TUNGALOY
HIGHLIGHTS

Latest Innovations for Accelerated Machining

TUNGFORCE
TUNGALOY ACCELERATED MACHINING

Member IMC Group
Tungaloy

TUNGFORCE
TUNGALOY ACCELERATED MACHINING

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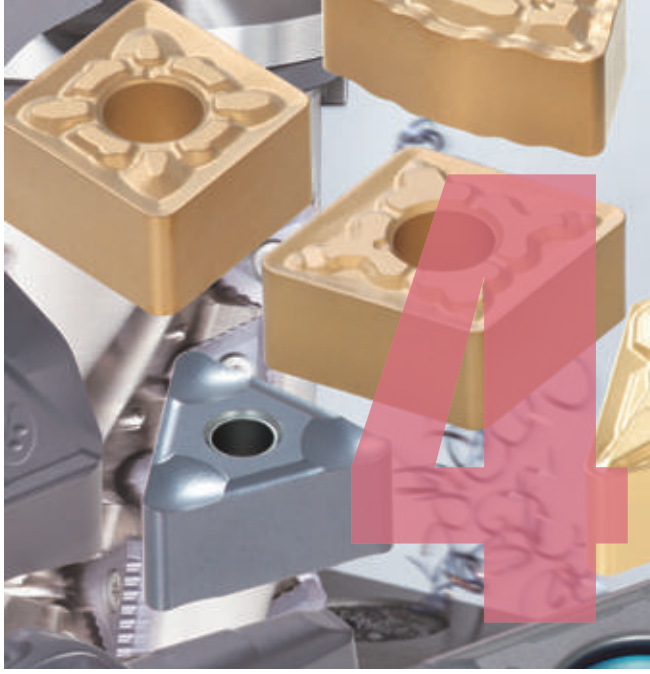
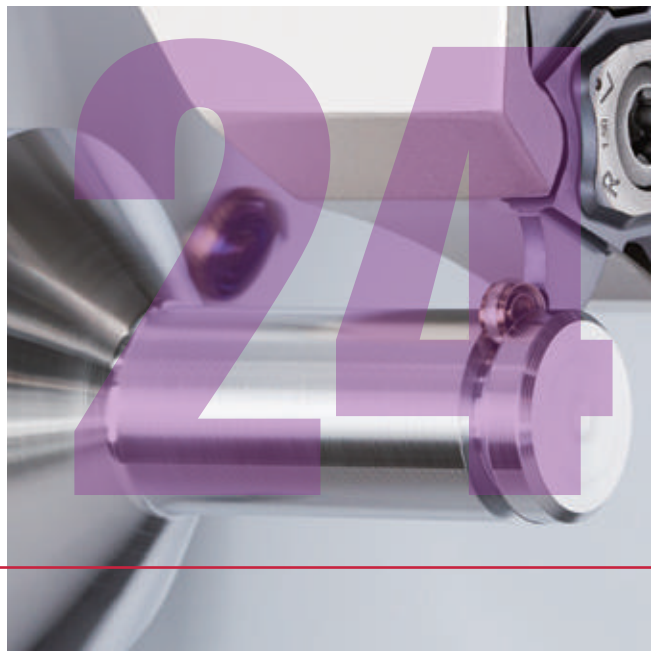
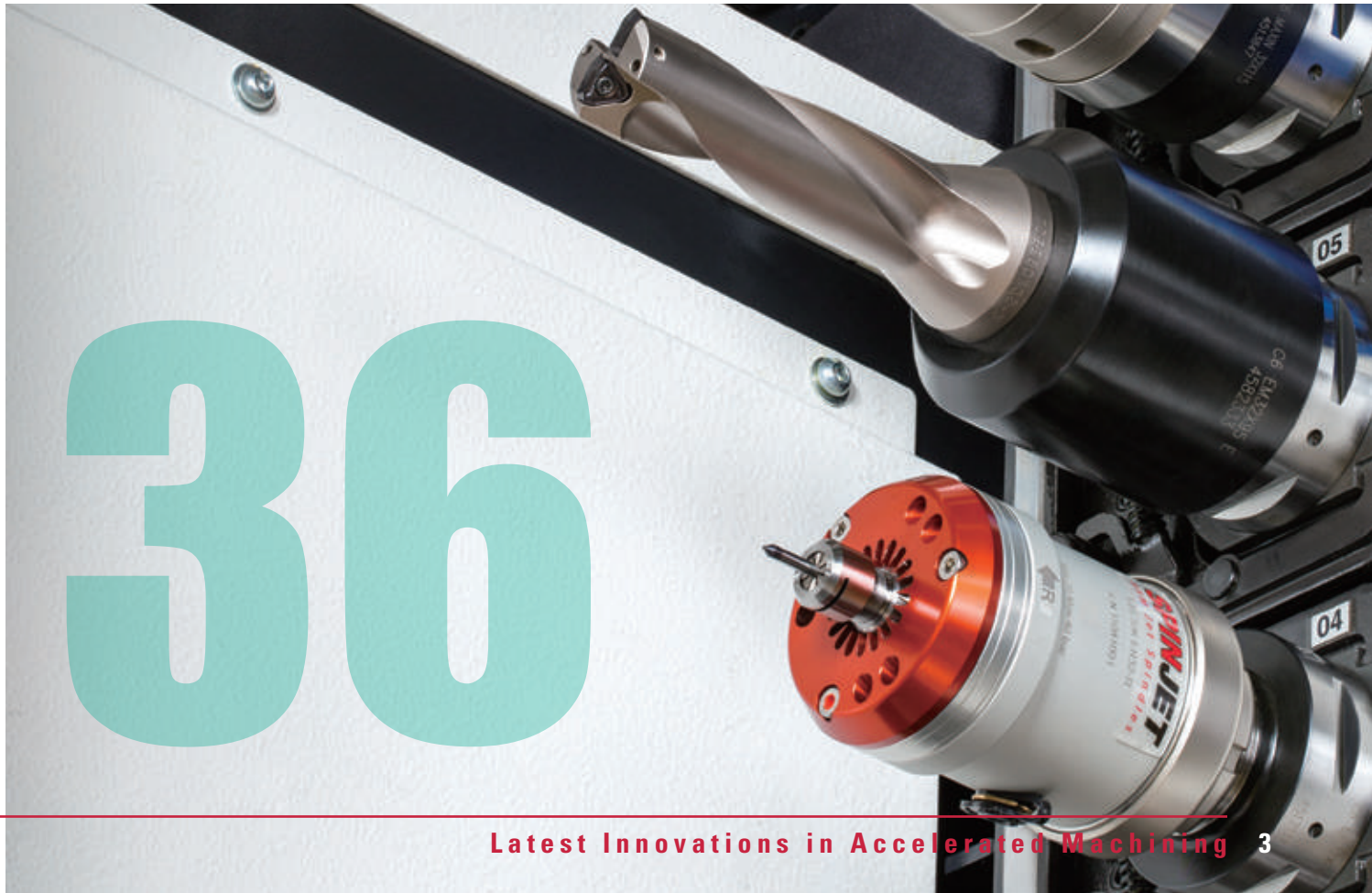
Member IMC Group Tungaloy







Grades

AH3135AH8005AH8015T515NS9530GT9530M714B
T1215T3225

Superior grades for machining all types of material

Grade	Coating		Material	Features	Milling	Turning	Grooving	Drilling
	Main application	Thickness / um						
AH3135 P30-40 M30-40	Milling	4	P M	- High fracture resistance - Ideal for machining steel and stainless steel under general conditions	■			
AH8005 S01-10	Turning	3.5	S	- High wear and welding resistance - Excellent for machining heat-resistant alloys at high speed		■	■	
AH8015 S10-20	Turning	3.5	S	- Good balance between wear and fracture resistance - Suitable for machining heat-resistant alloys under general conditions		■	■	
T515 K10-20	Turning	16	K	- High wear resistant allows high cutting speed - Superior performance on rough machining of cast iron		■	■	
NS9530	Turning	-	P	- High fracture resistance that provides stable tool life and good surface finish - Suitable for steel from finishing to medium cutting		■	■	
GT9530	Turning	3	P	- High wear resistance - Ideal for finishing with good surface quality		■	■	
M714B S01-10	Turning	-	S	- High wear resistance and thermostability - Suitable for high-speed machining of Inconel		■	■	
T1215	Milling	10	P M	- Good balance between wear and chipping resistance - Designed for machining cast iron	■			
T3225	Milling	10	P M	- High chipping and fracture resistance - Suitable for machining steel and stainless steel	■			

MillLine

DoForce-TriTung-TriTungTri-ShredTungForce-RecTungSlot
DoTriple-MillDoFeedMillQuadFeedDoTwistBallDoMini-Mill
BallFinishNose

Cost effective shoulder milling cutter for high productivity

Double-sided triangular inserts for highly productive machining with large depths of cut up to 0.433" (11 mm.)

