

LATEST INNOVATIONS IN GEOMETRIES AND GRADES





Tungaloy's Insights – Smart Manufacturing

Tungaloy, as one of the leaders in the metal removal industry, offers the latest innovations in grades and geometries for superb performance and tool life. In a competitive world eager to embrace Industry 4.0, Tungaloy provides an extensive portfolio with the latest digital tools to support our customers in making better tooling decisions to improve their competitiveness and productivity.





C-Catalog

drawings and 3D models www.tungaloy.com/ecatalog Find Tools and download CAD



ThreadMilling Advisor

www.tungaloy.com/threadmilling milling programming generator facilitates thread Tungaloy's new CNC program

Dr. Carbide

www.tungaloy.com/drcarbide



Tungaloy Atlas

Tungaloy solutions to explore the wide range of New Smartphone Application www.tungaloy.com/atlas



Insert Selection Guide

www.tungaloy.com/insertguide

for Turning operations Tungaloy's first recommendations



High-Feed Milling Guide

high-feed milling tools www.tungaloy.com/highfeed Tungaloy selection guide for



Matrix

Tool management system www.tungaloy.com/matrix



TungNavi

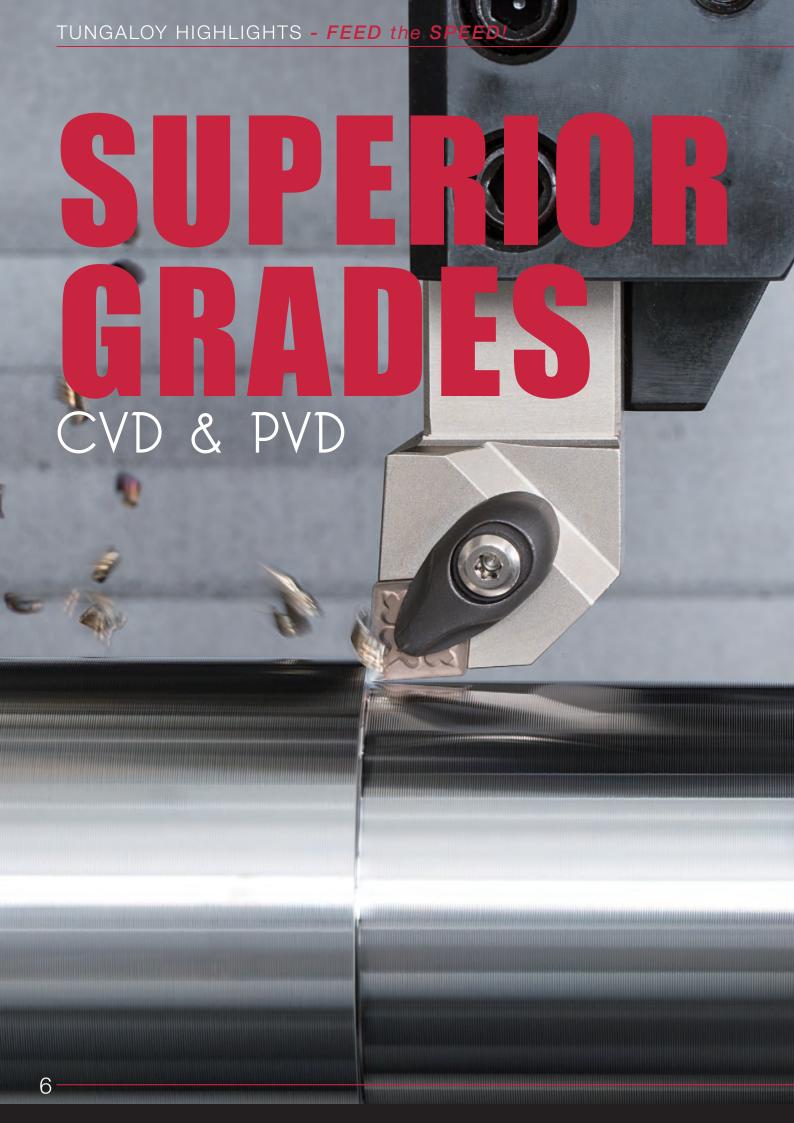
www.tungaloy.com/tungnavi Tungaloy Tool Advisor





