unit for sub spindle

Product No.	STRB311201
Ref. No.	— STR731100
Speed ratio	1:0.55
RPM Max.	4000
Tool clamping	ER11A



Cross drilling/milling unit for sub spindle

Product No.	STRB316202
Ref. No.	— STR736100
Speed ratio	1:0.77
RPM Max.	4000
Tool clamping	ER16A



Cross drilling/milling unit for sub spindle

Product No.	STRB316201
Ref. No.	OR151 STR861100-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



Cross drilling/milling unit for sub spindle

Product No.	STRB311101
Ref. No.	— STR861100-3
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11



Cross drilling/milling unit for sub spindle

Product No.	STRB311204
Ref. No.	— STR861100-2
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11



Cross drilling/milling unit for sub spindle

Product No.	STRB311301
Ref. No.	— STR861100-5
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11



Cross drilling/milling unit for sub spindle

Product No.	STRB311203
Ref. No.	0E152 STR861100
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER11M



Cross drilling/milling unit for sub spindle

Product No.	STRB311202
Ref. No.	— STR861100-4
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11



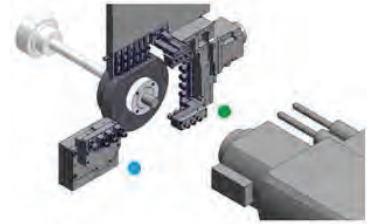
Drilling/milling unit for sub spindle

Product No.	STRB111203
Ref. No.	— STR741300-1
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER11



STAR

ECAS, SB, SR, SW



STAR



Drill holder for sub spindle

Product No.	STRB81Q309	
Ref. No.	—	STR646100-1
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER16M	



Drill holder for sub spindle

Product No.	STRB81Q307	
Ref. No.	54121	STR646100-5
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER16M	



Drill holder for sub spindle ^{IC} 25bar

Product No.	STRB81Q304	
Ref. No.	—	STR646100-2
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER16M	



Drill holder for sub spindle

Product No.	STRB81Q305	
Ref. No.	—	STR642100
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER20M	



Drill holder for sub spindle

Product No.	STRB81Q313	
Ref. No.	67122	STR642100-3
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER20M	



Drill holder for sub spindle ^{IC} 25bar

Product No.	STRB81Q303	
Ref. No.	—	STR642100-1
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER20M	



Drill holder for sub spindle

Product No.	STRB81E201	
Ref. No.	OR122	STR646100-3
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER16M	



Drill holder for sub spindle ^{IC} 25bar

Product No.	STRB81E202	
Ref. No.	OR123	STR646100-4
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER16M	

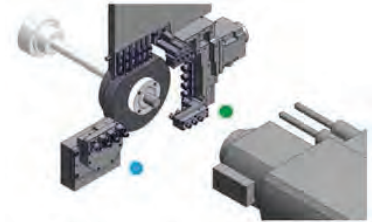


Drill holder for sub spindle

Product No.	STRB81S301	
Ref. No.	10119	STJA22KBA00
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER20M	

STAR

ECAS, SB, SR, SW



STAR



Drill holder for sub spindle

Product No.	STRB81Q101
Ref. No.	69125 STR64110010J
Speed ratio	—
RPM Max.	—
Tool clamping	ER11M



Drill holder for sub spindle

Product No.	STRB81Q201
Ref. No.	— STR64110020R
Speed ratio	—
RPM Max.	—
Tool clamping	ER11M



※ER drill holder not included

Drill holder for sub spindle

Product No.	STRB82Q201
Ref. No.	— STJ640100
Speed ratio	—
RPM Max.	—
Tool clamping	Ø16



※ER drill holder not included

Drill holder for sub spindle

Product No.	STRB82Q202
Ref. No.	— STJ640200
Speed ratio	—
RPM Max.	—
Tool clamping	Ø16



Boring bar holder for sub spindle

Product No.	STRB82Q200
Ref. No.	— STR601000
Speed ratio	—
RPM Max.	—
Tool clamping	Ø3/4/5/6/8/9/10/12/16



Boring bar holder for sub spindle 

Product No.	STRBA22000+COMBAB0000
Ref. No.	— STR601200
Speed ratio	—
RPM Max.	—
Tool clamping	Ø3/4/5/6/8/9/10/12/16



Boring bar holder for sub spindle  25bar

Product No.	STRB82E200
Ref. No.	— STR680100-4
Speed ratio	—
RPM Max.	—
Tool clamping	Ø6/8/9/10/12/16

Symbology



Internal Coolant/BAR



Speeder



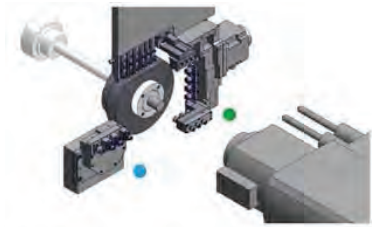
Reducer



Adjustable

STAR

ECAS, SB, SR, SW



STAR



Turning holder for sub spindle

Product No.	STRBA22000+COMB ADL550
Ref. No.	STR620100-1
Speed ratio	—
RPM Max.	—
Tool clamping	DC.T11T3



Turning holder for sub spindle

Product No.	STRBA22000+COMBADR550
Ref. No.	STR620100-6
Speed ratio	—
RPM Max.	—
Tool clamping	DC.T11T3



Turning holder for sub spindle

Product No.	STRBA22000+COMBADL350
Ref. No.	STR620100-7
Speed ratio	—
RPM Max.	—
Tool clamping	VC.T1103



Turning holder for sub spindle

Product No.	STRB912201
Ref. No.	STR620100-3
Speed ratio	—
RPM Max.	—
Tool clamping	Ø12



Turning holder for sub spindle

Product No.	STRB910202
Ref. No.	STR620100-4
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Turning holder for sub spindle

Product No.	STRBA22000+COMBAC1000
Ref. No.	STR620100-2
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Turning holder for sub spindle

Product No.	STRB910201
Ref. No.	STR620100
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Turning holder for sub spindle

Product No.	STRB912203
Ref. No.	STR62011200
Speed ratio	—
RPM Max.	—
Tool clamping	□12



Turning holder for sub spindle

Product No.	STRB912204
Ref. No.	STR62011200-1
Speed ratio	—
RPM Max.	—
Tool clamping	□12

Symbology



Internal Coolant/BAR



Speeder



Reducer



Adjustable

STAR

SV32JII, SV12, SV20, ECAS20T

STAR



Axial drilling/milling unit



Radial drilling/milling unit



Thread whirling unit ⚙️

Product No.	STVC116201	STVC2B2201	STVC545201
Ref. No.	22150 STV10301600	42159 STV51200	— STV260100
Speed ratio	1:1	1:1.16 ⬆️	1:1
RPM Max.	6000	6000	6000
Tool clamping	ER16A	ER11M	Utilis no.119287



※Longitudinally adj. ±1mm

Turning holder ⚙️



※Longitudinally adj. ±1mm

Turning holder ⚙️



Boring bar holder

Product No.	STVC916201	STVC916202	STVC801204
Ref. No.	— STV901000	— STV901000-1	— STV140100-1
Speed ratio	—	—	—
RPM Max.	—	—	—
Tool clamping	□16	□16	Ø32

STAR

SV32, ECAS32T, SV-38R

STAR



Axial drilling/milling unit

Product No.	STVC120301
Ref. No.	58151 STV10302000-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20A




Axial drilling/milling unit

Product No.	STVC116301
Ref. No.	43151 STEV2A1C26A00
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Radial drilling/milling unit

Product No.	STVC2B2301
Ref. No.	— STV51200-1
Speed ratio	1:1.16 
RPM Max.	6000
Tool clamping	ER11M



Thread whirling unit 

Product No.	STVC545301
Ref. No.	— STV260100-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Utilis no.119287

SG42



Radial drilling/milling unit (for sub spindle)

Product No.	STGC2A2401
Ref. No.	— STG42042073200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20M

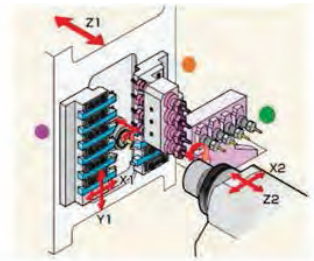


Radial drilling/milling unit (for main spindle)

Product No.	STGC2A2402
Ref. No.	— STG42042073200-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20M

TSUGAMI

BO205



TSUGAMI



Thread whirling unit ⚙️

Product No.	TSBA545201	
Ref. No.	—	TSCA3L01000
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	Utilis no.119287	



Tool holder

Product No.	TSBA0001	
Ref. No.	3220-T520	TSB140400
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø20	



Cross drilling/milling unit for sub spindle

Product No.	TSBB311201	
Ref. No.	3220-Y7074	TSB861100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11A	



Drilling/milling unit for sub spindle

Product No.	TSBB116201	
Ref. No.	3220-Y7072	TSB746100-1
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M	



Drill holder for sub spindle

Product No.	TSBB81Q202	
Ref. No.	—	
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER11A	



Drill holder for sub spindle

Product No.	TSBB82Q201	
Ref. No.	3220-Y7073	TSB640100-2
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø20	



Turning holder for sub spindle ⚙️

Product No.	TSBBA20000+COMBADL550	
Ref. No.	TSCA41YAA00	
Speed ratio	—	
RPM Max.	—	
Tool clamping	DC.T11T3	



Air tool holder for sub spindle

Product No.	TSBB0001	
Ref. No.	TSB601000	
Speed ratio	—	
RPM Max.	—	
Tool clamping	NR-303	

TSUGAMI

BO265, BO266, BO325, BO326, BO385



TSUGAMI



Cross drilling/milling unit

Product No.	TSBA116301	
Ref. No.	3268-T051	TSB246100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



Cross drilling/milling unit

Product No.	TSBA120301	
Ref. No.	3268-T051-ER20	TSB242100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER20A	



Cross drilling/milling unit

Product No.	TSBA111301	
Ref. No.	3290-Y670	TSB241100
Speed ratio	1:2	
RPM Max.	12000	
Tool clamping	ER11A	



