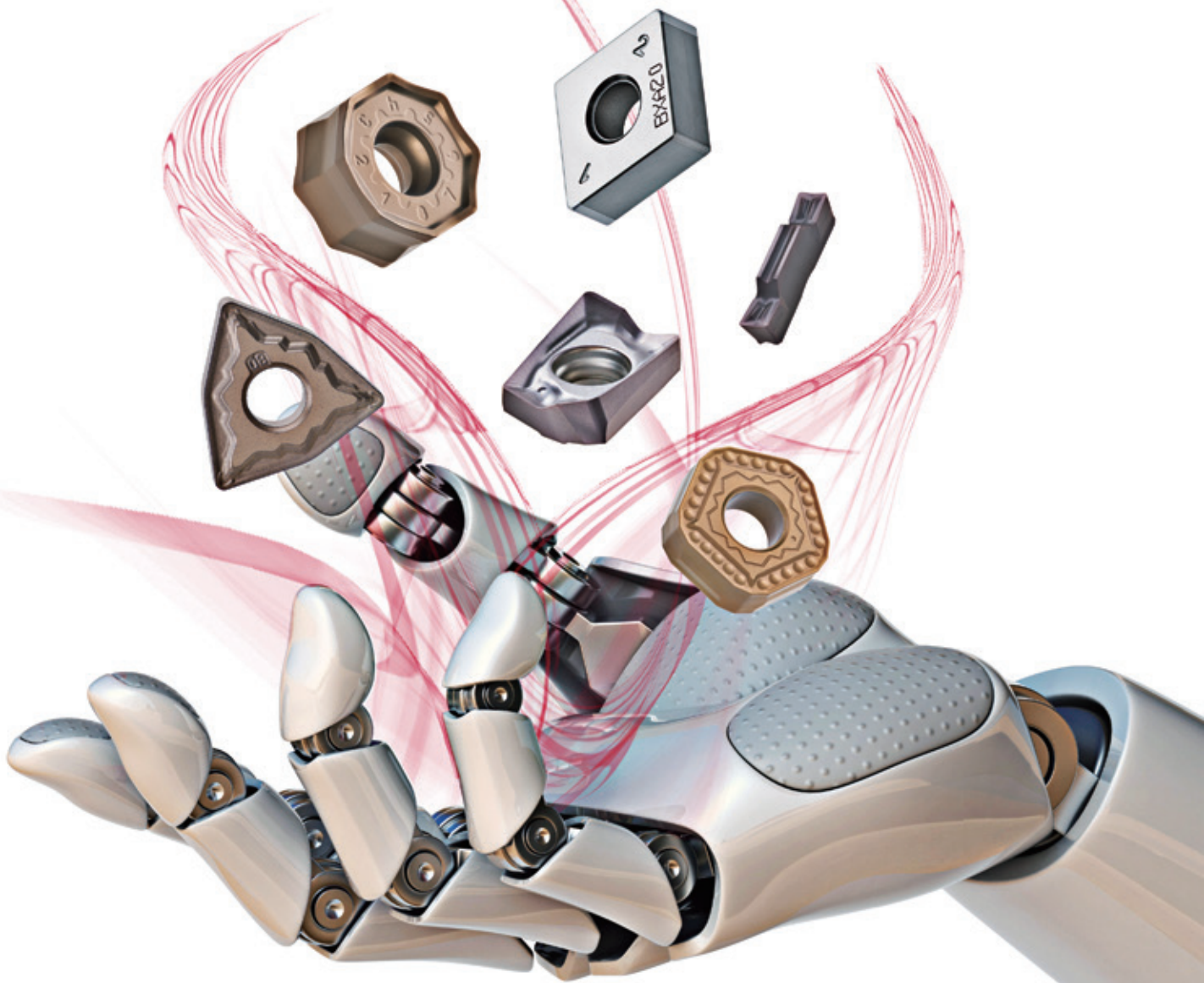


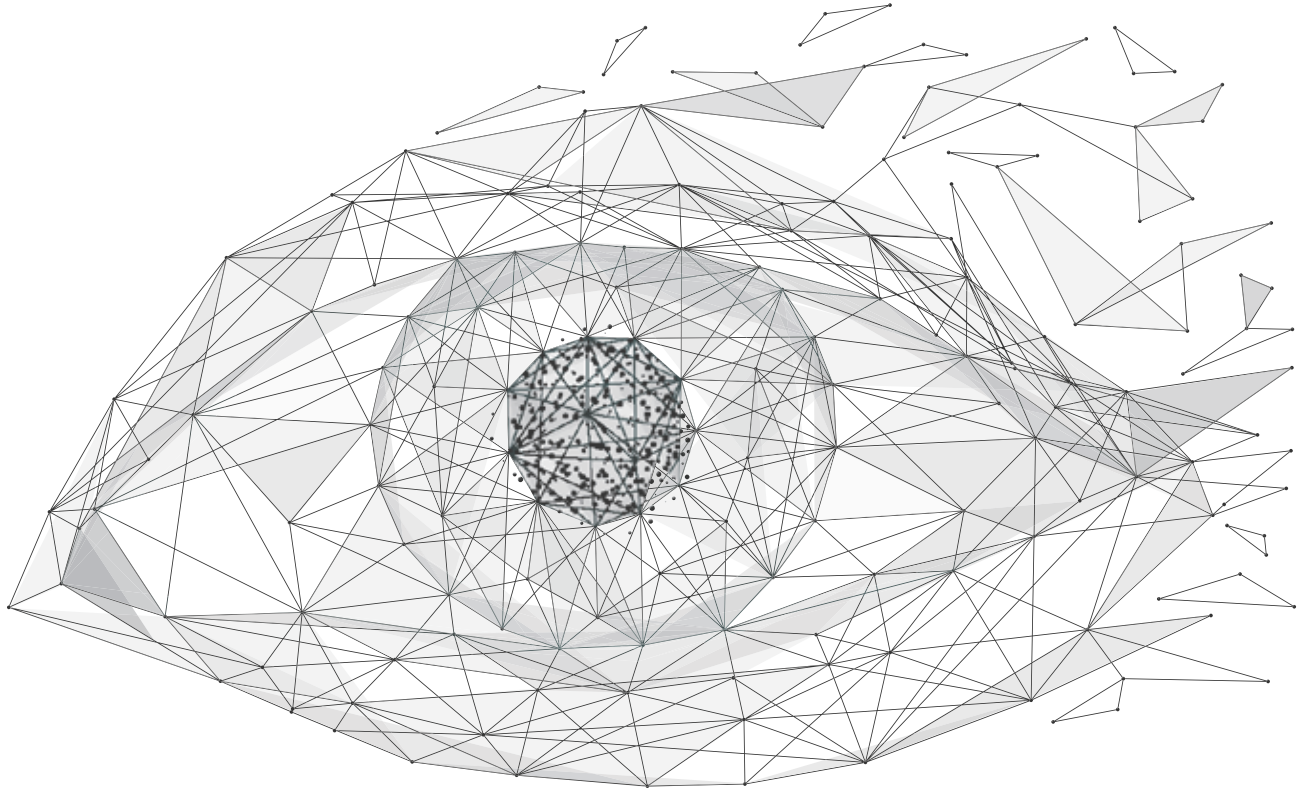
# MACHINING

---

*of Tomorrow*



**INDUSTRY 4.0**  
*FEED the SPEED!*



**E-Catalog**

Find Tools and download CAD drawings and 3D models  
[www.tungaloy.com/ecatalog](http://www.tungaloy.com/ecatalog)



**ThreadMilling Advisor**

Tungaloy's new CNC program generator facilitates thread milling programming  
[www.tungaloy.com/threadmilling](http://www.tungaloy.com/threadmilling)



**Tungaloy Atlas**

New Smartphone Application to explore the wide range of Tungaloy solutions  
[www.tungaloy.com/atlas](http://www.tungaloy.com/atlas)



**Insert Selection Guide**

Find Tungaloy's first recommendations for Turning operations  
[www.tungaloy.com/insertguide](http://www.tungaloy.com/insertguide)



**Matrix**

Tool management system  
[www.tungaloy.com/matrix](http://www.tungaloy.com/matrix)

---

# industry 4.0

## *Tungaloy's Insights – Smart Manufacturing*

On the wave of digitalization, a full understanding of the changes and opportunities digitalization brings is critical for industries to function and stay competitive. Tungaloy offers a portfolio of its latest digital services and products to support our customers in making better tooling decisions and to help heighten their competitiveness in a world eager to embrace Industry 4.0 technology.