Concave cutting edge and optimized rake angle form barrel shaped chips, delivering smooth chip evacuation.

Cutter bodies: Bore type **TPTN** *ø*Dc 2.000" - 5.000"(50 - 125 mm), Shank type **EPTN** *ø*Dc 1.250" - 1.500" (32 - 40 mm)

TNMU-MJ

Insert with round corner for high toughness.

TNGU-MJ

Wiper edge for high quality surface finish.

TNGU-NMJ

Grooves on the cutting edge produce small chips, reducing cutting force and chip volume.

Economical high precision shoulder milling cutter with anti-chatter design

3 cutting edges per insert for highly economical machining.

Optimized relief geometry on the positive insert ensures **low cutting force and minimal chatter.**

Insert sizes in 6, 10, and 15 mm cover small to large depths of cut.

Cutter bodies: Bore type **TPA** *øDc* 2.000" - 6.000"(32 - 160 mm), Shank type **EPA** 0.500" - 2.000"(12 - 50 mm), Roughing type **TLA** *øDc* 2.000" - 4.000"(50 - 100 mm), Modular type **HPA** (*øDc* 16 - 32 mm)

TOMT-MJ

3 sizes available with versatile MJ chipbreaker.

TOMT-NMJ

NMJ chipbreaker splits chips, reducing chip volume and cutting vibration.

Shoulder milling cutter for roughing to produce shredded chips

Optimized cutter design and cutting edge geometry.

Wavy cutting edge produces small chips reducing chatter.

2 types of inserts fit on the same cutter body, providing options for roughing and finishing.

Cutter bodies: Bore type **TPTC** ø*D*c 2.000" - 4.000"(50 - 100 mm), Shank type **EPTC** ø*D*c 2.000"(50 mm), Roughing type **LPTC** ø*D*c 2.500" - 3.000"(63 - 80 mm)

TCGT-MJ

Excellent surface finish and accuracy due to its high precision straight cutting edge.

TCMT-NMJ

Anti-vibration machining with extended flute cutter or long overhang application due to wavy cutting edge.

Miniature shoulder milling cutter with exceptional stability

V-shaped insert bottom increases contact area and improves stability.

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

Large screw **improves clamping rigidity.**

Cutter bodies: Shank type **EPAV** ø*D*c 0.313" - 0.625"(8 - 16 mm), Modular type **HPAV** (ø*D*c 10 - 16 mm)

AVGT-MJ

Suitable for steel, stainless steel, cast iron, and superalloys.

AVGT-AJ

Suitable for non-ferrous metal due to its sharp cutting edge and polished rake face.

TUNGSLOT
TUNGALOY

Stable slot milling operation with excellent chip control

TungMiniSlit ø1.800" - ø4.921"(ø63 - ø125 mm)
Thin width slitting cutter with self clamping insert.

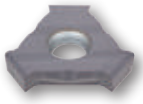
TungThinSlit ø3.149" - ø7.874"(ø80 - ø200 mm)
Axial drive type slot milling cutter with 6 cornered side mounted insert.

TungUniversalSlot ø3.000" - ø6.000"(ø80 - ø160 mm)
Axial and radial drive type slot milling cutter with 6 cornered radial mounted insert.

TecTangentialSlot ø3.937" - ø9.843"(ø100 - ø250 mm)
Axial and radial type slot milling cutter with tangentially mounted inserts.

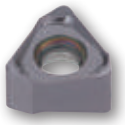
SSS/MN

Groove width = 0.063" - 0.177"(1.6 to 4.5 mm)



TVKX-MJ

Groove width = 0.157" - 0.354"(4 to 9 mm)



WNGU-MJ

Groove width = 0.354" - 0.630"(9 to 16 mm)

LMEU-MJ

Groove width = 0.630" - 0.984"(16 to 25 mm)

TRIPLE DOTMILL
TUNGALOY

Face milling cutter with 3 types of double-sided inserts

Multifunctional tool able to seat 3 types of doublesided insert in the same pocket: square, octagonal, and round inserts.

Dovetail structure provides high clamping rigidity reducing shear forces on the screw.

Cutter bodies: Bore type **TASN** *øDc* 2.000" - 6.000"(50 - 160 mm) available in coarse and close pitch designs.

SNGU13...MJ

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

ONGU05...MJ

16-cornered economical insert
Max. ap - 0.139"(3.4 mm)

RNGU13...MJ

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

DOFEED
TUNGALOY

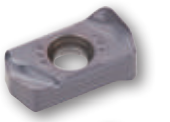
The ultimate high-feed cutter with maximum versatility

Perfectly designed tool for unrivalled performance in high feed milling.

Carefully designed positive geometry enables **smooth chip evacuation and minimal chattering with low cutting force.**

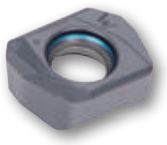
Unique wiper insert for high feed machining plus finishing.

Cutter bodies: Bore type **TXN03R** ø*D*c1.500" - 2.000"(40 - 50 mm) & **TXN06** ø*D*c2.000" - 6.000"(50 - 200 mm),
Shank type **EXN03** ø*D*c0.625" - 1.250"(16 - 35 mm) & **EXN06** ø*D*c1.250" - 1.500"(32 - 40 mm),
Modular type **HXN03** ø*D*c(16 - 32 mm)
Available in coarse and close pitch designs.



