

TUNGALOY'S

PRODUCT HIGHLIGHTS



DAVA GROUP CNC
COMERCIALIZADORA



w w w . t u n g a l o y . c o m

Tungaloy's Product Highlights

at the forefront of **INNOVATION**

Introducing our **newest
& innovative solutions**
for the metal removal
industry



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Tungaloy's Product Highlights

MillLine

High Feed Milling

Face Milling

Shoulder Milling

Profile Milling

Slot Milling

Multi-Functional Milling

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This highly economical line, with 16 or 8 cutting edge inserts, now broadens its application range

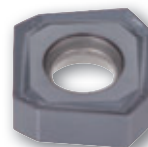


1 cutter body with 4 insert geometry options
Cutter range: $\phi 63$ mm - $\phi 315$ mm

NEW INSERTS



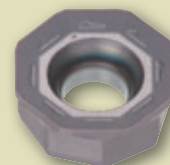
16 cutting edges
MJ & ML chipbreaker



8 cutting edges
MJ & ML chipbreaker



8 cutting edges
ML chipbreaker



8 cutting edges
HJ chipbreaker

NEW

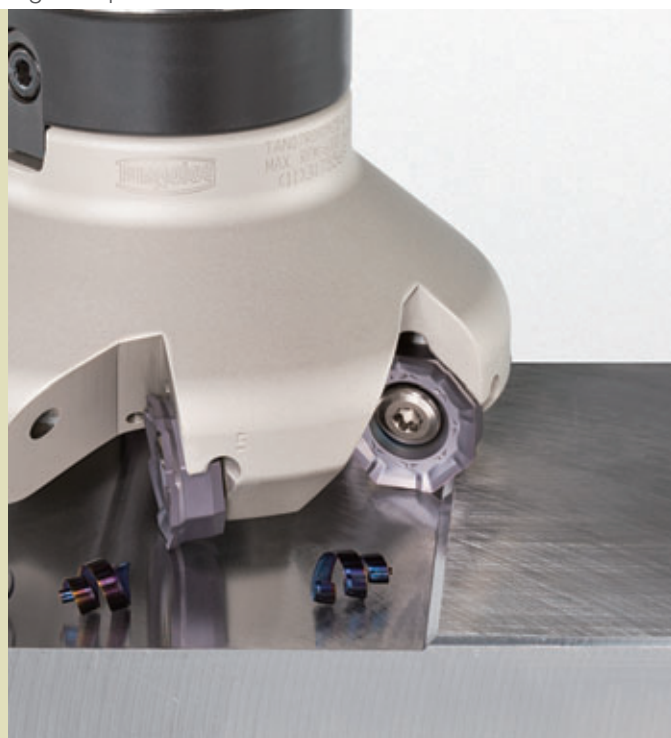
OWMT inserts

GROUP CNC

The newly developed OWMT insert is a positive insert with 8 cutting edges which fits on the existing DoOcto cutter body.

OWMT-ML is suitable for stainless steel and high temperature materials.

OWMT-HJ is suitable for high feed face milling on cast steel and cast iron.



Exceptional productivity for aluminium and non-ferrous material machining

Tung-AluMill

Outstanding productivity in demanding applications, such as high helical ramping, straight ramping, and step milling!

Tung-AluMill TPV / EPV16

Tool diameter range:

Shank type: $\varnothing 25$ mm - $\varnothing 40$ mm

Bore type: $\varnothing 40$ mm - $\varnothing 125$ mm

Corner radii: 0.4 mm - 5.0 mm



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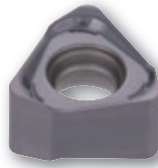


The new slot milling cutters utilize unique inserts with 6 cutting edges

The inserts have 3 right and 3 left hand edges providing a significant economic advantage.

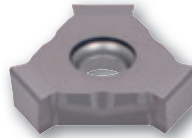
TSW / ASW type

Edge width range: 10 mm - 16 mm
Tool diameter range:
TSW type (radial drive): $\varnothing 100$ mm - $\varnothing 160$ mm
ASW type (axial drive): $\varnothing 80$ mm - $\varnothing 160$ mm



ASV type

Width range: 4 mm - 8 mm
Tool diameter range:
ASV type (axial drive): $\varnothing 80$ mm - $\varnothing 200$ mm

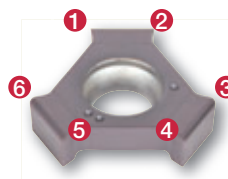


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NEW

ASV tools & inserts

Tungaloy's slotting line with this **unique 6 cutting edges insert configuration** is now expanding its range to 4 mm and 5 mm groove width.