# Contents



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## GRADES

*Outstanding Grades*

*More Robust than Ever*  
*CBN - BXA20 with WavyJoint*



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## TURNING & GROOVING

*5 Reasons Why!*

*High depth and High feed Turning*

*Vibration-free for deep hole boring*

*Versatile tools for grooving and side turning operations*

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# MILLING

Faster, Better, Stronger End Mills  
Facing New Challenges  
A Remarkable Solution for Face Milling  
High Feed Milestones  
Perfect Pitch  
Economical thread-milling solutions

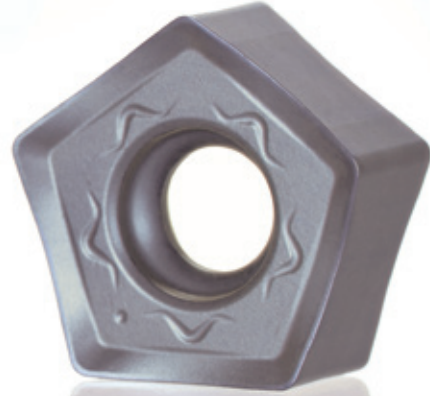


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# DRILLING

*Masters of Hole Making*  
Unparalleled solutions for drilling  
and deep hole drilling

# Outstanding GRADES



DoPent  
Face Milling

**AH3135**  
TUNGALOY

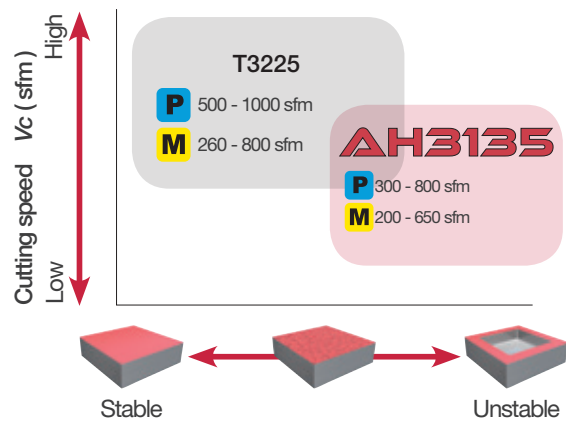
**P**  
Steel

**M**  
Stainless Steel

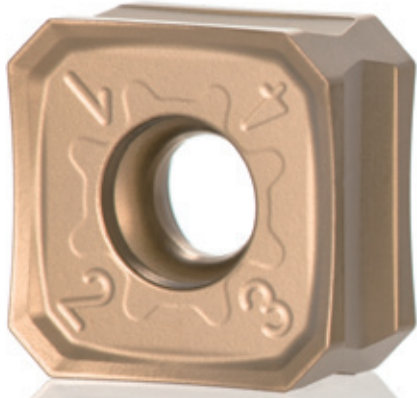
Dramatically improved  
chipping and fracture  
resistance

Multi-layered PVD coating prevents crack expansion which causes chipping and fracture