Cross drilling/milling unit

Product No.	TSBA116303	
Ref. No.	—	TSB246100-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



Cross drilling/milling unit, 2-spindle

Product No.	TSBA116304	
Ref. No.	—	TSB246200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



Thread whirling unit

Product No.	TSBA545301	
Ref. No.	3268-Y450	TSB260100
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	Utilis no.119287	



Drilling unit (deep hole)

Product No.	TSBA116302	
Ref. No.	3290-Y010	TSB146200
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



2-spindle drilling/milling unit

Product No.	TSBA2A2304	
Ref. No.	—	TSB446200-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16AM	



2-spindle double drilling/milling unit

Product No.	TSBA2B2303	
Ref. No.	3282-Y901	TSB546200-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16AM	

TSUGAMI

BO265, BO266, BO325, BO326, BO385



TSUGAMI



2-spindle drilling/milling unit ⚙️

Product No.	TSBA2A2301	
Ref. No.	—	TSB496200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16AM	



2-spindle double drilling/milling unit ⚙️

Product No.	TSBA2B2302	
Ref. No.	3282-Y921	TSB596200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16AM	



Drilling/milling unit

Product No.	TSBA2A1301	
Ref. No.	—	TSB446100-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16AM	



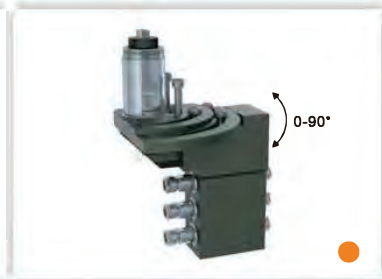
3-spindle drilling/milling unit

Product No.	TSBA2A3301	
Ref. No.	—	TSGA4N6300
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER16AM	



3-spindle double drilling/milling unit

Product No.	TSBA2B3302	
Ref. No.	—	TSB541300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11A	



3-spindle double drilling/milling unit ⚙️

Product No.	TSBA2B3301	
Ref. No.	—	TSB591300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11A	



Drilling/milling unit for sub spindle

Product No.	TSBB116301	
Ref. No.	3282-Y041	TSB746100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



Drilling/milling unit for sub spindle

Product No.	TSBB111301	
Ref. No.	3290-Y680	TSB741100
Speed ratio	1:2 ⬆️	
RPM Max.	12000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	TSBB316301	
Ref. No.	3290-Y041	TSB866100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	

TSUGAMI

BO265, BO266, BO325, BO326, BO385



Slotting unit for sub spindle 

Product No.	TSBB712301
Ref. No.	— TSB730100
Speed ratio	1:1
RPM Max.	3000
Tool clamping	Ø12.7xØ70



Drill holder for sub spindle  25bar

Product No.	TSBB82Q304
Ref. No.	3282-Y211 TSB640100MC
Speed ratio	—
RPM Max.	—
Tool clamping	Ø25



Drill holder for sub spindle

Product No.	TSBB82Q303
Ref. No.	— TSB640100MC
Speed ratio	—
RPM Max.	—
Tool clamping	Ø25



Drill holder for sub spindle

Product No.	TSBB82Q302
Ref. No.	— TSB640100-1
Speed ratio	—
RPM Max.	—
Tool clamping	Ø25



Drill holder for sub spindle  25bar

Product No.	TSBB81Q301
Ref. No.	— TSB642100
Speed ratio	—
RPM Max.	—
Tool clamping	ER20M



Turning holder for sub spindle

Product No.	TSBB912301
Ref. No.	— TSB620100
Speed ratio	—
RPM Max.	—
Tool clamping	□12



Turning holder for sub spindle

Product No.	TSBB910301
Ref. No.	— TSB620100-1
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Turning holder for sub spindle

Product No.	TSBB912302
Ref. No.	— TSB620100-2
Speed ratio	—
RPM Max.	—
Tool clamping	□12



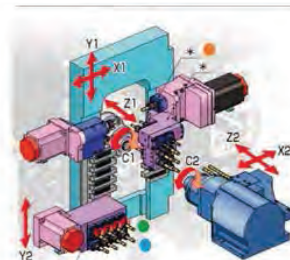
Boring bar holder for sub spindle 

Product No.	TSBBA42000+COMBAB0000
Ref. No.	— TSGA43HKA00
Speed ratio	—
RPM Max.	—
Tool clamping	Ø3/4/5/6/8/9/10/12/16

TSUGAMI

TSUGAMI

S205, S206



TSUGAMI



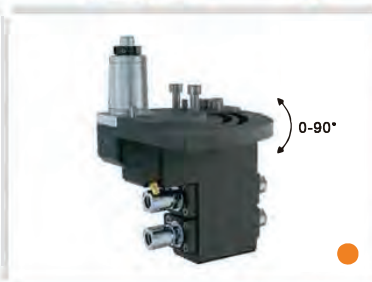
Cross drilling/milling unit

Product No.	TSSA116201	
Ref. No.	3281-T050	TSS161000
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M	



2-spindle double drilling/milling unit

Product No.	TSSA2B2201	
Ref. No.	3281-Y240	TSS562000
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M/ER11A	



2-spindle double drilling/milling unit

Product No.	TSSA2B2202	
Ref. No.	3281-Y280	TSS562100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M/ER11A	



3-spindle drilling/milling unit

Product No.	TSSA2A3201	
Ref. No.	-	TSS441300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11A	



3-spindle drilling/milling unit

Product No.	TSSA2A3202	
Ref. No.	-	TSS446300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



3-spindle double drilling/milling unit

Product No.	TSSA2B3201	
Ref. No.	-	TSS546300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A/ER11A	



3-spindle drilling/milling unit

Product No.	TSSA2A3203	
Ref. No.	-	TSS496300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



3-spindle double drilling/milling unit

Product No.	TSSA2B3202	
Ref. No.	-	TSS596300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A/ER11A	

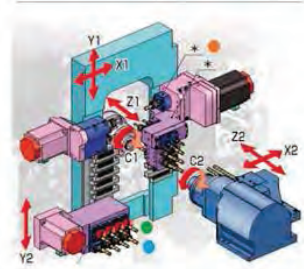


Thread whirling unit

Product No.	TSSA545201	
Ref. No.	3281-Y450	TSS260100
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	Utilis no.119287	

TSUGAMI

S205, S206



Cross drilling/milling unit for sub spindle

Product No.	TSSB316201	
Ref. No.	3281-Y460	TSS861000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



Drilling/milling unit for sub spindle

Product No.	TSSB116201	
Ref. No.	3281-S080	TSS761000
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M	



Drill holder for sub spindle

Product No.	TSSB82Q202 / TSSB82Q205	
Ref. No.	3281-S060	TSS601000 / TSS640100-1
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø20 / Ø16	



Drill holder for sub spindle 25bar

Product No.	TSSB81Q202	
Ref. No.	-	TSS646100
Speed ratio	-	
RPM Max.	-	
Tool clamping	ER16M	



Drill holder for sub spindle 25bar

Product No.	TSSB81Q201	
Ref. No.	-	TSS642100
Speed ratio	-	
RPM Max.	-	
Tool clamping	ER20M	



Drill holder for sub spindle

Product No.	TSSB82Q203	
Ref. No.	-	TSS601100
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø20	



Turning holder for sub spindle

Product No.	TSSB912201	
Ref. No.	-	TSS620100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□12	



Turning holder for sub spindle

Product No.	TSSB910201	
Ref. No.	-	TSS620100-1
Speed ratio	-	
RPM Max.	-	
Tool clamping	□10	



Turning holder for sub spindle

Product No.	TSSB910202	
Ref. No.	-	TSS620100-2
Speed ratio	-	
RPM Max.	-	
Tool clamping	□10	

TSUGAMI

TSUGAMI

M06, M08



TSUGAMI



Axial drilling/milling unit

Product No.	TSMC125001	
Ref. No.	3295-Z92511-0101	TSIM2A1A15100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER25UM	



Radial drilling/milling unit

Product No.	TSMC2A2001	
Ref. No.	—	TSIA2B1A12200
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER20A	



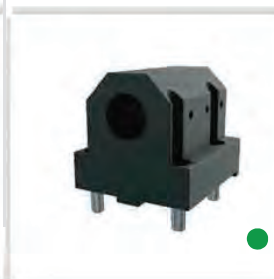
Turning holder (cut-off)

Product No.	TSMC925001	
Ref. No.	3295-H260	TSLM60BA11A00
Speed ratio	—	
RPM Max.	—	
Tool clamping	□25	



Turning holder

Product No.	TSMC925002	
Ref. No.	3295-H210	TSLM50BA22A00
Speed ratio	—	
RPM Max.	—	
Tool clamping	□25	



Boring bar holder

Product No.	TSMC801001	
Ref. No.	3295-H202	TSM040100
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø32	



Boring bar holder

Product No.	TSMC802001	
Ref. No.	—	TSM040200
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	



Boring bar holder

Product No.	TSMC802004	
Ref. No.	3297-H020	TSM040200-3
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	



Boring bar holder (offset, for main spindle)

Product No.	TSMC802003	
Ref. No.	3295-H270	TSM040200-225
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	



Boring bar holder (offset, for sub spindle)

Product No.	TSMC802002	
Ref. No.	3295-H280	TSM040200-125
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	



Boring bar holder (offset, for sub spindle)

Product No.	TSMC802007	
Ref. No.	—	TSM040200-125(40)
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	

Symbology

Internal Coolant/BAR
 Speeder
 Reducer
 Adjustable

CITIZEN

M32



Axial drilling/milling unit

Product No.	CTMC116302	
Ref. No.	KSC110	CTM3204161100
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER16A	



Axial drilling/milling unit

Product No.	CTMC116301	
Ref. No.	KSC110-2X	CTM3204161100-1
Speed ratio	1:2	
RPM Max.	10000	
Tool clamping	ER16A	



Radial drilling/milling unit

Product No.	CTMC2A1301	
Ref. No.	KSE110	CTM3204162100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



Radial drilling/milling unit

Product No.	CTMC2A1302	
Ref. No.	KSE310	CTM3204162100-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