LNMU03/06..MJ & ML

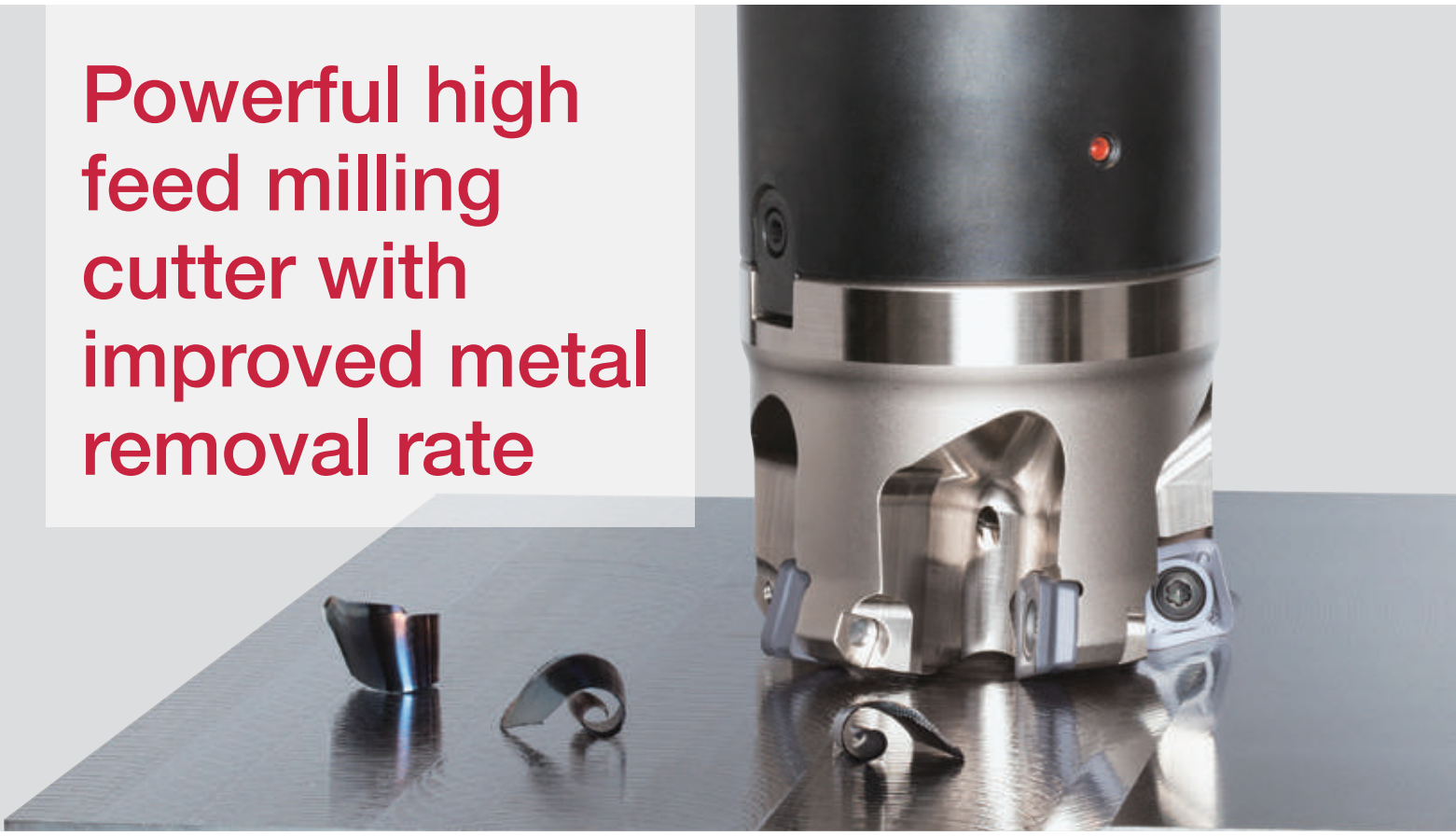
MJ: Ideal for tough applications
ML: Applicable for gummy and difficult to cut materials



LNGU06X5ZER-W

Wiper with 2 cutting edges for better bottom surface finish

Powerful high feed milling cutter with improved metal removal rate



Outstanding productivity due to **large depth of cut 0.098"(2.5 mm)** and **high feed/tooth up to 0.078ipt (2 mm/tooth.)**

Square shaped insert with **4 cutting edges and positive flank** clearance.

Cutter bodies: Bore type **TXSW15** *øD*c2.500" - 6.000"(50 - 160 mm)

SWMT-MJ

MJ chipbreaker utilizes a wide T-land to withstand impact loads.

TWIST DOTBALL
TUNGALOY

Super high feed cutter for profile milling with rigid clamping

Ideal tools for 3D machining due to helical cutting edges and anti-rotation feature.

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

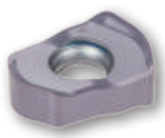
2 types of inserts, **radius type** and **high feed type,** fit on the same cutter body.

Cutter bodies: Bore type **TXLN** ø*D*c1.500" - 2.500"(40 - 66 mm), Shank type **EXLN** ø*D*c1.000" - 1.500"(20 - 40 mm), Modular type **HXLN** (ø*D*c 20 - 32 mm)

Available in coarse and close pitch designs.

LNMX04/06..R0.157"/R0.236"(R4/R6) MJ & ML

Radius type available in R0.157"(R4 mm) and 0.236"(R6 mm) corner radii for profile milling of various materials.



LNMX04/06.. HJ

High feed type applicable for depths of cut up to 0.051" and up to 0.0787"(1.3 and 2 mm) respectively for high feed milling.

DOMINI MILL
TUNGALOY

Double sided positive insert for semi-finishing to finishing

Highly economical insert with 6 cutting edges.

Twisted flank surface provides **positive flank clearance,** improving cutting performance due to large rake angle.

Modular style endmills with metric and TungMeister threads allow flexibility of use with various types of shanks and holders in TungHold and TungMeister series.

Cutter bodies: Modular type **HFWX04** ø*Dc*0.630" - 0.984"(16 - 25 mm)

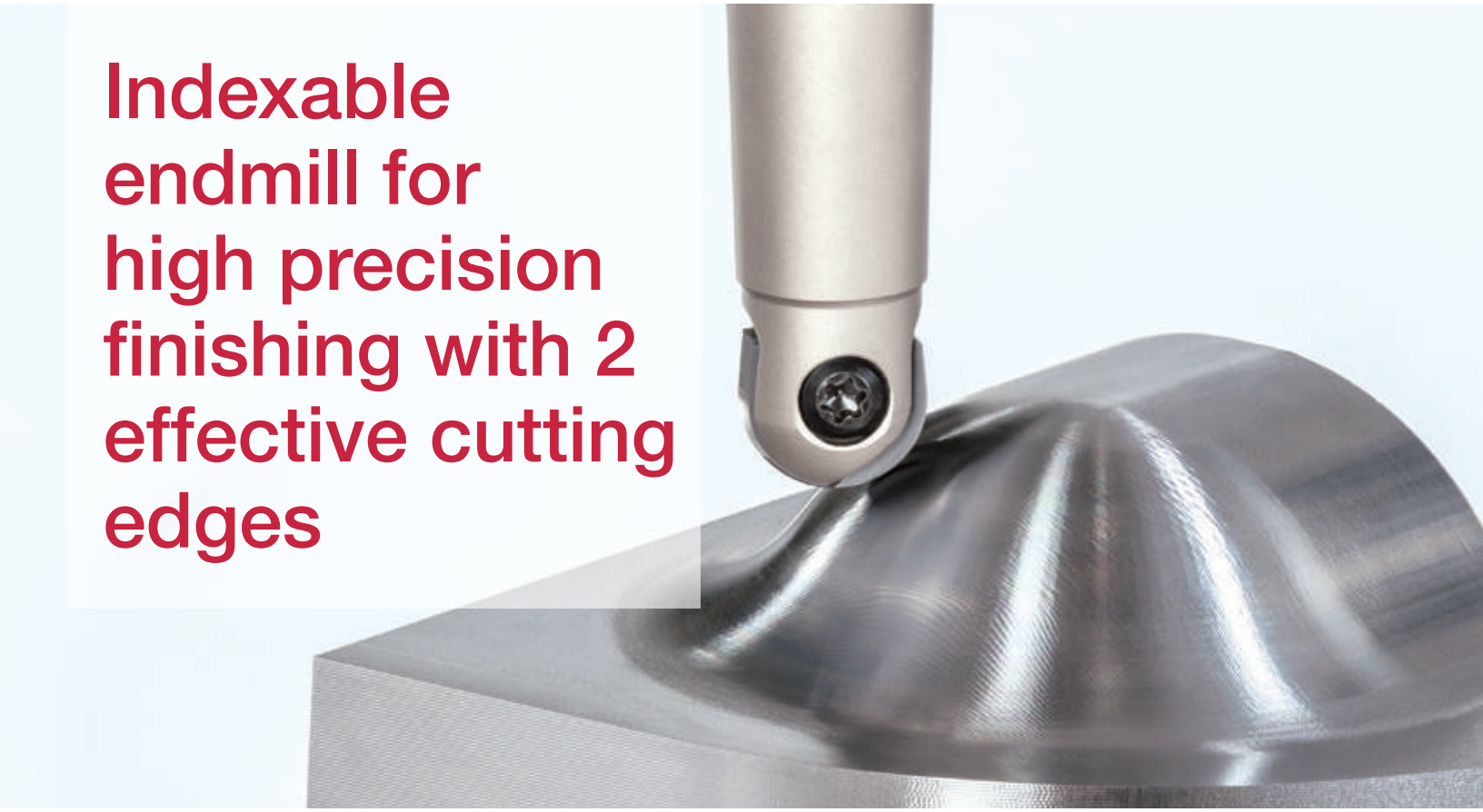
WXHU-MJ

Available in 2 corner radii:

R0.0196"(R0.5 mm) suitable for general hard materials with low depth and width of cut.