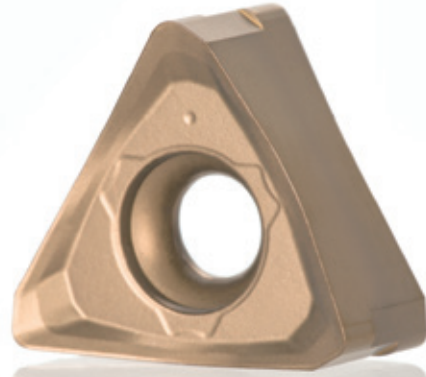
## APPLICATION AREA



# MILLING



**DoTriple-Mill**  
Face Milling



**DoForce-Tri**  
Shoulder Milling

**T3225**  
TUNGALOY

**P** Steel  
**M** Stainless Steel

**T1215**  
TUNGALOY

**K**  
Cast Iron

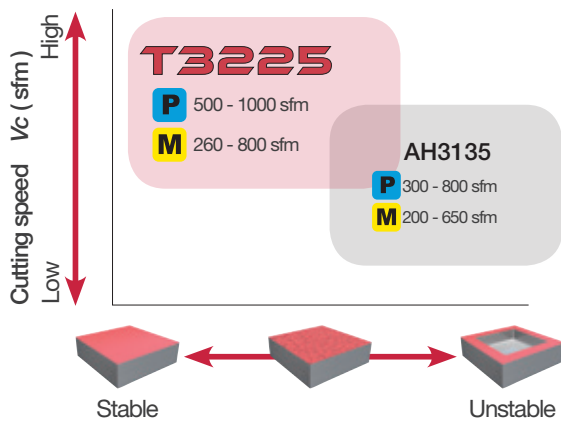
Most suited for steel and stainless steel at high-speed machining

**Extremely fracture resistant CVD-coated grade** most suited for high speed milling of steel and stainless steel in stable condition.

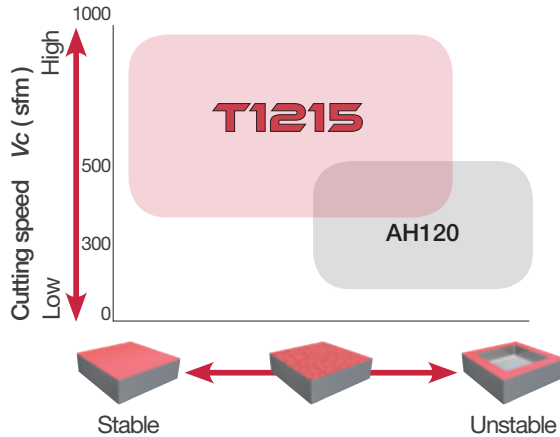
Best for cast iron at high-speed machining

**CVD-coated grade with superb resistance to wear and chipping** in a broad range of cast iron milling for medium to high cutting speeds.

## APPLICATION AREA



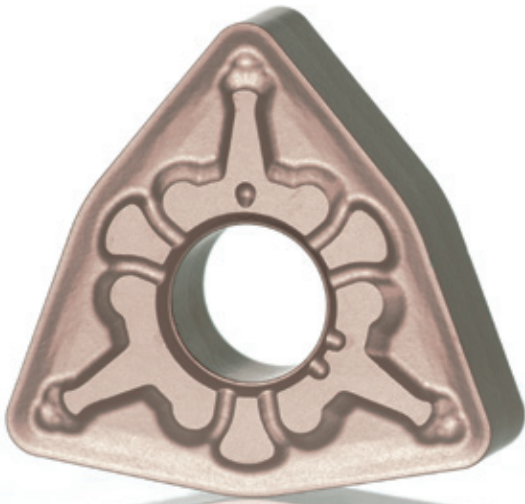
## APPLICATION AREA **K**







# TURNING



**T9215**  
TUNGALOY

**P** **M** **K**  
Steel Stainless Steel Cast Iron

**New generation of CVD grade for steel turning with outstanding productivity**

**T9215 CVD grade** with unparalleled wear and fracture resistance for turning ISO P15 materials



**AH8000**  
TUNGALOY

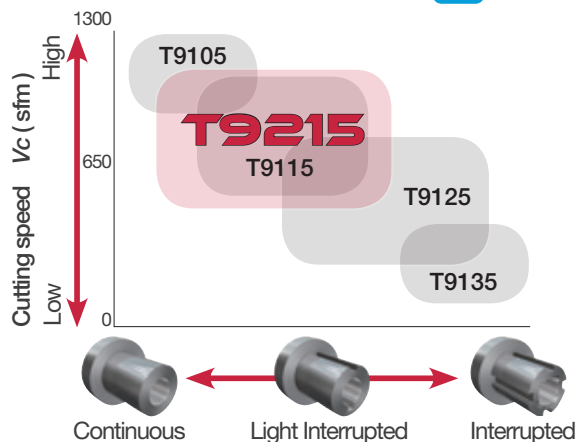
**S** **M**  
Super alloys Stainless Steel

**Incredible reliability in heat-resistant alloy turning**

**High Al content nano-multilayer AlTiN coating**, Tungaloy's latest coating innovation, ensures long, stable tool life, while improving notch wear resistance, thanks to the coating's increased hardness and adhesion strength.

