

HOWEVER YOU ROLL THE DICE,

our Full Material Solutions
will cover ALL your needs!



tungaloy.com
ntkcuttingtools.com

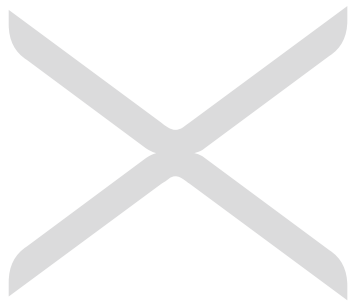


Welcome to the Powerhouse of Precision: Tungaloy + NTK Highlights!

Unveil the epitome of innovation and expertise. Tungaloy and NTK, a dynamic alliance, form a powerhouse that goes beyond expectations. Together, we redefine the landscape as a comprehensive full material supplier, offering solutions tailored to every material type.

At the core of our excellence lies cutting-edge manufacturing for PVD, CVD, CBN, PCD, Ceramics, and Cermet inserts, covering all machining needs. This union is not just arithmetic; it's an equation where $1+1>2$, showcasing that the whole is truly greater than the sum of its parts.

*However you roll the dice,
our full material solutions will
cover all your needs!*



GRADES - 6

CVD grades

T9200 series

T6200 series

T500 series

PVD grades

AH6200 series

AH9130

AH3225

Miniature Machining

AH7025

SH7025

NTK650

ST4

DM4/DT4

ZM3/TM4



CBN grades

BXA10

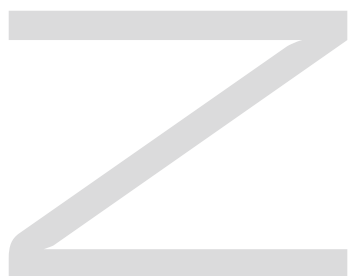
BXA20

BR35F

PCD grades

PD1/PD2

DX110 / DX160 / DX200



CERAMICS grades

JX3/JX1

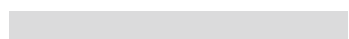
SX3/SX9/SX5/SX7

SX6/SP9

HC1/HC2/HC6

CERMET grades

NS9530/GT9530/AT9530



TURNING - 24

AddMultiTurn
Y-axis Turning Solutions
BoreMeister
ModuMiniTurn
MultiFunctional Tools
TinyMini-Turn
Thread Whirling
ShaperDuo
The Front Max
TMV Chipbreaker
ACH

GROOVING - 46

AddForceCut
AddInternalCut
MiniVLockGroove
DuoForceCut
TinyInternalCut
FaceMiniCut
TungShortCut

MILLING - 60

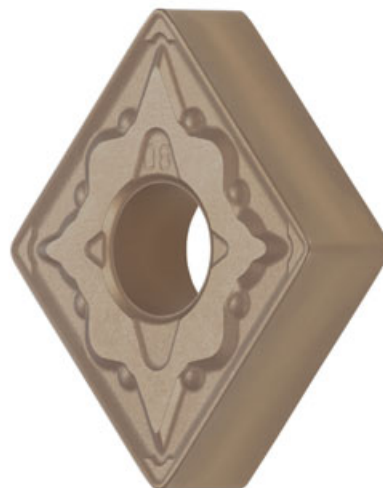
HighFeed Milling
TungForce-Rec
TungMeister
DoMultiRec
ExtendedForceMill
JRF Cutter
Ceramatic

HOLE MAKING - 74

Head Exchangeable drills
Modular DrillMeister series
DeepTriDrill
ReamMeister



CVD GRADES

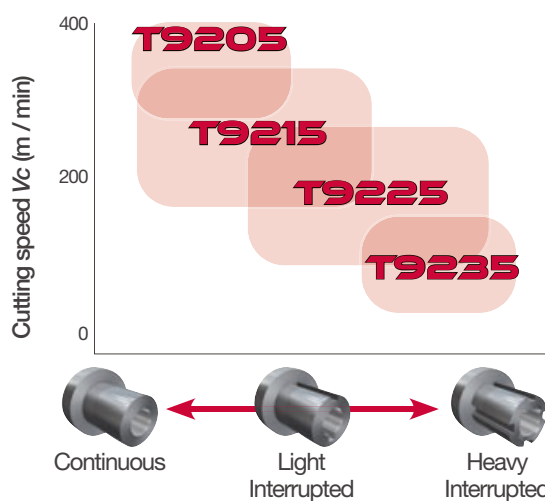


T9200 P M K

CVD grade series with outstanding productivity, especially for steel turning

Nearly unbreakable CVD series for improved machining efficiency

APPLICATION AREA **P**





T6200 **M**

Highly reliable CVD grade **series** for high-speed stainless steel turning

Complete grade line up for stainless steel turning

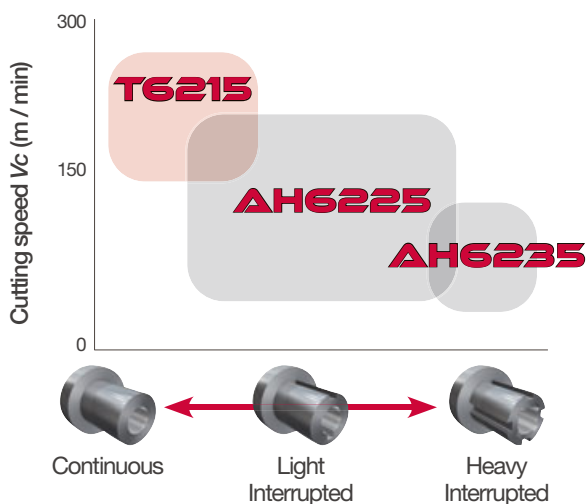


T500 **K**

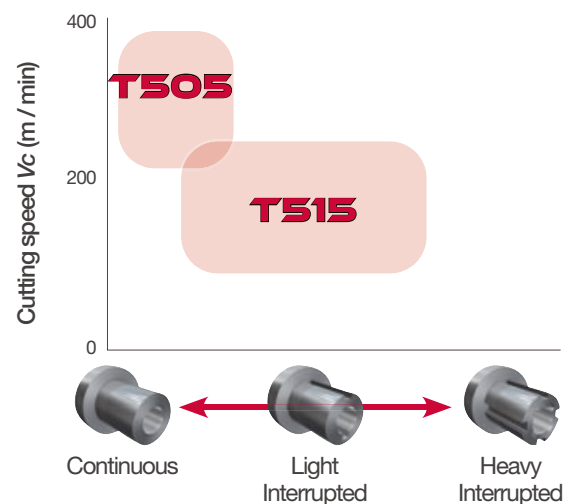
Most optimal CVD grade **series** for high speed machining of cast iron

The thickest coating layer of all Tungaloy's CVD grades ever

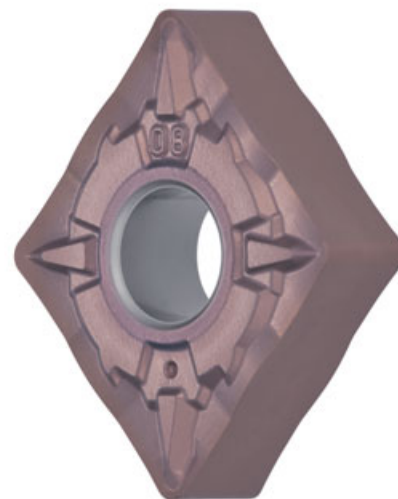
APPLICATION AREA **M**



APPLICATION AREA **K**



PVD GRADES

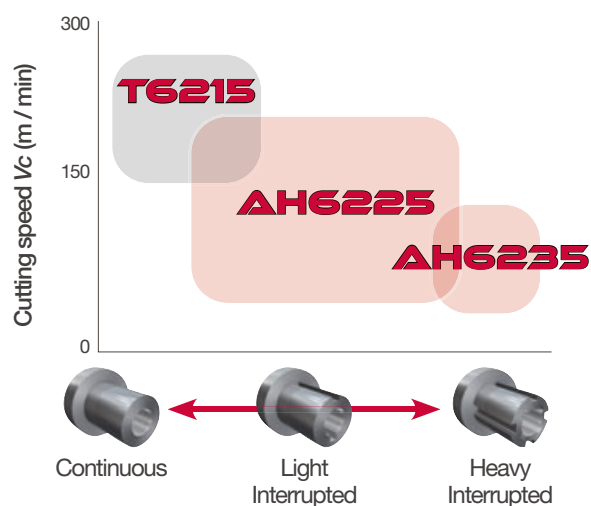


AH6200 **M**

Highly reliable PVD grade series for light and heavy interrupted stainless steel turning

Complete grade lineup for stainless steel turning

APPLICATION AREA **M**





DMC drilling head for DrillMeister

AH9130

The latest PVD grade developed specifically for hole making applications

A good combination of wear and fracture resistance enhances the grade's tool life and wear prediction.



LNMU insert for AddDoFeed

AH3225

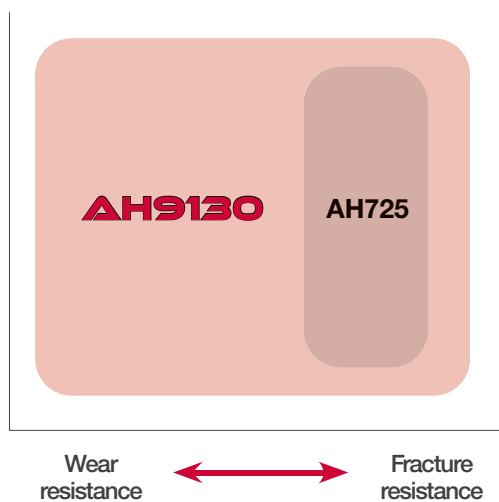
P M

A highly reliable PVD grade for milling operations

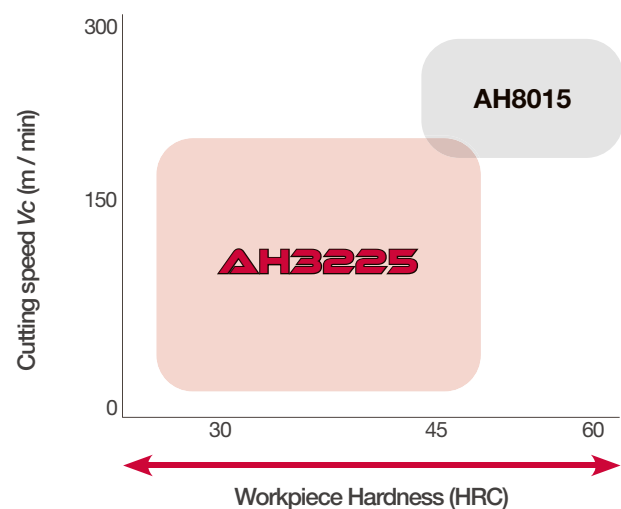
Eliminates coating delamination and micro edge-chipping while impeding the progression of normal flank wear, providing long and predictable tool life in steel milling operations.

APPLICATION AREA

P
M
K
S
H



APPLICATION AREA



PVD GRADES MINIATURE



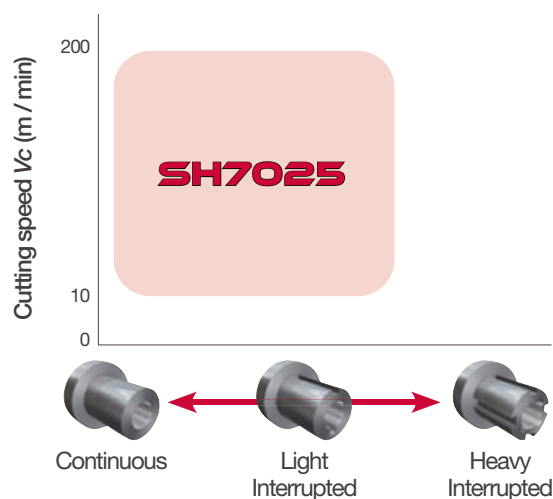
SH7025

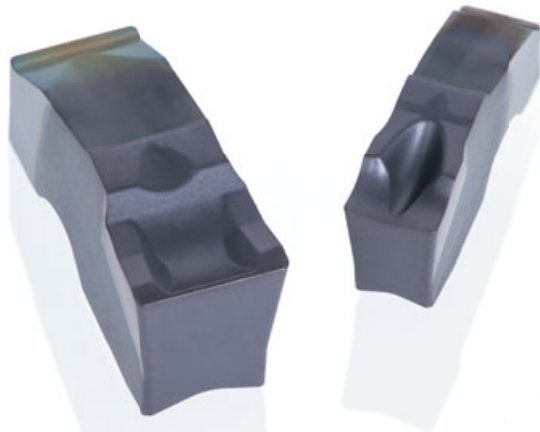
P M

Superior surface quality in small part machining is achieved with a unique columnar-structured TiCN coating and multilayered TiAlN coating

Superior surface quality and process security in small part machining

APPLICATION AREA





QGM / QGS inserts for AddForceCut

AH7025



Dedicated PVD grade for grooving applications featuring a good balance of wear and chipping resistance.

AH7025 uses the world's first coating technology of a nano-scale multi-layered AlTiN PVD coating with high Al content.



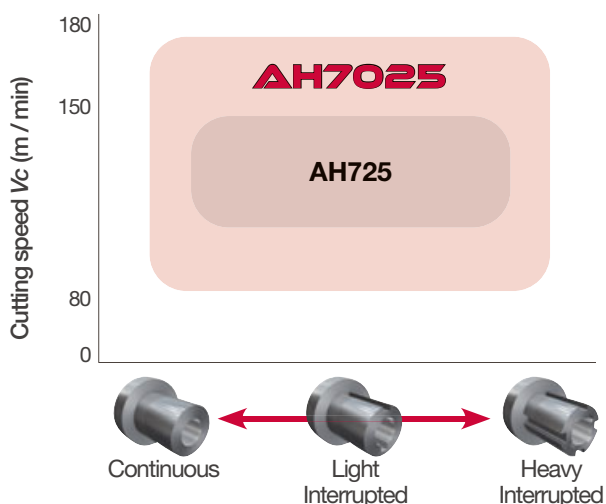
ZM3/TM4



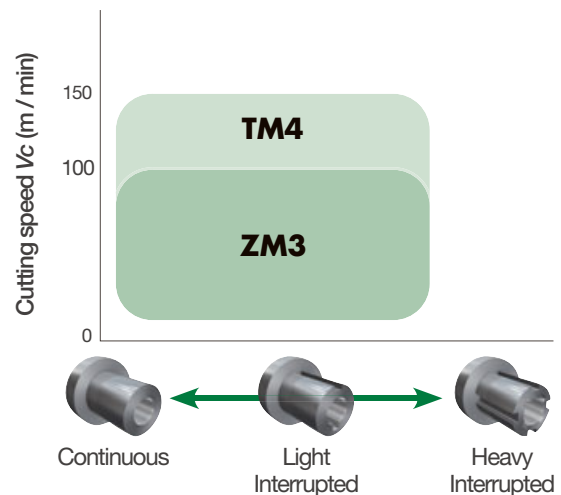
General-purpose PVD grades suitable for a wide range of machining applications on Swiss lathes

Featuring both excellent adhesion and wear resistance

APPLICATION AREA



APPLICATION AREA



PVD GRADES MINIATURE

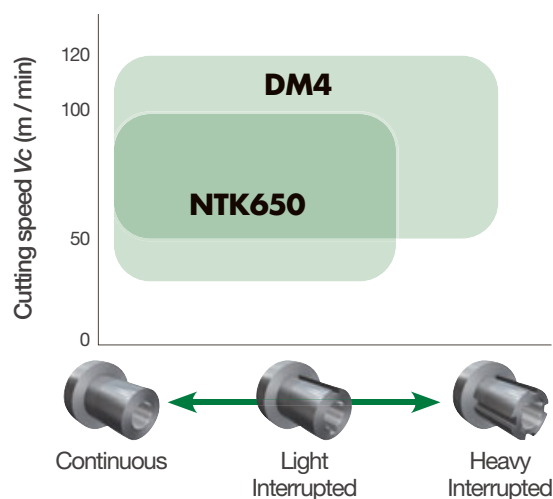


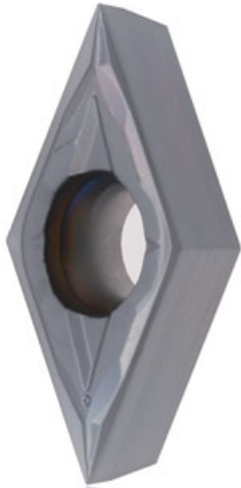
NTK650 S

Outstanding productive PVD grades for machining Ni based components

Latest HiPIMS coating technology for Improvement of surface-smoothness and suppression of imperfections in film

APPLICATION AREA S





ST4 **M**

Dedicated PVD grade for stainless steel machining with high hardness and oxidation resistance

Outstanding tool life with efficient machining of difficult to cut stainless steels and steels

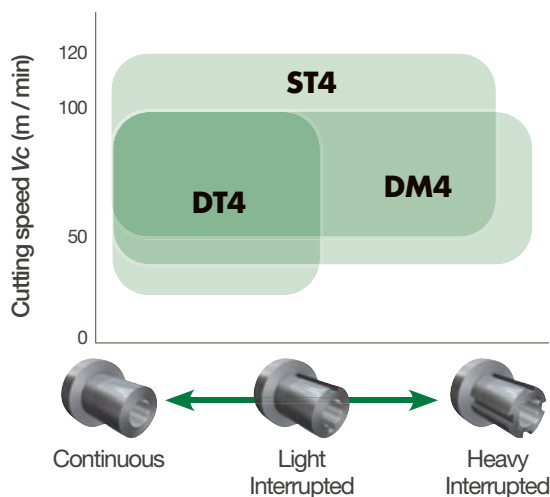


DM4/DT4 **M S**

High productive PVD grades for heat resistant alloys and titanium alloys

Featuring an unparalleled stable machining even during high temperature machining conditions