Superior Grades Shoulder Milling CVD & PVD Milestones Making Hard Turning An invaluable Face Milling Cutter less Hard than it seems Latest Milling Solutions for Vibration-Free for Difficult-to-cut Deep-Hole Boring & Non-Ferrous Materials The Path of Versatility; The Perfect Pitch Modular System for for Threadmilling Grooving & Parting-off High-Feed Milling Masters of Overview Hole Making No Tool Matrix the Perfect Interference, Partner for your in Face Milling **Business**

Operations



TURNING & GROOVING



New generation CVD grade for steel turning with outstanding productivity

Nearly unbreakable CVD series for improved machining efficiency







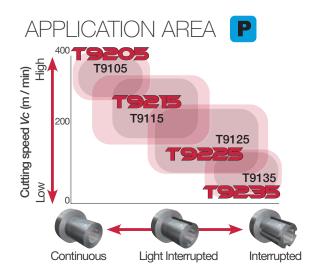


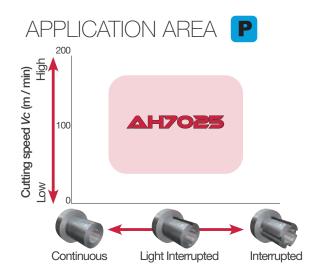




Ideal grade for grooving & side-turning applications

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



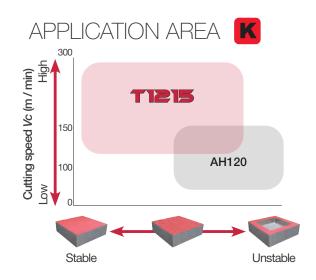






Best for cast iron high-speed machining

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





Most suited for steel and stainless steel high-speed machining

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



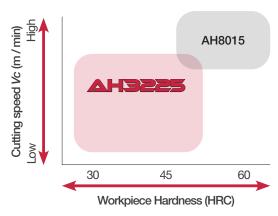
Nano multi-layer PVD coating technology with extended tool life

Resistance to built-up edge Resistance to wear, oxidation and fracture Strong coating/substrate adhesion

APPLICATION AREA



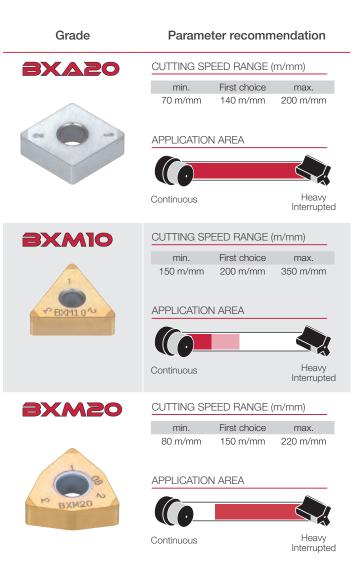
APPLICATION AREA

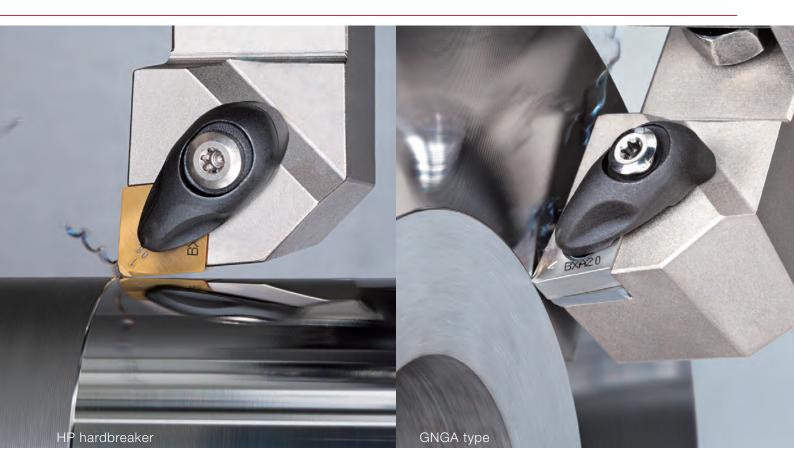




Quick guide

Since the introduction of our very first **T-CBN** grade, **Tungaloy's** devotion to innovation has consistently brought its **T-CBN** grades to higher levels of perfection. Designed with optimal material matrices and tested to prove its performance both in-house and the field, **T-CBN** assures the best performance in every hard turning application.