R0.039"(R1.0) suitable for hardened steel due to improved corner strength.

Indexable endmill for high precision finishing with 2 effective cutting edges



2 types of inserts, **ball nose** and **radius type,** cover all machining needs in aerospace and die & mold industries.

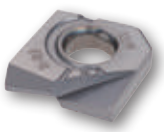
Fixed screw contact surface directs clamping force to the desired direction, providing **secured insert clamping.**

Coolant channels on the insert help deliver **coolant directly to the cutting edge.**

Cutter bodies: Shank type **EBFM** *øD*c0.375" - 1.250"(8 - 32 mm), Modular type **HBFM** (*øD*c 10 - 32 mm)

ZFB-MJ & ML

Suitable for finishing and 3D milling of die & mold. Available in the general MJ geometry and sharp ML geometry for wide machining needs.



ZFR-MJ

Suitable for finishing of die & mold. Components, with a corner radius on the cutting edge

TurnLine

MiniForce-TurnIso-EcoTurnTungTurn-JetTinyMini-TurnCBN

Economical double sided insert with sharp cutting edge

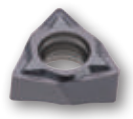
Double sided insert with positive cutting edges.

Same insert applicable for both **Bore Line** and **External Turn Line.**

Bore Line: Minimum diameter of ø0.51"(ø12 mm.)

External Turn Line: Great for small part machining on automatic lathes.

Grounds insert for highly accurate machining.



WXGU

80° corner angle
with 6 cutting edges

DXGU

55° corner angle
with 4 cutting edges

VXGU

35° corner angle
with 4 cutting edges

ISO EcoTURN
TUNGALOY

Maximizes profit and minimizes environmental impact

Small sized ISO turning insert with same thickness and chipbreaker geometries as the standard insert

Highly economical insert.

Saves natural resources as well as manufacturing cost.

Same performance as regular-sized inserts.

The performance level in machining with depth of cut up to 0.118"(3 mm) is identical.

ISO-EcoTurn Inserts

Available in popular standard shapes and chipbreakers which are identical to those of regular-sized inserts.

Tools with high pressure coolant system

Improved productivity with high pressure coolant supply.

Coolant supplied from two directions reduces flank wear and crater wear, **allowing high-speed machining.**

High pressure coolant on the cutting edge breaks chips, even in machining difficult-to-cut materials, which is hard to achieve with general external coolant supply.

Reduced crater wear and **increased cutting speed provides highly efficient machining.**

PCLNR/L and **PDJNR/L** for general external turning: 1.000"(25 mm) square shank for regular ISO inserts and **ISO-EcoTurn** inserts.

MiniForce-Turn and **J-series** for external turning on small lathes: 0.5"(12 mm) square shank for **WXGU**, **DXGU**, **VXGU**, **JXGU**, **DCMT**, and **VBMT** inserts.

EasyMulti-Cut and **TetraForce-Cut** for grooving.

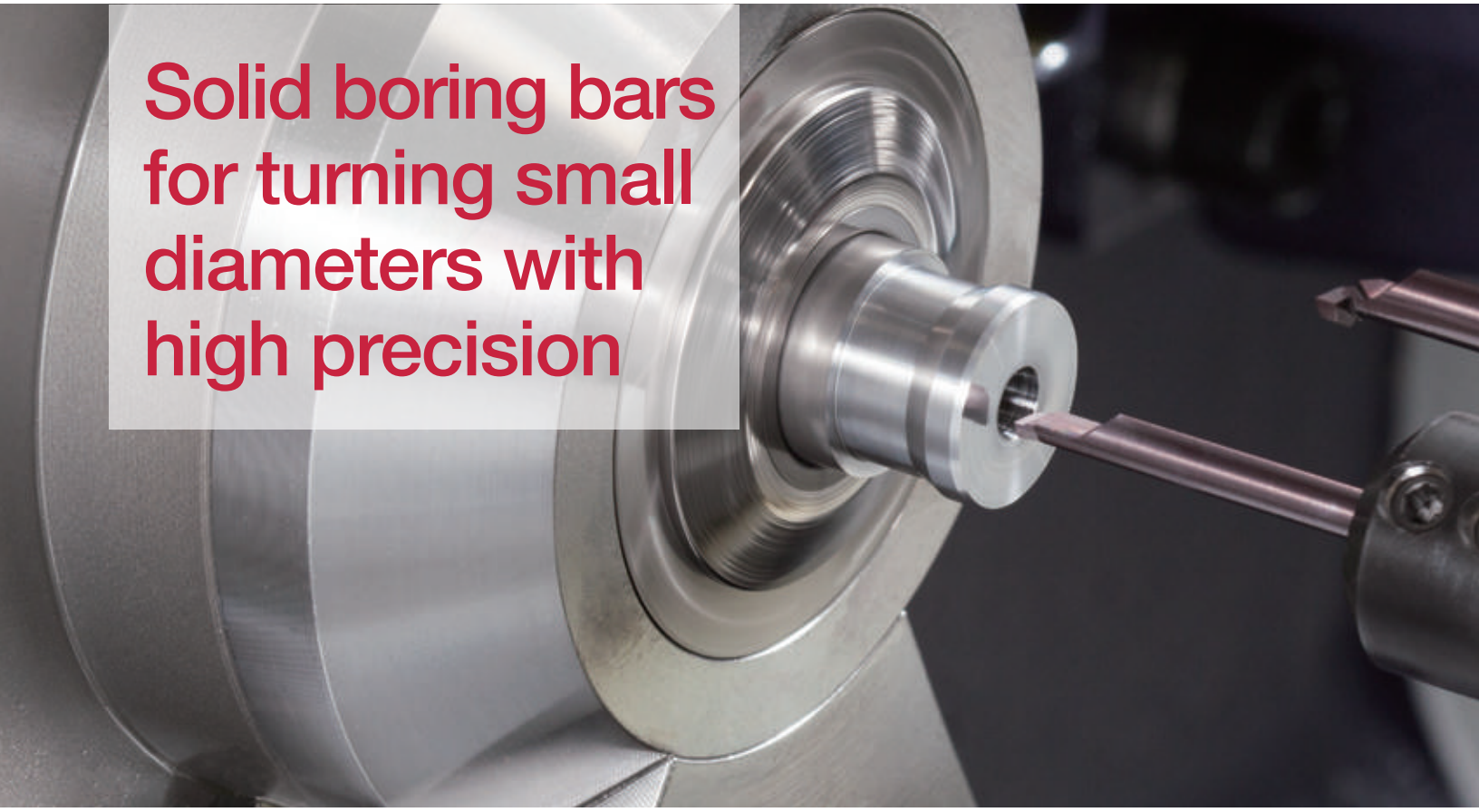
Also available for **TungCap**, Tungaloy´s tooling system.

TungCap

TetraForce-Cut

ISO, ISOEco-Turn, & MiniForce-Turn

Solid boring bars for turning small diameters with high precision



Sharp cutting edge with accurately ground geometries for **high precision machining** and fine surface finish.

Solid carbide tools with internal **coolant supplied directly to the cutting edge.**

Ground chipbreaker **optimizes chip control and help prevent edge chipping.**

Excellent repeatability of solid bars minimizes set up time in tool changes.

Reduction in inventory cost: Both ø0.157" - ø0.275"(ø4 and ø7 mm) shanks are applicable for one sleeve.

A wide variety of carbide tools for small-part machining: boring, profiling, chamfering, threading, and grooving.