APPLICATION AREA **M**



CBN GRADES

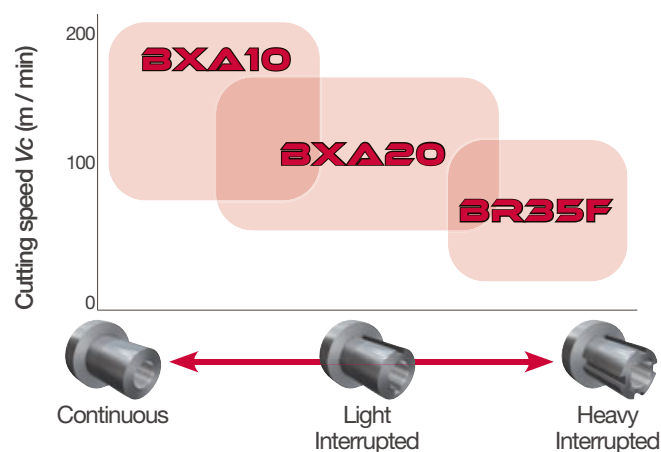


BXA10 **H**

CBN Grade for continuous
hardened steel turning

Incredible reliability with excellent wear resistance

APPLICATION AREA **H**

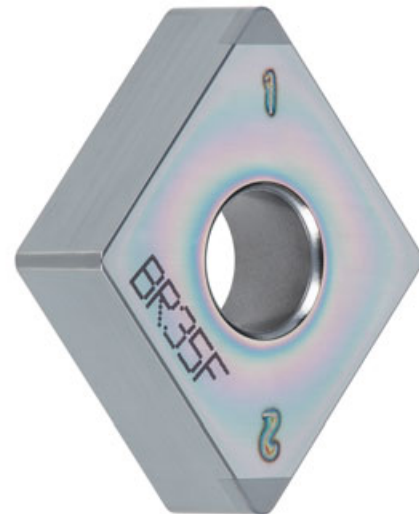




BXA20 H

Versatile **CBN** grade for continuous to light interrupted hardened steel turning

Enables stable machining at low to medium cutting speed



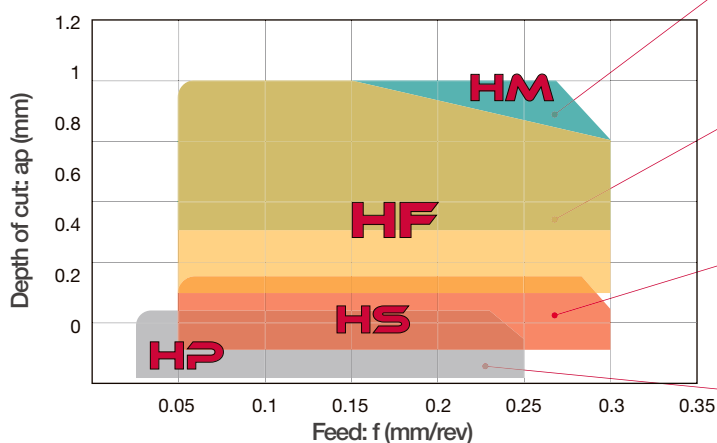
BR35F H

Efficient **CBN** grade for heavy interrupted hardened steel turning

Incredible reliability with high fracture resistance

HARDBREAKER SERIES

CBN chipbreaker series for hardened steel



For removal of carburized layer

Breaker shape with excellent chipping resistance in deep cuts



For removal of carburized layer

- Reliable chip restraint over a wide cutting area
- Breaker shape for low cutting resistance and crater wear



For high feed finishing

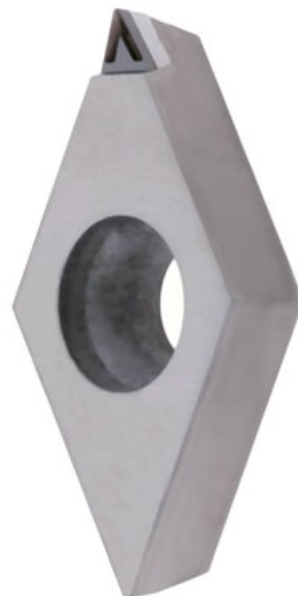
- Breaker shape for excellent chip control
- Edge prep to prevent catastrophic failure



For precision finishing

Breaker shape suitable for precision finishing

PCD GRADES

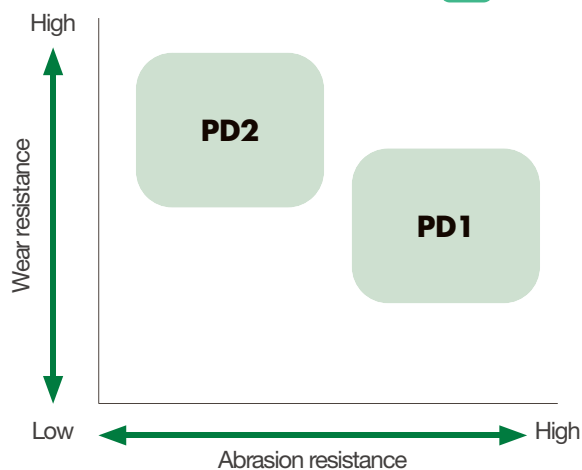


PD1/ PD2 **N**

Excellent durable PCD grades with sharp cutting edge and increased chipping resistance for higher performance

3D chipbreaker selection exhibiting increased sharpness and excellent adhesion resistance

APPLICATION AREA **N**





DX110 N

An extremely wear-resistant PCD grade, suitable for finishing aluminum and copper alloys

featuring strongly-bonded diamond grains that prevents the grains from breaking off during machining

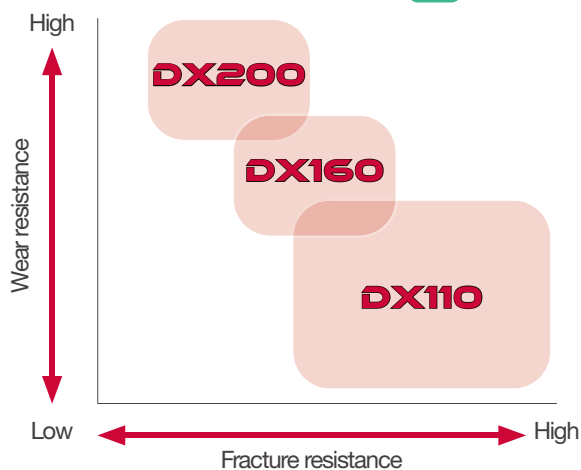


DX200 N

100% diamond grade perfect for machining tungsten carbide and other superhard non-ferrous metals

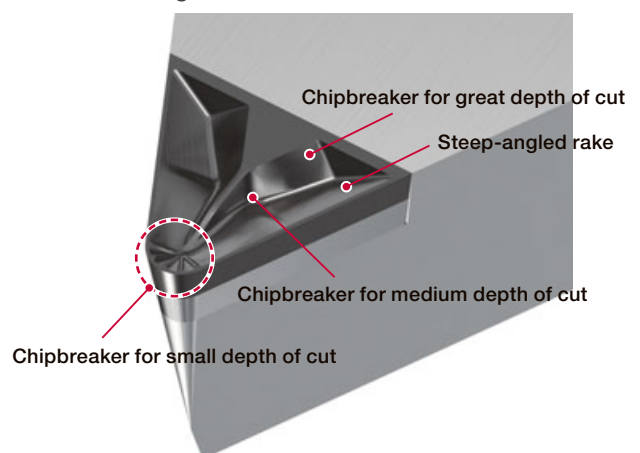
Featuring a sharp cutting edge that provides excellent surface finish

APPLICATION AREA N



NS Chipbreaker

PCD inserts with **3D chipbreaker** for excellent chip control, suitable for both roughing and finishing operations. Available for **DX110** and **DX160** grade series



CERAMICS GRADES

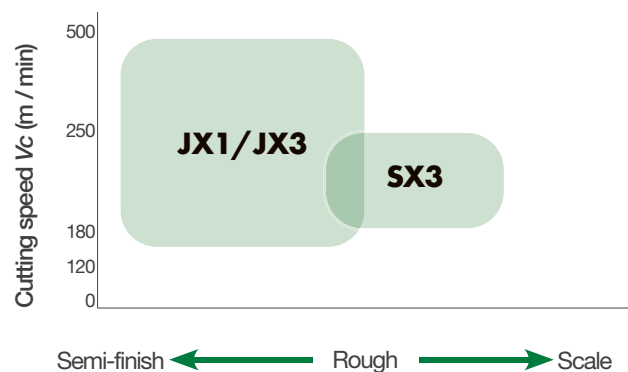
JX1/JX3 **S**

BIDEMICS Line a **NEW ERA** of turning for Heat resistant alloys with ultra-high productivity

Roughing to semi-finishing of heat resistant alloys with higher quality and longer tool life than whisker ceramics

APPLICATION AREA **S**

TURNING - WET

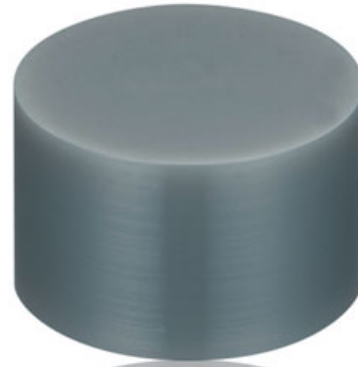




SX3 S

First recommendation for heat resistant alloys machining for **high-speed turning and milling with stable performance**

Machines wide range of conditions in materials from the commonly used heat resistant alloys like Inconel 718 to the newer generation of materials like Rene



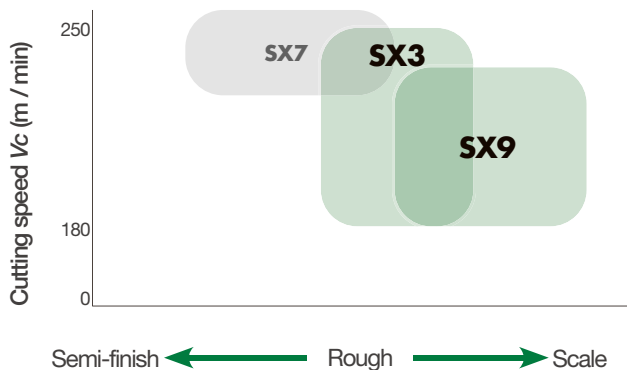
SX9 S

Excellent Ceramic grade featuring **superb notch and flank wear resistant**

Best grade for roughing heat resistant alloys like Inconel 718 with scale

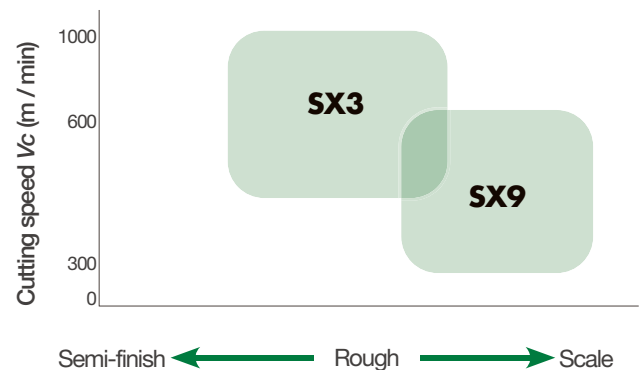
APPLICATION AREA S

TURNING - WET

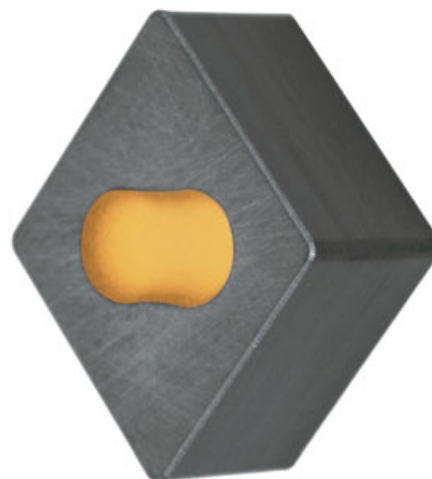


APPLICATION AREA S

MILLING - DRY



CERAMICS GRADES

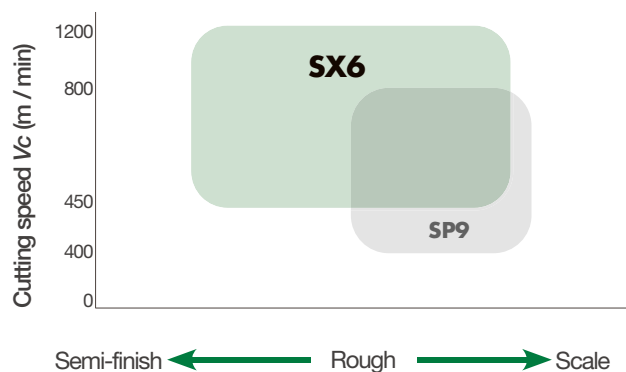


SX6 **K**

First recommendation for **rough turning and milling cast iron**

Ceramic grades series with outstanding boundary wear resistance and thermal shock resistance

APPLICATION AREA **K** Cast Iron
Ductile Cast Iron

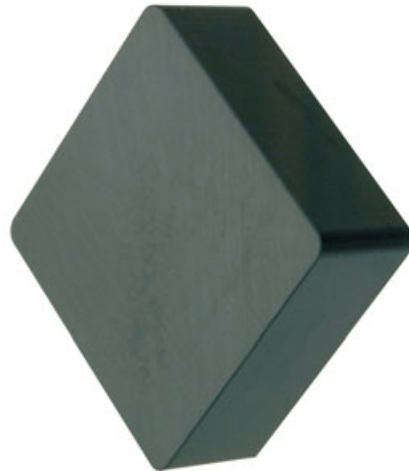




HC1/HW2 **K**

Unparalleled ceramic series for finishing gray cast iron

High-speed performance is achievable with the thermally and chemically stable alumina ceramic blend

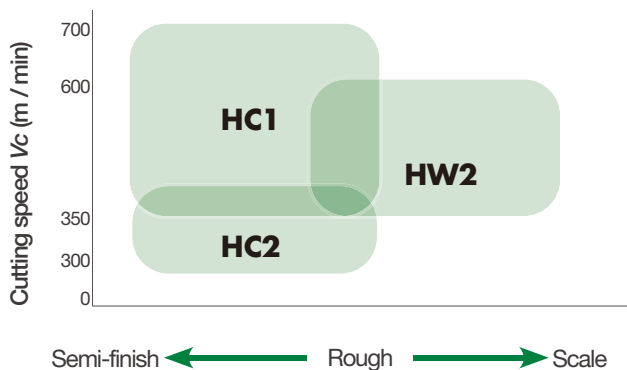


HC2 **K**

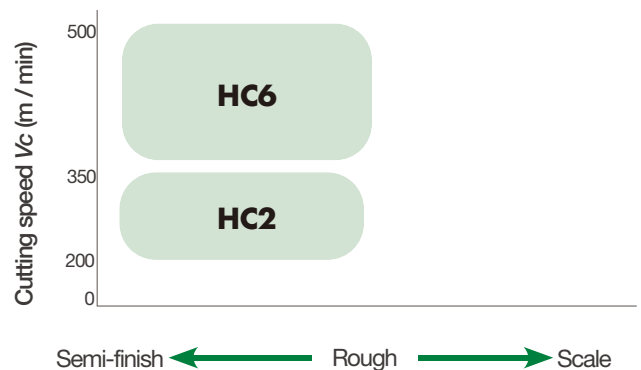
Multi-purpose grade capable of machining gray cast iron and ductile cast iron

Excellent quality for finish application and to be compatible with wet condition

APPLICATION AREA **K** Cast Iron DRY



APPLICATION AREA **K** Ductile Cast Iron WET



CER MET GRADES



NS9530

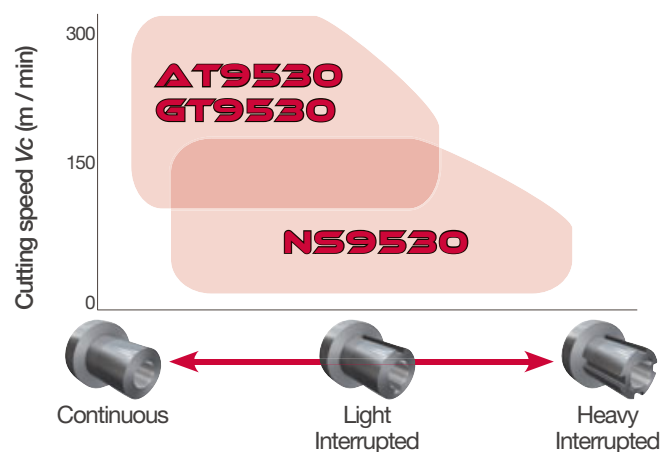
P

Versatile cermet grade with
incredible fracture and wear
resistance

Provides long tool life and excellent surface
appearance in finishing to medium cutting of
steels.

APPLICATION AREA

P





GT9530



Coated cermet grade with **premium coating** demonstrates exceptional **wear resistance**

Provides remarkable performance in finishing of steels during high speed machining.