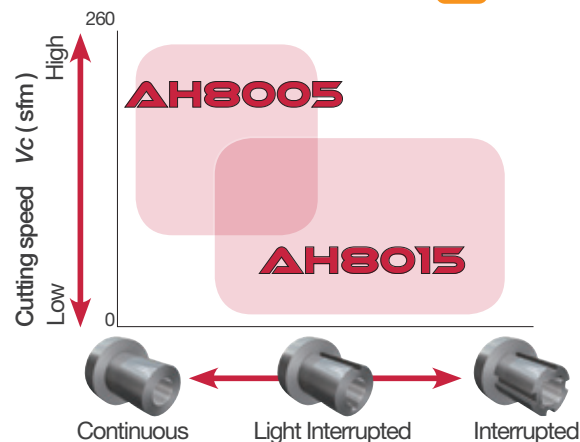
APPLICATION AREA

**P**



APPLICATION AREA

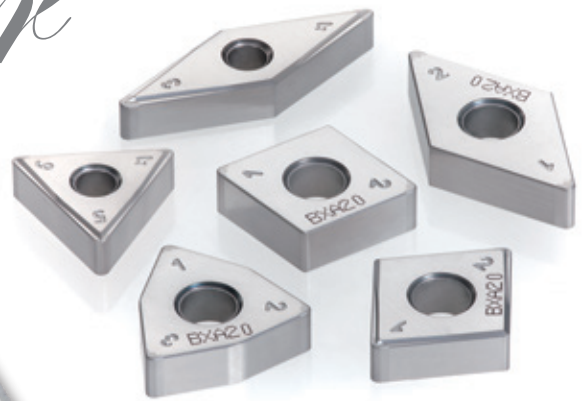
**S**



*Unparalleled performance in hard-turning applications*

# **MORE ROBUST**

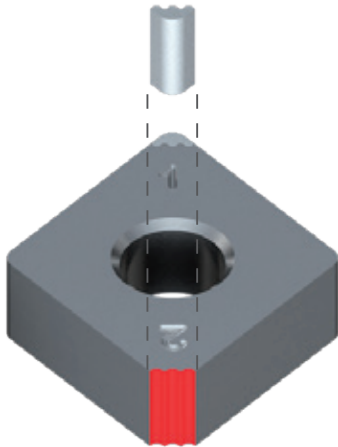
*than Ever*



## Wavy Joint BXA20

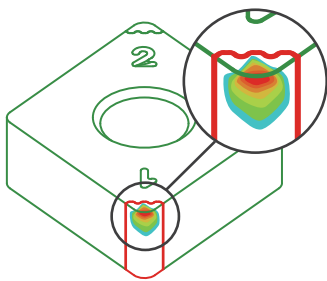
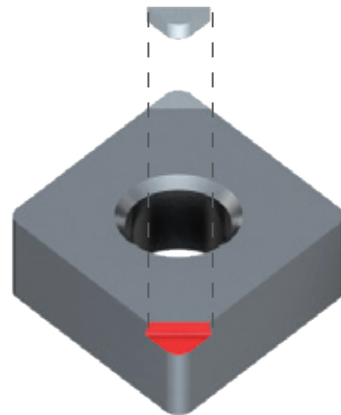
**Vs.**

## Standard

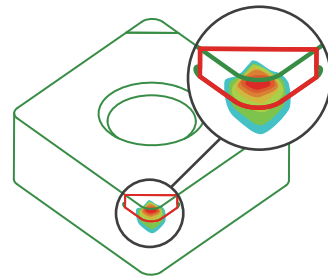


**CBN tip size:**  
Up **200%** for improved heat control in the cutting zone

**Brazing area:**  
Up **160%** for enhanced brazing strength



Temperature during machining is concentrated on the CBN tip, reducing temperature issues in the brazing zone.

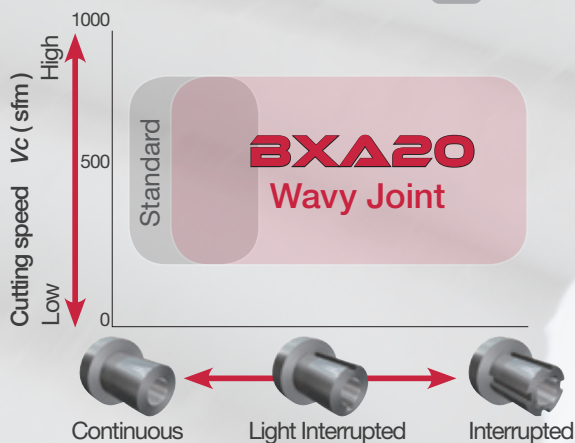


## New brazing technology for increased machining efficiency - "Wavy Joint"

### Wavy Joint BXA20

Great performance for continuous to heavy interrupted cutting at low and medium speeds.

### APPLICATION AREA **H**



# TURN<sup>TEN</sup>FEED

*Pentagonal double-sided insert* for high-feed and high-depth of cut in turning applications

# 5 REASONS

# Why!

### *Depth of Cut*

**HD type holder** applicable for **High Depth of cut** up to 0.275" (7 mm) for high productivity turning

### *10 corners*

**Double-sided inserts with 10 cutting edges.**

Larger corner angle than ISO inserts provides high fracture resistance

### *Feed rate*

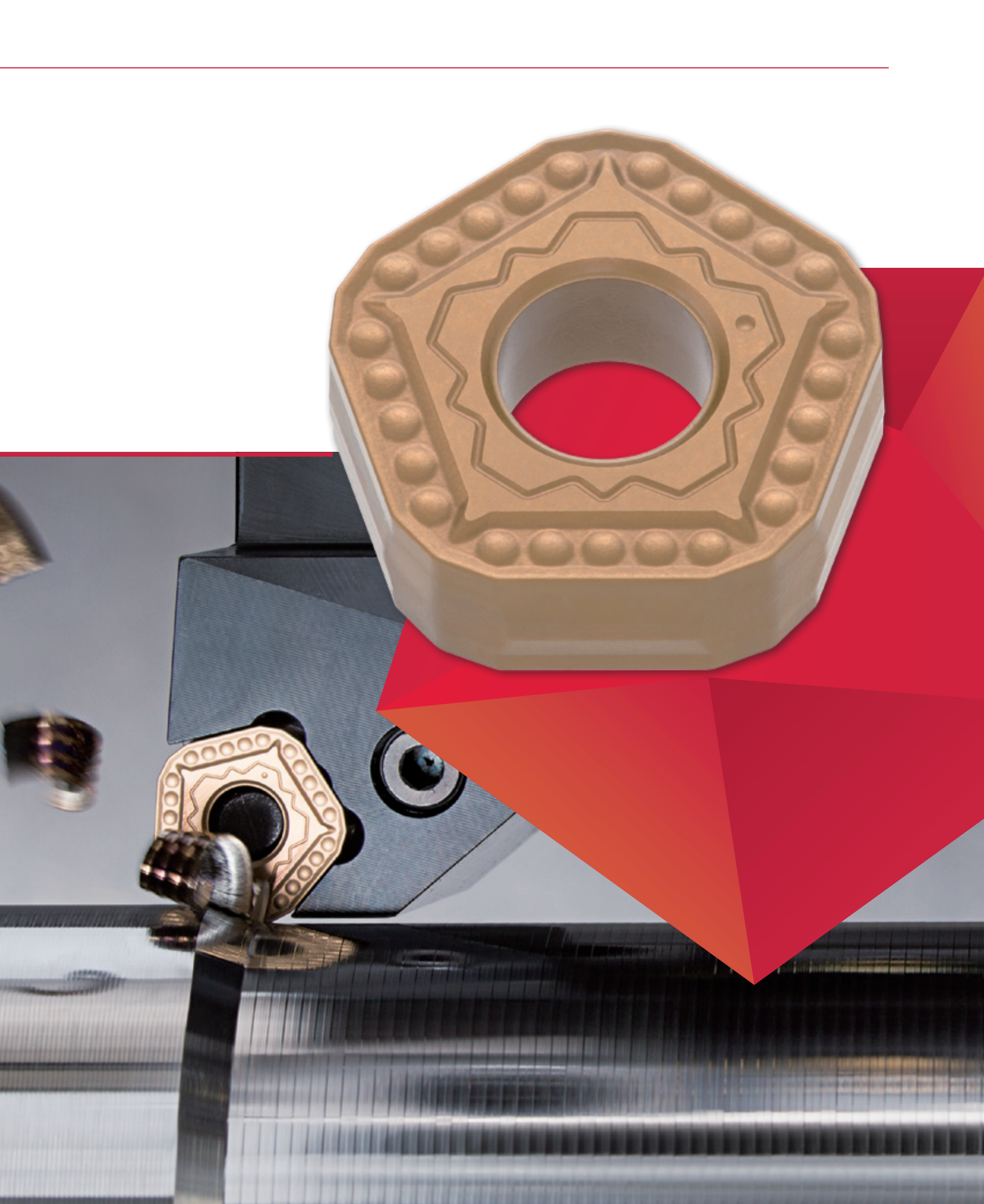
**HF type holder** applicable for **High Feed** up to 0.078" (2.0 mm) for high productivity turning