Super high feed cutters with 4 cornered inserts for high material removal

DoFeed TXN / EXN / HXN03

DoFeed03 consists of a variety of shank and bore type tools, ranging from $\varnothing 16$ mm to $\varnothing 50$ mm.

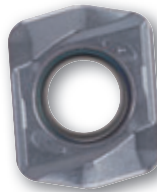
Shank type tools are also available in long lengths for long reach machining operations. The LNMU0303 insert features 4 cutting edges and is designed with a positive rake face, providing lower cutting forces.



MJ & ML chipbreaker

DoFeed TXN / EXN06

DoFeed06 shank and bore type cutters cover the range from $\varnothing 32$ mm to $\varnothing 200$ mm using Tungaloy's LNMU06X5 insert.



MJ & ML chipbreaker



NEW

DoFeed with wiper insert

The new high feed series wiper insert achieves superior surface quality without compromising the feed capabilities of the high feed line and eliminates semi-finishing operation for face milling.



Wiper 2 edge
LNU06X5ZER-W

Economical shoulder milling cutter with anti-chatter design

Tung-Tri

The Tung-Tri is an economical shoulder milling cutter with a 3 cornered insert. The irregular pitch and **anti-chatter design** performs well in a wide range of cutting conditions.

Tung-Tri's positive sharp rake and wiper edges reduce cutting forces, and the high ramping ability of the cutter makes it **suitable for various applications and materials**.

Inserts size: 06, 10, 15 size

Tool diameter range:

Shank type: $\varnothing 12$ mm - $\varnothing 50$ mm

Bore type: $\varnothing 32$ mm - $\varnothing 160$ mm



NEW

Tung-Tri for rough milling

Tung-Tri's anti-chatter design reduces vibrations when using long edge roughing tools that have a large number of inserts engaged in the material.



High productivity solution for rough milling of turbine blades and die & mould

FixRMill

This new cutter features a unique insert clamping system with FIX index location. The locator in the pocket fits the star shape on the bottom of the insert, preventing the insert from rotating while machining and ensures 6 indexes for maximum economic advantages.

The MJ chipbreaker is suitable for general machining, while the ML chipbreaker is ideal for applications where low cutting forces are required.

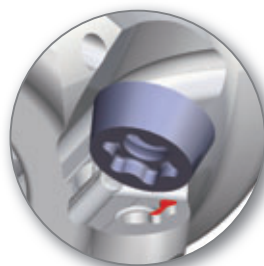
Inserts size: 10 (R5), 12 (R6), 16 (R8) size

Tool diameter range:

Bore type: $\varnothing 40$ mm - $\varnothing 66$ mm

Shank type: $\varnothing 20$ mm - $\varnothing 40$ mm

Modular type: $\varnothing 20$ mm - $\varnothing 32$ mm



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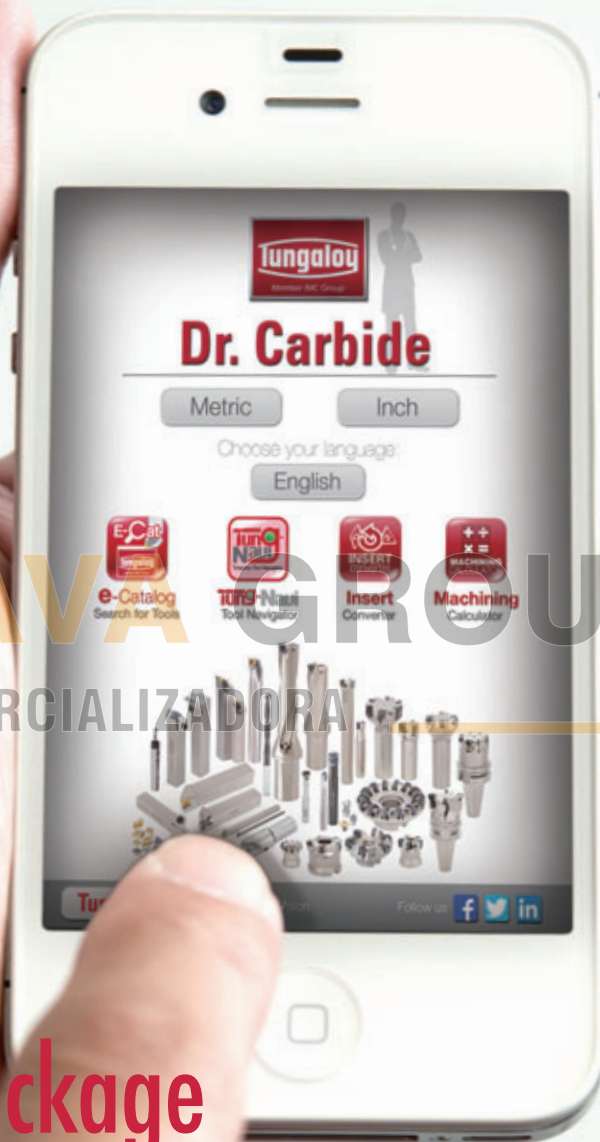