AT9530

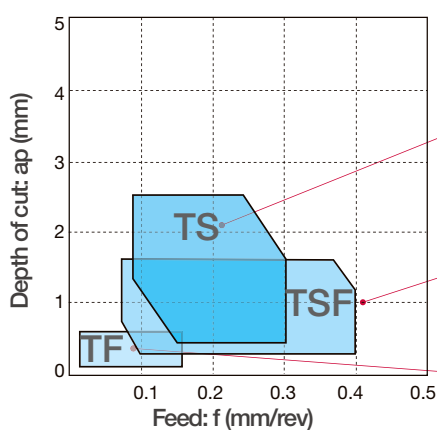


Coated cermet grade with **excellent wear resistance** in high-speed finishing

The 1st recommendation for machining alloy steel due to its outstanding wear resistance.

Cermet basic chipbreaker series for steel

NEGATIVE TYPE INSERTS



For precision finishing

The sharp cutting edge and raised projection near the corner contribute to excellent chip control at very small depths of cut and low feeds.



For finishing

The dimple structure decreases the contact area between the insert surface and chips, resulting in significant reduction of heat occurrence.



For finishing to medium cutting

The sharp cutting edge allows excellent chip control when machining shaft type components.

ADD^{ULTI}M^{TURN}

THE ULTIMATE TOOL FOR MULTIPLICITY



*Front Turning, Back Turning, Profiling,
and Face Turning, with **ONE SINGLE TOOL***



6C-TOMG 80° NEGATIVE INSERT 6 CUTTING EDGES

Unique concave-convex shape on the bottom of the insert provides outstanding clamping rigidity and securely locks the insert in place ensuring tool reliability when turning in any direction.

Cutting edge with a low approach angle allows high feed machining.

Also effective for removing burrs.

The positive triangular insert features 86° nose angle for enhanced cutting edge robustness.

The positive triangular insert has integrated wipers, which provide high surface finish quality at significantly increased feed rate.

Two types of double-sided negative inserts are available with 80° or 35° nose angles.

AddMultiTurn can combine multiple processes in a single operation, maximizing machine utilization and productivity.



6V-TOMG 35° NEGATIVE INSERT 6 CUTTING EDGES



3C-TCMT 86° POSITIVE INSERT 3 CUTTING EDGES

video

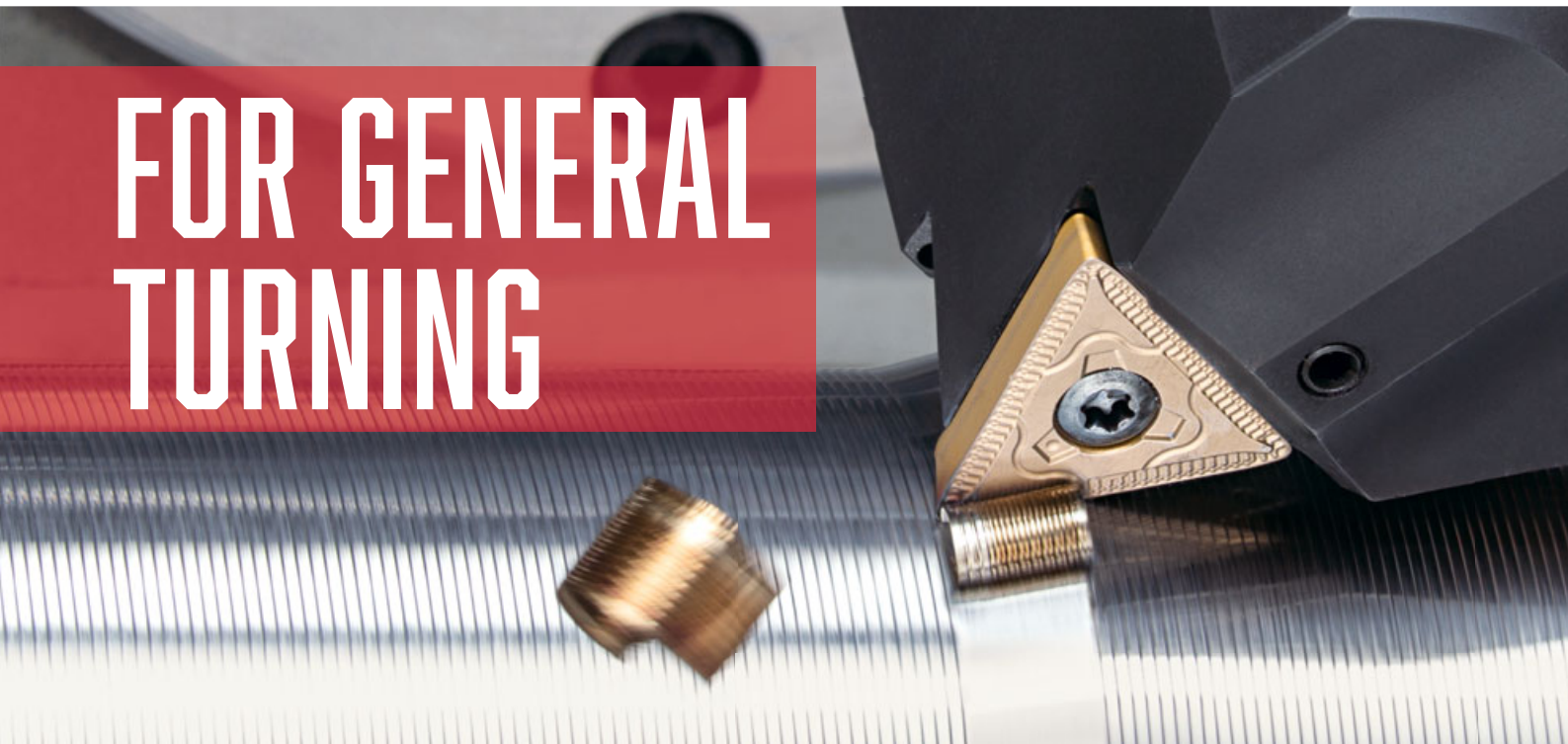


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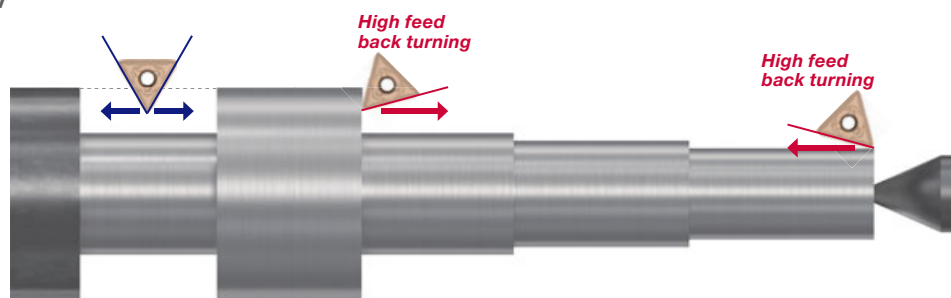
ADDY^{AXIS}TURN

**FOR GENERAL
TURNING**



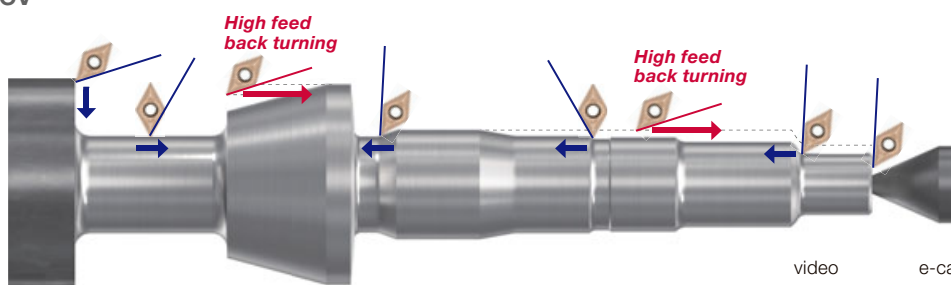
TCMT type

Single sided, 3 cutting edges
Max feed rate: 2 mm/rev



DCMT type

Single sided, 2 cutting edges
Max feed rate: 1.2 mm/rev



video



e-catalog



Y-AXIS TOOL HOLDER SERIES

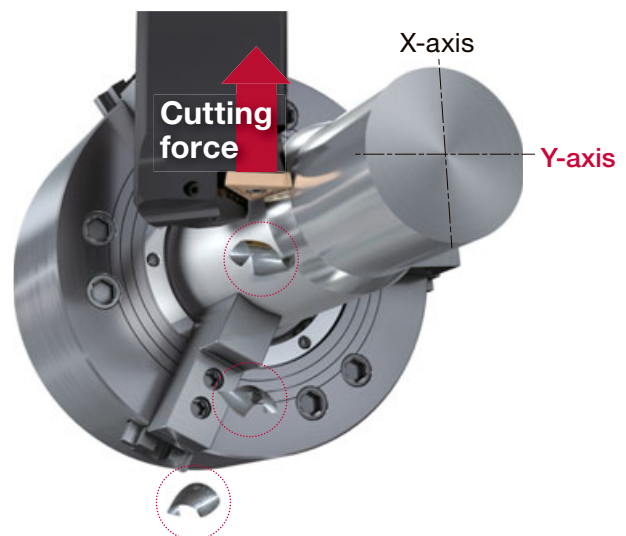
FOR SWISS TYPE MACHINES

A turning point to increase your productivity

By using the Y-axis instead of the conventional X-axis the tool can direct the cutting force in the longitudinal axis of the holder, the strongest part of the tool. This provides more security during the cutting process.

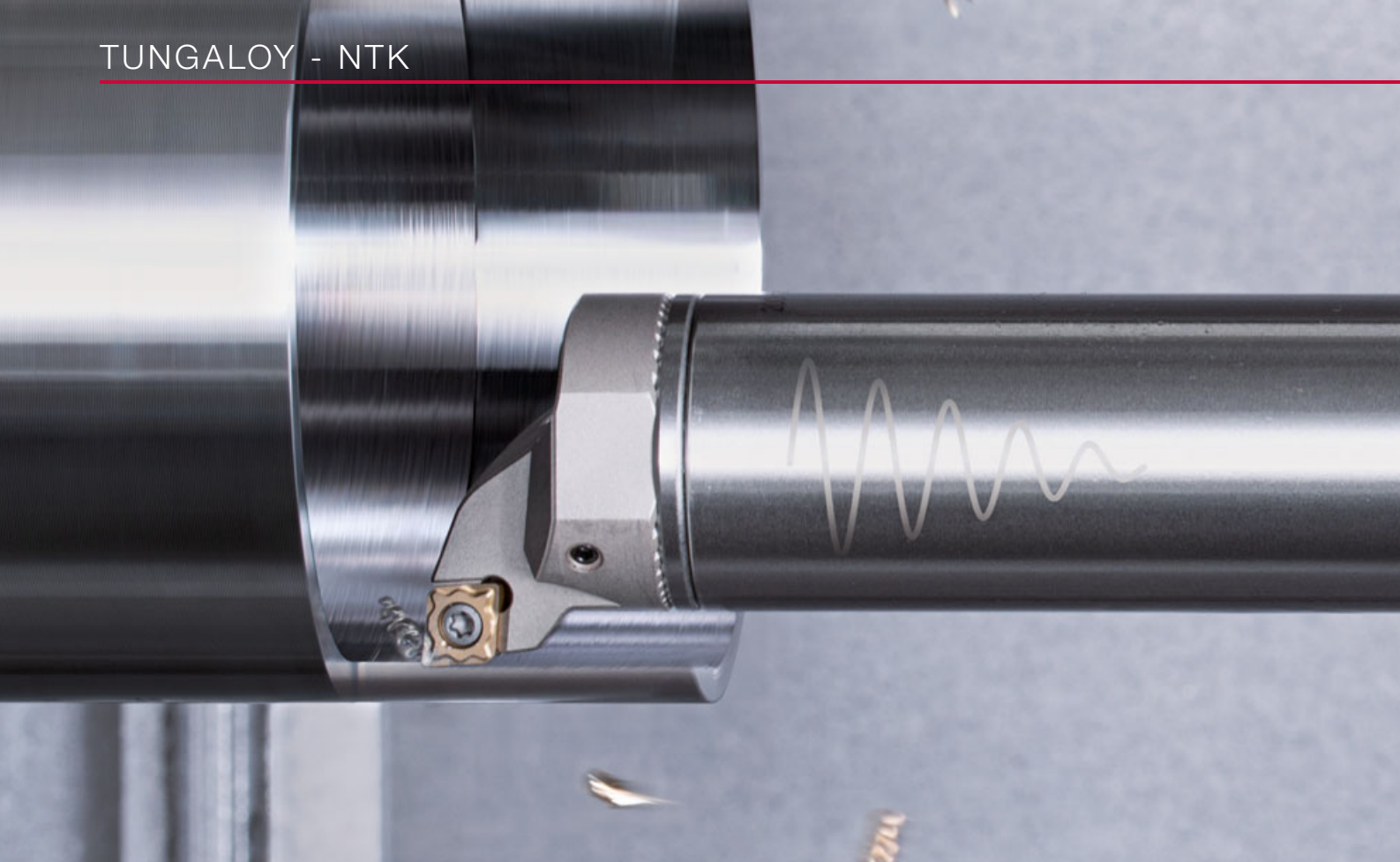
By simply rotating the tool along the axis, the cutting edge angle can be set to an optimum angle that enables the most effective entry into the cut.

The same tool can be used when turning either from the end of the part towards the chuck or turning away from the chuck to the end of the part.

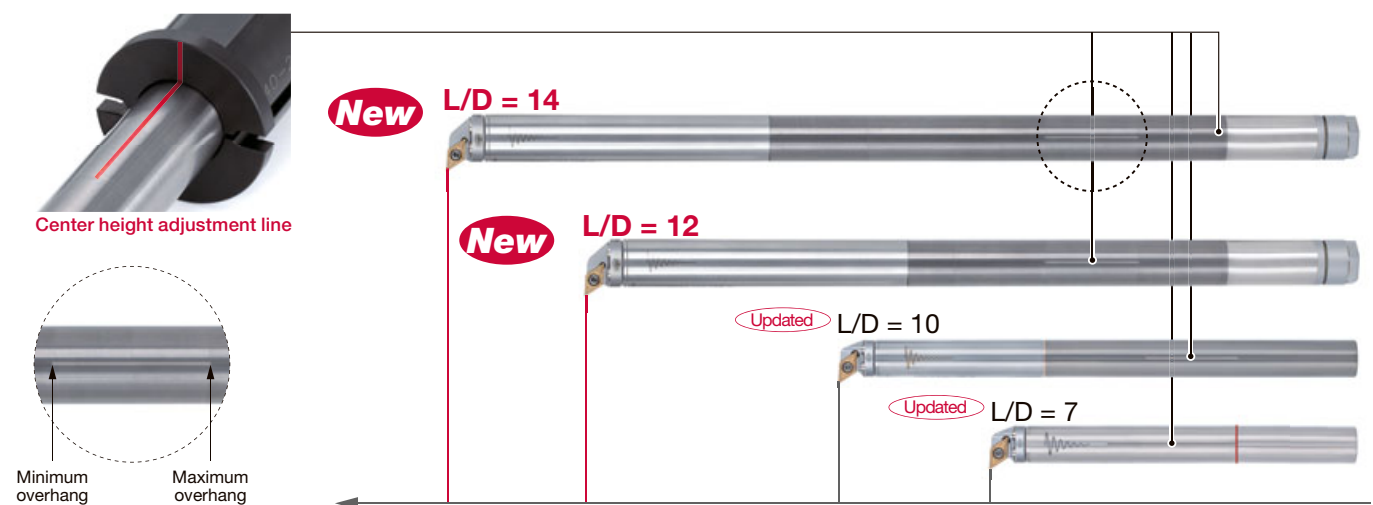


more info





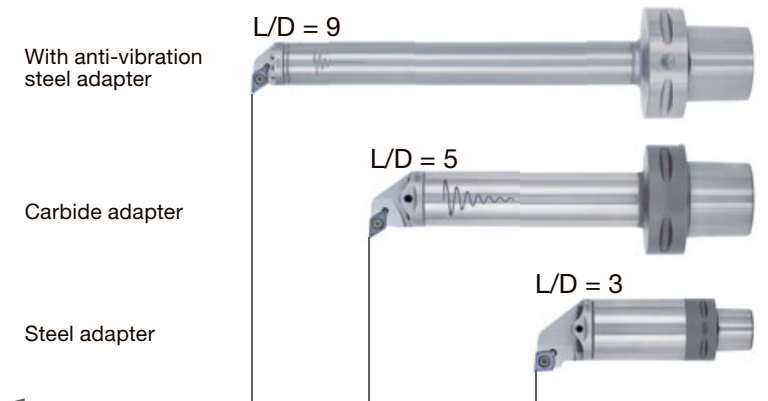
Anti-vibration bars



Steel shank



PSC adapters



BOREMEISTER

VIBRATION-FREE SOLUTION FOR DEEP HOLE BORING

High-stability and precision

Ultimate solution to conquer tool overhang challenges, chattering, noise and short tool life of up to 10xD.

Exchangeable head boring tool system with serrated interfaces for high precision and high rigidity indexing.

Through-coolant capability allows smooth chip evacuation in deep boring operations of up to 10xD.

PSC holders are also available, allowing coupling with a range of machine tools.

Dedicated setting device allows quick and accurate center height settings of the boring bar.