Unique Solutions





for smooth chip evacuation A 70° corner angle provides a large clearance between insert and workpiece.



Large clearance reduces cutting force and edge wear, and provides smooth chip flow to prevent scratches on machined surface from chips.





for high depth of cut in hard turning up to 0.8 mm

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



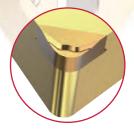
CBN Tip Size: 200% larger for improved wear control in the cutting zone Brazing Area: 160% larger for enhanced brazing strength

hardbreaker



for chatter prevention and the finest machined surfaces

The cutting edge preparation is designed to ensure easy cutting at low cutting forces.



The HP style chipbreaker,

with its built-in wipers, yields excellent surface quality and good chip control.



FOR DEE 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.



THE PATH OF







VERSATILITY

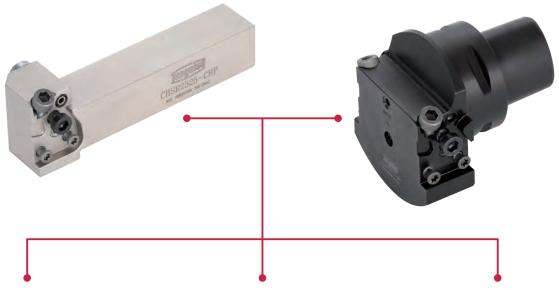
Modular System for Grooving & Parting-off

TUNGMÄYŠT

Cost-efficient and exchangeable CHP blade system for side-turning, grooving and parting-off operations

Regular toolholder

TungCap toolholder



TETRAMCÜT

TETRA

TUNGCUT

Groove widths: 0.33 - 3 mm

Groove widths: 0.5 - 3.18 mm

Groove widths: 1.4 - 8 mm







Multi-purpose grooving insert with economical 4-cutting edged insert. Unique 3-point clamping system and insert pocket protects all unused cutting edges.

Wide range of grades, geometries, and holder variations for maximum versatility and profitability

AH7025

NEW Grade for TetraMini-Cut and TungCut

First recommended grade for general purpose.

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

Improved wear and chipping resistance.

TUNGCUT

Chipbreaker Selection Guide

for Grooving and Parting-off



DGM for medium feed rates



DGS
n for lower
feed rates
(sharpened insert)



