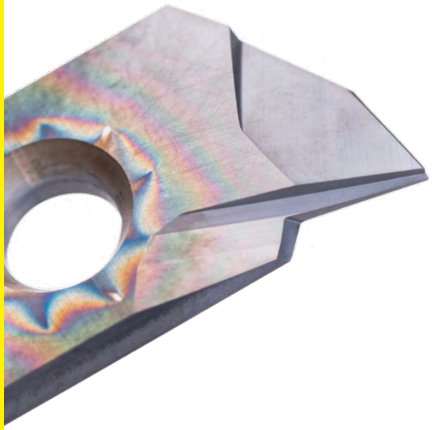
WhizCut®



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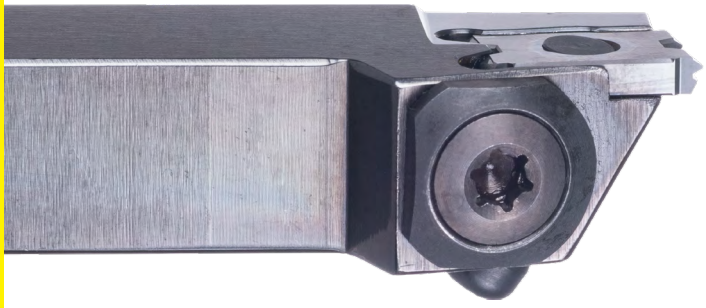
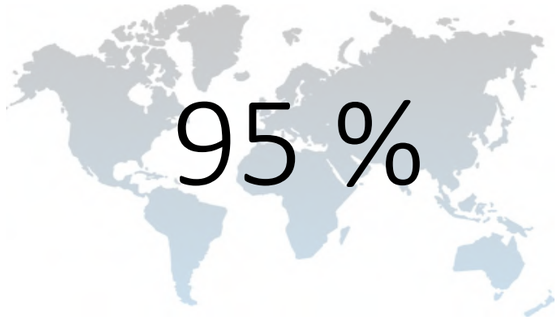
SMART SOLUTIONS
on the cutting edge