A wide range of boring heads are available, providing high parts quality in various boring operations



AddInternalCut, TungCut, and AddForceCut heads



e-catalog



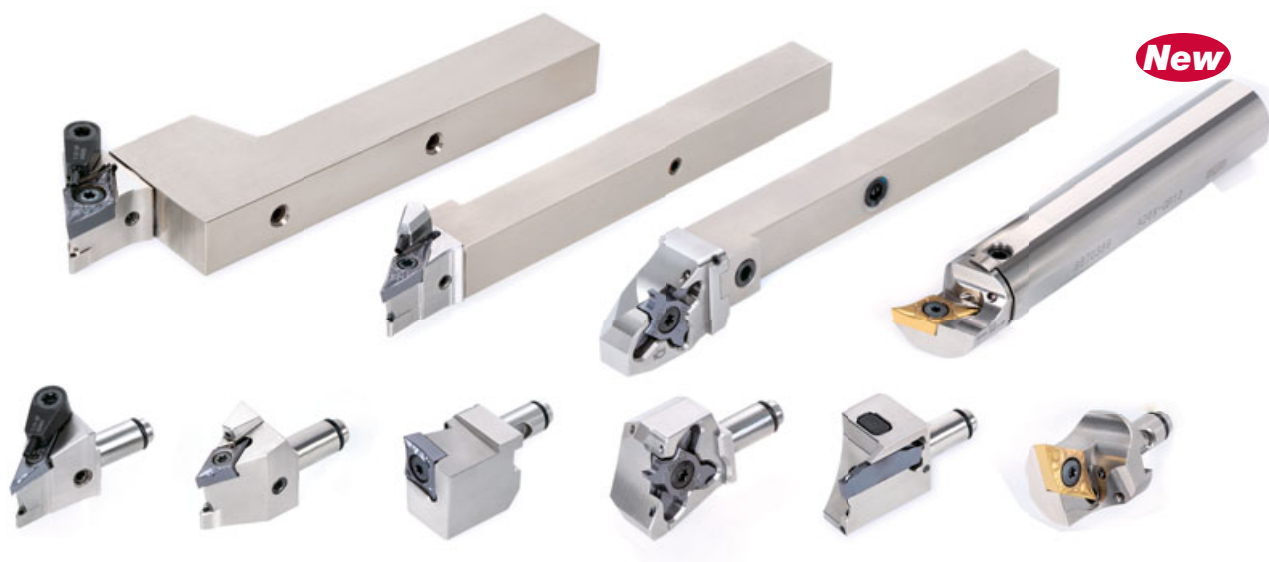


INNOVATIVE MODULAR HEAD SYSTEM FOR SWISS MACHINES

*Flexibility and productivity
in your machining operations*

MODUM^{INI}TURN

Modularity and productivity with a wide selection of turning, grooving and threading heads



Quick tool change and setup is possible with simple exchanges of turning heads.

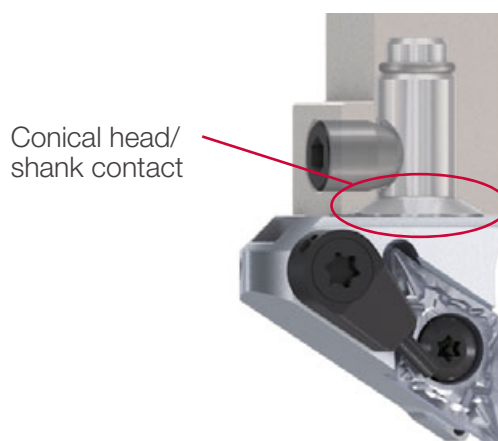
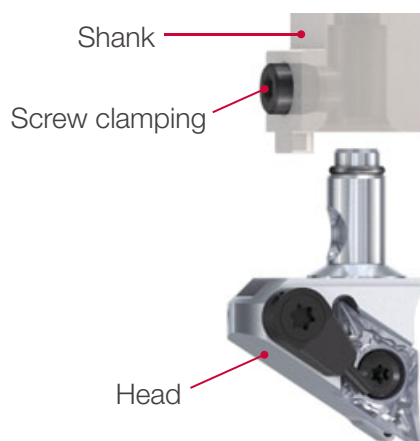
Unique coupling method provides stable head-shank connection and secure insert edge position for good repeatability and accuracy.

Positioning accuracy for the same insert: $\pm 5 \mu\text{m}$

New round shank toolholders for back machining

QC10, QC12 & QC16 type series

ModuMiniTurn offers precision internal coolant delivery, which improves chip control and tool life.



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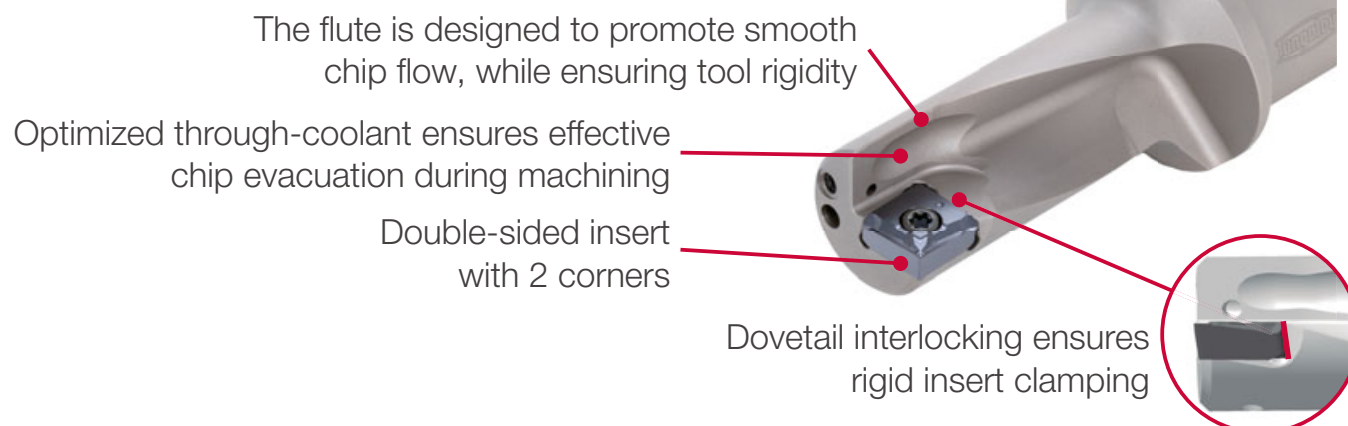
MULTIFUNCTIONAL TOOLS FOR DRILLING AND TURNING

Reduced machine downtime thanks to eliminating the need for tool changes.

Minimum bore diameter: DMIN (mm)

TINY ^{MINI} TURNMULTI						TUNG ^{BORE} MINI						
ø3	ø4	ø5	ø6	ø7	ø10	ø12	ø14	ø16	ø18	ø20	ø25	ø32
Solid carbide boring bar						Indexable						

TUNG^{BORE}MINI



TINY^{MINI}TURNMULTI

TBMFR07...

From drilling to internal, external, and face turning
L/D = 2 & 3

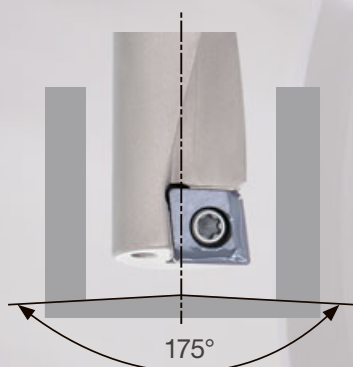
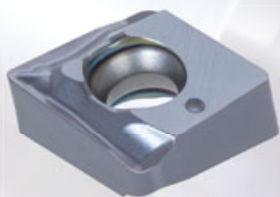


Three strategically positioned coolant grooves ensure effective chip evacuation and control.



XOMU-PS

Optimized chipbreaker design enables effective chip control in all applications



Creates a near-flat hole bottom



Creates a flat hole bottom with excellent chip control, thanks to its unique chipbreaker

e-catalog



e-catalog



TINY^{INI}MTURN

MINIATURE SOLID BORING TOOLS FOR HIGH ACCURACY

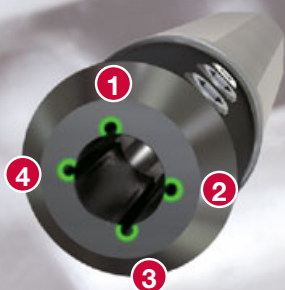
Efficiency and profitability to your small boring operations as small as $\varnothing 0.6$ mm

New **SH725** insert grade provides a good combination of wear and fracture resistance, ensuring long tool life and wear prediction.

Expanded indexable type holders, and inserts with 3D chip breaker for better chip control.

Ideal for machining extremely small diameter bores in a wide range of materials.

Ingenious through-coolant sleeve design optimally directs 4 streams of coolant jets close to the cutting zone, providing long tool life, controlled chips formation and evacuation for better part quality.



*Available with a wide selection of heads
for boring, profiling, chamfering,
threading and grooving*



*Additionally offered with CBN **BX310**
uncoated grade, suitable for bore
diameters as small as 2.8 mm.*

Available in three minimum bore diameters (DMIN): 2.8,
4 and 5 mm, and in 2xD and 3xD tool lengths



video



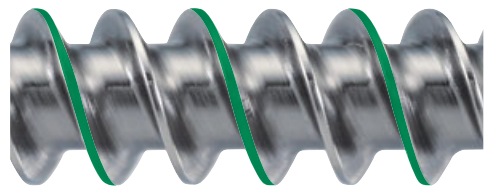
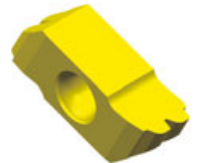
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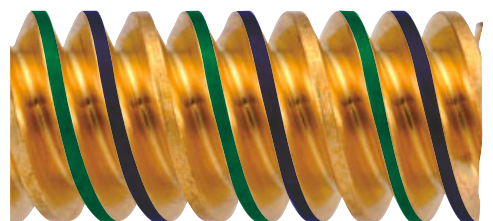
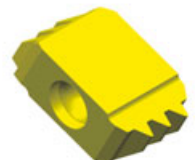
MAXIMIZE EFFICIENCY: ONE SINGLE PASS, MULTI-LEAD THREADS MACHINING!

Ideal for increasingly complex medical screw thread forms, NTK's single-pass thread forming technology reduces cycle time.

Double lead thread



Triple lead thread

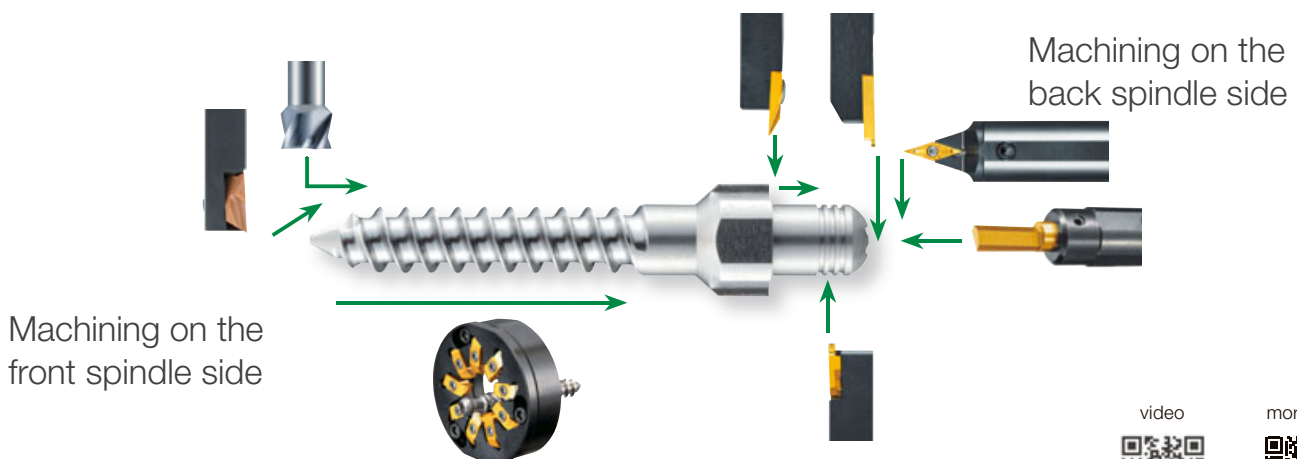


Thread Whirling

Cutting-edge system for unparalleled productivity in screw manufacturing, such as dental implant and bone screws



Tooling layout

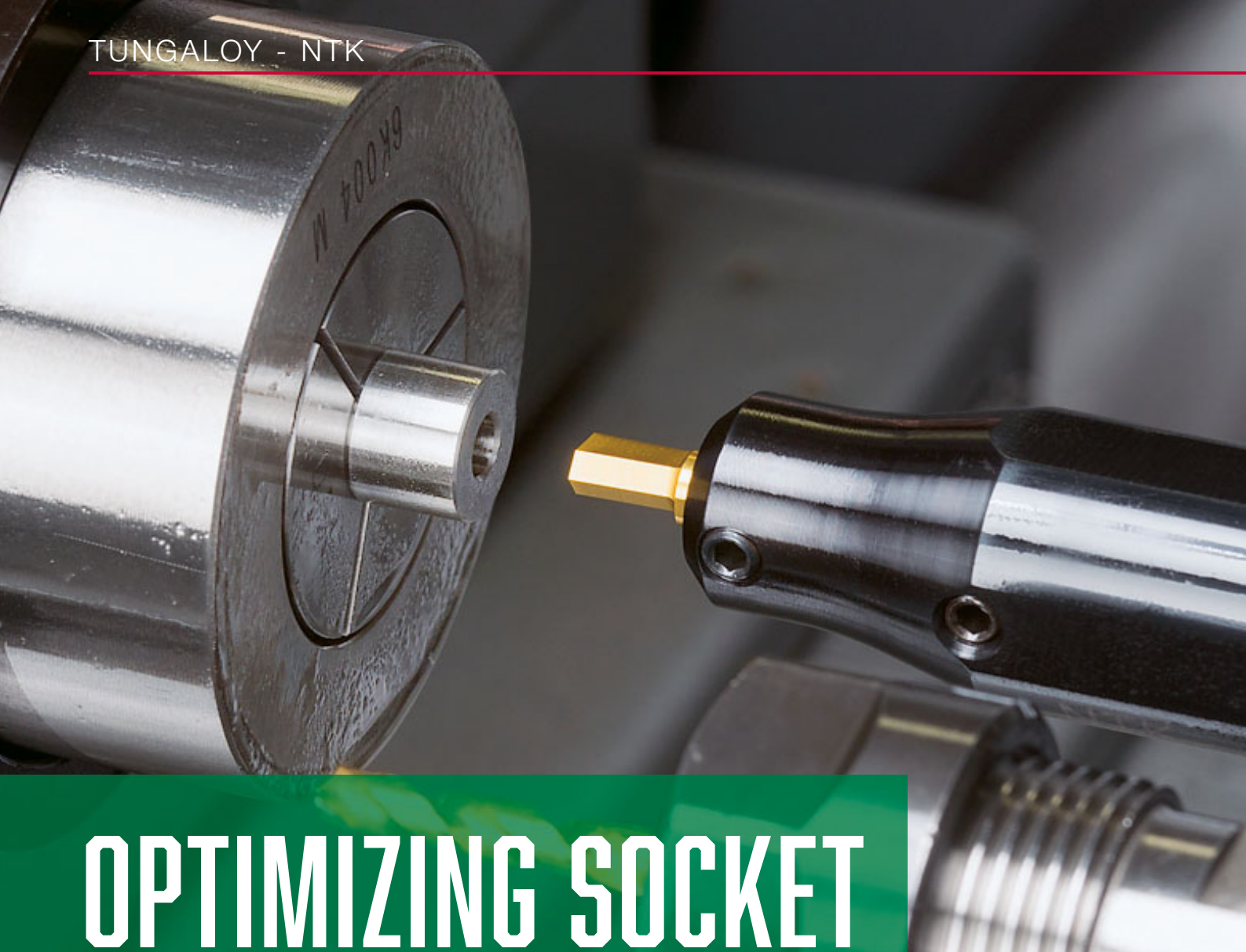


video

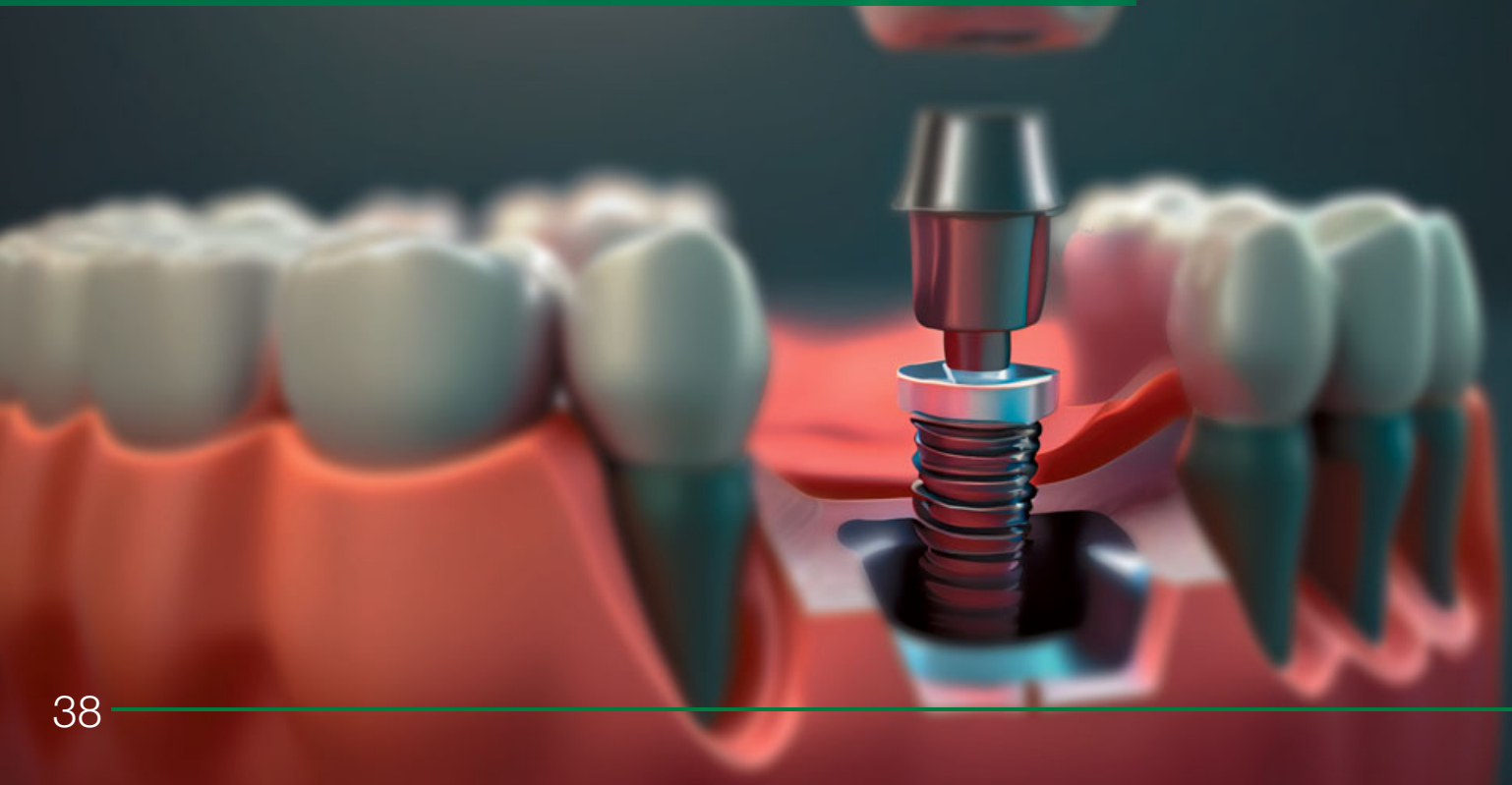


more info





OPTIMIZING SOCKET HOLE MACHINING



SHAPER DUO

Hexalobular (6-lobe)