Dr. Carbide

by Tungaloy



the cure for your machining needs
Right in your hand



New App Package

Tungaloy offers a wide range of cutting tools to provide total solutions for your machining needs. Selecting the right tool and machine setting are the key to maximizing your productivity, and **Dr. Carbide** will assist you in finding the "cure" for your needs in a very simple, quick search.

Download it now!



Tungaloy's Product Highlights

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TurnLine

General Turning

Heavy Turning

Grooving & Parting

Threading

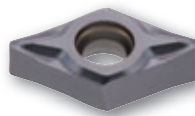
Small Part Machining

Economical double sided inserts with unique positive cutting edge design

Inserts are used in both internal and external tools.

External Line

Utilizes the **innovative multi-cornered inserts**, which provide remarkable economic advantages in small parts machining. The **unique pocket design with dovetail structure** ensures insert stability, resulting in superior machining performance.

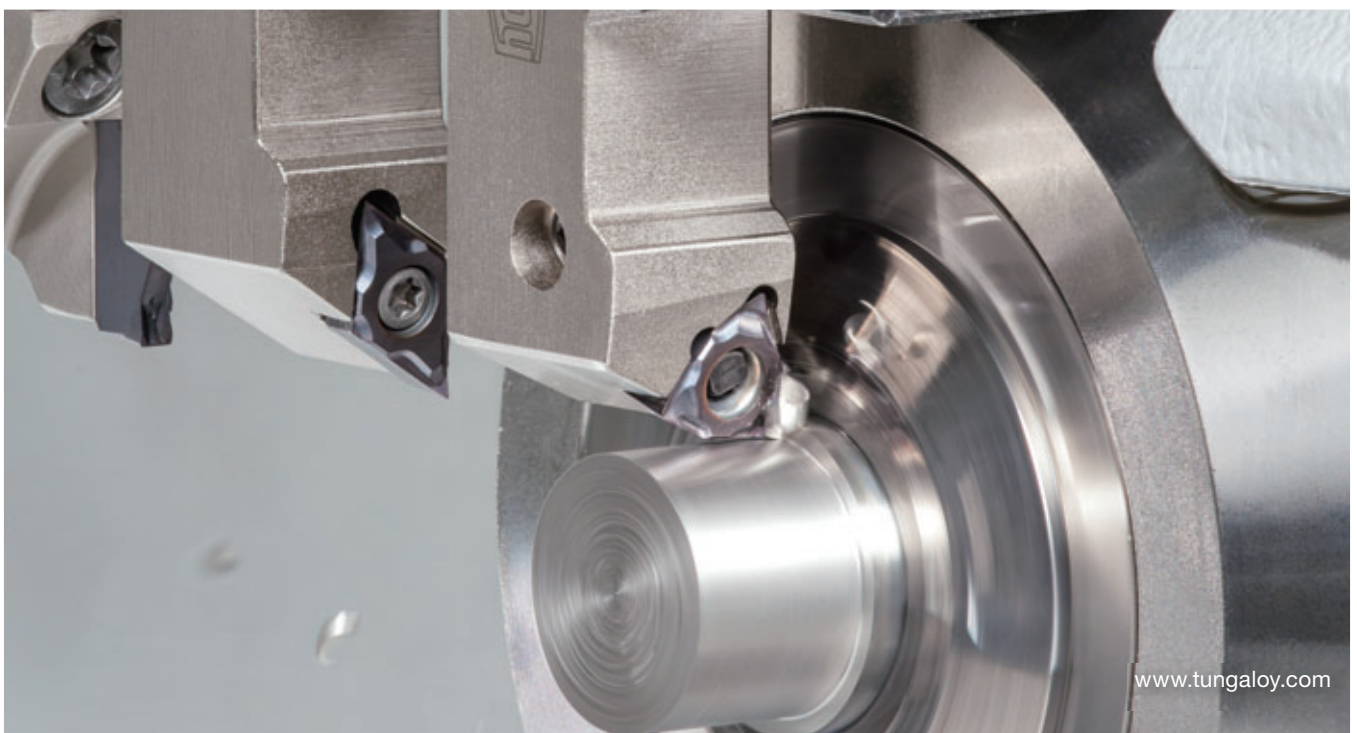
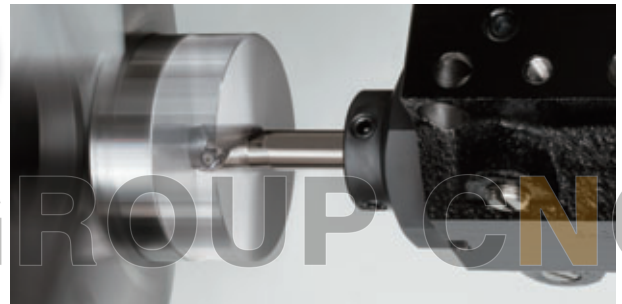


Bore Line

A range of internal boring bar tools with a special design to ensure optimum chip evacuation.