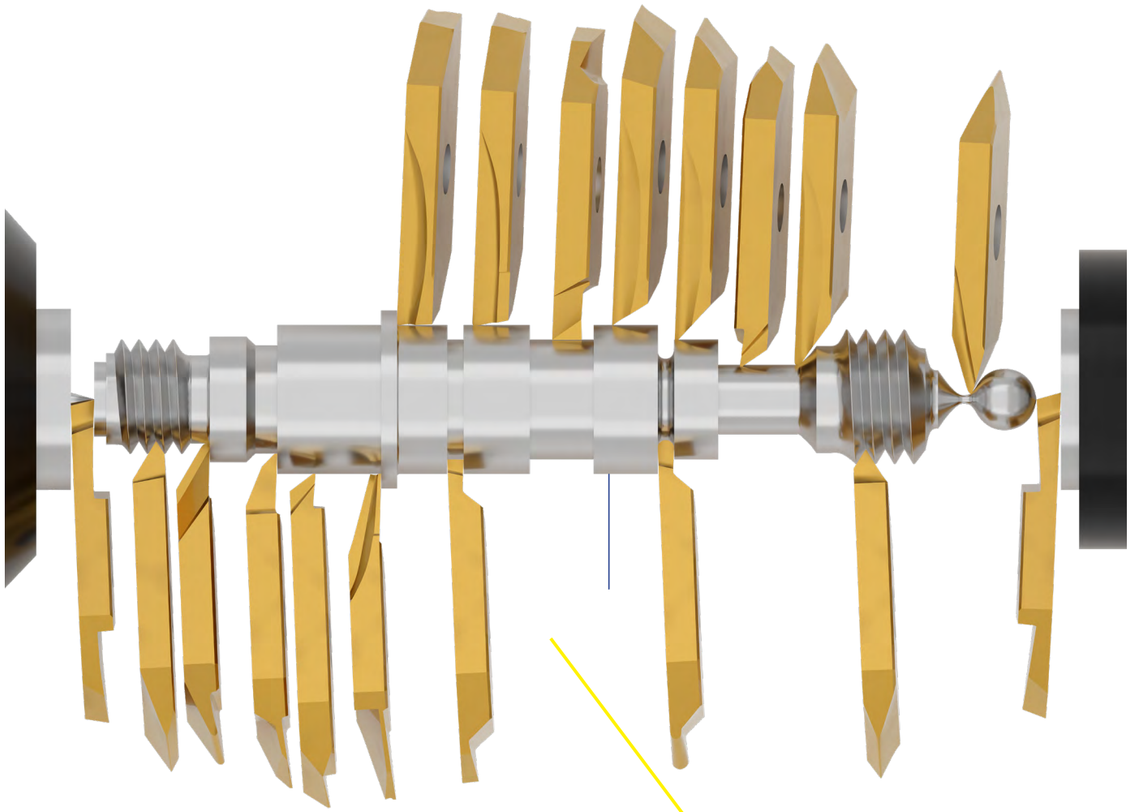
2019 catalogue

The story of WhizCut



95 %

... of WhizCut products are exported to countries all over the world. Swiss lathes produce precision parts for most industries around the globe.



All applications made in a Swiss machine - with only two types of holders.

Hej och välkommen!

At WhizCut we say “hello and welcome”. Our head office is based in Helsingborg in the south of Sweden and we also operate our business from subsidiaries in Port Washington, Wisconsin, USA - Saraburi, Thailand and Hong Kong.
WhizCut manufactures precision cutting tools specially developed for CNC swiss automatic lathes - and deliver them to all corners of the world.
The end users of our premium products are leading, often global companies mostly within these areas:

- Medical devices
- Watchmaking
- Electronics and telecommunication
- Automotive and aerospace

We aim for close, long-term and productive collaborations with our customers. We are often chosen when there is need for complex solutions and cutting-edge technical innovations.

Committed to quality - committed to customers

WhizCut has always taken pride in delivering top quality tooling. All inserts and toolholders are thoroughly examined in top of the range measuring microscopes.

Every single cutting edge is checked at over 60 times enlargement before being packed in transport safe packaging.
We at WhizCut therefore guarantee that there is no chipping or other faults in our range of products.

Fast shipment and reliable deliveries are also a major factor in the quality of our products.
For this reason we always make sure that our products arrive to their destination on time.

We believe that the extensive quality work, through the entire production process, makes WhizCut-tools among the highest quality products on the market.

Erik Schmidt
Founder of WhizCut

Like a kid in a machine shop

The year is 1946. In a suburb of the Danish capital of Copenhagen Erik Schmidt, 3 years old, is listening to the well known sound of the lathes while helping his father producing lighters. This is where the story of WhizCut actually begins. Where the rhythm of the lathes became as natural as the rhythm of Eriks heart beats.
Several school years later, ten thousands of geometry calculations later Erik Schmidt invented the WhizFix toolholder system. WhizCut was founded in 1996 - in Sweden. To this day Erik still develops new products and inventions for WhizCut, he is the designer behind the original patents and he is a well known figure within the metal cutting industry: Inventing smart tooling solutions on the cutting edge.

Chris Schmidt
MD of WhizCut

The tomorrow of the industry

The rhythm of the band driven lathes is still heard within the Schmidt family - even if the well known sound is long gone in today’s modern machines. WhizCut is a leading brand of tooling for CNC automatic lathes. Eriks youngest son Chris Schmidt is Managing director, and he is committed to brighten the future of the metal cutting industry, locally, nationally and worldwide.
As chairman of MTAS - Machine and tool association of Sweden, Chris Schmidt is engaged in issues regarding competence, education, validation, competitiveness and growth of the industry. He is dedicated to making the metal cutting industry - our industry - stronger and smarter.

Contents

News

Four edges - double tool life.

WhizGroove **24.**

Up your productivity with our brand new product line: WhizGroove. WhizGroove is a range of precision ground grooving inserts with four cutting edges. It combines stability, precision and low cost/cutting edge.

Try it - for tighter tolerances!