T6-T30

Hexagon



HEX 1.0 - 8.0

Square



AF 2.0 - 8.0

Ideal for a variety of applications



Hexagon & Square socket process comparison

	Tool pressure	Cycle time	Flexibility	Tool cost	
Shaper Duo					Less tool pressure, especially good for small diameter parts. One insert can machine a range of socket sizes
Broach	-		-	-	You need a tool for each socket size

Hexalobular (6-lobe) socket process comparison

	Tool pressure	Cycle time	Tool Cost	High speed spindle	Program	
Shaper Duo				Not necessary	Simple	No need for a high speed spindle
Milling			-	Necessary	Complicated	Requires high speed spindle

New Hexagon socket : AF 1.0mm - 1.4mm
For Abutment screws

more info



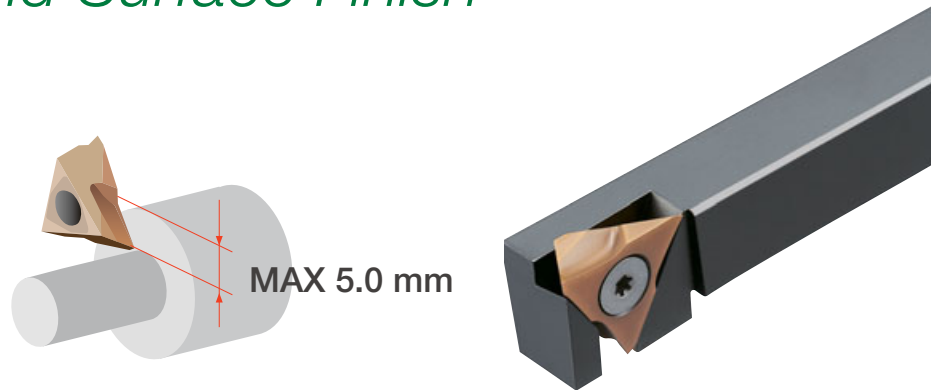


EFFICIENT SINGLE-PASS TURNING WITH DEPTHS OF CUT UP TO **5.0 MM**

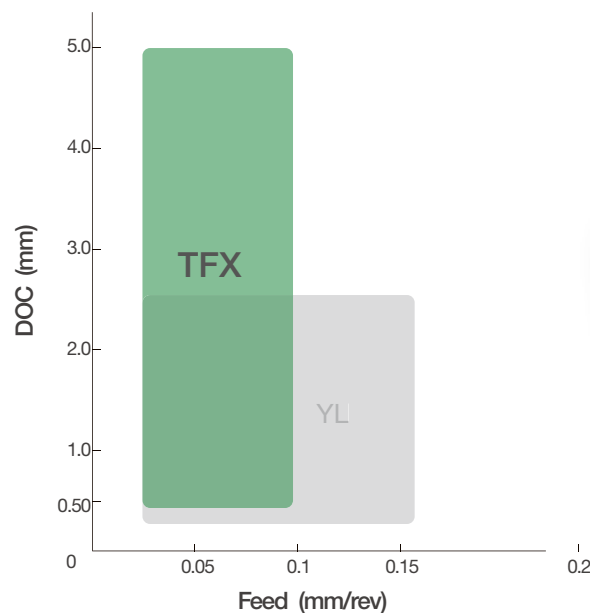
*Reduce Cycle Time, Minimize Insert Wear,
and Extend Tool Life*

The Front Max

*Revolutionary Chipbreaker Design
Delivers Superior Chip Control
and Surface Finish*



APPLICATION RANGE



video



more info



Specialized for



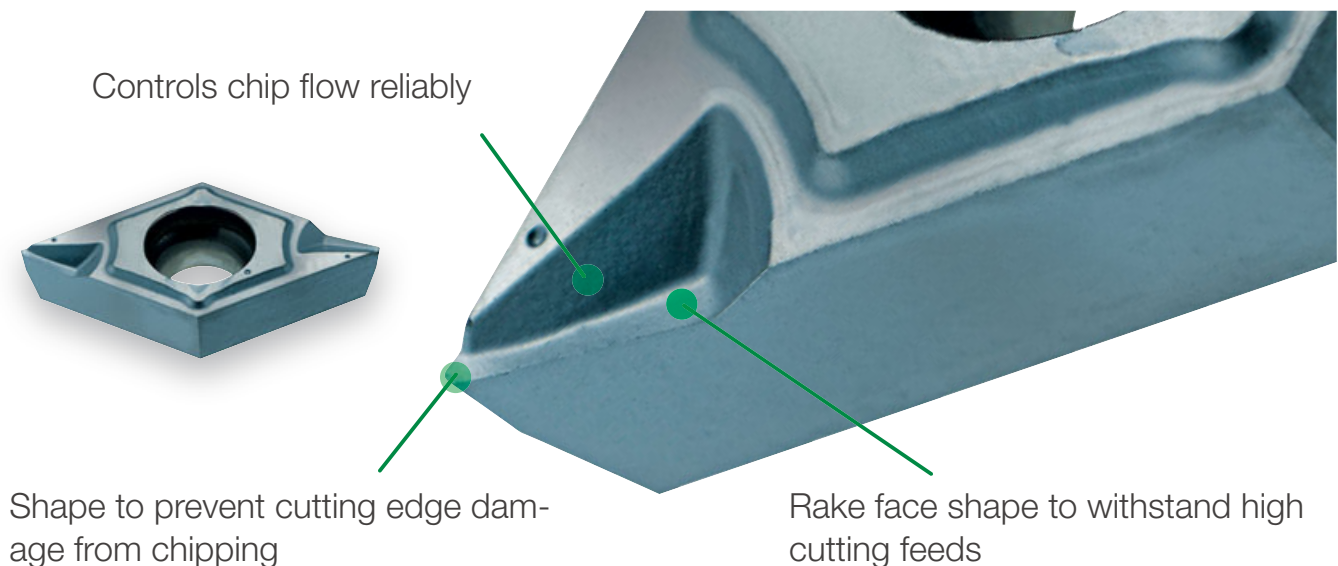
* LFV is a registered trademark of Citizen Watch Co., Ltd.

VIBRATION MACHINING: THE UNARGUABLY PREMIER CHIPBREAKER SOLUTION

TMV Chipbreaker

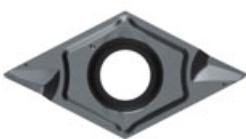
Outstanding chipbreaker for vibration machining, ensuring long tool life and stable chip evacuation even in the most challenging scenarios

Featuring reduced cutting edge wear and stable chip formation throughout the process, achieving high performance.



Available Geometries

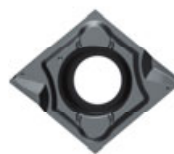
DCGT



TNGG



CCGT



VCGT



video



more info



SPECIAL HOLDER SERIES DESIGNED FOR PRECISE Y-AXIS CUTTING EDGE ADJUSTMENT

For machines without Y-2 Axis capabilities



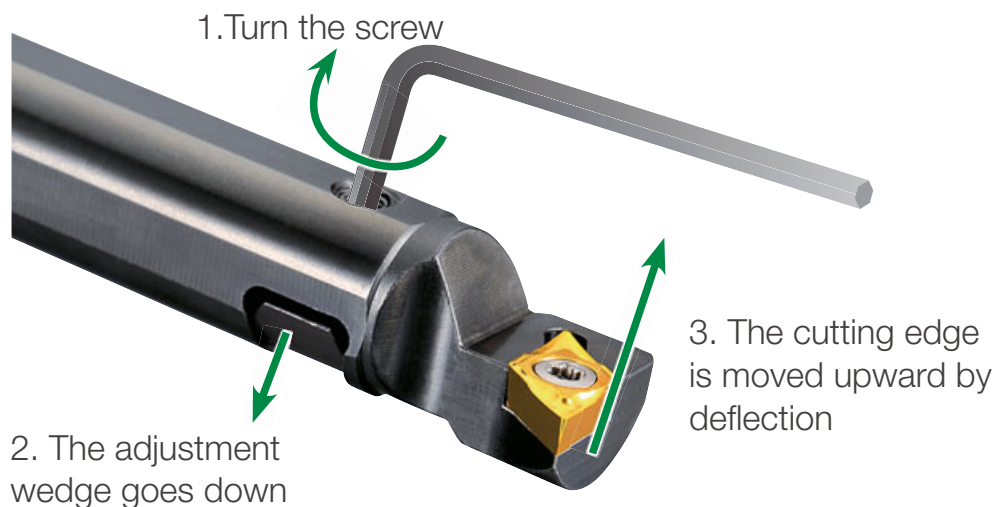
DS-ACH holder series

Wedge mechanism adjusts centerline height of the cutting edge by turning a set screw with a wrench

Range of centerline adjustment: 0 - 0.2 mm

Height adjustment of the cutting edge is done by turning a screw and bending the tip of the holder with a wedge mechanism.

Patented holder design improves rigidity, compared to conventional holders, to eliminate vibration



Angle of rotation	Cutting edge height Increase
180°	0.05
360°	0.10
540°	0.20
720°	0.30

more info



ADD^{ORCE}FCUT

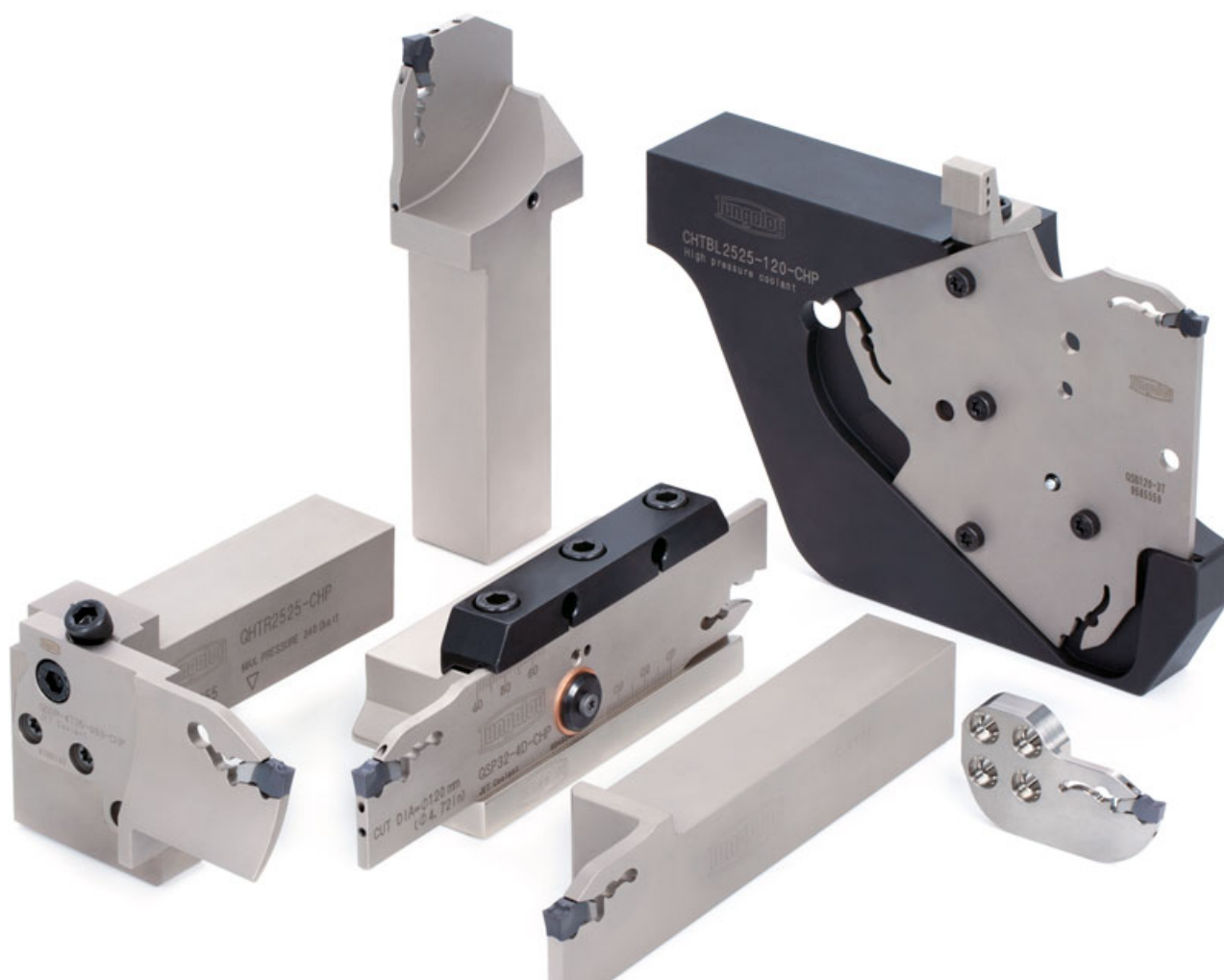
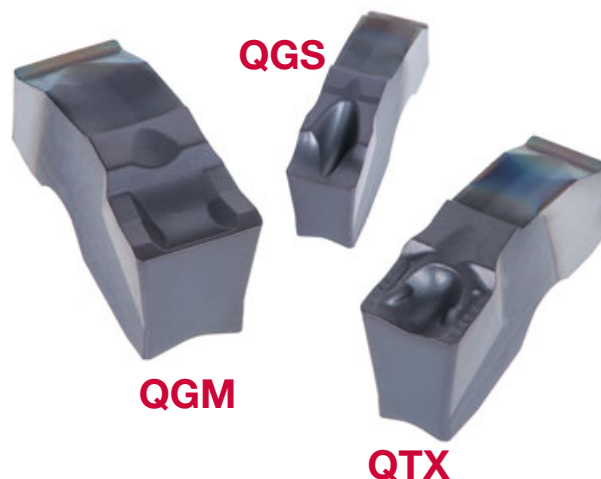
Newly designed insert profile ensures unobstructed chip flow and consistent chip evacuation.


The insert is locked in three positions with the use of an insert stopper in the pocket. This design provides extremely rigid insert clamping.

QGM, **QGS** and **QTX** inserts

CW = 2, 3, 4, 5, 6 and 8 mm

Max. grooving depths (for monoblock shanks): **CDX** = 33 mm





Holders featuring pin-pointed high pressure coolant to the cutting edge

EXCEL IN WIDE APPLICATIONS OF DEEP GROOVING AND PARTING-OFF

video



e-catalog



UNIQUE 4-EDGED INSERT FOR SMALL INTERNAL GROOVING OPERATIONS

*Stability and repeatability in small
internal grooving operations with the
unique insert clamping system*



TCIG10... and **TCIG12...**

CW = from 0.5 to 3 mm

Max. insert cutting depth:

CDX = 3 mm

Min grooving dia:

DMIN = $\varnothing 10.5$ mm



ADD^{INTERNAL}CUT

The innovative clamping system eliminates insert movement caused by cutting forces.

Through-coolant holder delivers coolant from the outlet located near the insert, promoting effective chip evacuation from the cutting area.