Tools are supplied with internal coolant directed to the cutting edge.

The smallest tool's minimum entry bore diameter is 12 mm.



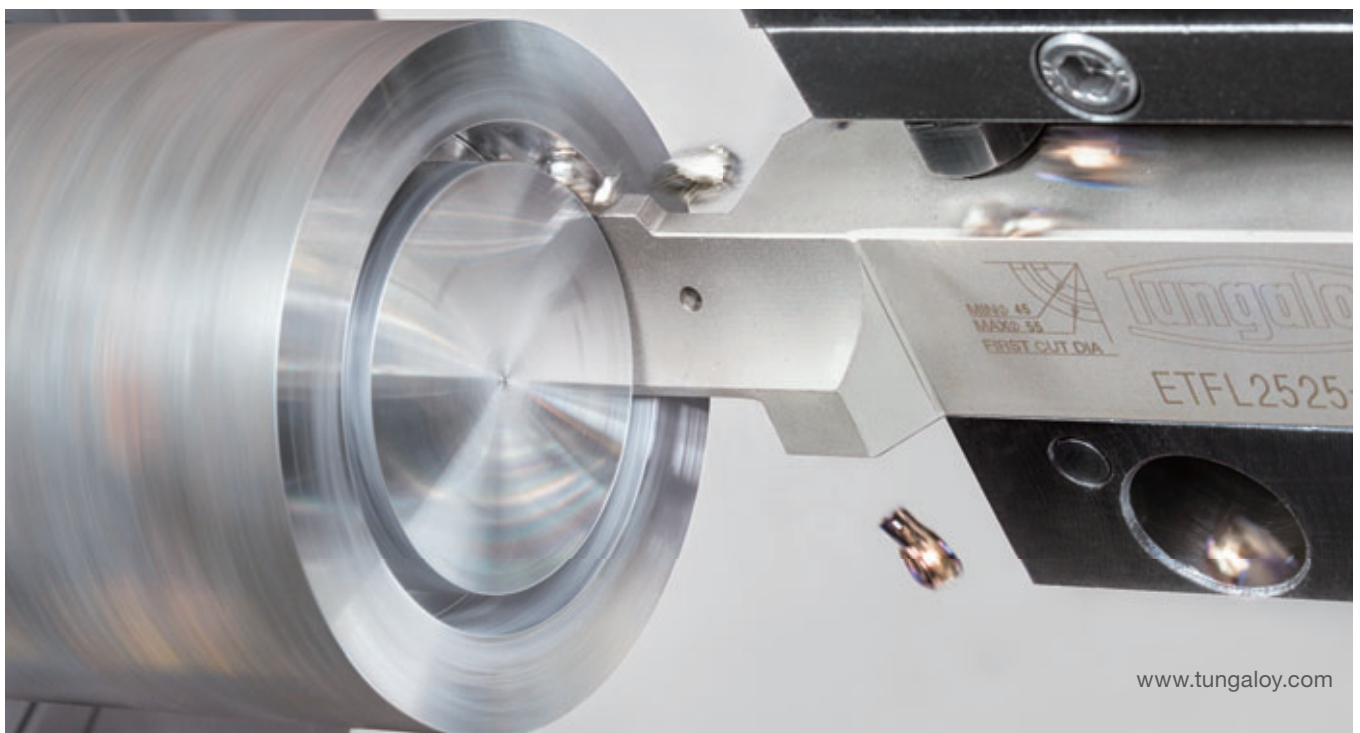
Highly rigid tools with a unique self-clamping insert

The most efficient system for deep face grooving

EasyCut

This insert clamping configuration results in a very rigid tool blade, thus eliminating tool vibration.