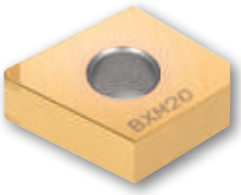
2 types of sleeves are available for internal coolant supply in general applications.

High efficiency in finishing hardened steel, cast iron, and sintered metals

Long tool life and stable machining ensure accuracy and good surface finish.

The wiper edge configuration allows feed rates to be increased, efficiently reducing cycle time while **maintaining the required superior surface finish.**

70° included angle improves side clearance in back turning reducing carbide contact and enhancing the tool life



GNGA type

Double-sided cutting edge and 70° corner angle for high performance in finishing operations.

GrooveLine

TetraForce-Cut TetraMini-Cut DuoJust-Cut EasyMulti-Cut
TungHeavyGroove

Durable and economical tool for grooving and parting-off

Ground insert with **4 cutting edges** for economical machining.

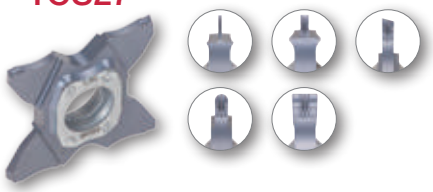
One type of insert can be used with both right and left hand toolholders.

Unique clamping system provides **high insert stability** in cutting and assures **accurate repeatability.**

Groove width: 0.020" - 0.125"(0.5 - 3.18 mm)
Groove depth: 0.039" - 0.252"(1.0 - 6.4 mm)
Parting-off diameter: ø0.079" - ø0.503"(ø2.0 - ø12.8 mm)

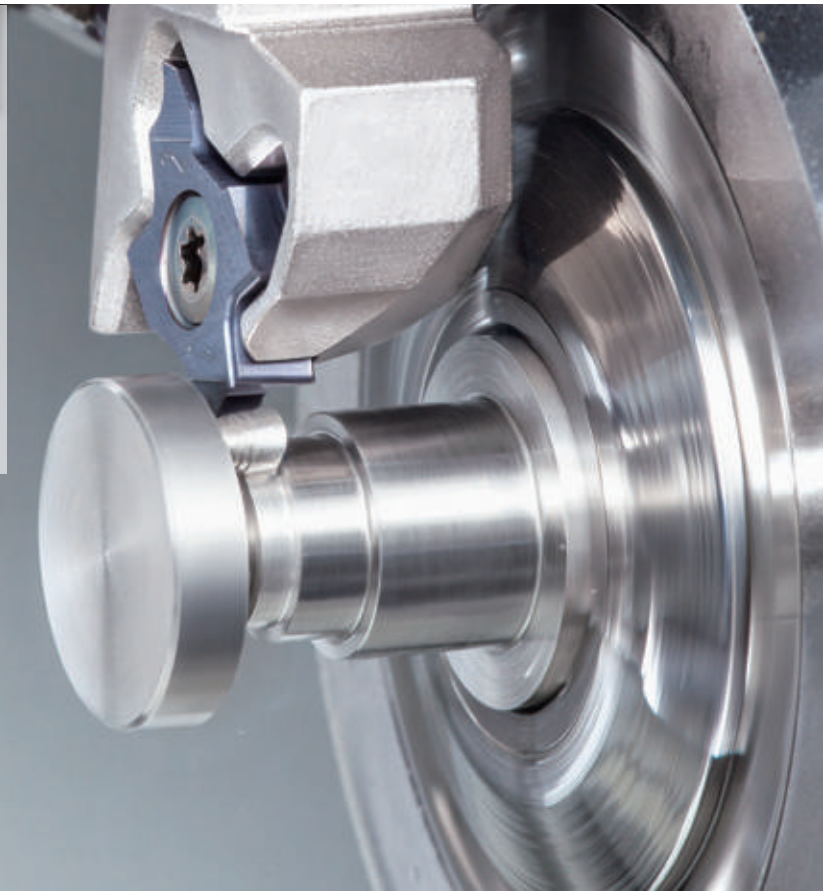
Shank: 0.375" - 1.000"(10 - 25 mm)

TCS27



TCM27

Accuracy and excellence in surface quality of small parts



Ground insert with **4 cutting edges** for highly accurate grooving operations.

Sharp cutting edge for high accuracy and surface quality.

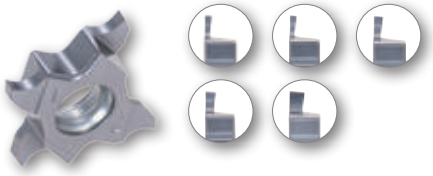
Designed for machining next to shoulder with no interference.

Unique clamping system provides high insert stability in cutting and assures accurate repeatability.

Groove width: 0.013" - 0.118"(0.33 - 3.0 mm)
Groove depth: 0.031" - 0.098"(0.8 - 2.5 mm)
Threading: Thread angle = 60°, Pitch = 0.031" - 0.118"(0.8 to 3.0 mm), TPI = 32 to 8

Square shank: 0.375" - 1.000"(10 - 25 mm), **Round shank:** ø0.551" - ø1.000"(ø14 - ø25.4 mm)