Turning holder

Product No.	CTMC916301	
Ref. No.	CTF116	CTM901000
Speed ratio	-	
RPM Max.	-	
Tool clamping	□ 16	



Boring bar holder

Product No.	CTMC801301	
Ref. No.	CDF101	CTM101000
Speed ratio	-	
RPM Max.	-	
Tool clamping	∅25.4	



Boring bar holder

Product No.	CTMC802301	
Ref. No.	CDF401	CTM102000
Speed ratio	-	
RPM Max.	-	
Tool clamping	∅25.4	

CITIZEN

M16

CITIZEN



Axial drilling/milling unit

Product No.	CTMC111102
Ref. No.	MSC107BT CTM1605111100-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11A



Axial drilling/milling unit

Product No.	CTMC111101
Ref. No.	MSC106 CTM1605111100
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11A



Axial drilling/milling unit

Product No.	CTMC111103
Ref. No.	MSC407 CTM1605111200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11A



Radial drilling/milling unit

Product No.	CTMC2A1102
Ref. No.	MSE106 CTM1604112100
Speed ratio	1:1
RPM Max.	4000
Tool clamping	ER11A



Radial drilling/milling unit

Product No.	CTMC2A1103
Ref. No.	MST306 CTM1603112100
Speed ratio	1:1
RPM Max.	3000
Tool clamping	ER11A



Slotting unit

Product No.	CTMC712101
Ref. No.	MSS345 CTM1606122100
Speed ratio	1:1
RPM Max.	4000
Tool clamping	Ø12.7xØ70



Turning holder

CTMC910101
VTF110
□ 10
CTM1601101100



Turning holder (cut-off)

CTMC910102
VTF1310
□ 10
CTM1602101100



Boring bar holder

CTMC801102
VDF201
Ø19.05
CTM1603192100



Boring bar holder

CTMC801101
VDF501
Ø19.05
CTM1603192100-1



Boring bar holder

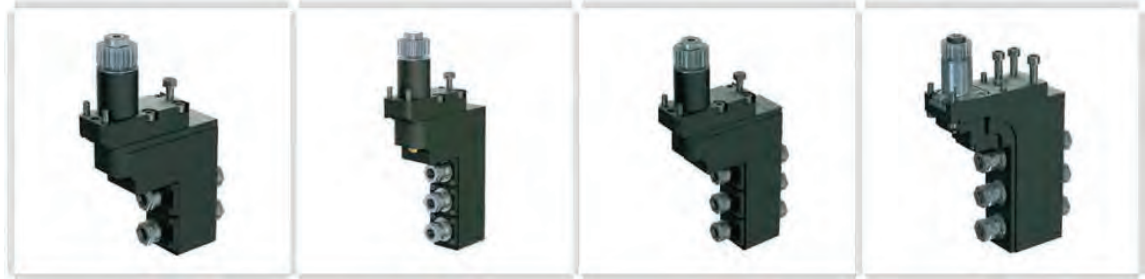
CTMC802101
VDF401
Ø19.05
CTM1603192200

Symbology

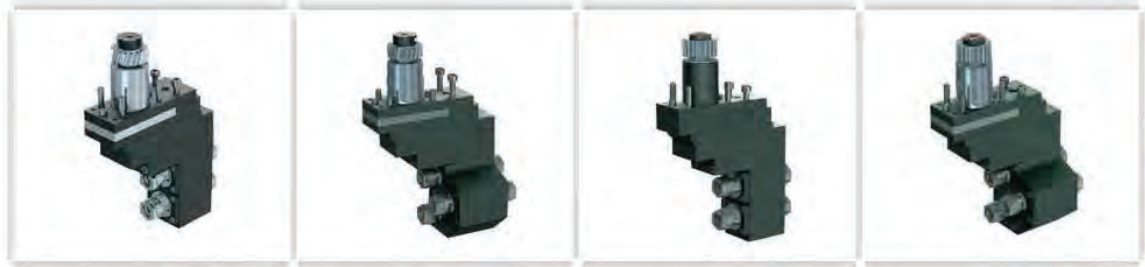
Internal Coolant/BAR
 Speeder
 Reducer
 Adjustable

CITIZEN

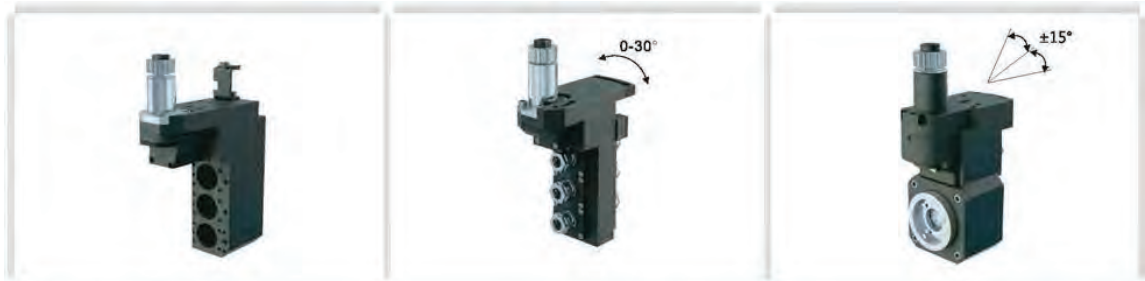
L Series





	2-spindle double drilling/milling unit	3-spindle drilling/milling unit	3-spindle double drilling/milling unit	3-spindle double drilling/milling unit
Product No.	CTLA2B2301	CTLA2A3301	CTLA2B3302	CTLA2B3301
Ref. No.	— CTA541200-1	BSE307/BSE407/BSE607	BSE507/BSE707	GSE1810
Speed ratio	1:1	1:1 CTA441300-1	1:1 CTA541300-1	1:1 CTL546300-32
RPM Max.	6000	6000	6000	6000
Tool clamping	ER11A	ER11A	ER11A	ER16AM



	2-spindle double drilling/milling unit	3-spindle double drilling/milling unit	2-spindle double drilling/milling unit	3-spindle double drilling/milling unit
Product No.	CTLA2B2201	CTLA2B3202	CTLA2B2202	CTLA2B3206
Ref. No.	GSE3107 CTL541200	GSE3207 CTL541300-2	GSE3707 CTL541200-1	GSE3807 CTL541300-3
Speed ratio	1:1	1:1	1:1	1:1
RPM Max.	6000	6000	6000	6000
Tool clamping	ER11A	ER11A	ER11A	ER11A



	Drilling/milling unit	3-spindle double drilling/milling unit 	Thread whirling unit 
Product No.	CTLA2A3202	CTLA2B3101	CTLA545201
Ref. No.	GSE3210 CTL160300	GSE3607 CTL591300-1	— CTL260100
Speed ratio	1:1	1:1	1:1
RPM Max.	—	8000	6000
Tool clamping	Ø31	ER11A	Utilis no.119287

Symbology



Internal Coolant/BAR



Speeder



Reducer



Adjustable

CITIZEN

L Series

CITIZEN



Drilling/milling unit

Product No.	CTLA2A1201
Ref. No.	— CTL411000
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11A



Double drilling/milling unit

Product No.	CTLA2B1302
Ref. No.	— CTL541100
Speed ratio	1:3
RPM Max.	15000
Tool clamping	ER11A



Double drilling/milling unit

Product No.	CTLA2B1201
Ref. No.	— CTL511000
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11A/ER11M



2-spindle drilling/milling unit

Product No.	CTLA2A2202
Ref. No.	— CTL441200
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER11A



3-spindle drilling/milling unit

Product No.	CTLA2A3204
Ref. No.	— CTL441300
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER11A



3-spindle double drilling/milling unit

Product No.	CTLA2B3203
Ref. No.	— CTL541300-1
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER11A/ER11M



3-spindle double drilling/milling unit

Product No.	CTLA2B3204
Ref. No.	GSE1007 CTL541300
Speed ratio	1:1
RPM Max.	4000
Tool clamping	ER11A



3-spindle drilling/milling unit

Product No.	CTLA2A3201
Ref. No.	GSE910 CTAA4B63000
Speed ratio	1:1
RPM Max.	4000
Tool clamping	ER16M



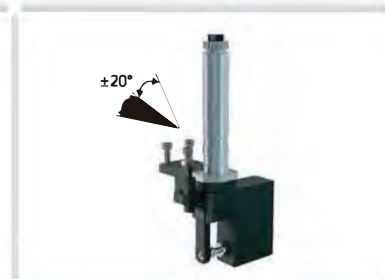
3-spindle double drilling/milling unit

Product No.	CTLA2B3205
Ref. No.	GSE1307 CTL513000-1
Speed ratio	1:1
RPM Max.	4000
Tool clamping	ER11A



Gear hobbing unit

Product No.	CTLA608202
Ref. No.	— CTL130100-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Ø8xØ25x12



Gear hobbing unit

Product No.	CTLA608201
Ref. No.	— CTL130100
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Ø8xØ25x12

Symbology

Internal Coolant/BAR Speeder Reducer Adjustable

CITIZEN

L Series

CITIZEN



Cross drilling/milling unit

Product No.	CTAA116201	
Ref. No.	GSC1310/GSC1110	CTA1661100
Speed ratio	1:1	
RPM Max.	7000	
Tool clamping	ER16AM	



Cross drilling/milling unit

Product No.	CTLA116201	
Ref. No.	GSC1210	CTL861000
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M	



Cross drilling/milling unit

Product No.	CTLA116203	
Ref. No.	GSC1210	CTL866100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16	



Cross drilling/milling unit

Product No.	CTLA116202	
Ref. No.	GSC510/GSC1010	CTL166100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



Cross drilling/milling unit

Product No.	CTLA116301	
Ref. No.	GSC310	CTL166100-1
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



Cross drilling/milling unit

Product No.	CTLA111206	
Ref. No.	GSC507-3X	CTL161100-2
Speed ratio	1:3	
RPM Max.	18000	
Tool clamping	ER11A	



Cross drilling/milling unit

Product No.	CTLA111208	
Ref. No.	GSE307	CTL141100
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER11A	