DGL for low carbon steels

for Grooving and side-Turning



First choice for a wide range of applications

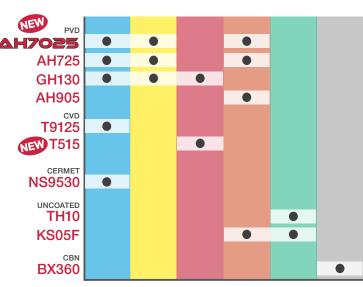


DTXVersatile
chipbreaker



DTE for external applications

Grade Chart





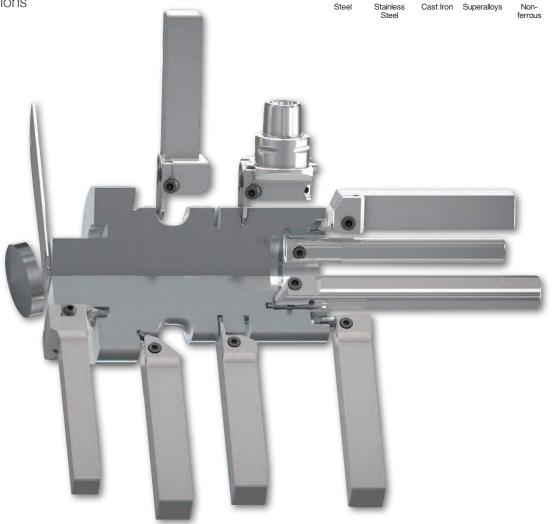












ETRAFĈŰT



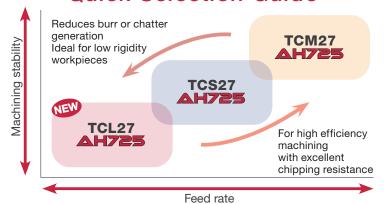
TCL chipbreaker For light cutting



TCM chipbreaker TCS chipbreaker

For higher For general machining efficiency applications

Quick Selection Guide





TCS type 3D Chipbreaker Honed edge



TCG type

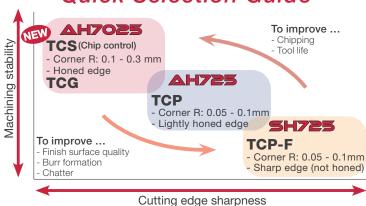


TCP type Lightly honed edge



TCP-F type Sharp edge

Quick Selection Guide



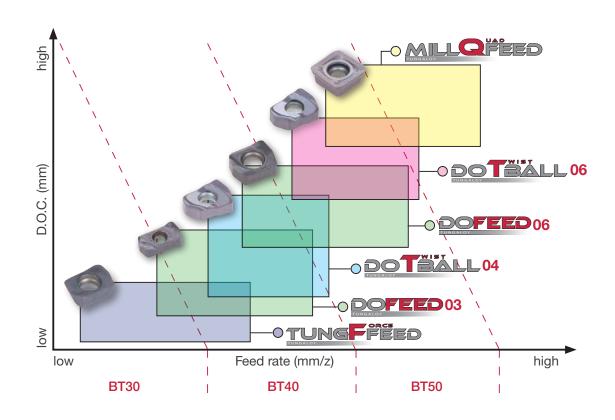


MILLING OVERVIEW

Tungaloy's renowned solutions for **High-Feed Milling (HFM)**have been around for decades

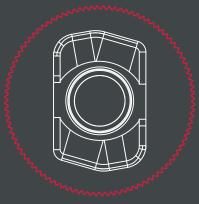


A wide range of solutions to suit every need













DoTwist-Ball



Robust cutter body design and rigid insert retention ensures 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* 8 – 16 mm, Modular type **HXLS** *DCX* 8 – 16 mm



LSMT-HM insert for High-Feed milling



LSMT-MM insert for Profile milling

The large clamping screw and twisted contact surface increases 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* 40 - 63 mm), Shank type **EXLN** (*DCX* 20 - 40 mm), Modular type **HXLN** (*DCX* 20 - 32 mm)



LNMX04/06-HJ

High-feed type applicable for depths of cut up to 1.3 mm and 2.0 mm respectively.



LNMX04/05/06 MJ & ML

Radius type available in R4, R5, R6 corner radii for profile milling of various materials.







No Tool Interference in **Face Milling Operations**

Ideal for machining close to side walls and part-clamping systems.

Low cutting force ensures stability when machining workpieces with thin walls or weak fixtures

Cutter bodies:

Bore type: **THSN** (DCX 50-100 mm)





With 8 cutting edges, Max DOC: 9 mm Available in R0.8 (with wiper), R1.2, and R2.0

Designed to avoid tool interference in rough and finish face milling operations with side walls, fixtures, and clamping systems













SHOULDER MILLING milestone

DOFTRI

High-precision shoulder milling cutter with economical double-sided triangular inserts

New inserts TNMU07 for small parts machining

Inserts with **concave shaped cutting edge** improves chip formation and evacuation

Cutter bodies:

Bore type: **TPTN07/12** (DC 40 – 125 mm) Shank type: **EPTN07/12** (DC 18 – 40 mm)







TNMU07/12-MJ

First choice, versatile geometry with good surface finish



For close tolerances



TNMU12-NMJ

Ensures free cutting and good chip control during heavy milling



TNMU-R-MJ

Strong cutting edge design with large corner radius



Inserts are available in 2 sizes for maximum density and cutting depths over conventional double-sided 6-edged inserts

Higher number of teeth

Smaller inserts provide up to 2x table feed over conventional inserts

Greater depths of cut

19272, OROS 100 galing 70 871

Allows up to 2x depth of cut over a conventional insert of the same size



Size 07

Conventional double-sided 6-edged insert

Size 12

TAN INVALUABLE TO CONTROL TO



TUNGEMI

Face milling cutter with 8-edged inserts for extremely low cutting force

Positive inserts with 8 cutting edges featuring double relief on the flank surface for improved durability

Cutter bodies:

Bore type: **TAOW05** (DC 40 – 160 mm) Shank type: **EAOW05** (DC 32 – 40 mm)