38. WhizAdjust

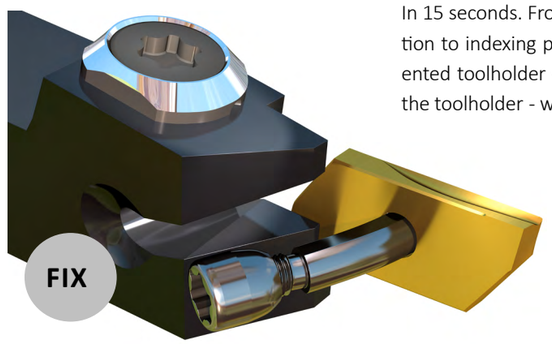
WhizAdjust is a modern, patented toolholder system that allows for very quick and accurate height adjustment - without losing any stability. The fine-tune adjustment screw and stable clamping makes it possible to reach perfect centre height.

WhizHip **64.**

Control your chips with WhizHip, distribution system for high pressure coolant. It is created with flexible, hard wearing stainless steel braided hoses - bendable, with quick change couplings and adjustable nozzles.

Signature toolholders

WhizFix



In 15 seconds. From the opposite side. Still in the machine. That is the solution to indexing problems in Swiss type automatics. With the WhizFix patented toolholder you can easily index the insert from the opposite side of the toolholder - with the holder still in the machine.

- *Indexing or changing an insert can be done in 15 seconds without removing the toolholder from the machine.*
- *Indexing or changing an insert will not change the setting, resulting in a much faster return to full production.*
- *There is no risk of damaging the new cutting edge.*

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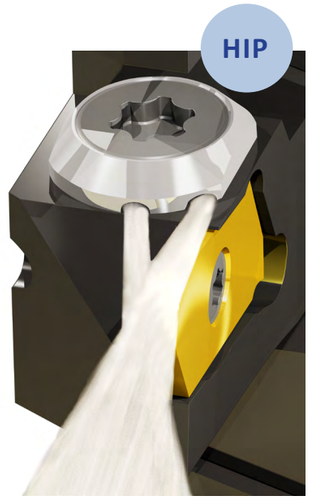
WhizHip



Cool it with high pressure, exactly where you want it. The high pressure coolant is led through the WhizHip toolholders - and exits very close, at an optimal angle between the cutting edge and chip. The insert cools down, the building chips are cut off and tool life is improved.

- *Use the WhizHip toolholder and there is no need to invest in a special gang-plate.*
- *Combine WhizHip with WhizFix to minimize setup time and index in the machine.*
- *The WhizHip toolholder gives a positive effect on performance from 10 bar. Normal use is around 100 bar, however WhizHip can handle up to 300 bar.*
- *High pressure coolant drastically improves performance when working in titanium and other difficult-to-machine-materials.*

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WhizAdjust

Working against the subspindle? With need of precision adjustment of center height in lathes with no Y-axis? It is actually doable. With the patented and class leading toolholder system WhizAdjust - with an adjustment precision of 0,005 mm and steps of 0,02 mm.

- *Easy & fast adjusting of the centre height, one-screw-release to loosen the insert head for adjustments.*
- *Most stable adjustable system around. Maximum clamp area and high cutting force absorption, as the head and body is clamped together in a 60 degree angle.*
- *Fits all WhizCut inserts, the adjustable toolholder comes in several different versions.*

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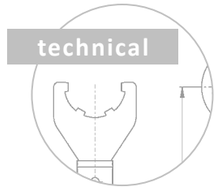
The WhizAdjust toolholder is made up of two parts: adjustable head and shank. The toolholder consists of shank, mounted in the machine. The adjustable head is mounted on to the shank.

Grades of carbide



WhizCut inserts are made of an extra fine grain carbide with hardness over 1750 Hv. The WhizCut carbide is an extremely hard grade with a high tensile strength and even grain size. Compared to conventional carbides this carbide is very wear resistant which drastically extends tool life.
WhizCut round tools are made of a sub-micron grain carbide with a hardness over 1610 Hv and a medium cobalt content. The grain size is remarkably even, resulting in a supreme tensile strength.