Cross drilling/milling unit

Product No.	CTLA111202	
Ref. No.	GSC907	CTL111000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11A	



Gear hobbing unit

Product No.	CTA608201	
Ref. No.	–	CTA130100
Speed ratio	1:1	
RPM Max.	3000	
Tool clamping	Ø8xØ25x15	

CITIZEN

L Series

CITIZEN



Drilling/milling unit for sub spindle

Product No.	CTLB11202	
Ref. No.	GSE3307/GSE3507/MSC507	
Speed ratio	1:1	CTL711000
RPM Max.	8000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	CTLB311205	
Ref. No.	GSS1330/GSS1430/GSS1530	
Speed ratio	1:1	CTK861100
RPM Max.	6000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	CTLB316301	
Ref. No.	GSE1910	
Speed ratio	1:1	CTL866100-1
RPM Max.	6000	
Tool clamping	ER16AM	



Slotting unit for sub spindle

Product No.	CTLB700201	
Ref. No.	–	CTL731000
Speed ratio	1:1	
RPM Max.	4000	
Tool clamping	Ø6/12.7xØ35	

Symbology



Internal Coolant/BAR



Speeder



Reducer



Adjustable

CITIZEN

L Series



Boring bar holder

Product No.	CTLA803305
Ref. No.	GDF1601
Speed ratio	— CTL14037800-25.4
RPM Max.	—
Tool clamping	Ø25.4



Boring bar holder

Product No.	CTLA803302
Ref. No.	—
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05



Boring bar holder

Product No.	CTLA803303
Ref. No.	—
Speed ratio	—
RPM Max.	—
Tool clamping	Ø20



Boring bar holder

Product No.	CTLA802202
Ref. No.	GDF508 CTL140200-1
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05



Boring bar holder

Product No.	CTLA801201
Ref. No.	GDF506 CTL101190
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05



Boring bar holder

Product No.	CTLA802201
Ref. No.	— CTL140200
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05



Boring bar holder

Product No.	CTLA803202
Ref. No.	— CTL140300
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05



Boring bar holder

Product No.	CTLA803203/CTLA803210
Ref. No.	— CTL140300-2
Speed ratio	— CTL140300-6
RPM Max.	—
Tool clamping	Ø19.05 / Ø20



Boring bar holder

Product No.	CTLA803204/CTLA803206
Ref. No.	GDF507 CTL140300-3
Speed ratio	— CTL140300-10
RPM Max.	—
Tool clamping	Ø19.05 / Ø20



Boring bar holder

Product No.	CTLA803205
Ref. No.	— CTL140300-8
Speed ratio	—
RPM Max.	—
Tool clamping	Ø20



Boring bar holder

Product No.	CTLA803101
Ref. No.	— CTCA12JDA00
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05



Boring bar holder

Product No.	CTLA803201
Ref. No.	GDF607 CTL103000
Speed ratio	—
RPM Max.	—
Tool clamping	Ø19.05

CITIZEN

CITIZEN

L Series

CITIZEN



Turning holder

Product No.	CTLA900055	
Ref. No.	GTF3712	CTL120155
Speed ratio	-	
RPM Max.	-	
Tool clamping	DC.T1103	



Turning holder

Product No.	CTLA900035	
Ref. No.	-	CTL120135
Speed ratio	-	
RPM Max.	-	
Tool clamping	VC.T1103	



Turning holder

Product No.	CTLA900060	
Ref. No.	-	CTL120160
Speed ratio	-	
RPM Max.	-	
Tool clamping	TGF32R 175 PR930	



Turning holder

Product No.	CTLA910101	
Ref. No.	-	CTL12100100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□10	



Turning holder

Product No.	CTLA912301	
Ref. No.	-	CTL2012100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□12	



Turning holder

Product No.	CTLA912201	
Ref. No.	GTF6312	CTL2212100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□12	



Turning holder for sub spindle

Product No.	CTLB912301	
Ref. No.	-	CTL620100-1
Speed ratio	-	
RPM Max.	-	
Tool clamping	□12	



Turning holder for sub spindle 

Product No.	CTLBA25000+COMBADL550	
Ref. No.	-	CTL620100
Speed ratio	-	
RPM Max.	-	
Tool clamping	DC.T11T3	



Boring bar holder for sub spindle 

Product No.	CTLBA25000+COMBAB0000	
Ref. No.	-	CTL601200
Speed ratio	-	
RPM Max.	-	
Tool clamping	∅3/4/5/6/8/9/10/12/16	

Symbology



Internal Coolant/BAR



Speeder



Reducer



Adjustable

CITIZEN

A Series



Drill holder (deep hole)

Product No.	CTAA802201	
Ref. No.	—	CTA162000
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER16M	



3-spindle double drilling/milling unit

Product No.	CTAA2B3301	
Ref. No.	GSE1710	CTA546300
Speed ratio	1:1	
RPM Max.	4000	
Tool clamping	ER16AM	



Double drilling/milling unit

Product No.	CTAA2B1201	
Ref. No.	BSE107	CTA511000
Speed ratio	1:1	
RPM Max.	4000	
Tool clamping	ER11M	



※Option: cutter

Polygon unit

Product No.	CTAA400201	
Ref. No.	—	CTA150100-1
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	—	



Boring bar holder

Product No.	CTAA803201	
Ref. No.	—	CTA140300
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø20	



Boring bar holder

Product No.	CTAA803202	
Ref. No.	—	CTA140300-1
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø19.05	

CITIZEN

Symbology

 Internal Coolant/BAR
  Speeder
  Reducer
  Adjustable

MIYANO

BND, BNE, BNJ, ABX



Axial drilling/milling unit

Product No.	BM45MI1A0101
Ref. No.	2W785600 BMT4510102005500
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20A



Axial drilling/milling unit

Product No.	BM45MI1A0202
Ref. No.	— BMT4550101605500
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Radial drilling/milling unit IC 25bar

Product No.	BM45MI1B0101
Ref. No.	2W785550 BMT4520112005500
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20A



Axial drilling/milling unit

Product No.	BM38MI1A0103
Ref. No.	DV70B001 BMT3810111610900
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Radial drilling/milling unit

Product No.	BM38MI1B0104
Ref. No.	DV70A000 BMT3820111610900
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Axial drilling/milling unit

Product No.	BM45MI1A0102
Ref. No.	2K700000 BMT4510302011600
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20A



Radial drilling/milling unit IC 25bar

Product No.	BM45MI1B0102
Ref. No.	2K701000 BMT4520312011600
Speed ratio	1:1
RPM Max.	4000
Tool clamping	ER20A

MIYANO

MIYANO

BND, BNE, BNJ, ABX



Turning holder

Product No.	BM45MI2A2001	
Ref. No.	1X780100	MYB020100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Turning holder

Product No.	BM45MI2A2005	
Ref. No.	1X780200	MYE900100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Turning holder

Product No.	BM45MI2B2002	
Ref. No.	1X784100	MYD902000
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Turning holder

Product No.	BM45MI2B2001	
Ref. No.	1X784600	MYB020200
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Multiple holder

Product No.	BM45MI2E0001	
Ref. No.	1X780500	MYJ920100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20 Ø25	



Boring bar holder

Product No.	BM45MI2D2501	
Ref. No.	1X780600	MYE040200
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø25	



Turning holder

Product No.	BM38MI2A2006	
Ref. No.	-	MYJ920100-1
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Boring bar holder

Product No.	BM38MI2D1501	
Ref. No.	2K749001	MYJ940100
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø25	



Boring bar holder

Product No.	BM38MI2D2503	
Ref. No.	DV73B000	MYLB35BC32A00
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø25	

MIYANO

MIYANO

BNA

MIYANO



Axial drilling/milling unit

Product No.	BM38MI1A010
Ref. No.	CG70A000 BMT3810101603700
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER16A



Axial drilling/milling unit

Product No.	BM38MI1A0201
Ref. No.	CL70A000 BMT385010112200
Speed ratio	1:1.66
RPM Max.	6000
Tool clamping	ER11A



Radial drilling/milling unit 25bar

Product No.	BM38MI1B0102
Ref. No.	CG70C000 BMT3820111603700
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Radial drilling/milling unit

Product No.	BM38MI1B0101
Ref. No.	CG70D000 BMT3820101602200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Radial drilling/milling unit

Product No.	BM38MI1B0202
Ref. No.	— BMT384010162200-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER11



Radial drilling/milling unit

Product No.	BM38MI1B0201
Ref. No.	CG70E000 BMT384010162200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



Turning holder (cut-off)

Product No.	BM38MI2A2001
Ref. No.	CG73C000 MYA10201GC00
Speed ratio	—
RPM Max.	—
Tool clamping	□20



Turning holder

Product No.	BM38MI2A2003
Ref. No.	CG73M000 MYA10201GM00
Speed ratio	—
RPM Max.	—
Tool clamping	□20



Turning holder

Product No.	BM38MI2B2001
Ref. No.	CL73A001 MYA10203LA00
Speed ratio	—
RPM Max.	—
Tool clamping	□20

Symbology

Internal Coolant/BAR Speeder Reducer Adjustable

MIYANO

BNA



Turning holder

Product No.	BM38MI2B2002	
Ref. No.	CG73L000	MYA10202GL00
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Boring bar holder

Product No.	BM38MI2D2501	
Ref. No.	CG73P000	MYA20252GP00
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø25	



Boring bar holder

Product No.	BM38MI2D3501	
Ref. No.	CG73E000	MYA20253GE00
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø25	



Boring bar holder

Product No.	BM38MI2D4501	
Ref. No.	CL73B000	MYA20254LB00
Speed ratio	-	
RPM Max.	-	
Tool clamping	Ø25	

MIYANO

BNC



Turning holder

Product No.	BM38MI2A2005	
Ref. No.	7S780100	MYC900100-R
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Turning holder

Product No.	BM38MI2A2004	
Ref. No.	7S780200	MYC900100
Speed ratio	-	
RPM Max.	-	
Tool clamping	□20	



Axial drilling/milling unit

Product No.	BM38MI1A0102	
Ref. No.	1U783000	BMT3810301605100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	