### *Chip control*

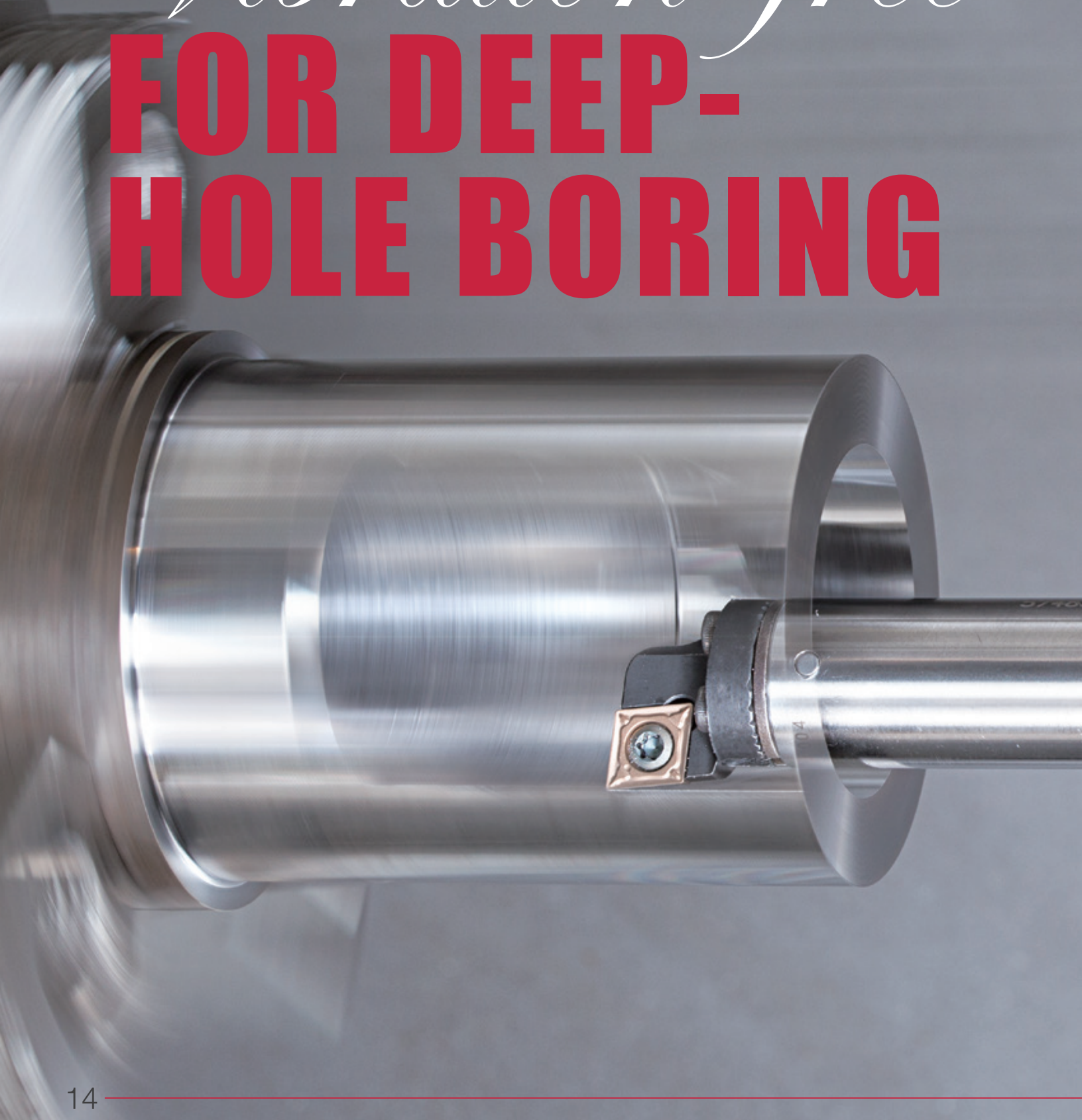
Superb chip control due to the **new MNW chipbreaker**

### *T9215 Grade*

**Long tool life and stable machining** in a wide range of application areas compared to products equivalent to P15 grade



*Vibration-free*  
**FOR DEEP-  
HOLE BORING**



# BOREMEISTER

Vibration and chatter are no longer an issue with *Tungaloy's new BoreMeister ID turning tool!*

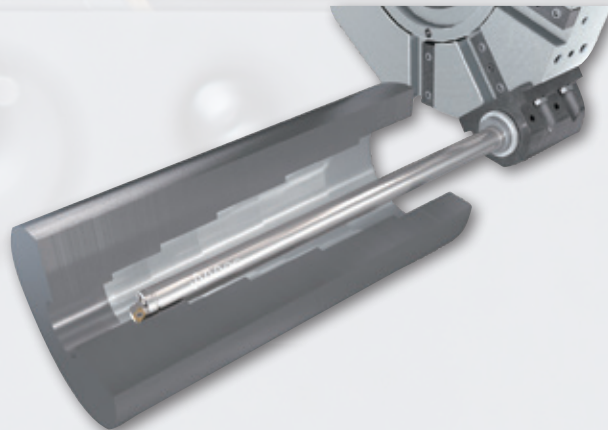
BoreMeister offers the ultimate solution for overcoming tool overhang challenges of up to 10xBD, while enhancing stability in deep hole boring, which is not possible with traditional steel or carbide shanks.