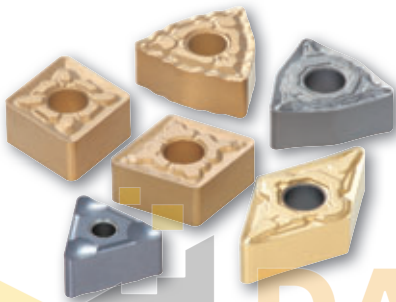
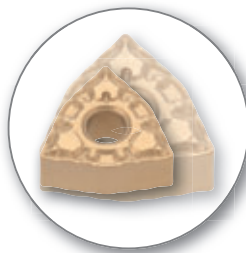
- Suitable for **high speed operations**, effectively reducing machining time.
- **Outstanding chip evacuation**
- **Excellent groove straightness**
- **Good surface quality**
- **Only one insert required** for parting off, external, internal, and face grooving, and traversing operations.



Economical small size turning inserts! A clever way to reduce machining cost!

EcoTurn

Chipbreaker on EcoTurn inserts provide **the same performance** as regular sized inserts.



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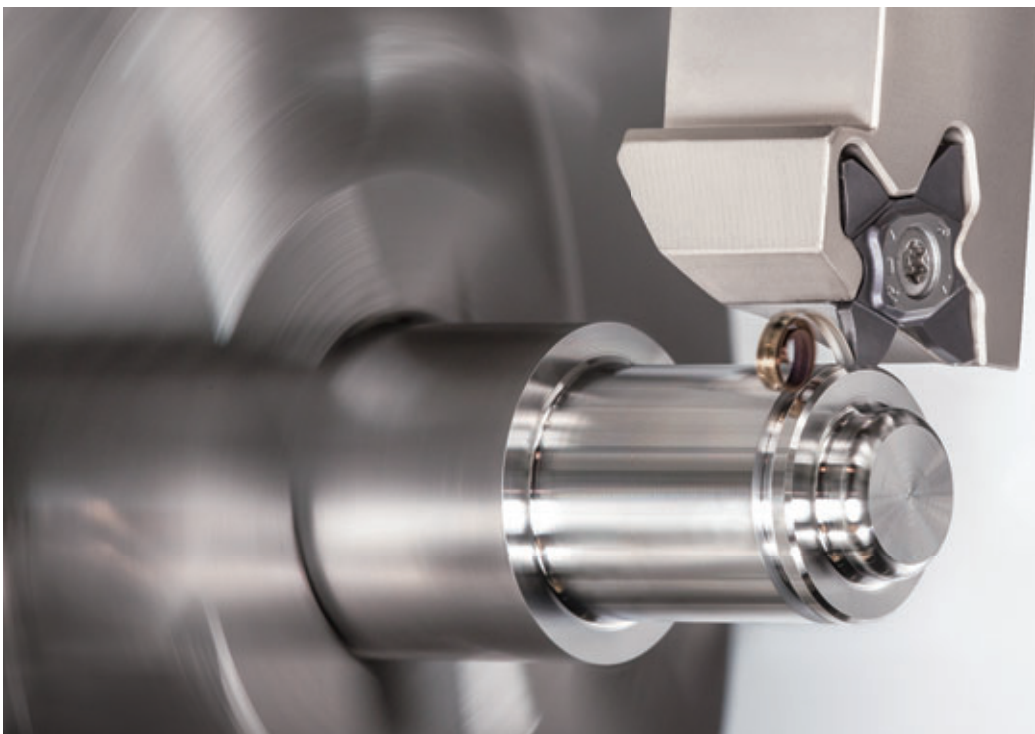


Newly developed insert with 4 edges for precise grooving and parting operations

TetraCut

This system combines a unique insert shape and a well designed pocket to achieve high stability and index repeatability, ensuring high accuracy. TetraCut insert features **4 positive sharp cutting edges** and a chipbreaker that provides easy chip flow.

Grooving width range: 0.5 mm - 3.18 mm



Tools with high pressure coolant

TungJet

High pressure coolant is supplied from top and bottom, directly to the cutting edge. This technology is now applied to a variety of Tungaloy's turning tools.

Tungaloy's J-Series type tools, used for small machines, are also available with top and bottom high pressure coolant supply. This efficiently improves chip control in small parts machining.

**NEW****DAVA GROUP CNC**
Turning tools with optimal coolant system

TungJet tools produce short chips, which give an advantage in machining high temperature alloys and effectively prolongs insert tool life.



Highly accurate internal machining with precise cutting edges

TinyMTurn

Solid boring bars applicable for
minimum $\varnothing 0.6$ mm bore.

The extremely sharp cutting edge offers
high precision machining for a wide range
of internal applications.

Sharp edges and smooth coating generate
**fine surface finishes and prevent cutting
edges from chipping.**

All boring bars have a through coolant
hole to supply coolant directly to the
cutting edge. This offers remarkable chip
evacuation.

146 solid bar items are available in a wide
range of geometries that can be applied to a
variety of internal operations.