Neutral designed insert can be mounted on either right- or left-handed holder.

video



e-catalog





HIGH PRECISION GROOVING AND THREADING TOOL SERIES FOR CNC AUTOMATIC LATHES

*A unique insert clamping system for
extra tool rigidity*



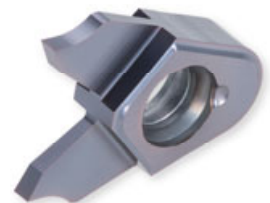
MINI ^{LOCK}VGROOVE

*Perfect for grooving and
threading bar stocks of
12 mm or smaller
diameters*

Available in 8x8, 10x10, and 12x12 mm
square shanks with high-pressure coolant

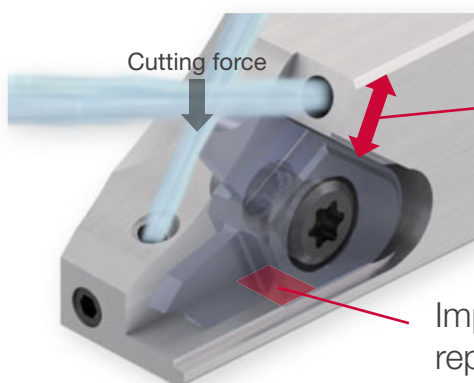
VGP08... and VGP10

for Grooving
2 corner insert
CW = 0.33 - 1 mm



VGT10F...

for Threading
2 corner insert
Pitch = 0.4 - 2 mm
Cutting edge angle =
55°, 60°



A thick support restricts
the insert movements
during machining

Improves the cutting edge
repeatability

video

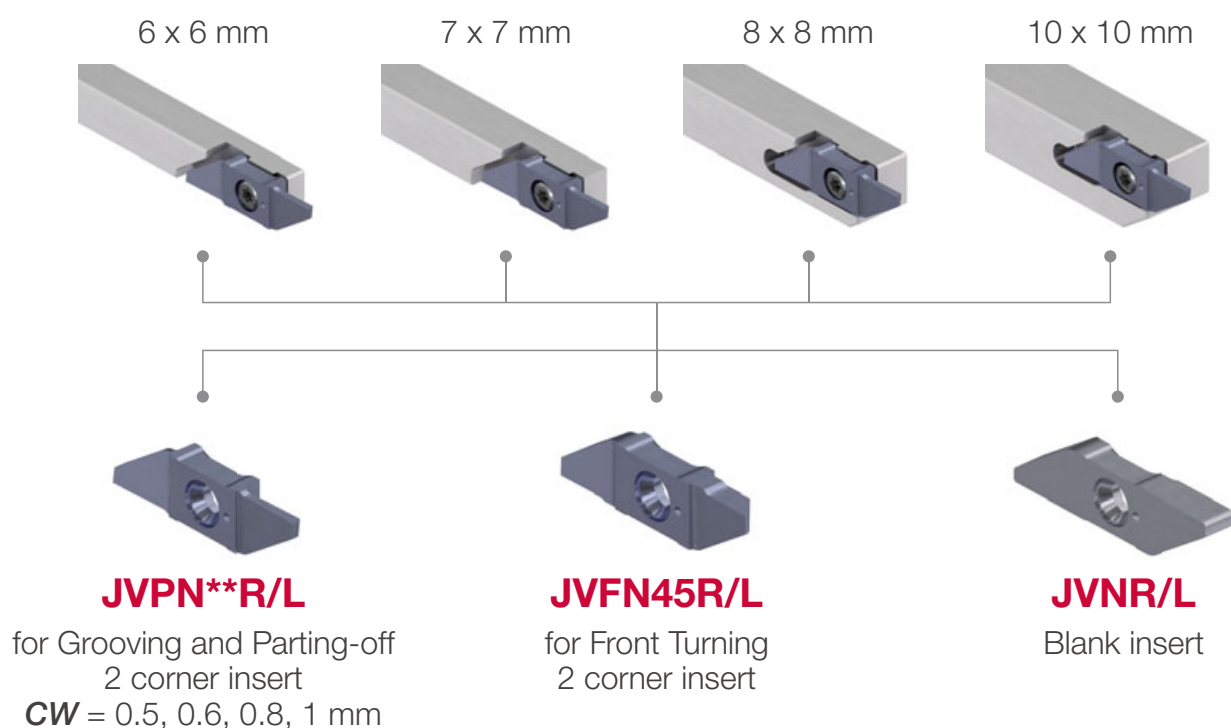


e-catalog



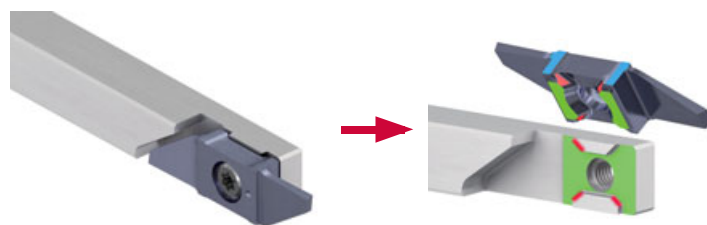
DUO^{ORCE}FCUT

*New flexible tool series with unique insert clamping system.
Ideal for machining small parts with
12 mm or smaller diameters.*

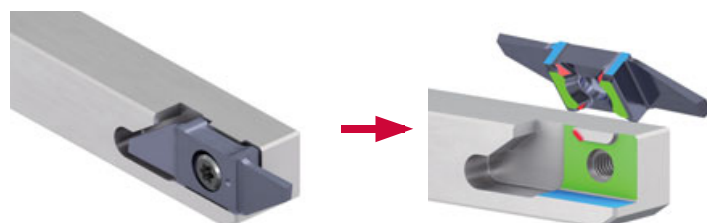


6 x 6 to 10 x 10 mm shanks are available as standard. Innovative insert clamping allows the use of the same insert with all toolholders of different sizes.

6 x 6 and 7 x 7 mm shanks



8 x 8 and 10 x 10 mm shanks



A STEP FORWARD FOR TURNING AND GROOVING MINIATURE OPERATIONS

*Flexibility and a wide
range of operations with
the new turning tool series
for CNC automatic lathes
and cam-driven lathes*

video



e-catalog



INDEXABLE TOOLING SOLUTION FOR INTERNAL MACHINING OF SMALL DIAMETER BORES



TINY^{INTERNAL}CUT

Internal grooving and thread turning tool series for bores as small as $\varnothing 5$ mm

Tool body with through coolant technology.
It offers unmatched precision and edge repeatability,
thanks to its unique clamping system for rigid stability.

Featuring the latest PVD insert grade, **SH7025**, for superior
surface quality and process security.



MGR

Grooving

MGR

Profiling (Full R)

MTR

Threading

video



e-catalog



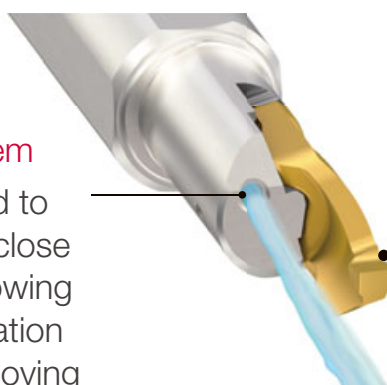


FACE^{INI}CUT

Deep face grooving of up to 10 mm DAXN and up to 9 mm groove depth is possible

Internal coolant system

Coolants are directed to the optimal position close to the cutting tip, allowing excellent chip evacuation during deep face grooving



Effective chip redirector

Optimized geometry that effectively redirects chips out of the groove and to the side.

Eliminates bird nesting of chips during machining

Effectively removes chips out of the cutting area and eliminates bird nesting.

Extremely rigid insert clamping ensures tool stability during deep face grooving operations.

Sharp cutting edge, combined with **SH7025**, the latest PVD grade, provides long tool life and superior surface quality.



MFGR10

SUPERB DEEP FACE GROOVING TOOL SERIES

e-catalog





SAME PERFORMANCE SMALLER SIZE

TUNG^{HORT} SCUT

New double-ended small-size internal grooving inserts with exceptional features

Enhanced chatter resistance is achieved through optimized screw placement, which strengthens the insert clamping capability.

Larger pockets facilitate more effective and smooth chip evacuation.

Toolholder series featuring an internal coolant system ensure optimal performance.



DGS*S

Lower cutting force and superior sharpness
CW = 2 - 3 mm



DTR*S

Full radius type
CW = 2 - 3 mm

CTIR**S

(Toolholder that accommodates downsized internal grooving insert)

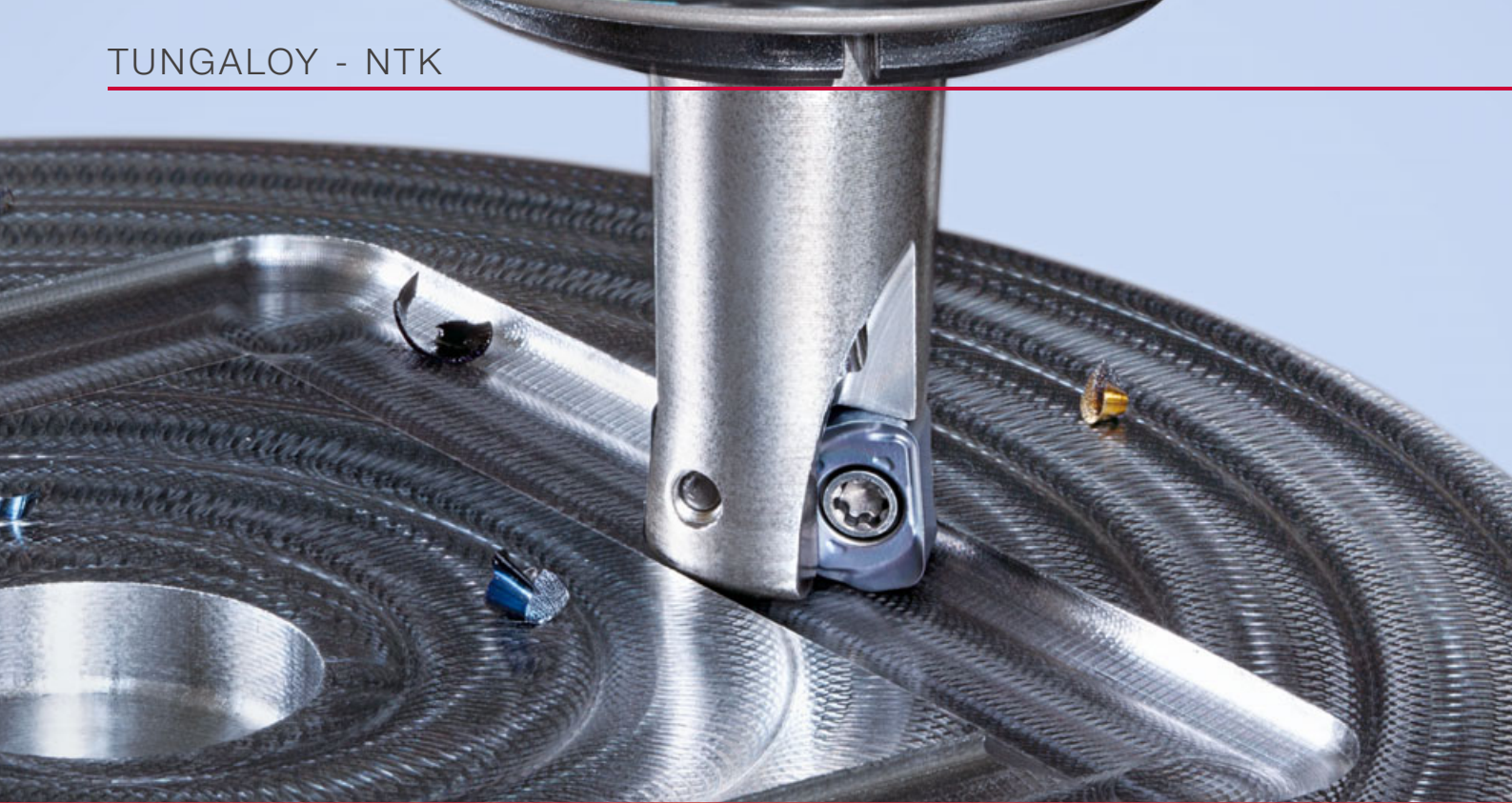


video



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HIGH-FEED MILLING CUTTERS

ADD^DFEED

Small diameter high-feed milling cutter for expanded application coverage, featuring cutter bodies as small as $\varnothing 8$ mm

Cutter bodies:

Shank type: **EXN02R...** (Short type)
EXN02RL** (Long type)
DCX = $\varnothing 8$ - $\varnothing 25$ mm

Modular type: **HXN02R...**
DCX = $\varnothing 8$ - $\varnothing 25$ mm



LNMU02-MM

Double-sided,
4-edged insert
APMX = 0.5 mm



video



e-catalog



FOR MAXIMUM PERFORMANCE

DO^{FEED}TRI

The cutter's small entry angle ensures smooth material access, perfect for long reach applications

Cutter bodies:

Bore type: **TXWX03** DCX = $\varnothing 40 - \varnothing 50$ mm

Shank type: **EXWX03** DCX = $\varnothing 16 - \varnothing 32$ mm

Modular type: **HXWX03** DCX = $\varnothing 16 - \varnothing 32$ mm



WXMU03-MM

Double-sided,
6-edged insert
APMX = 1 mm



video



e-catalog



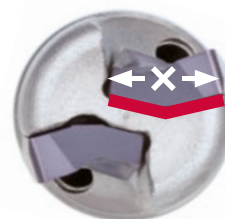
ADVANCED SHOULDER MILLING CUTTER

*Unmatched
stability across
all materials, with
an innovative
clamping system*

TUNG^{ORCE}FREC



Extremely secure insert clamping, V shape design prevents insert movement during machining.



AV*T12

Max. depth of cut: 11.5 mm

Cutter bodies:

Shank type:

EPAV12

DC = $\varnothing 12 - \varnothing 32$ mm

Modular type:

HPAV12-M

DC = $\varnothing 10 - \varnothing 16$ mm

Bore type:

TPAV12

DC = $\varnothing 50 - \varnothing 63$ mm



AV*T06

Max. depth of cut: 6 mm

Cutter bodies:

Shank type:

EPAV06

DC = $\varnothing 8 - \varnothing 32$ mm

Modular type:

HPAV06-M/S

DC = $\varnothing 10 - \varnothing 16$ mm

Bore type:

TPAV06

DC = $\varnothing 40$ mm



AV*T04

Max. depth of cut: 4 mm

Cutter bodies:

Shank type:

EPAV04

DC = $\varnothing 6 - \varnothing 16$ mm

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TUNGMEISTER

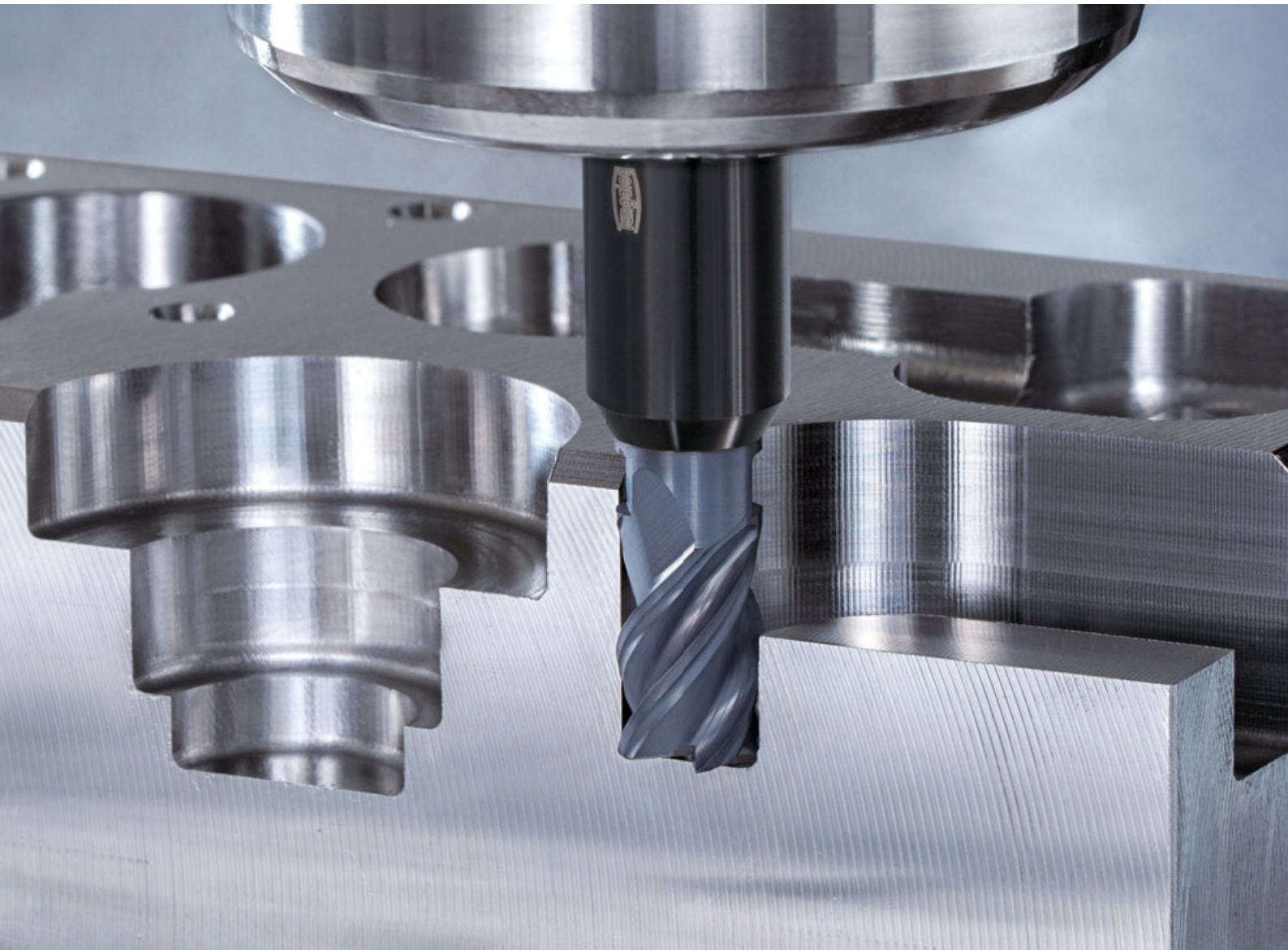


MORE THAN 13,000 POSSIBLE COMBINATIONS

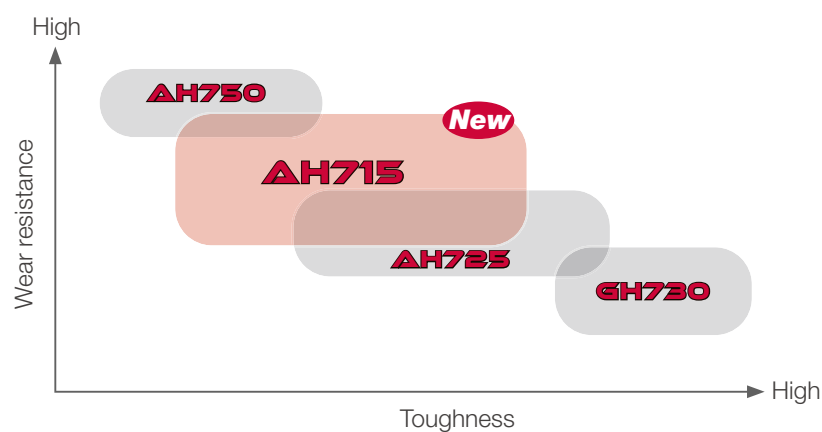
*Easy and accurate head-holder coupling
provides reduced tool change time and
high accuracy of cutting point repeatability*

Offers milling solutions for square shoulder milling, high feed milling, ball nose milling, chamfering, hole making, and slotting.