**- Shank diameters available in**

ø16 mm, ø20 mm, ø25 mm,  
ø32 mm, ø40 mm, ø50 mm,  
and ø60 mm.



**- Overhangs available in 7xBD or 10xBD** depending on the tool diameter. Internal coolant supply for efficient chip evacuation.



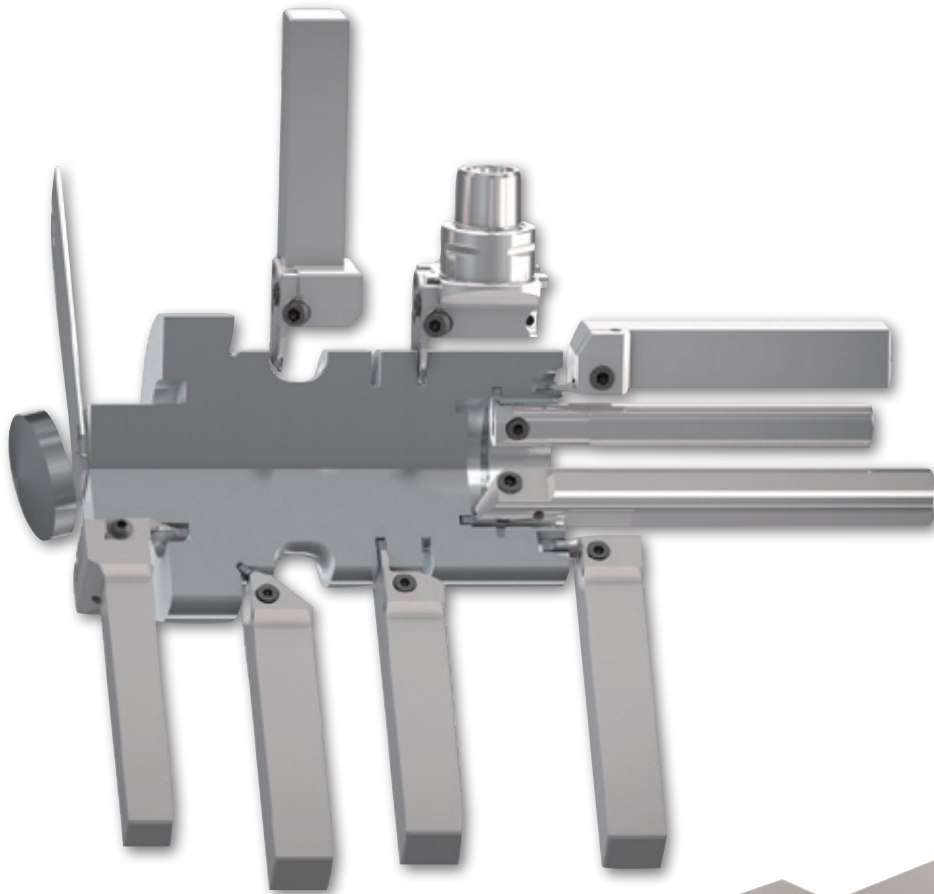
TUNG**CUT**

# VERSATILE TOOLS

*for Grooving and  
Side-turning  
operations*

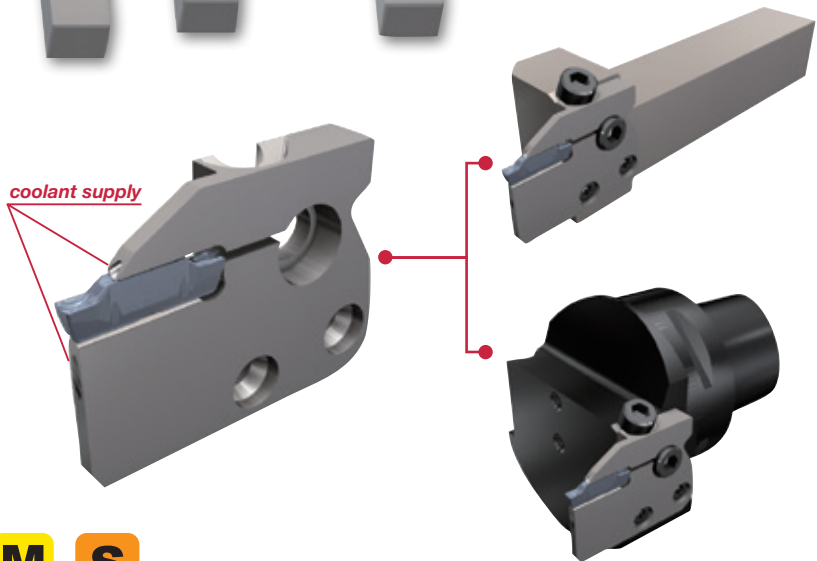
*Enhanced TungCut  
series* provides high  
productivity, stability, and  
cost effectiveness.





**CHP, high-pressure internal coolant supply** ensures smooth chip evacuation, while improving machining efficiency in higher parameter applications

**New modular blade system** provides machining security and efficiency as well as tool cost reduction



**NEW Grade**  
**AH7025**

**P**  
Steel

**M**  
Stainless Steel

**S**  
Super alloys

**First recommended grade** for general purpose.

New PVD coating with high Al content provides excellent adhesion strength.

**Improved wear and chipping resistance.**

Enhanced chipbreaker selections in combination with AH7025 grade offers productivity and stability in a wide range of materials and applications.