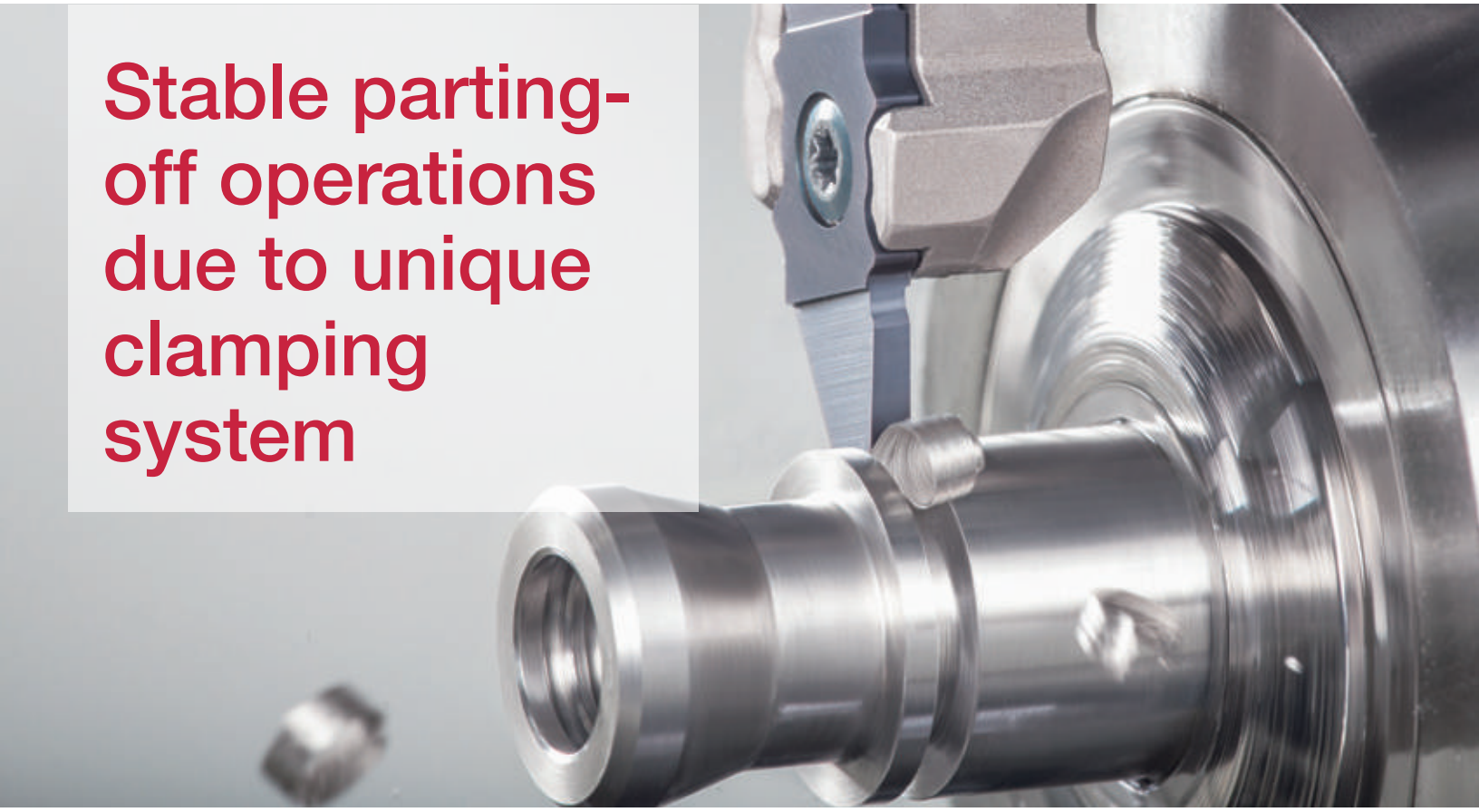
TCP



TCT

DUO JCUT UST TUNGALOY

Stable parting-off operations due to unique clamping system



3 types of inserts are available for various parting-off diameters and can be mounted in the same pocket of the toolholder.

Unique clamping system holds the insert at three points around the insert hole, delivering high rigidity as well as stability in machining.

The insert´s sharp cutting edge reduces cutting force and provides **high quality machined surface.**

2 types of toolholders:
Sub-spindle type (Square shank): 0.375" - 0.500"(10 - 12 mm)
Regular type (Square shank): 0.375", 0.500", 0.625", 0.778" (10, 12, 16, and 20 mm)

JXPG06

Max. parting-off dia. Dmax 0.236" (ø6 mm)

JXPG12

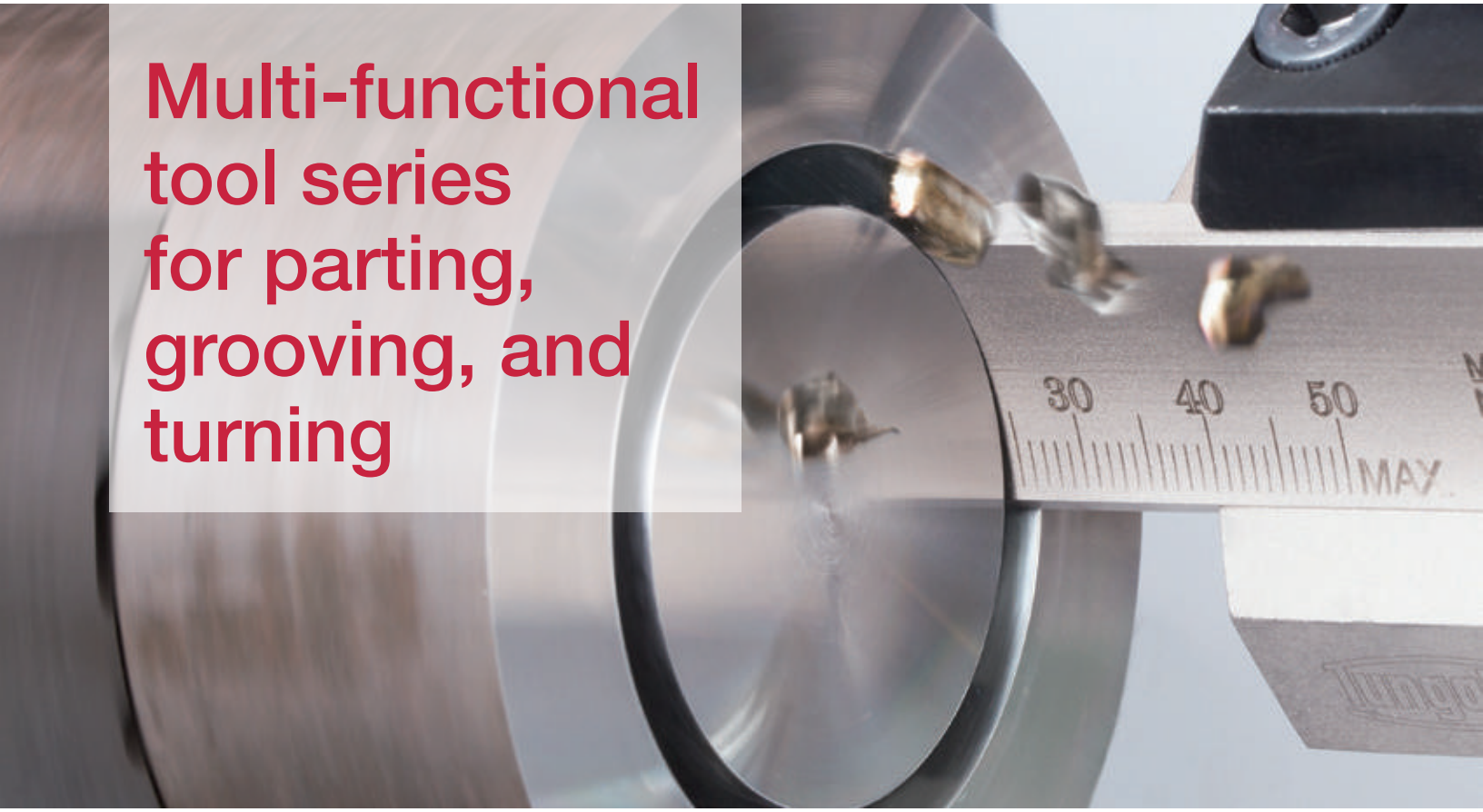
Max. parting-off dia. Dmax 0.472" (ø12 mm)

JXPG16

Max. parting-off dia. Dmax 0.630" (ø16 mm)

EASY MULTI CUT
TUNGALOY

Multi-functional tool series for parting, grooving, and turning



Unique self clamping system.

One type of insert can be used for multifunctional operations such as **parting-off, external / internal / face grooving, and turning applications.**

The tool´s top shape does not block the chip evacuation out from the groove.

CHP type tools with internal coolant supply provide **high wear resistance, excellent surface finish,** and smooth chip evacuation.

Adjustable face blades: Developed for face grooving from øD1.181" - 19.685"(30 to 500 mm.)

Applicable overhang length: 0.709" - 2.559"(18 to 65 mm) set only by changing the blade positions.

ETX

Grooving & Turning
Width: 0.157", 0.197", 0.236"(4, 5, 6 mm)

EGM

Grooving & Parting-off
Width: 0.157"(4 mm)

Highly rigid clamping for wide grooving and profiling

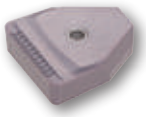
Easy insert clamp operated from the front of the holder.

Open tool design provides a **clear path for chip evacuation.**

2 types of toolholders: **Lever-lock type** and **screw-on type**
Shank size: 0.500" - 1.000"(12 - 25 mm)

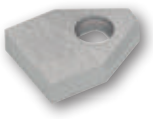
PSGM

Groove insert with pressed chipbreaker
width: 0.787" - 1.969"(20 - 50 mm)