GANESH

CB Series



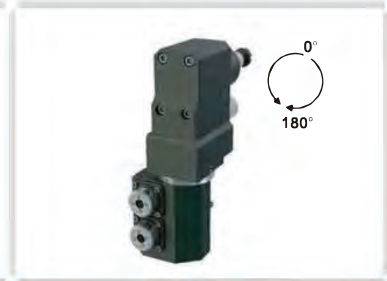
Gear hobbing unit

Product No.	CCBA610301	
Ref. No.	—	CCB130100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	Ø10xØ30x20	



Cross drilling/milling unit, 2-spindle

Product No.	CCBA116301	
Ref. No.	—	CCB162000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



2-spindle drilling/milling unit

Product No.	CCBA2A2301	
Ref. No.	—	CCB491200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11	



4-spindle double drilling/milling unit

Product No.	CCBA2B4301	
Ref. No.	—	CCB562400
Speed ratio	1:2	
RPM Max.	6000	
Tool clamping	ER20M*4/ER16M*4+Ø25*5	



5-spindle double drilling/milling unit

Product No.	CCBA2B5301	
Ref. No.	—	CCB566500
Speed ratio	1:2	
RPM Max.	6000	
Tool clamping	ER16A*5/ER11A*5+Ø25*5	



5-spindle double drilling/milling unit

Product No.	CCBA2B5302	
Ref. No.	—	CCB566500-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A*5/ER11A*5+Ø25*5	



Slotting unit for sub spindle

Product No.	CCBB700301	
Ref. No.	—	CCB730000
Speed ratio	1:0.75	
RPM Max.	3000	
Tool clamping	Ø6/12.7xØ45	



Cross drilling/milling unit for sub spindle

Product No.	CCBB316301	
Ref. No.	—	CCB761000
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER16	



3-spindle drilling/milling unit

Product No.	CCYA2A3501	
Ref. No.	—	CCY463000
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER16M	

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GANESH

CB



Turning holder for sub spindle

Product No.	CCBB912302	
Ref. No.	—	CCB611120
Speed ratio	—	
RPM Max.	—	
Tool clamping	□12	



Turning holder for sub spindle

Product No.	CCBB912301	
Ref. No.	—	CCB62014200-12
Speed ratio	—	
RPM Max.	—	
Tool clamping	□12	



Turning holder for sub spindle

Product No.	CCBB916301	
Ref. No.	—	CCB62014200-16
Speed ratio	—	
RPM Max.	—	
Tool clamping	□16	



Drill holder for sub spindle

Product No.	CCBB81Q302	
Ref. No.	—	CCB64014200-20
Speed ratio	—	
RPM Max.	—	
Tool clamping	ER20A	



Boring bar holder for sub spindle

Product No.	CCBB82Q302	
Ref. No.	—	CCB601120
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø12	



Drill holder for sub spindle

Product No.	CCBB82Q301	
Ref. No.	—	CCB640300
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	

GANESH

Symbology

Internal Coolant/BAR
 Speeder
 Reducer
 Adjustable

GANESH

CT-52YM



Axial drilling/milling unit

Product No.	BM65NK1A0101
Ref. No.	– BMT6510103209200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER32UM




Axial drilling/milling unit  30bar

Product No.	BM65NK1A0102
Ref. No.	– BMT6510113209200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER32UM



Gear hobbing unit 

Product No.	BM65NK1F2221
Ref. No.	– BMT6507221100
Speed ratio	2:1 
RPM Max.	3000
Tool clamping	Ø22.225xØ80x80



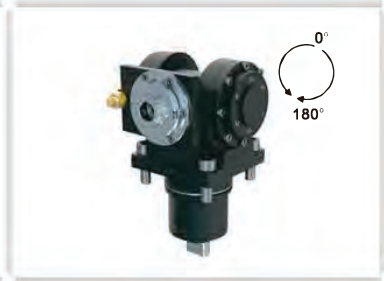
Radial drilling/milling unit

Product No.	BM65NK1B0101
Ref. No.	– BMT6520103209200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER32UM



Radial drilling/milling unit  30bar

Product No.	BM65NK1B0102
Ref. No.	– BMT6520113209200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER32UM



Universal drilling/milling unit 

Product No.	BM65NK1H1801
Ref. No.	– BMT6532102009200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER20

GANESH

Symbology

 Internal Coolant/BAR  Speeder  Reducer  Adjustable

NOMURA

YB Series



	Tool holder		Cross drilling/milling unit		2-spindle drilling/milling unit	
Product No.	NUYA0001		NUYA120201		NUYA2A2301	
Ref. No.	–	NUT160500	–	NUY262100	–	NUN446200
Speed ratio	–		1:1		1:1	
RPM Max.	–		6000		6000	
Tool clamping	–		ER20M		ER16M	

SB Series



	4-spindle drilling/milling unit		Cross drilling/milling unit, 3-spindle		2-spindle drilling/milling unit	
Product No.	NUSA2A4101		NUSA111102		NUSA2A2102	
Ref. No.	–	NUB261300-1	–	NUB261300	–	NUB441200
Speed ratio	1:1		1:1		1:1	
RPM Max.	6000		6000		6000	
Tool clamping	ER11		ER11M		ER11	



	Cross drilling/milling unit, 2-spindle		Cross drilling/milling unit, 3-spindle	
Product No.	NUSA116101		NUSA116102	
Ref. No.	–	NUB266200	–	NUB266300
Speed ratio	1.59:1 ↓		1:1	
RPM Max.	6000		6000	
Tool clamping	ER16M		ER16M	

NOMURA

NOMURA

UB Series



Cross drilling/milling unit



Cross drilling/milling unit



Idler shaft

Product No.	NUUA116204	NUUA116201	NUUA100000
Ref. No.	—	NUU266100	—
Speed ratio	1:1	1:1	—
RPM Max.	6000	6000	—
Tool clamping	ER16M	ER16M	—



3-spindle drilling/milling unit



Non-guide bush device

Product No.	NUUA2A3202	NUU25500
Ref. No.	—	—
Speed ratio	1:1	—
RPM Max.	6000	—
Tool clamping	ER11M	—

Other



3-spindle drilling/milling unit



Cross drilling/milling unit 

Product No.	NUJA2A3201	NUBA108201
Ref. No.	—	—
Speed ratio	1:1	1:1
RPM Max.	6000	6000
Tool clamping	ER11A	ER8M

Symbology

 Internal Coolant/BAR  Speeder  Reducer  Adjustable

NOMURA

Back Processing Static Tool Holder Shaft: Ø22, Ø23



Drill holder for sub spindle

Product No.	NUUB81Q201 / NUUB81Q203
Ref. No.	— NUAB22HBA00
Speed ratio	— NUAB22HCA00
RPM Max.	—
Tool clamping	ER16M



Drill holder for sub spindle

Product No.	NUYB81Q301 / NUYB81Q302
Ref. No.	— NUDA22HBA00
Speed ratio	— NUDA22HCA00
RPM Max.	—
Tool clamping	ER16M



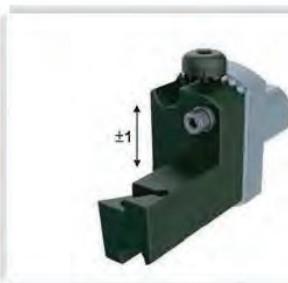
Drill holder for sub spindle (deep hole)

Product No.	NUYB81Q304 / NUYB81Q303
Ref. No.	— NUDA22HBB00
Speed ratio	— NUDA22HCB00
RPM Max.	—
Tool clamping	ER16M




Turning holder for sub spindle

Product No.	NUUB910201 / NUUB910202
Ref. No.	— NUN620100-2
Speed ratio	— NUN620100-3
RPM Max.	—
Tool clamping	□10




Turning holder for sub spindle 

Product No.	NUUBA22000+COMBADL550
Ref. No.	— NUN620100-1
Speed ratio	—
RPM Max.	—
Tool clamping	 DC..11T3



Turning holder for sub spindle 

Product No.	NUUBA22000+COMBADR550
Ref. No.	— NUN620100-6
Speed ratio	—
RPM Max.	—
Tool clamping	 DC.11T3



Turning holder for sub spindle 

Product No.	NUUBA22000+COMBAC1000
Ref. No.	— NUN620100
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Reamer tool holder

Product No.	NUUA0002 / NUUA0003
Ref. No.	— GPN112200
Speed ratio	— GPN112300
RPM Max.	—
Tool clamping	ER11M

NOMURA

Symbology

 Internal Coolant/BAR  Speeder  Reducer  Adjustable

HANWHA

XD20H



Cross drilling/milling unit

Product No.	HWDA116201	
Ref. No.	—	HWX246100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



3-spindle drilling/milling unit

Product No.	HWDA2A3201	
Ref. No.	—	HWX446300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



3-spindle double drilling/milling unit

Product No.	HWDA2B3202	
Ref. No.	—	HWX546300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



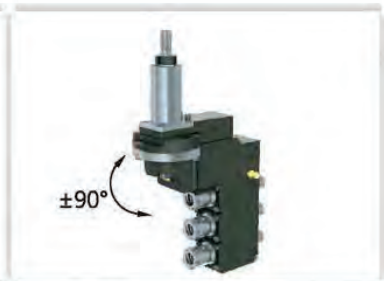
2-spindle drilling/milling unit

Product No.	HWDA2A2203	
Ref. No.	—	HWX491200
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M	



3-spindle drilling/milling unit

Product No.	HWDA2A3202	
Ref. No.	—	HWX496300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M	



3-spindle double drilling/milling unit

Product No.	HWDA2B3204	
Ref. No.	—	HWX596300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16M/ER11M	



Thread whirling unit

Product No.	HWDA545205	
Ref. No.	—	HWX260100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	Utilis no.119287	



Boring bar holder

Product No.	HWDA803201	
Ref. No.	—	HWX140300
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	



Boring bar holder

Product No.	HWDA803202	
Ref. No.	—	HWX140300-1
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø25	