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Long tool life and stable machining ensure accuracy and high surface finish

Mini T-CBN

The smallest diameter tool for boring hardened steels with a minimum bore of $\varnothing 4.5$ mm and larger. Quick and easy insert indexing with accurate repeatability on cutting edge, and long tool life even when machining at low cutting speeds.



TungCut CBN

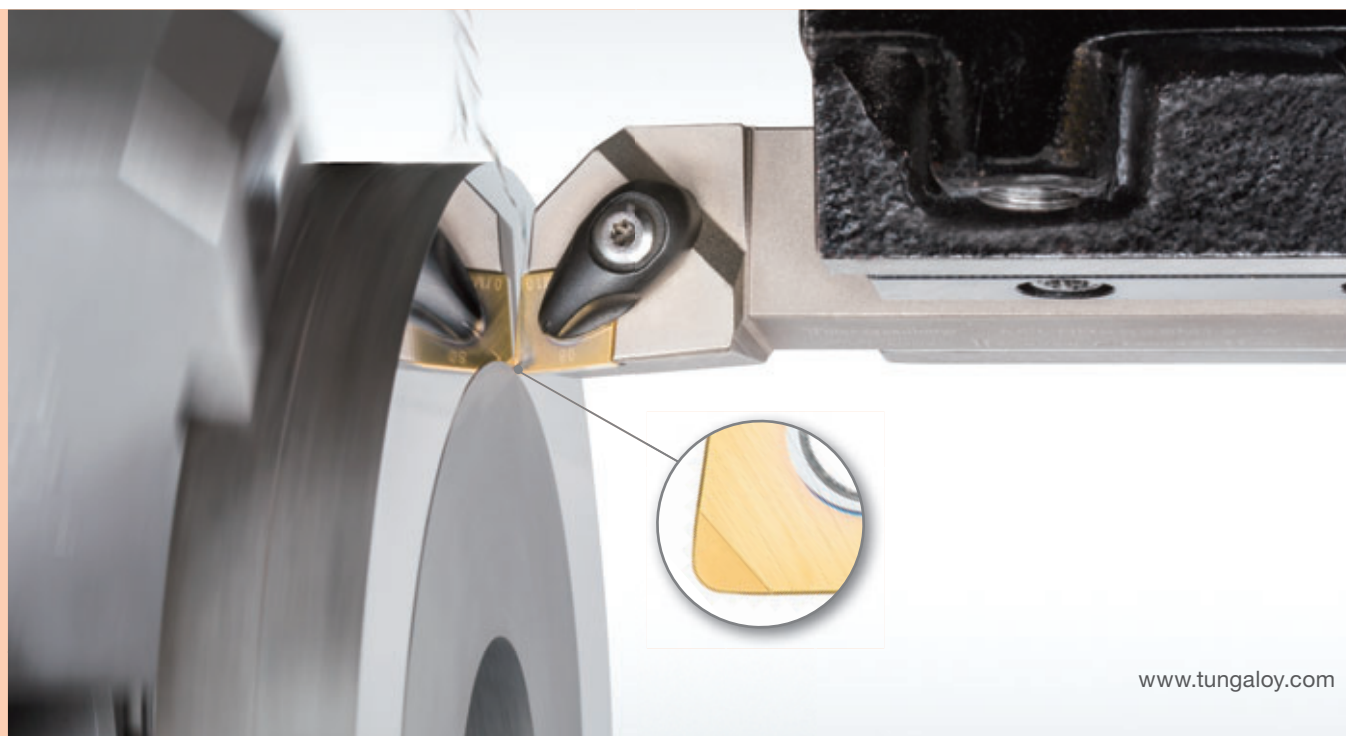
Optimum cutting edge shape for grooving hardened steels. High precision insert width ensures accuracy for finishing operation.



NEW

Wiper insert BXM series

The wiper edge configuration makes it possible to apply higher feed rates and efficiently reduce cycle time while maintaining the required superior surface finish.



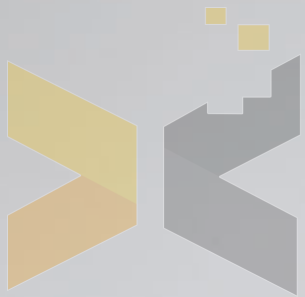
Tungaloy's Product Highlights

DrillLine

Indexable Drills

Solid Carbide Drills

Deep Hole Drilling



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New clamping system enables easy, secure, accurate head indexes

DrillMeister

DrillMeister is an **innovative replaceable head drill series** that delivers the productivity of a solid drill with the economical advantages of conventional indexable drills. This **reduces setup times**, increases metal removal rates, and gives the user ease of operation when indexing.