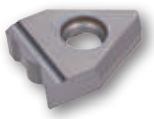


PSGB

Groove blank insert without a chipbreaker
width: 0.984" - 1.614"(25 - 41 mm)



blank



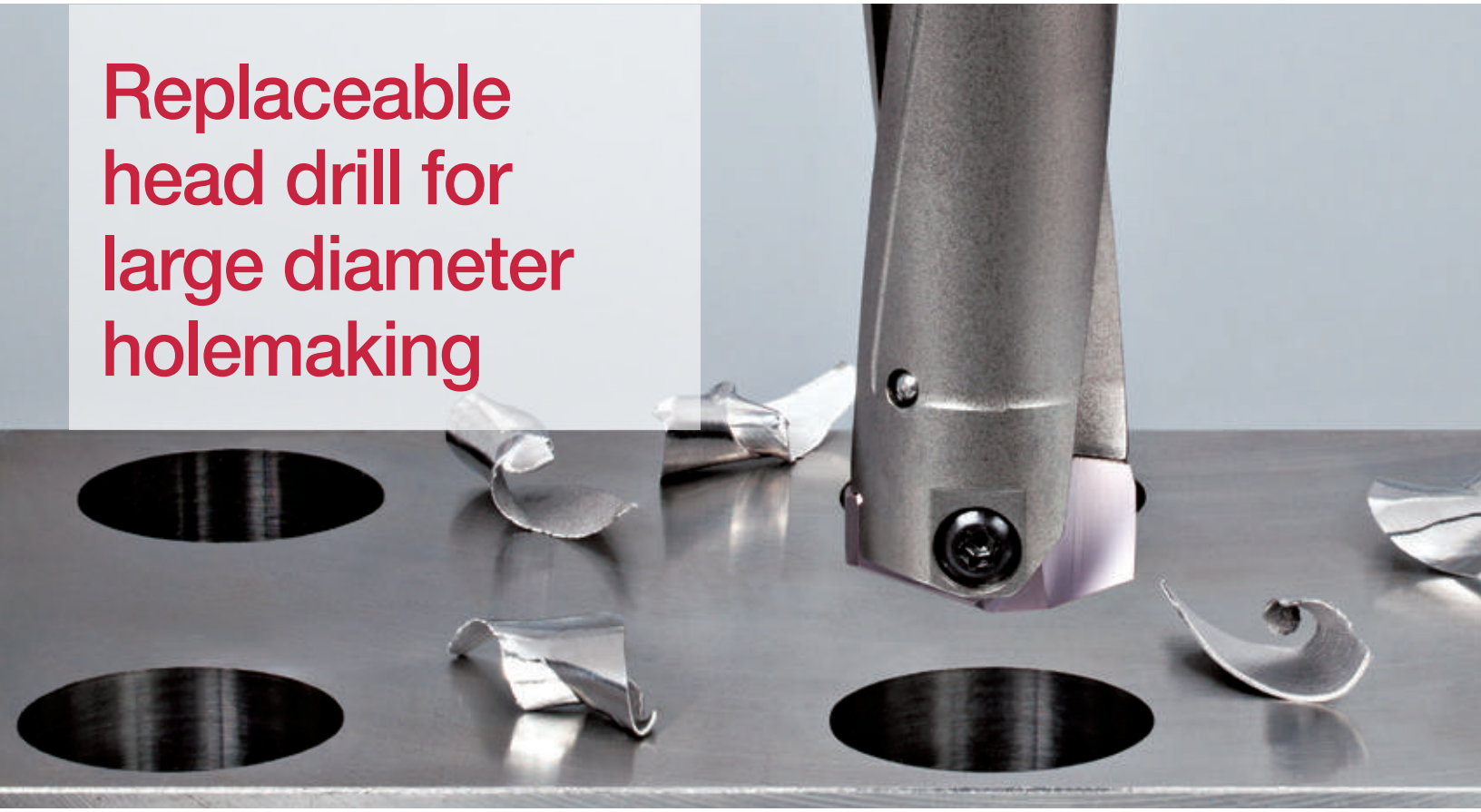
(example of a special insert)

DrilLine

DrillForce-MeisterDrillMeisterTungSix-DrillTungDrill-Big
DeepTri-Drill

DRILLFORCE MEISTER
TUNGALOY

Replaceable head drill for large diameter holemaking



Large diameter replaceable head **drill with 2 effective cutting edges** provides high productivity.

The drill body has an optimized flute design for **smooth chip evacuation and enhanced stiffness improving reliability.**

Unique unidirectional insert clamping improves indexing accuracy and head concentricity.

Drill bodies:
TIS flange type: Available in L/D 3 and 5
Each drill body is applicable for cutting heads in the diameter range of 0.039"(1 mm.)

Drill head: SMP... øDc: ø1.024" - ø1.614"(ø26 - ø41 mm)

SMP...

Diameters from 26.0 to 41.0 mm are available in popular size increments for major applications.

Drill with replaceable head system

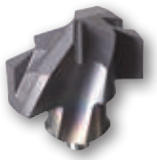
Excellent chip formation due to the **optimized insert geometry** leads to smooth chip evacuation.

Dovetail clamping structure improves clamping **rigidity as well as reliability** and also simplifies the setup of the inserts.

High precision holes as those of solid drills.

Drill bodies:
TID flange type: Available in L/D 1.5, 3, 5, 8, and 12
(L/D 12 to be used in collets or hydrogrips)
TIDC straight type: Suitable for use with TIDCF chamfer holders
TIDCF chamfer holder: 3 types of inserts in chamfering angle 30°, 45°, and 60°

Drill head: DMP... øDc: ø0.394" - ø1.019"(ø10 - ø25.9 mm)
0.004"(0.1 mm) increments



DMP

Chamfering adaptor

TUNGSIX-DRILL

TUNGALOY

Indexable drill with 6 cutting edged insert for high productivity

Double sided insert with 6 cutting edges.

One type of insert is applicable for both **central** and **peripheral** pockets to simplify inventory.

Twisted coolant holes allow the cross section of flutes to be large and increase coolant volume.

Drill bodies:
TDS: Available in L/D 2, 3, and 4
øDc: ø0.812" - ø2.000"(ø20 - ø54 mm)

WWMU-DJ

Sizes: 05,06, 07, 08, 09, 11, and 13
DJ: Well designed and suited for general steel, cast iron, and hard materials.

WWMU-DS

Sizes: 05,06, 07, 08, 09, 11, and 13
DS: The first choice for mild steel, such as stainless steel and low carbon steel.

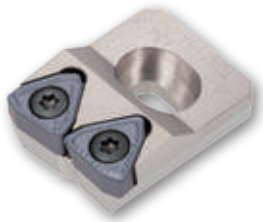
Large diameter drill with adjustable cartridges

Highly rigid body and optimized insert position.

Cartridge system allows tool diameters to be adjusted.

TDX and **TDS type cartridges** can be mounted on the same body, allowing easy tool selection depending on the application.

Drill bodies:
TDB: L/D 2.5
øDc: ø2.25" - ø3.157"(ø55 - ø80 mm)