HANWHA

HANWHA

XD20H



Drilling/milling unit for sub spindle

Product No.	HWDB116201	
Ref. No.	—	HWX746100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER16A	



Cross drilling/milling unit for sub spindle

Product No.	HWDB311201	
Ref. No.	—	HWX731100-1
Speed ratio	1:0.55	
RPM Max.	4000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	HWDB311202	
Ref. No.	—	
Speed ratio	1:1	
RPM Max.	4000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	HWDB316202	
Ref. No.	—	HWX736100-1
Speed ratio	1:0.55	
RPM Max.	4000	
Tool clamping	ER16A	



Slotting unit for sub spindle

Product No.	HWDB700201	
Ref. No.	—	HWX730100
Speed ratio	1:0.55	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7/13xØ50	

XD20HII



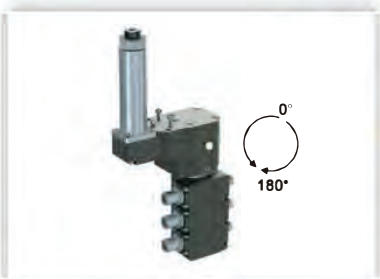
Cross drilling/milling unit

Product No.	HWDA116202	
Ref. No.	—	HWX246100-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16A	



3-spindle double drilling/milling unit

Product No.	HWDA2B3207	
Ref. No.	—	HWX546300-2
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



3-spindle double drilling/milling unit

Product No.	HWDA2B3208	
Ref. No.	—	HWX591300-2
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M/ER8M	

HANWHA

XD32H



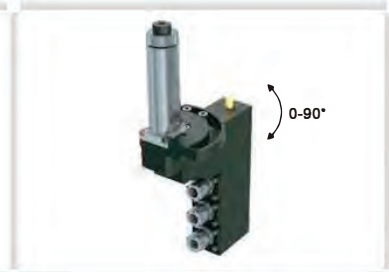
3-spindle drilling/milling unit

Product No.	HWDA2A3302	
Ref. No.	—	HWX446300-32
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



3-spindle double drilling/milling unit

Product No.	HWDA2B3302	
Ref. No.	—	HWX546300-32
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



3-spindle drilling/milling unit ↕

Product No.	HWDA2A3301	
Ref. No.	—	HWX496300-32
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



Cross drilling/milling unit for sub spindle ↕

Product No.	HWDB316301	
Ref. No.	—	HWX736100
Speed ratio	1:0.77 ↓	
RPM Max.	4000	
Tool clamping	ER16A	



Slotting unit for sub spindle ↕

Product No.	HWDB700301	
Ref. No.	—	HWX730100-1
Speed ratio	1:0.77 ↓	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7 / 13xØ60	



Slotting unit for sub spindle ↕

Product No.	HWDB700302	
Ref. No.	—	
Speed ratio	1:0.55 ↓	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7 / 13xØ50	

XD12H



Slotting unit for sub spindle

Product No.	HWDB700101	
Ref. No.	—	HWX731000
Speed ratio	1:0.55 ↓	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7/13xØ50	



Cross drilling/milling unit for sub spindle ↕

Product No.	HWDB311101	
Ref. No.	—	HWX731100
Speed ratio	1:0.55 ↓	
RPM Max.	4000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	HWDB316201	
Ref. No.	—	HWX866100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	

XD20V

HANWHA

Symbology

IC Internal Coolant/BAR ↑ Speeder ↓ Reducer ↕ Adjustable

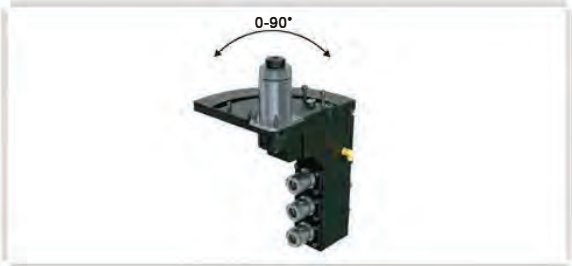
SWISTEK

JSL-32AB/42AB



3-spindle double drilling/milling unit

Product No.	JSSA2B3401
Ref. No.	— JSR546300-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M/ER11M



3-spindle double drilling/milling unit ↕

Product No.	JSSA2B3402
Ref. No.	— JSR596300-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M/ER11M

JSL-42RB/RBY



Thread whirling unit ↕

Product No.	JSSA545401
Ref. No.	— JSAA2L01000
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Utilis no.119287



Slotting unit

Product No.	JSSA712401
Ref. No.	— JSR30100
Speed ratio	1:0.374 ↓
RPM Max.	4000
Tool clamping	Ø12.7xØ100



Slotting unit

Product No.	JSSA725401
Ref. No.	— JSR30100-1
Speed ratio	1:0.374 ↓
RPM Max.	4000
Tool clamping	Ø25.4xØ110



Gear hobbing unit ↕

Product No.	JSSA616401
Ref. No.	— JSR130100
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Ø16xØ40x42



Drilling/milling unit for sub spindle

Product No.	JSSB120401
Ref. No.	— JSR762100
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER20M



Cross drilling/milling unit for sub spindle ↕

Product No.	JSSB316401
Ref. No.	— JSR730100
Speed ratio	1:1
RPM Max.	4000
Tool clamping	ER16A



Cross drilling/milling unit for sub spindle

Product No.	JSSB316403
Ref. No.	— JSR866100-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M

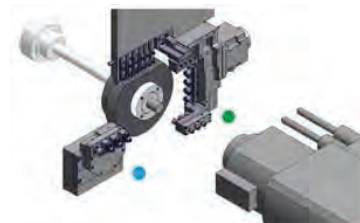


Cross drilling/milling unit for sub spindle

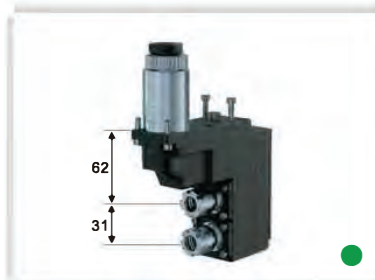
Product No.	JSSB316402
Ref. No.	— JSR866100
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M

SWISTEK

RB, SV, SW

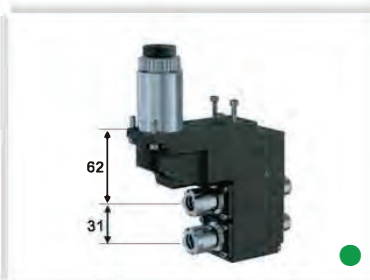


SWISTEK



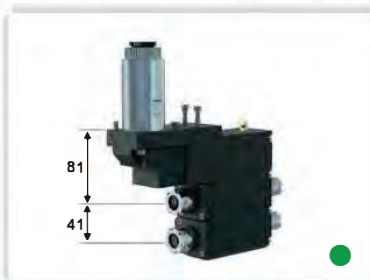
2-spindle drilling/milling unit

Product No.	STRA2A2204	
Ref. No.	54151	STR446200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



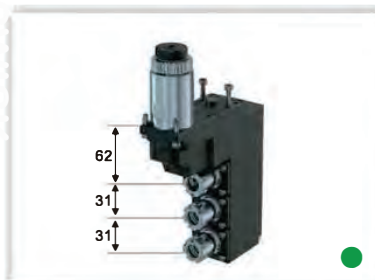
2-spindle double drilling/milling unit

Product No.	STRA2B2202	
Ref. No.	66159	STR546200
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



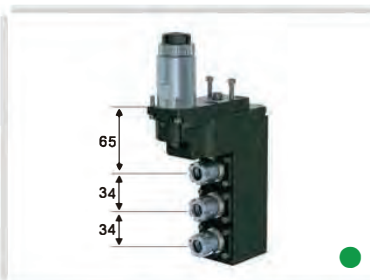
2-spindle double drilling/milling unit

Product No.	STRA2B2302	
Ref. No.	10169	STJA5N22000
Speed ratio	1:1	
RPM Max.	5000	
Tool clamping	ER20M/ER16M	



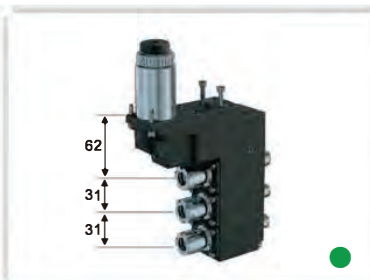
3-spindle drilling/milling unit

Product No.	STRA2A3201	
Ref. No.	66151	STR446300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



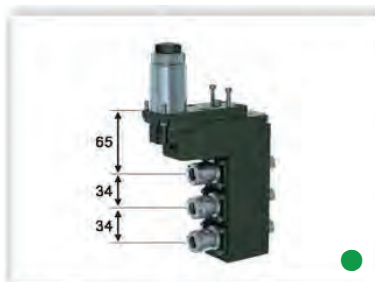
3-spindle drilling/milling unit

Product No.	STRA2A3301	
Ref. No.	67151	STR446300-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



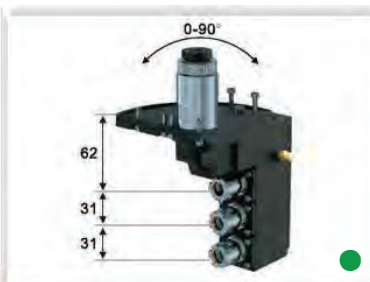
3-spindle double drilling/milling unit

Product No.	STRA2B3201	
Ref. No.	67161	STR546300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



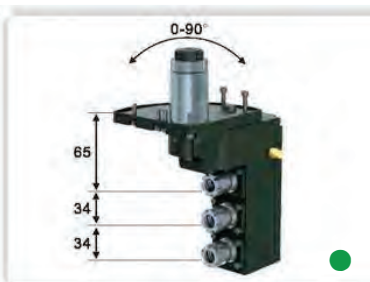
3-spindle double drilling/milling unit

Product No.	STRA2B3301	
Ref. No.	67159	STR546300-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M/ER11M	



3-spindle drilling/milling unit ⚡

Product No.	STRA2A3202	
Ref. No.	—	STR496300
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