The **exclusive chamfering adapter** for the DrillMeister provides stable **chamfering and drilling in the same operation**, reducing processing time.

The DrillMeister series provides **the most productive and profitable solution for holemaking processes**.

Straight type

Tool diameter range: $\varnothing 10.0$ mm - $\varnothing 19.9$ mm

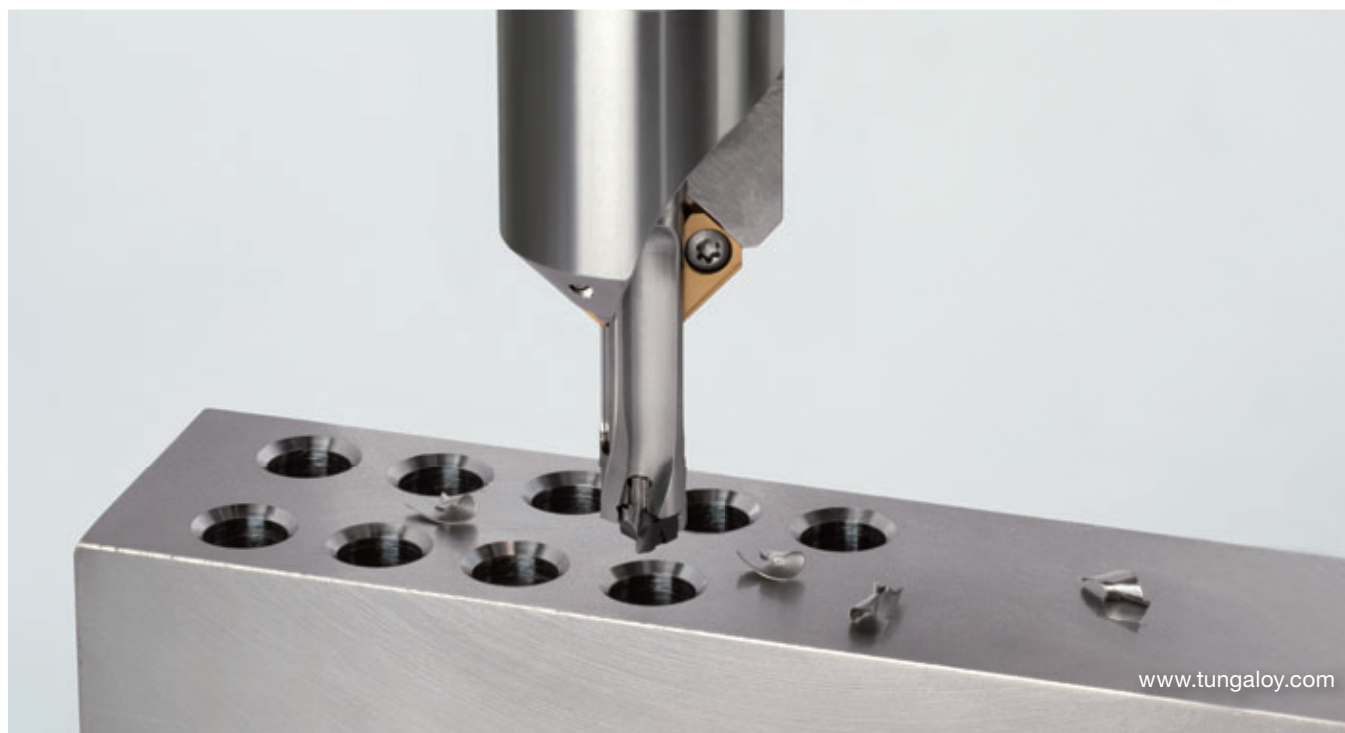
Hole depth: $L/D = 3, 5$

Flange type

Tool diameter range: $\varnothing 10.0$ mm - $\varnothing 19.9$ mm

Hole depth: $L/D = 1.5, 3, 5, 8$

Chamfering angles: $30^\circ, 45^\circ, 60^\circ$



The most economical, secure drilling solution in the industry world

TungSix-Drill

TungSix-Drill is **the world's first indexable drill with double sided inserts**. The obtuse angle relief on the corner of the central edge improves fracture resistance.

The new AH9030 and AH6030 grades offer **exceptional wear resistance** that leads to stable and long tool life. Utilizing Tungaloy's exclusive "PremiumTec" special surface technology, the AH9030 drastically reduces chip adhesion to generate smooth chip flow.

Ideally designed flute geometry delivers **perfect chip evacuation when machining all types of materials**.