OWMT05-MM

First choice for general machining



OWHT05-MM

For finishing and minimized burrs



OWHT05-MW

For better surface roughness

LATEST MILLING SOLUTIONS FOR Non-ferrous materials N



Super high density PCD cutter with innovative insert clamping design for quick and easy insert setting

22 inserts per ø100 mm cutter diameter. Allows a cutting speed of 3,000 m/min or higher

CamAdjust system - innovative insert axial adjusting mechanism

Cutter bodies:

Bore type: **TPYD06** (DC 63-160 mm) Shank type: EPYD06 (DC 50 mm)



YDEN0603PD(F/S)R-D

Standard insert with built-in deburrer



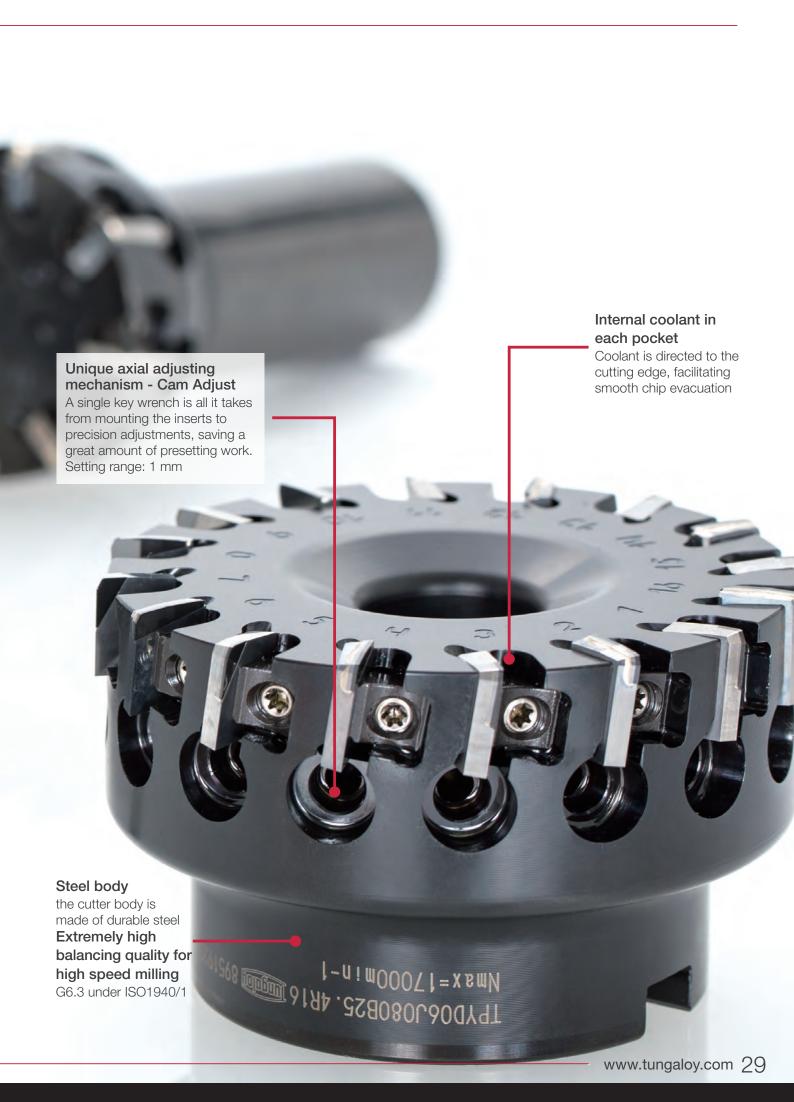
YDEN0603PDFR-WD

Wiper insert - for superior surface finishing



YDEN0603PDFR-BD

Dedicated deburring insert -Tungaloy's exclusive insert design



LATEST MILLING SOLUTIONS FOR Difficult-to-cut materials s





High efficiency milling cutter with ceramic inserts for high temperature alloy machining

New SiAION grade inserts features high reliability

These two new ceramic grades are characterized by their excellent toughness and anti-chipping capabilities

TS200:

Superior wear resistance due to high chemical stability Superior flank and notch wear resistance

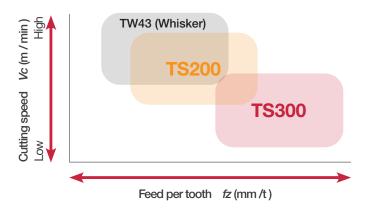
TS300:

Extreme toughness allows for higher feed and greater depth of cut machining Suitable for scaling and roughing applications

Cutter bodies:

Bore type: **TFMRN** (D1 63 - 80 mm)

APPLICATION AREA











THREADMILLING

Economical thread-milling solutions providing 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, reducing tool inventory and costs.