**New DTM**  
Chipbreaker



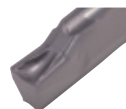
**DGM**



**DGS**



**DTE**



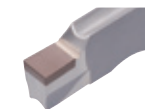
**DTX**



**DTR**



**DTR**



**SGN - CBN**

*Faster,  
Better*  
**STRONGER  
END MILLS**

---

**TUNG**<sup>ORCE</sup>**FREC**

V-shaped insert bottom guarantees excellent stability in *high speed machining operations*

Sharp cutting edge with positive rake face ensures **smooth cutting**.

Large screw **improves clamping rigidity**.

**Cutter bodies:** Shank type **EPAV** DCX 0.313" - 1.00" (8 - 32 mm),  
Modular type **HPAV** (DCX 10 - 16 mm),  
Bore type **TPAV** (DCX 40 mm)



### MJ type chipbreaker

**AH3135:** Suitable for steel and stainless steel machining with high toughness

**AH120:** Ideal for machining of cast iron and heat resistant alloy

**AH130:** Optimized for titanium alloys and heat resistant alloy. First choice for wet machining

### AJ type chipbreaker

Uncoated carbide grade, **KS05F** with fine grain cemented carbide has high wear resistance for non-ferrous machining.

# Facing. *New* Challenges

A remarkable solution for face milling

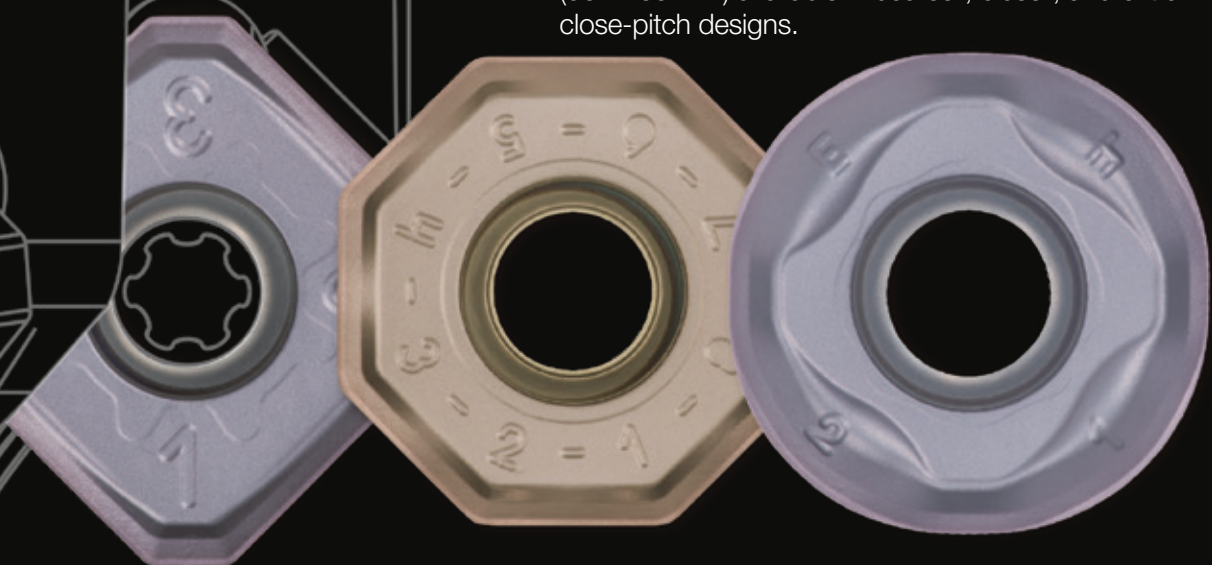
## DOT<sup>TRIPLE</sup>MILL

Face milling cutter with **3 types of double-sided inserts**

**Brings a top performance in every operation:** from high feed milling, scale removing, finish milling and more.

**Dovetail structure** provides high clamping rigidity with only one screw.

**Cutter bodies:** Bore type **TASN DCX** 2.00" - 6.00" (50 - 160 mm) available in coarse-, close-, and extra close-pitch designs.



### SNMU13-MJ

8-cornered general purpose insert  
Max. ap - 0.236" (6 mm)

### ONMU05-MJ

16-cornered economical insert  
Max. ap - 0.134" (3.4 mm)

### RNMU13-MJ

8-cornered radius insert for high feed and general machining  
Max. ap - 0.236" (6 mm)



HIGH

FEED

*Milestones*

*the Go-to-Solution for Accelerated Machining*



## TUNG F<sup>ORCE</sup> FEED

Small diameter high-feed milling cutter for increased productivity

**Robust cutter body design** and rigid insert retention ensure machining stability

Single-sided insert with **high inclination angle** for **better chip evacuation**

Free cutting geometry to **ensure stability** in long overhang applications

Available in a wide lineup of cutter bodies and inserts for various application needs

**Cutter bodies:**

Shank type **EXLS** DCX 0.315" - 0.625" (8 – 16 mm)

Modular type **HXLS** DCX 8 – 16 mm

**LSMT02..**

2-cornered insert  
Max. ap: 0.02" (0.5 mm)



TUNGALOY HIGHLIGHTS - *FEED the SPEED!*

---







# DOT<sup>WIST</sup>BALL

**Super high-feed cutter  
for profile milling with  
rigid clamping**

The large clamping screw and twisted contact surface **increase reliability at high feed rates.**

**2 types of inserts** fit into the same pocket, **radius type** for profile milling and **high-feed type** for high-feed milling.

**Cutter bodies:**

Bore type **TXLN DCX** 1.50" - 3.00" (40 - 63 mm),  
Shank type **EXLN DCX** 1.00" - 1.50" (20 - 40 mm),  
Modular type **HXLN** (DCX 20 - 32 mm)

**LNMX04/06 MJ & ML**

Radius type available in R4, R6 corner radii for profile milling of various materials.



**LNMX04/06-HJ**

High-feed type applicable for depths of cut up to 0.05" (1.3 mm) and 0.078" (2.0 mm) respectively.





**PERFECT**  
*Pitch*

# THREADMILLING

Economical thread-milling solutions with versatility for high productivity

## Indexable thread milling cutters – ETLN

Various multi-point inserts fit one shank to cover a wide range of threading diameters and pitches, providing reduced tool inventory and costs.