A flexible mix of heads and holders allows an optimum tool assembly in all end milling applications.



*Boost performance with the latest **AH715** PVD grade, featuring improved tool life in a wide group of materials.*



e-catalog



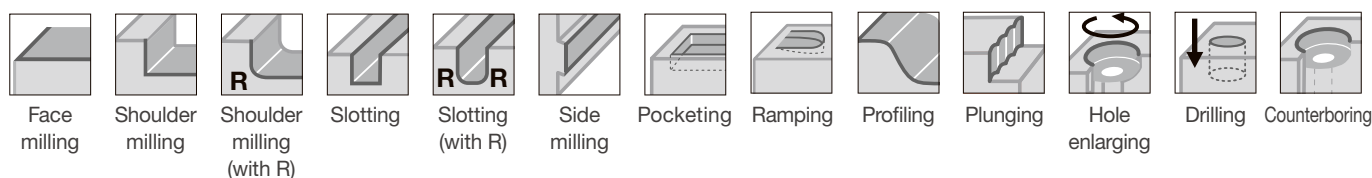
VERSATILITY MEETS EFFICIENCY

*More operations with a single
tool, from shoulder milling to
hole making*



Innovative four-edged inserts provide ultimate machining flexibility and economy. All-round cutter with center cutting capability provides ultimate machining versatility

Applications capabilities



Cutter bodies:

Shank type: **EVLX06/08/10/12/16/19...** (Short type) DC = $\varnothing 12 - \varnothing 40$ mm

EVLX06/08/10/12/16/19L** (Long type) DC = $\varnothing 12 - \varnothing 40$ mm

Modular type: **HVLX06/08/10/12/16...** DC = $\varnothing 12 - \varnothing 33$ mm

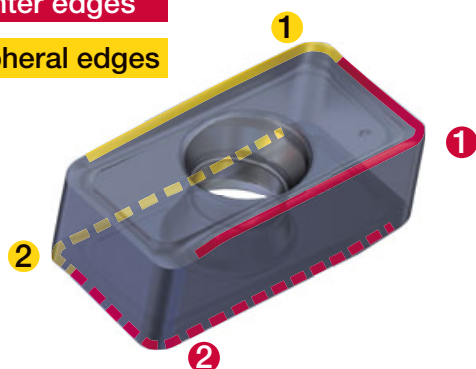
LXMU-MM



Tool dia. DC (mm)	$\varnothing 12, \varnothing 13$	$\varnothing 16, \varnothing 17$	$\varnothing 20, \varnothing 21$	$\varnothing 25, \varnothing 26$	$\varnothing 32, \varnothing 33$	$\varnothing 40$
APMX (mm)	5	7	9	11	14.5	18
Insert size	06	08	10	12	16	19

Two center edges

Two peripheral edges



A single insert can be used either for center edge or peripheral edge and can be used twice in each position – **four cutting edges for highest insert economy.**

video



e-catalog



EXTENDED^{FORCE}MILL

Extended-flute rough milling cutter with indexable double-sided inserts with exceptional reliability for machining titanium alloys and cast iron



SXHU...



Peripheral insert
8 cutting edges

AXHU...



Bottom insert
4 cutting edges



Cutter bodies:

Bore type: **LPSX10...**

DC = $\varnothing 50$ mm

APMX = 54, and 76.5 mm

Bore type (TungCap type): **LPSX10...C**

DC = $\varnothing 54$, and $\varnothing 66$ mm

APMX = 54 mm

Coolant jet is directed precisely to the cutting point through the fixed coolant nozzle, exerting maximum cooling effect for the cutting edge and workpiece.

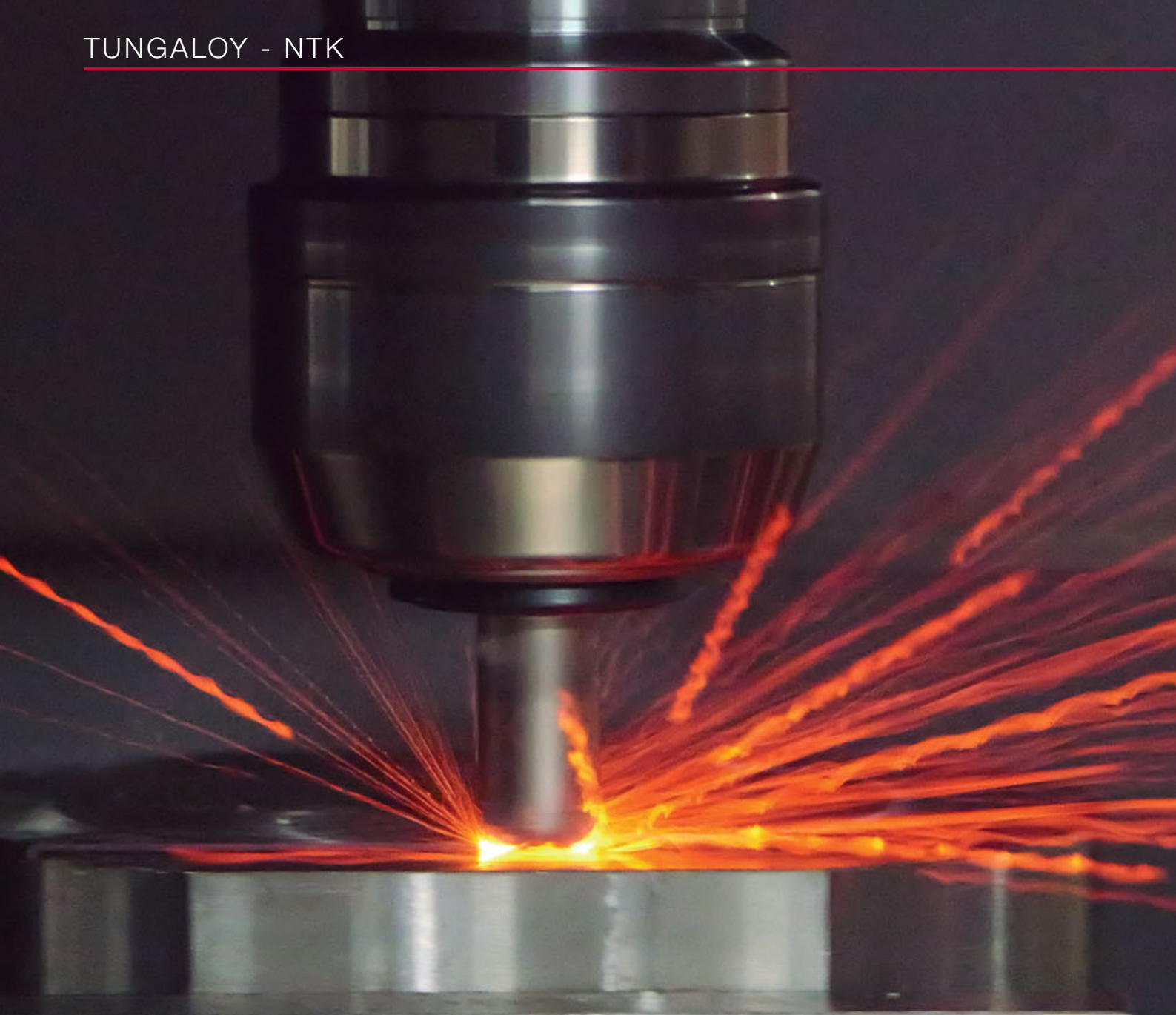


IGNITE HIGH METAL REMOVAL POTENTIAL!

*Maximum productivity and cost efficiency
for roughing operations of titanium
alloy and cast iron parts*

e-catalog





**UNBEATABLE CERAMIC
CUTTER: AS SMALL AS
Ø16 MM FEATURING
3 INDEXABLE INSERTS**



JRF CUTTER

Enhanced clamping system prevents insert movements and ensures high stability during machining

Unique step chipbreaker: reduces flaking by lowering the cutting edge from the clamping surface of conventional tools (positive inserts)

Cutter bodies:

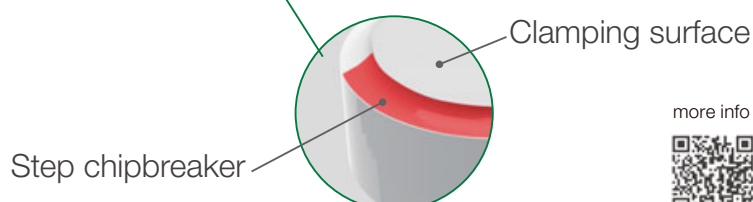
Shank type: **JRF...**

DCX = ø16, ø20, ø25 and ø32 mm



RNGF-HNF

Double-sided
APMX = 1 mm
Available with **SX3** and
SX9 Ceramic grades



more info





CERAMATIC

Productive Ceramic Endmills series achieves rough milling operations in nickel-based alloys up to 10 times faster than carbide tools

RCE-H4 (SX9)

4 Flutes

DC = $\varnothing 8$ - $\varnothing 12.7$ mm

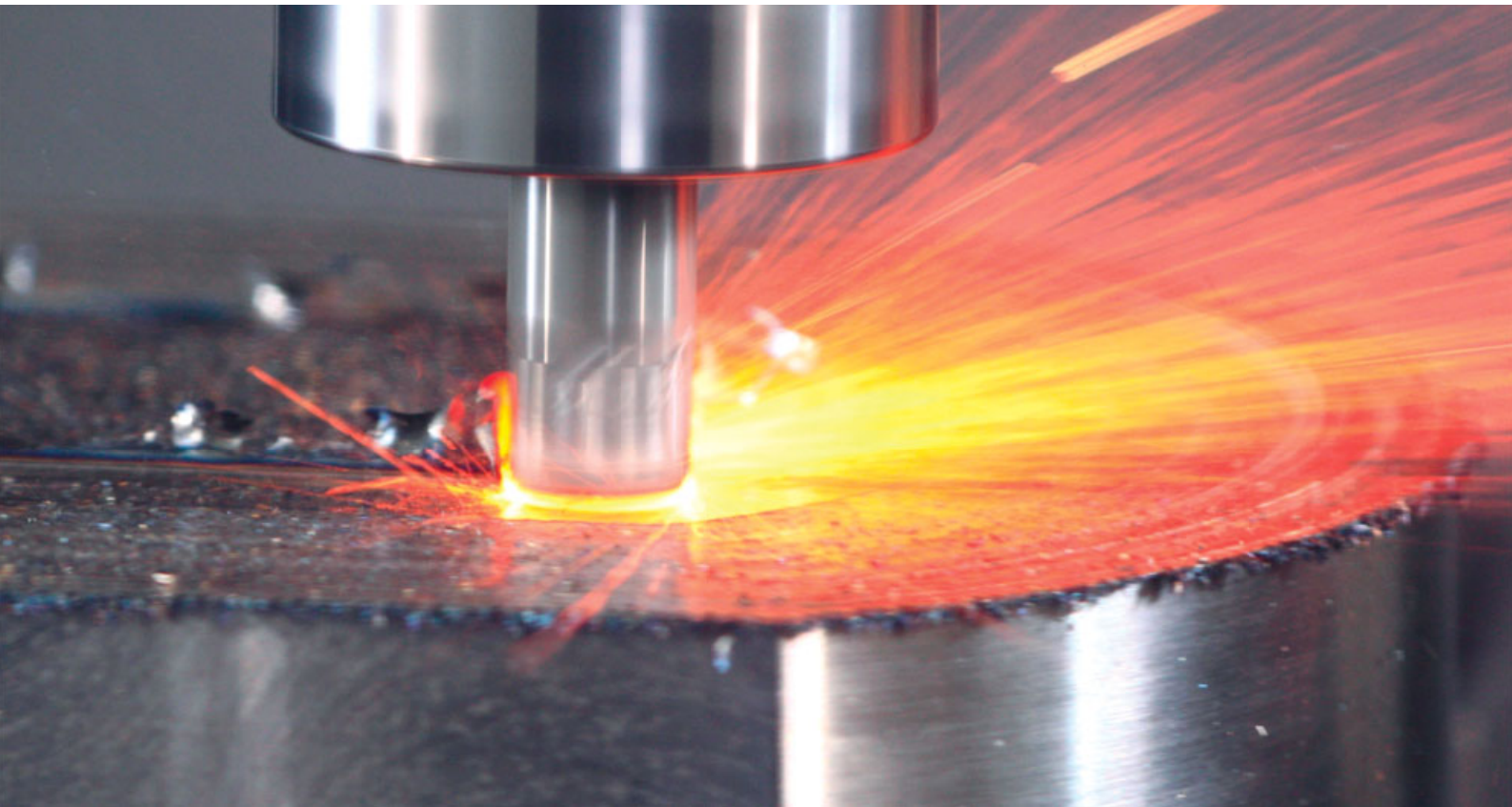
APMX = 0.5 - 9.525 mm

RCE-J6 (SX9)

6 Flutes

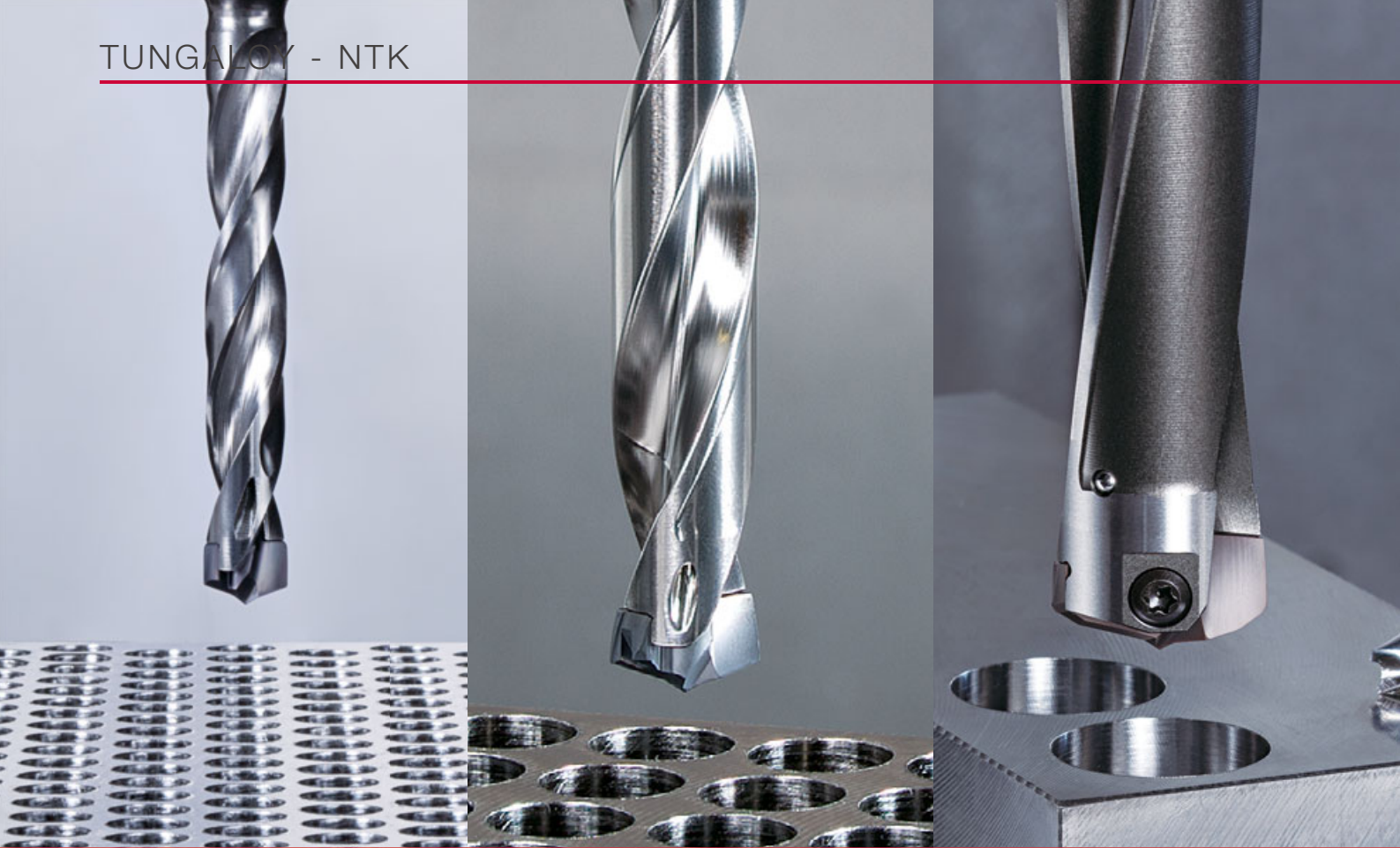
DC = $\varnothing 8$ - $\varnothing 12.7$ mm