MASTERS OFHOLE MAKING - REAMING-



REAMMEISTER

Interchangeable Head Reamer with improved set-up time and high productivity

High cutting speeds and feeds (for higher productivity)

Low runout and indexing repeatability (maximum 3µm)

Able to finish H7 hole tolerance

One shank can be used for a wide range of diameters, various types of cutting edges and grades

Internal coolant is directed optimally to the cutting edges for the most efficient head lubrication for extremely long tool life



TRM: Available in 1.5xD, 3xD, 5xD, and 8xD

Heads:

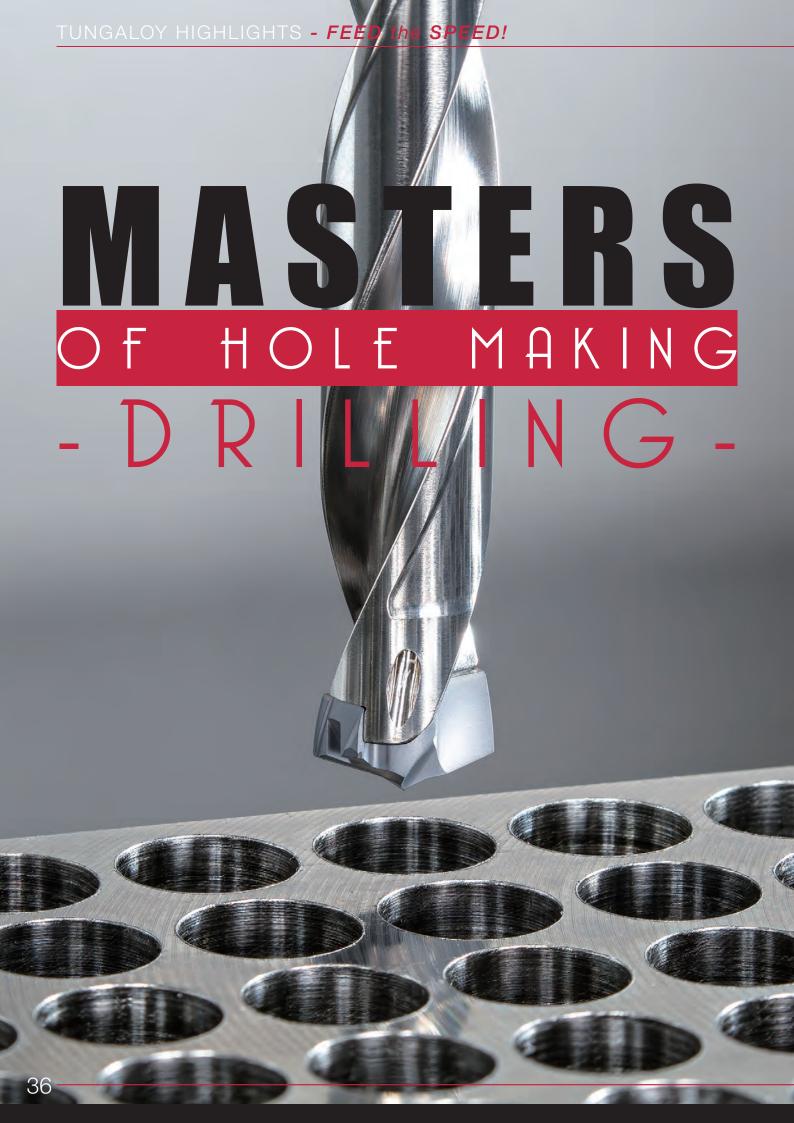
HRM: DC: ø11.5 - ø32 mm (2 types of head are available)



Blind hole straight flutes



Through hole left-hand flutes



DRILLMEISTER

Interchangeable Head System with Quick Indexing

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...** DC: ø6 - ø25.9 mm in increments of 0.1 mm