TDS type

Double sided insert with
6 cutting edges

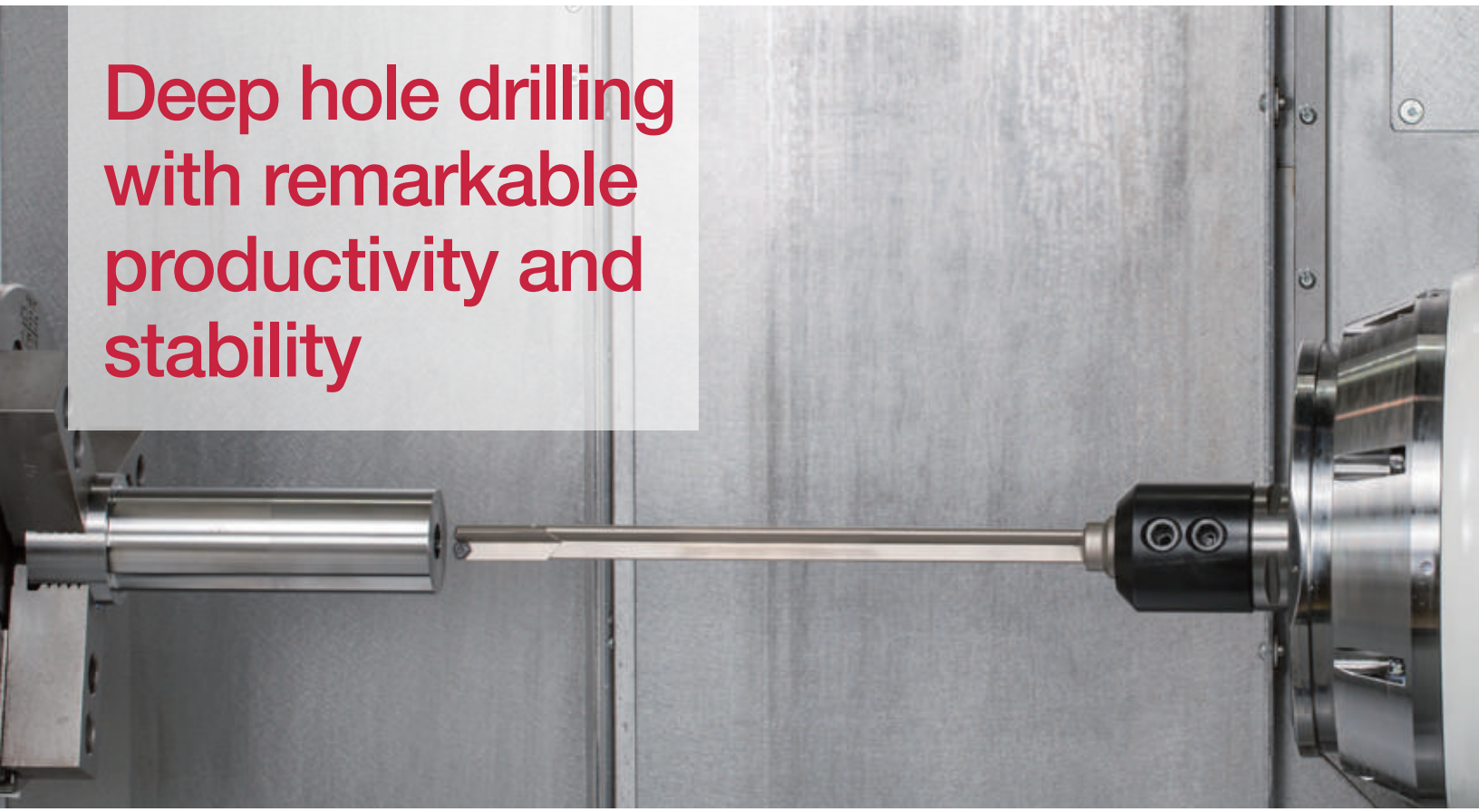
TDX type

Single sided insert with
4 cutting edges

Shims to adjust the diameter

DEEP TRI DRILL
TUNGALOY

Deep hole drilling with remarkable productivity and stability



Economical 3 cutting edged indexable insert with chip splitter.

Chip splitters produce small chips for smooth evacuation, reducing cutting force and allowing **increased feed rate** compared to brazed gundrills.

Drill bodies for lathes, machining centers, and gundrill machines:
MCTR... for machining centers: Stocked in L/D 10, 15, and 25 for drilling depths 170 to 700 mm depending on the diameter.
TRLG... for gundrill machines: Offered up to 59"(1500 mm) in length which is 90 times as long as the diameter of drilling depth.
Also available in a variety of drill holding drivers for different types of gundrill machines.

Guide pad **GP06...:** Equipped with 2 usable edges.

øDc: ø0.63" - ø1.102"(ø16 - ø28 mm)

TOHT...
Available in 5 sizes to cover øDc 16 to 28 mm

ToolLine

TungCapSpinJet

TUNGCAP
TUNGALOY

Quick change system with polygon PSC coupling tooling

Rigid clamping mechanism resists bending force.

High repeatability due to taper and face contact.

Polygonal clamping design for self centering effect.

Easy tool management suitable for a variety of applications.

Short tool change time.

SPINJET
TUNGALOY

Transform the existing machine into a high-speed machine

Outstanding productivity on existing machines due to **high-speed rotation.**

Appropriate cutting conditions and reduced heat with coolant jet flow achieve **long tool life and stable machining for small diameter tools.**

Tools rotate only with coolant pressure, and the machine spindle is idle while SpinJet is in operation reducing power usage.

Wireless RPM monitoring system.

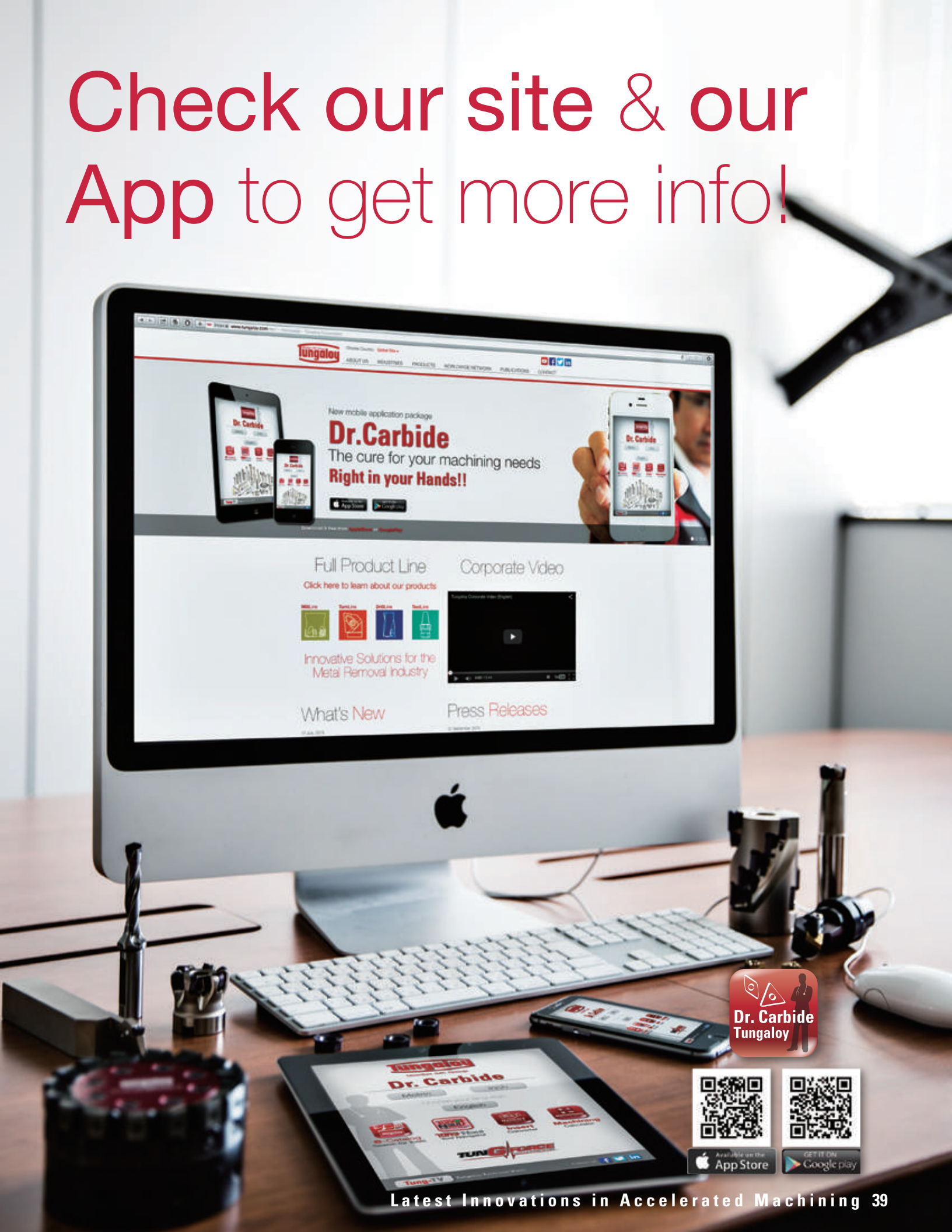
Maximum 60,000 RPM when coolant pressure is 580 PSI(4 MPa).

Applicable on a **wide variety of machines.**

High-speed machining with remarkable efficiency on all machines.

Suitable for a wide range of applications.

Check our site & our App to get more info!



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TUNGALOY HIGHLIGHTS

Latest Innovations in Accelerated Machining

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