## Indexable threading mills – single-point insert design

Suitable for deep hole and large-pitch threading. Its light cutting geometry ensures high stability and high accuracy threading up to 0.236" (6 mm) pitch.

## TungMeister

Head-changeable milling tools for less downtime than solid tapping tools.

## SolidThread

Solid carbide thread milling tool series for diameters as small as M1x0.25 and 0-80UNF.



ETLN type



# Masters of Hole Making

## DRILLMEISTER

**Changeable head drill system for solid productivity**

**Excellent cutting performance and tool life** due to new head geometries and innovative grade AH9130

**Dovetail interlocking system** prevents the drill head from falling during replacement, **simplifying drill setup.**

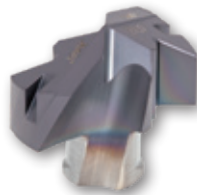
**Drill bodies:**

**TID flange type:** Available in 1.5xD, 3xD, 5xD, 8xD, and 12xD (12xD to be used with collets or hydro-grips)

**TIDC straight type:** Suitable for use with TIDCF chamfer holders

**TIDCF chamfer holder:** Available with 3 types of inserts in chamfering angles of 30°, 45°, and 60°

**Drill head: DMP... (AH725) DMC - 2M, DMH... (AH9130)**  
DCX: 0.236" - 1.020" (6 - 25.9 mm) in increments of 0.1 mm



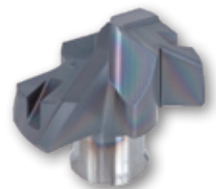
**DMP (AH725)**

General purpose for various materials and machining situations



**DMH (AH9130)**

Tough cutting edges and shoulder geometry for improved tool life



**DMC (AH9130)**

Self centering point and double margins ensure excellent hole diameter accuracy and roundness



# DEEPT<sup>RI</sup>DRILL

Deep hole drilling with remarkable productivity and stability

**Good chip control and smooth chip evacuation** achieved due to the special insert geometries

**Drill bodies for lathes, machining centers, and gundrill machines:**

**MCTR...** for machining centers: Stocked in 8xD, 10xD, 15xD, and 25xD for drilling depths from 6.693" - 30.512" (170 to 775 mm), depending on the diameter.

**TRLG...** for gundrill machines: Offered up to the length of 94.5" (2400 mm).

Also available in a variety of drill holding drivers for different types of spindle interfaces.

Guide pads **GP...**: Equipped with 2 usable edges.

**Insert: TOHT...** (with chip splitter) Available in 5 sizes to cover DCX 0.551" - 1.102" (14 to 28 mm)

**Insert: FBH... FBM...** Available in 3 and 4 sizes respectively to cover DCX 1.141" - 1.575" (29 to 40 mm)



**TOHT...**



**FBH...**



**FBM...**



# Worldwide Network



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.co.jp](http://www.tungaloy.co.jp)

## **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



Sales Channels

## **Tungaloy America, Inc.**

3726 N. Ventura Drive  
Arlington Heights  
IL 60004, U.S.A.  
Phone: +1-888-554-8394  
Fax: +1-888-554-8392  
[www.tungaloyamerica.com](http://www.tungaloyamerica.com)

## **Tungaloy Canada**

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Fax: +1-519-758-5791  
[www.tungaloy.co.jp/ca](http://www.tungaloy.co.jp/ca)

## **Tungaloy de Mexico S.A.**

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Phone: +52-449-929-5410  
Fax: +52-449-929-5411  
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São Paulo, Brazil  
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Fax: +49-2173-90420-19  
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Fax: +33-1-6907-7817  
[www.tungaloy.fr](http://www.tungaloy.fr)

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Fax: +34 93 876 2798  
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Fax: +7-499-683-01-81  
[www.tungaloy.co.jp/ru](http://www.tungaloy.co.jp/ru)

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Fax: +7-343-278-94-35  
[www.tungaloy.co.jp/ru](http://www.tungaloy.co.jp/ru)

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Fax: +48-22-617-0890  
[www.tungaloy.co.jp/pl](http://www.tungaloy.co.jp/pl)



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Glaisher Drive, Wolverhampton  
West Midlands WV10 9RU, UK  
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Fax: +44 121 270 9694  
www.tungaloy.co.jp/uk

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Fax: +36 1 781-6866  
www.tungaloy.co.jp/hu

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34776 Ümraniye Istanbul, TURKEY  
Phone: +90 216 540 04 67  
Fax: +90 216 540 04 87  
www.tungaloy.com.tr

### **Tungaloy Benelux b.v.**

Tjalk 70  
NL-2411 NZ Bodegraven Netherlands  
Phone: +31 172 630 420  
Fax: +31 172 630 429  
www.tungaloy-benelux.com

### **Tungaloy Croatia**

Josipa Kozarca 4  
10432 Bregana, Croatia  
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Fax: +385 1 3327 683  
www.tungaloy.hr

### **Tungaloy Cutting Tool (Shanghai) Co.,Ltd.**

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Jiangchang No.3 Rd  
Shanghai 200436, China  
Phone: +86-21-3632-1880  
Fax: +86-21-3621-1918  
www.tungaloy.co.jp/tcts

### **Tungaloy Cutting Tool (Thailand) Co.,Ltd.**

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1858/5-7 Bangna-Trad Road  
km.5 Bangna, Bangna, Bangkok  
10260  
Thailand  
Phone: +66-2-751-5711  
Fax: +66-2-751-5715  
www.tungaloy.co.th

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62 Ubi Road 1  
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Fax: +65-6299-4557  
www.tungaloy.co.jp/tspl

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Ho Chi Minh City, Vietnam  
Phone: +84-8-37406660  
Fax: +84-8-37406662  
www.tungaloy.co.jp/tspl

### **Tungaloy India Pvt. Ltd.**

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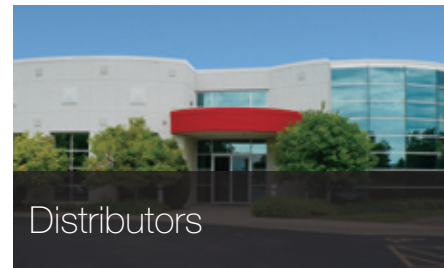
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