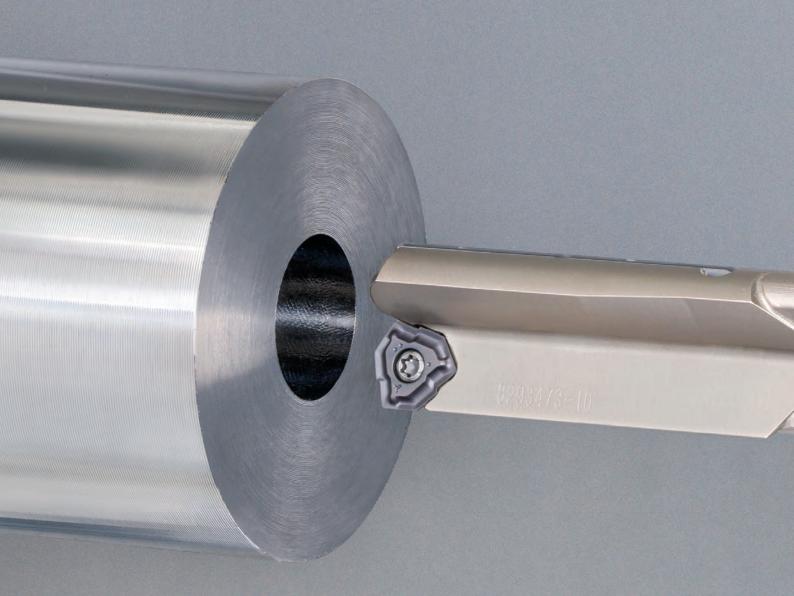
DMP (AH795)

General purpose for various materials and machining operations



DMC (AH9130)

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



MASTERS OF HOLE MAKING -DEEP DRILLING-



Deep Hole Drilling - Exceptional Straightness

Good chip control and smooth chip evacuation from 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 170 to 775 mm, depending on the diameter.

TRLG... for gundrill machines: Offered up to 2400 mm in length with a minimum length of 400 mm.

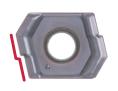
Also available in a variety of drill holding drivers for different types of spindle interfaces.

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

Insert: LOGT... (with chip splitter) Available in 1 size to cover DC 12.0 to 13.9 mm

Insert: TOHT... (with chip splitter) Available in 6 sizes to cover DC 14.0 to 28.0 mm

Insert: FBH... FBM... Available in 3 and 4 sizes respectively to cover DC 29.0 to 40.0 mm



LOGT

Unique insert with 2 cutting edges, chip splitter and built-in wiper

DC 12.0 - 13.9 mm



TOHT

Unique insert with 3 cutting edges, chip splitter and built-in wiper

DC 14.0 - 28 mm



FBM... / FBH ...

Unique insert with 2 cutting edges, and built-in wiper

DC 29.0 - 40 mm

Hole diameter

DeepTri-Drill features double guide pads to ensure hole accuracy and straightness in cross hole drilling





The Ultimate Solution for Tool Management

Flexible, automated tool vending solution with a powerful tool management software to:

- Optimize stock levels
- Streamline purchasing
- Calculate cost per unit (CPU) and tool life
- Guarantee product availability







The Perfect Partner for your Business!

Vorldwide Networl



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Iwaki Plant

Products: Cutting Tools

Nagoya Plant

Products: Cutting Tools

Kyushu Plant

Products: PCBN **PCD Tools** Deep Hole Drills

Nirasaki Plant

Products: Cutting Tools
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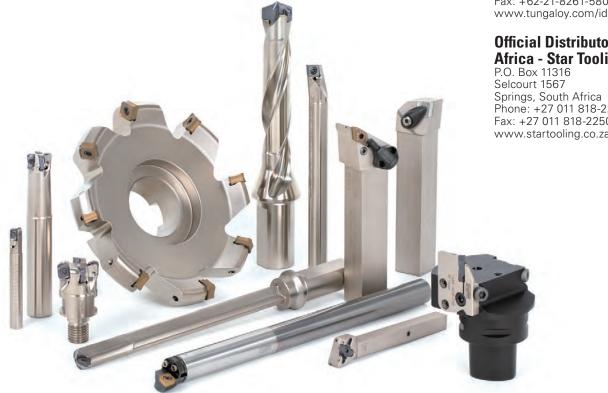
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