3-spindle drilling/milling unit ⚡

Product No.	STRA2A3302	
Ref. No.	—	STR496300-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	

Symbology



Internal Coolant/BAR



Speeder



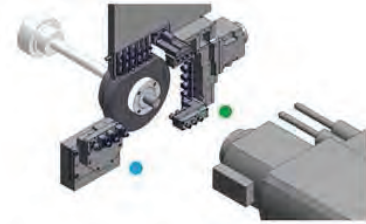
Reducer



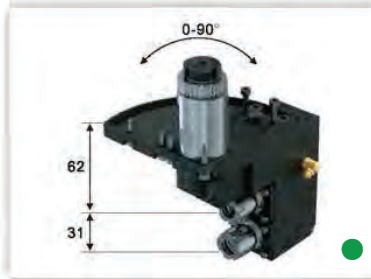
Adjustable

SWISTEK

RB, SV, SW

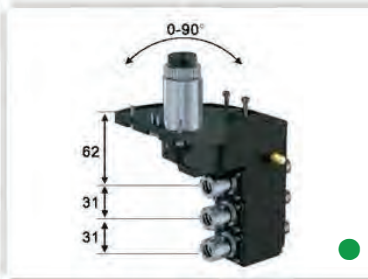


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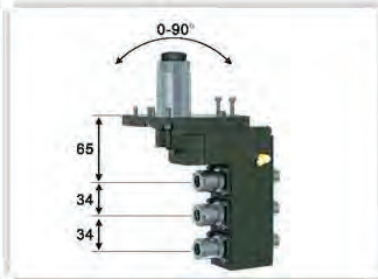
2-spindle drilling/milling unit ⚙️

Product No.	STRA2A2202
Ref. No.	— STR496200
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



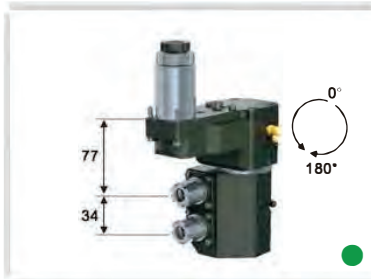
3-spindle double drilling/milling unit ⚙️

Product No.	STRA2B3202
Ref. No.	— STR596300
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M/ER11M



3-spindle double drilling/milling unit ⚙️

Product No.	STRA2B3302
Ref. No.	— STR596300-1
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M/ER11M



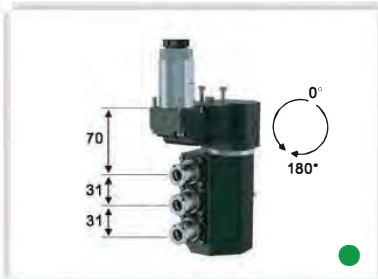
2-spindle drilling/milling unit ⚙️

Product No.	STRA2A2303
Ref. No.	— STR496200-2
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



3-spindle drilling/milling unit ⚙️

Product No.	STRA2A3203
Ref. No.	— STR496300-2
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



3-spindle drilling/milling unit ⚙️

Product No.	STRA2A3207
Ref. No.	— STR496300-5
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16M



Cross drilling/milling unit

Product No.	STRA116202 / STRA120201
Ref. No.	33150 STR161000
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER16M / ER20M



Cross drilling/milling unit

Product No.	STRA116201
Ref. No.	57155 STR166100
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER16M

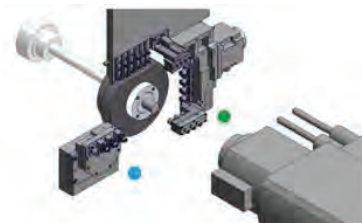


Cross drilling/milling unit

Product No.	STRA111202
Ref. No.	— STR161100
Speed ratio	1:3 ⬆️
RPM Max.	18000
Tool clamping	ER11A

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Cross drilling/milling unit, 3-spindle

Product No.	STRA111201	
Ref. No.	—	STR261300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M	



Slotting unit

Product No.	STRA712201	
Ref. No.	54153	STR301000
Speed ratio	1:0.374 ↓	
RPM Max.	4000	
Tool clamping	Ø12.7xØ50	



Thread whirling unit ⬆

Product No.	STRA545203	
Ref. No.	68172	STR260100N
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	Utilis no.119287	



Polygon unit

Product No.	STRA400201	
Ref. No.	54191	STR150100
Speed ratio	1:1	
RPM Max.	3000	
Tool clamping	—	



Gear hobbing unit ⬆

Product No.	STRA613201	
Ref. No.	—	STR130100
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	Ø13xØ30x20	



Idler shaft

Product No.	STRA100000	
Ref. No.	57189	STR160000
Speed ratio	—	
RPM Max.	—	
Tool clamping	—	



Boring bar holder

Product No.	STRA803307	
Ref. No.	—	STR14036200
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22	



Air tool holder ⬆

Product No.	STRA0002	
Ref. No.	—	STR210300
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22	

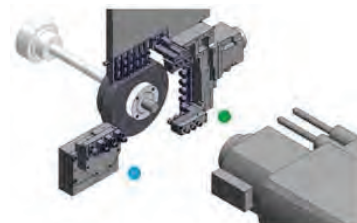


Air tool holder

Product No.	STBA0004	
Ref. No.	—	STB410100
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22	

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SWISTEK



Air tool holder for sub spindle

Product No.	STRB0001	
Ref. No.	—	STR14036200
Speed ratio	—	
RPM Max.	—	
Tool clamping	Ø22.8	



Slotting unit for sub spindle ⚙️

Product No.	STRB700201	
Ref. No.	69166/69165	STR731000
Speed ratio	1:0.55 ⬇️	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7/13xØ50	



Slotting unit for sub spindle ⚙️

Product No.	STRB700202	
Ref. No.	0R165	STR731000-1
Speed ratio	1:0.55 ⬇️	
RPM Max.	4000	
Tool clamping	Ø5/6/8/10/12.7/13xØ50	



Drilling/milling unit for sub spindle

Product No.	STRB111208	
Ref. No.	54161	STR711000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11M	



Drilling/milling unit for sub spindle

Product No.	STRB116202	
Ref. No.	57161	STR761000
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



Drilling/milling unit for sub spindle

Product No.	STRB111204	
Ref. No.	—	STR761200
Speed ratio	1:3 ⬆️	
RPM Max.	18000	
Tool clamping	ER11	



Drilling/milling unit for sub spindle, 3-spindle

Product No.	STRB108101	
Ref. No.	—	STR748400
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER8M	

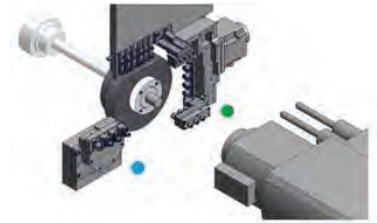


Drilling/milling unit for sub spindle, 3-spindle

Product No.	STRB111201	
Ref. No.	0E151	STR741300
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M	

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RB, SV, SW



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Cross drilling/milling unit for sub spindle

Product No.	STRB311201	
Ref. No.	—	STR731100
Speed ratio	1:0.55	
RPM Max.	4000	
Tool clamping	ER11A	



Cross drilling/milling unit for sub spindle

Product No.	STRB316202	
Ref. No.	—	STR736100
Speed ratio	1:0.77	
RPM Max.	4000	
Tool clamping	ER16A	



Cross drilling/milling unit for sub spindle

Product No.	STRB316201	
Ref. No.	OR151	STR861100-1
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER16M	



Cross drilling/milling unit for sub spindle

Product No.	STRB311101	
Ref. No.	—	STR861100-3
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11	



Cross drilling/milling unit for sub spindle

Product No.	STRB311204	
Ref. No.	—	STR861100-2
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11	



Cross drilling/milling unit for sub spindle

Product No.	STRB311301	
Ref. No.	—	STR861100-5
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11	



Cross drilling/milling unit for sub spindle

Product No.	STRB311203	
Ref. No.	0E152	STR861100
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11M	



Cross drilling/milling unit for sub spindle

Product No.	STRB311202	
Ref. No.	—	STR861100-4
Speed ratio	1:1	
RPM Max.	6000	
Tool clamping	ER11	

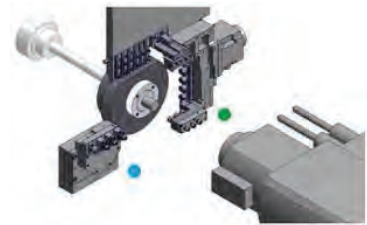


Drilling/milling unit for sub spindle

Product No.	STRB111203	
Ref. No.	—	STR741300-1
Speed ratio	1:1	
RPM Max.	8000	
Tool clamping	ER11	

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Drill holder for sub spindle

Product No.	STRB81Q309
Ref. No.	— STR646100-1
Speed ratio	—
RPM Max.	—
Tool clamping	ER16M



Drill holder for sub spindle

Product No.	STRB81Q307
Ref. No.	54121 STR646100-5
Speed ratio	—
RPM Max.	—
Tool clamping	ER16M



Drill holder for sub spindle ^{IC} 25bar

Product No.	STRB81Q304
Ref. No.	— STR646100-2
Speed ratio	—
RPM Max.	—
Tool clamping	ER16M



Drill holder for sub spindle

Product No.	STRB81Q305
Ref. No.	— STR642100
Speed ratio	—
RPM Max.	—
Tool clamping	ER20M



Drill holder for sub spindle

Product No.	STRB81Q313
Ref. No.	67122 STR642100-3
Speed ratio	—
RPM Max.	—
Tool clamping	ER20M



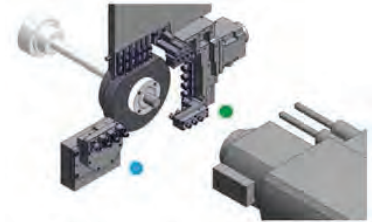
Drill holder for sub spindle ^{IC} 25bar

Product No.	STRB81Q303
Ref. No.	— STR642100-1
Speed ratio	—
RPM Max.	—
Tool clamping	ER20M

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SWISTEK

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Drill holder for sub spindle