APMX = 0.5 - 9.525 mm



UNLEASHING PRODUCTIVITY AND EFFICIENCY, A REFERENT IN CERAMIC ENDMILLS





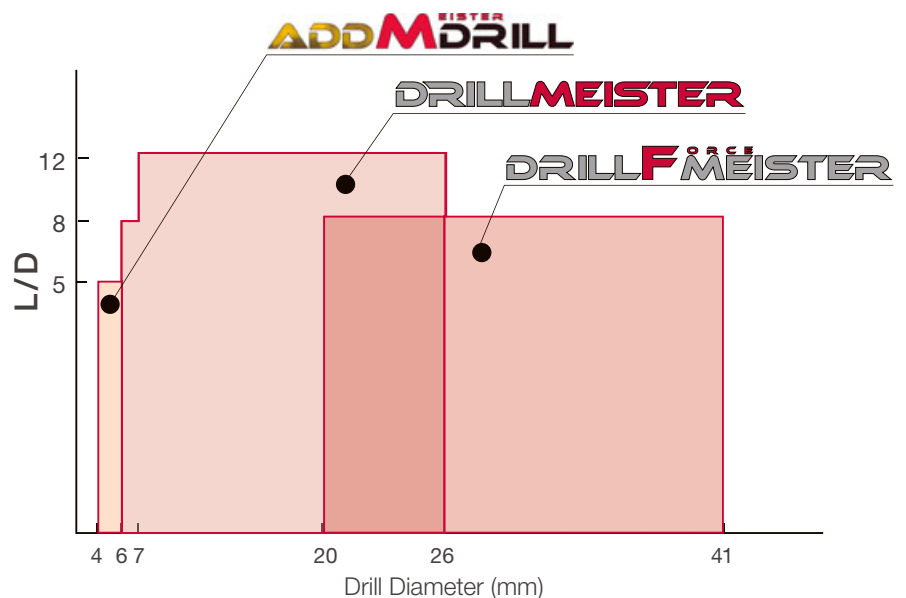
OUTSTANDING RANGE OF HEAD EXCHANGEABLE DRILLS

Exchangeable head drill systems for superior drilling performance and long tool life

Quick drill tip change for reduced machine downtime.

Tool inventory and management costs are significantly reduced as there is no need for regrinding.

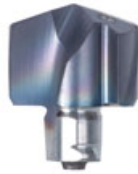
Drill bodies are offered in a wide range of sizes and styles, allowing optimal tool assembly for secure and productive drilling.



ADD M^{MASTER} DRILL

video

e-catalog

**DMP**

Drill dia.:
ø4 - ø5.9 mm

General purpose drilling head ideal for various drilling applications

**DMC**

Drill dia.:
ø4 - ø5.9 mm

High precision drilling head with self-centering chisel edge

video

e-catalog


DRILLMEISTER
**DMP**

Drill dia.:
ø6 - ø25.9 mm

General purpose drilling head ideal for various drilling applications

**DMC**

Drill dia.:
ø6 - ø25.9 mm

High precision drilling head with double-margined drill periphery and self-centering chisel edge

**DMF**

Drill dia.:
ø6 - ø25.9 mm

180° flat edges for counterboring and flat bottoms

**DMH**

Drill dia.:
ø6 - ø25.9 mm

General purpose head with enhanced cutting edge

**DMN**

Drill dia.:
ø6.8 - ø19.5 mm

Drill head with sharp edges for non-ferrous materials

video

e-catalog


DRILL^{FORCE}MEISTER
**SMC**

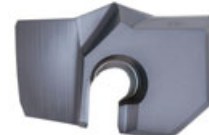
Drill dia.:
ø26 - ø33 mm

High precision drilling head with self-centering chisel edge

**SMP**

Drill dia.:
ø20 - ø41 mm

General purpose drilling head ideal for various drilling applications

**SMF**

Drill dia.:
ø20 - ø41 mm

For efficient drilling of flat-bottom holes

ON THE EDGE OF STABLE DRILL EFFICIENCY

Modular drill series featuring superb stability and high-rigidity during drilling, even in setups with long tool overhangs. While minimizing machine downtime through their quick tool change capability



TID-M
 Drill dia.:
 $\varnothing 6 - \varnothing 18.9$ mm
 2xD and 3xD
 TungFlex connection

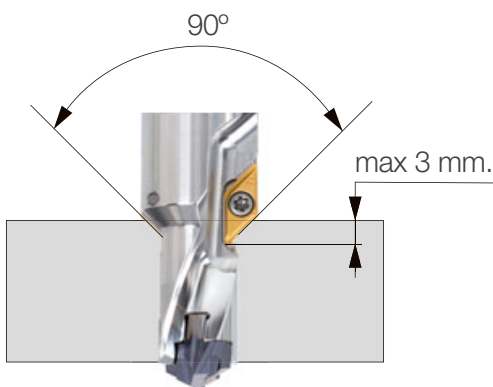


TID-S
 Drill dia.:
 $\varnothing 6.5 - \varnothing 10.9$ mm
 2xD
 TungMeister connection

video



Stable chamfering capability with less chattering due to dedicate insert design for chamfering
 Dedicated line up for pre-thread drilling of metric and UNF threads



TID-L-A-M
 Drill dia.:
 $\varnothing 6.5 - \varnothing 16.9$ mm
 TungFlex connection
 Drilling+Chamfering /
 pre-thread Drilling

video



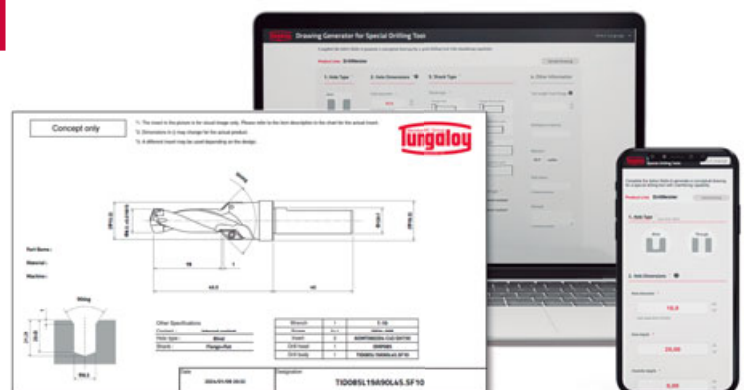
INTRODUCING SPECIAL DRILLING TOOLS AND THEIR DRAWING SYSTEM

Discover Tungaloy's platform for creating simple diagrams instantly, anywhere. Explore the 'Drawing System for Special Drilling Tools'! Enter tool details to swiftly generate diagrams illustrating special drilling tools with chamfering or boring functions.

more info



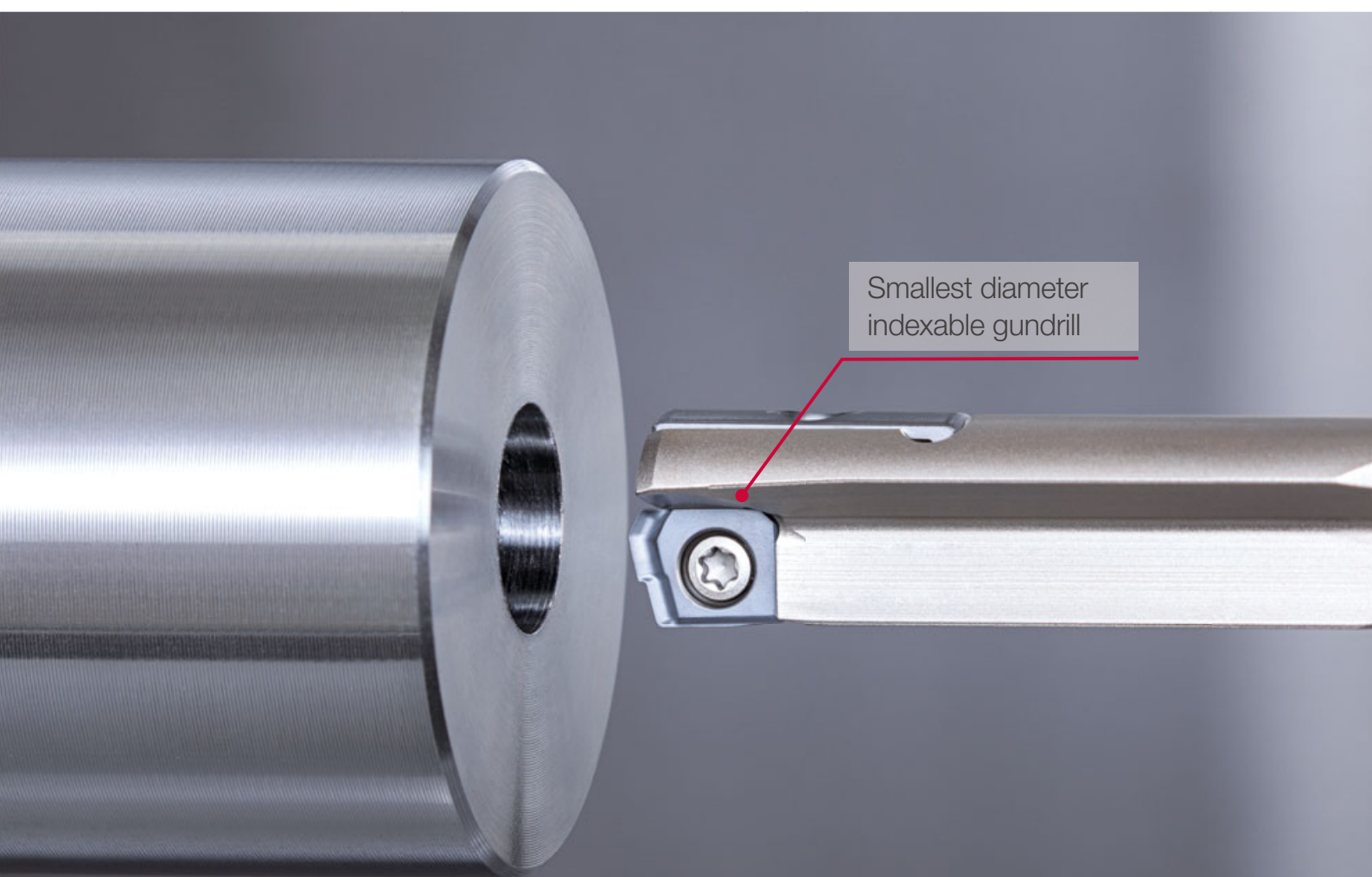
video



DEEPT^{RI}DRILL

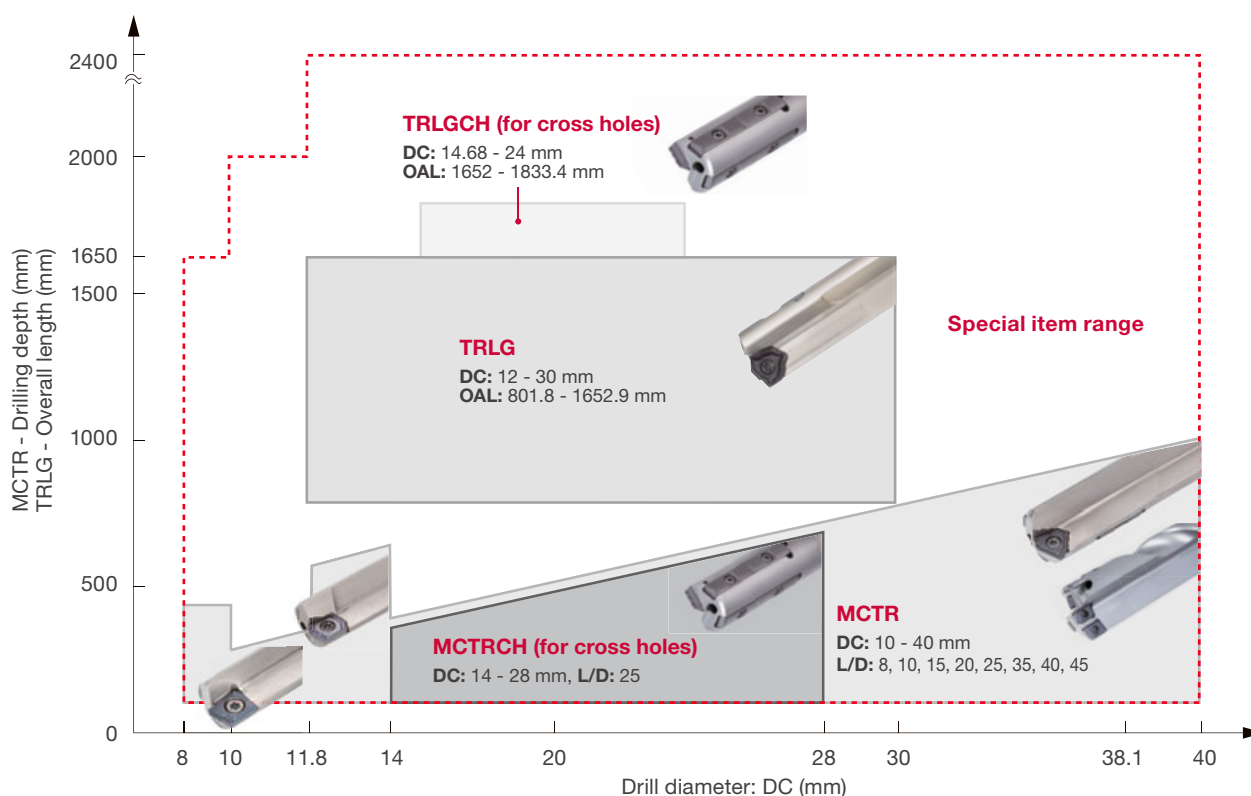
THE SMALLEST AND DEEPEST HOLES WITH AN INDEXABLE GUNDRILL





*Wide range of indexable deep drilling solutions
to your machining needs*



Smallest diameter
indexable gundrill

Remarkable deep drilling solutions for gundrill machines, lathe and CNC machining centers to cover applications from 8 mm to 40 mm



ZSGT	LOGT	TOHT	FBM...-I/C/ FBH
			
Drill dia.: ø8 - ø11.8 mm	Drill dia.: ø11.81 - ø13.99 mm	Drill dia.: ø14 - ø28 mm	Drill dia.: ø28.01 - ø40 mm
1 cutting edge chip splitter	2 cutting edges chip splitter	3 cutting edges chip splitter	2 cutting edges

video

e-catalog



REAMMEISTER

*Exchangeable head reamer
for H7 hole accuracy in
Ø10 - 32 mm and 1.5xD - 8xD*

A quick-change twist lock mechanism allows for swift tool changes.

Increased productivity thanks to high speed machining.

Minimizes costs by avoiding the needs for regrinding and re-coating.

Eliminates unstable part quality and tool life due to inconsistent re-coating quality.



Head Geometries



AS type

Tool dia.:
Ø10 - Ø32 mm
for blind holes applications



BL type

Tool dia.:
Ø10 - Ø32 mm
for through holes applications

Tools

Self-clamp system

Tool diameter: Ø10 - Ø11.499 mm
L/D: 3 and 5



Screw clamp system

Tool diameter: Ø11.5 - Ø32 mm
L/D: 1.5, 3, 5 and 8



NEW GENERATION REAMER FOR FINISHING HOLE OPERATION

e-catalog



Worldwide Network

TUNGALOY

Head Office & Production
Facilities in Japan

Tungaloy Corporation Head Office

11-1 Yoshima Kogyodanchi
Iwaki 970-1144 Japan
Phone: +81-246-36-8501
Fax: +81-246-36-8542
www.tungaloy.com

Iwaki Plant

Products: Cutting Tools

Nagoya Plant

Products: Cutting Tools

Kyushu Plant

Products: PCBN
PCD Tools
Deep Hole Drills

Nirasaki Plant

Products: Cutting Tools
Friction Materials (TungFric)
Wear Resistant Tools
Civil Engineering Tools

NTK

Head Office & Production
Facilities in Japan

NTK CUTTING TOOLS Co., Ltd.

Headquarters, Komaki plant
2808 Iwazaki Komaki City, Aichi Prefecture, 485-8510
www.ntkcuttingtools.com/jp-en
Phone: +81-568-76-1270

Kamioka plant

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Gifu 506-1147
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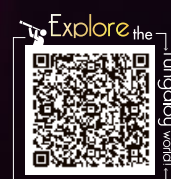
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