Carbide

Great strength, great hardness and great wear resistance - key features of WhizCut precision inserts which are made of carbide. WhizCut inserts and tooling are specially developed to suit the cutting conditions inside CNC Swiss automatic lathes. All cutting edges are fully ground and exceptionally sharp. This, together with the latest types of coating and suitable cutting geometries, gives WhizCut inserts an excellent tool life.

Stock standard carbide grades

for external inserts- including external threading

8M, 9, 10	Uncoated grade covering ISO groups K10-K20 and M10-M20.
C8, 9, 10	Coated grade covering ISO groups K05-K20, M05-M20 and P05-P10. This not a stock standard. Being Replaced by F8 and B8 in 2020.
F8, 9, 10	New improved AlTiN coated grade with high heat and thermal shock resistance. ***Great for machining stainless steel.***
B8, 9, 10	AlCrN coating with extra edge sharpness. A versatile grade which can be used for most materials. ***Extra benefits in titanium and exotic materials.***
NF8, 9, 10	New improved slightly honed AlTiN coated grade with high heat and thermal shock resistance. ***Great for machining steel and large stainless steel parts.***
ND8, 9, 10	AlCrN coated grade with a slightly honed cutting edge. **Perfect for all steels, and tough exotics and larger parts**
P9, 10	An extra smooth AlTiN coating very suitable for all drill applications as well as boring in sticky materials.

Stock status/sizes

Stock status

A	ER Stock standard, EL Stock standard
B	ER Stock standard, EL Against inquiry
C	EL Stock standard, ER Against inquiry
R	ER Stock standard only
L	EL Stock standard only
K	Standard price, not a stock standard.

Insert size

Insert type	L	T
J11, K11	11	2,5
H13, T13	13	2,2
J15, K15	15	2,1
J20ER, K20ER	20	3,5

WhizCut

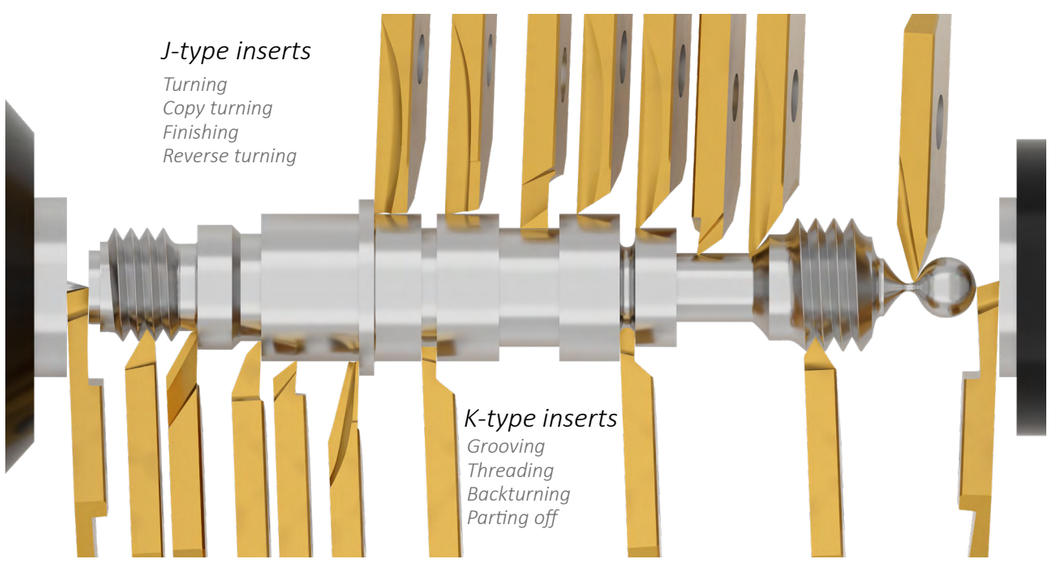
Innovative indexing and high performing inserts. This is how you improve CNC swiss type automatic lathes. WhizCut have tangentially mounted inserts which are ingeniously set at an angle in the tool holder. This gives you the best possible tool life, tight tolerances and smooth surface finish.