Product No.	STRB81Q101
Ref. No.	69125 STR64110010J
Speed ratio	—
RPM Max.	—
Tool clamping	ER11M



Drill holder for sub spindle

Product No.	STRB81Q201
Ref. No.	— STR64110020R
Speed ratio	—
RPM Max.	—
Tool clamping	ER11M



※ER drill holder not included

Drill holder for sub spindle

Product No.	STRB82Q201
Ref. No.	— STJ640100
Speed ratio	—
RPM Max.	—
Tool clamping	Ø16



※ER drill holder not included

Drill holder for sub spindle

Product No.	STRB82Q202
Ref. No.	— STJ640200
Speed ratio	—
RPM Max.	—
Tool clamping	Ø16



Boring bar holder for sub spindle

Product No.	STRB82Q200
Ref. No.	— STR601000
Speed ratio	—
RPM Max.	—
Tool clamping	Ø3/4/5/6/8/9/10/12/16



Boring bar holder for sub spindle ↕

Product No.	STRBA22000+COMBAB0000
Ref. No.	— STR601200
Speed ratio	—
RPM Max.	—
Tool clamping	Ø3/4/5/6/8/9/10/12/16

Symbology



Internal Coolant/BAR



Speeder



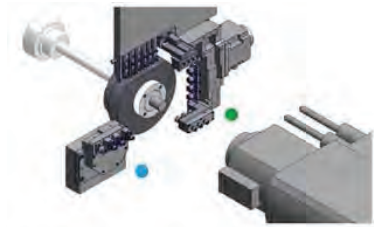
Reducer



Adjustable

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RB, SV, SW



SWISTEK



Turning holder for sub spindle

Product No.	↑ STRBA22000+COMB ADL550
Ref. No.	— STR620100-1
Speed ratio	—
RPM Max.	—
Tool clamping	⊙/ DC.T11T3



Turning holder for sub spindle ↑

Product No.	↑ STRBA22000+COMBADR550
Ref. No.	— STR620100-6
Speed ratio	—
RPM Max.	—
Tool clamping	⊙/ DC.T11T3



Turning holder for sub spindle ↑

Product No.	↑ STRBA22000+COMBADL350
Ref. No.	— STR620100-7
Speed ratio	—
RPM Max.	—
Tool clamping	⊙/ VC.T1103



Turning holder for sub spindle

Product No.	STRB912201
Ref. No.	— STR620100-3
Speed ratio	—
RPM Max.	—
Tool clamping	∅12



Turning holder for sub spindle ↑

Product No.	↑ STRBA22000+COMBAC1000
Ref. No.	— STR620100-2
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Turning holder for sub spindle

Product No.	STRB910201
Ref. No.	— STR620100
Speed ratio	—
RPM Max.	—
Tool clamping	□10



Turning holder for sub spindle

Product No.	STRB912203
Ref. No.	— STR62011200
Speed ratio	—
RPM Max.	—
Tool clamping	□12



Turning holder for sub spindle

Product No.	STRB912204
Ref. No.	— STR62011200-1
Speed ratio	—
RPM Max.	—
Tool clamping	□12

DOOSAN

BMT-55



Axial drilling/milling unit

Product No.	BM55DS1A0101
Ref. No.	— BMT5510102510400
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER25UM



Radial drilling/milling unit

Product No.	BM55DS1B0102
Ref. No.	— BMT5520102510400
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER25UM



Turning holder (cut-off)

Product No.	BM55DS2A2501
Ref. No.	— BMT5500A11A00
Speed ratio	—
RPM Max.	—
Tool clamping	□25



Turning holder

Product No.	BM55DS2A2503
Ref. No.	— BMT5500A21A00
Speed ratio	—
RPM Max.	—
Tool clamping	□25



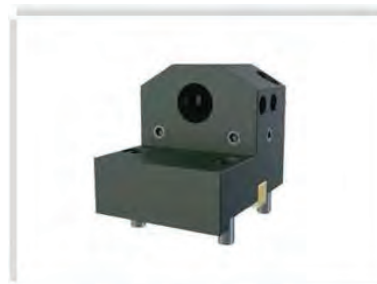
Turning holder

Product No.	BM55DS2A2502
Ref. No.	— BMT5500C21A00
Speed ratio	—
RPM Max.	—
Tool clamping	□25



Boring bar holder

Product No.	BM55DS2D1501
Ref. No.	— BMT5560C41A00
Speed ratio	—
RPM Max.	—
Tool clamping	Ø25



Boring bar holder

Product No.	BM55DS2D1502
Ref. No.	— BMT5560C41B00
Speed ratio	—
RPM Max.	—
Tool clamping	Ø25

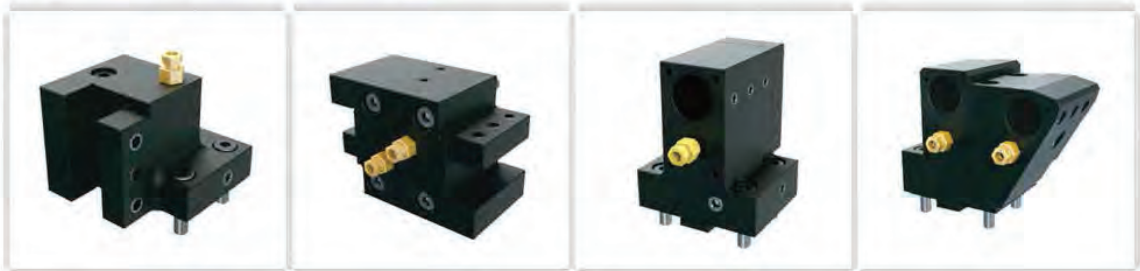
NAKAMURA

WT-150, AS-200 (BMT-55)



	Axial drilling/milling unit	Radial drilling/milling unit	Turning holder (cut-off)
Product No.	BM55NK1A0101	BM55NK1B0101	BM55NK2A2001
Ref. No.	– BMT5510102510800	– BMT5520102510800	– NKAA00BB11A00
Speed ratio	1:1	1:1	–
RPM Max.	6000	6000	–
Tool clamping	ER25UM	ER25UM	□25

WT-100, WY-100 (BMT-44)



	Turning holder	Turning holder	Boring bar holder	Boring bar holder
Product No.	BM44NK2A2001	BM44NK2B2001	BM44NK2D1501	BM44NK2D2501
Ref. No.	–	–	–	–
Speed ratio	–	–	–	–
RPM Max.	–	–	–	–
Tool clamping	□20	□20	Ø25	Ø25

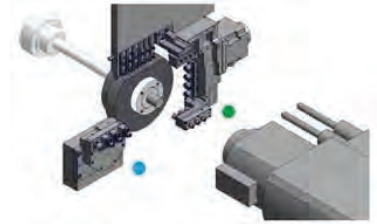
NAKAMURA

Symbology

 Internal Coolant/BAR
  Speeder
  Reducer
  Adjustable

NEXTURN

SA20D/SA32D



NEXTURN



Cross drilling/milling unit

Product No.	NTA246100
Ref. No.	-
Speed ratio	1:1
RPM Max.	6000
Tool clamping	ER16A



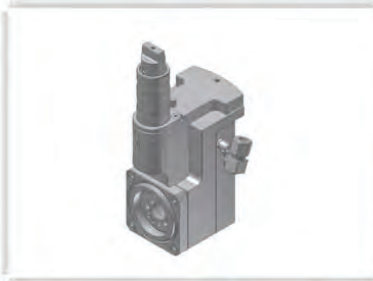
1 spindle drilling/milling unit

Product No.	NTA566100
Ref. No.	-
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Front: ER16 Back: ER11M



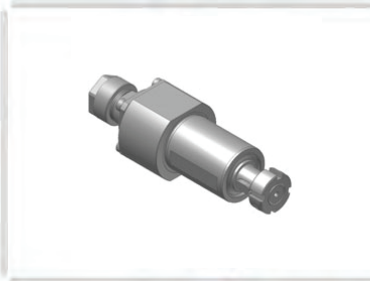
3 spindle drilling/milling unit

Product No.	NTA566300
Ref. No.	-
Speed ratio	1:1
RPM Max.	6000
Tool clamping	Front: ER16M Back: ER11M



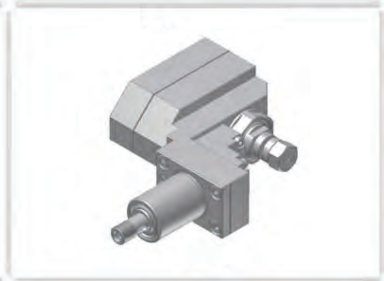
Thread Whirling Unit

Product No.	NTA260100
Ref. No.	-
Speed ratio	1:1
RPM Max.	6000
Tool clamping	-
	Thread(Max): M12
	Helix Angle: ±20°



Drilling/Milling Unit (SA20D Back Post)

Product No.	NTA741100
Ref. No.	-
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER11A



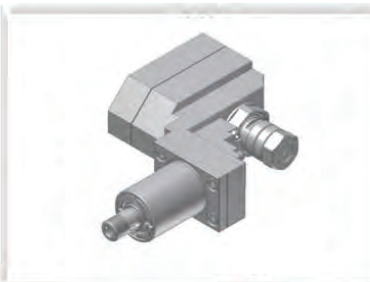
Slotting Unit (SA20D Back Post)

Product No.	NTA730100-20
Ref. No.	-
Speed ratio	1:0.55
RPM Max.	4000
Tool clamping	-
	Saw OD(Max):Ø50 mm
	Saw Arbor Shank:Ø28.0 mm



Drilling/Milling Unit (SA32D Back Post)

Product No.	NTA746100
Ref. No.	-
Speed ratio	1:1
RPM Max.	8000
Tool clamping	ER16A



Slotting Unit (SA32D Back Post)

Product No.	NTA730100-32
Ref. No.	-
Speed ratio	1:0.55
RPM Max.	4000
Tool clamping	-
	Saw OD(Max):Ø50 mm
	Saw Arbor Shank:Ø12.0 mm 12.7 13.00

Symbology

Internal Coolant/BAR
 Speeder
 Reducer
 Adjustable