Diameter range: $\varnothing 20$ mm - $\varnothing 54$ mm

Hole depth: L/D = 2, 3, 4



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A large diameter drilling bodies, which can clamp both TDX and TDS series inserts

TungDrillBig

The TungDrillBig drilling body features cartridges and adjustable setting plates, which allows customers to change the drill diameter within a range based on their requirement.

Tool diameter range:

ø55 mm to ø80 mm (5 base bodies)

Cartridges: central + peripheral

TDX series type: 4 cornered positive insert

TDS series type: 6 cornered economical and highly productive insert

**NEW**

TDX & TDS series inserts

The TungDrillBig can **now clamp either the TDX or the TDS series insert cartridges**, thus offering flexibility to choose between the 2 series depending on the application needs and machine.



Tungaloy's Product Highlights

ToolLine

Tooling Systems



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Quick change polygon tool clamping system!

TungCap

New tooling system can accelerate productivity by providing optimal tool holding solutions for a diverse range of machines.

Quick change clamping system

The TungCap clamping mechanism is extremely rigid and resists bending forces well. The taper and face contact ensures high repeatability of the edge position. The polygonal clamping design creates a self-centering effect to improve accuracy.



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OUR PRODUCTS

in the real World

Saving setup time and money -

a Drilling Story

On a routine visit to an end user, the Tungaloy sales representative noticed an opportunity to save the customer a significant amount of cycle time as well as tooling and inventory costs.

The customer was drilling through holes in chilled grey cast iron using coated solid carbide drills. Once the proposal was brought to the customer's attention, a test was arranged.

Tungaloy brought in its DrillMeister. The DrillMeister, with its replaceable tip drill point, was able to drill each hole 80% faster than the current solid carbide drill. Although the tool life was virtually the same, the cycle time savings allowed the customer to produce significantly more parts per hour.

Since the DrillMeister required no re-sharpening, it was not necessary to fill up inventory levels to allow for drills to be "out for re-sharpening." This reduction saved money on inventory costs.

"The DrillMeister, with its replaceable tip drill point, was able to drill each hole 80% faster than the current solid carbide drill."

Drill points were simply replaced right on the machine in seconds, saving a significant amount of downtime.

Overall, Tungaloy was able to reduce this company's costs by 23% and make this customer's life much easier.



Highly effective, reliable solutions - a High Feed Milling Story

A leading manufacturer of valves for the Oil and Gas Industry mainly produces parts made of stainless steel and superalloys.

This customer had a problem producing a particular part. Changing the insert during the process required the operator to stop the machine, index inserts, and restart the cycle from the beginning. This extended the cycle time sometimes up to twice as long.

Since this was a new job for the customer, many experiments were conducted. The best any of the other tooling suppliers could produce was 1/3 of a part before the inserts needed replacement. The customer had to have a product that would last the entire cycle without requiring a tool change.

"Tungaloy's DoFeed performed well, and after implementing the new AH3035 grade, the customer was able to complete the entire cycle without changing the inserts."

Having faith in Tungaloy's abilities, the customer called Tungaloy sales representative to solve the problem. It was apparent that chipping or fracture of the insert was the most undesirable failure mode. The insert needed to have predictable wear. Tungaloy's DoFeed performed well, and after implementing the new AH3035 grade, the customer was able to complete the entire cycle without the changing inserts.

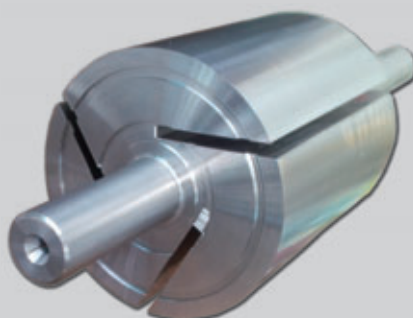


Tungaloy's AH3035 grade has a very tough substrate, making the insert fracture resistant, coupled with Tungaloy's PremiumTec coating to extend the tool life.

Investment on R&D - a Slotting Story



A well-recognized company has been manufacturing pumps and compressors for more than thirty years. They also supply parts to numerous machine manufacturers, such as food vacuum packing machines, paper machines, textile machines, electro medical devices, and many others. During the past few years, the customer has adopted Tungaloy's new, innovative tools for both milling and turning applications.



Tungaloy was asked to investigate a special slotting application of a rotor, which features three thin slots that had to be finished. The competitor's cutter performed a short tool life, and the customer also requested to reduce the cycle time.

Tungaloy offered the new developed TungSlot ASV tool and inserts containing 6 cutting edges for grooving widths of 4 mm. Highly precise, ground inserts provide accurate groove width and excellent surface finish. With TungSlot the customer has more than doubled its productivity.

"With TungSlot, the customer has more than doubled its productivity"

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