COST EFFICIENT PERFECT CHIP CONTROL TIME SAVING

technical

WhizCut - fully ground cutting edges

WhizCut standard inserts all have sharp, fully ground cutting edges. The standard inserts are available between 2 and 20° positive cutting rake - to perform outstanding in every operation. Thanks to this inventive combination WhizCut inserts are up for any material or application challenge.



Range benefits

Perform perfect with WhizCut

- **Perfect chip control and minimal cutting forces:** all WhizCut inserts have complex cutting geometries and sharp, fully ground cutting edges. The entire range of inserts is designed to generate ultimate stability.
- **Flexible:** WhizCut has a great assortment of inserts specially designed to fit all swiss type applications.
- **Save time:** with the toolholder system WhizFix, you can index the insert with the toolholder still in the machine. Change or turn the insert around in only 15 seconds. Read more on page 6.
- **High pressure coolant:** through the toolholders - is available for the full line of WhizCut inserts. Read more on page 64.

2 holders - all applications

You only need two types of toolholders to perform any operation with a WhizCut insert: J-type toolholders and K-type toolholders. The inserts are divided into two different application styles; “radial turning” and “front turning”. The toolholders for radial turning and front turning are optimized for their targeted application.

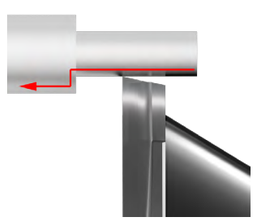
Perfect fit with WhizCut signature toolholders: HIP FIX ADJ

J-type inserts and toolholders

Front turning

The perfect combination of cutting rakes, shapes, corner executions, chip control and grades of carbide. WhizCut has designed a diverse range of the J-type inserts so that you can find the ideal insert right here.

The J-type insert is tilted in the toolholder to give the best clearance and superb stability in the tooling.



Turning direction

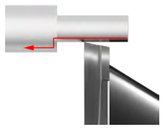
Resulting cutting force

For recommended cutting data J-type insert please see page 70.

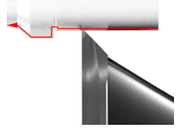
WhizGuide select the ideal insert

1. Axial relief vs. component possibilities

- 3° Gives the strongest tool and smoother finish
- 12° Gives a strong tool and good finish
- 33° Medium strong tool, wiper good for smooth finish
- 48-53°: Less strong tool, wiper needed for smooth finish



Small axial relief - stronger tool



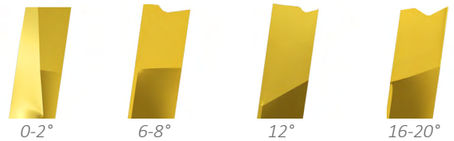
Large axial relief - weaker tool

2. Chip control

- Style H = Long chips and/or high feed rate
- Style J = Long chips and/or highest feed rate
- Style D, N & V = Short chips and/or low to mod. feed rate
- Style M = Short chips and/or low to moderate feed rate
- P - Line = Long chips and/or low to moderate feed rate

3. Cutting rake vs. material

- 0-2° for short-chipping materials
- 6-8° for harder long-chipping materials
- 12° for long-chipping materials
- 16-20° for sticky long-chipping materials
- P - Line style inserts for sticky and exotic materials



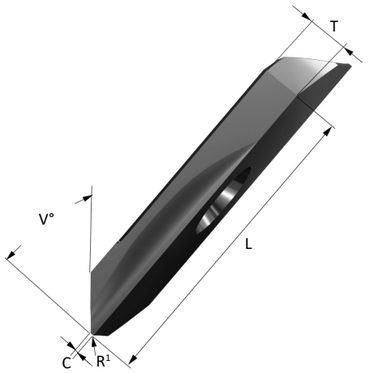
0-2° 6-8° 12° 16-20°

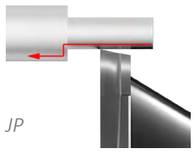
4. Corner alternatives

- Sharp corner = Min. cutting force - component is weak
- Wiper = For higher feed rates - better surface finish
- Radius = Stronger tool, also on request of component
- Wiper and radius = For higher feed-rate - better surface

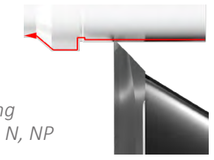
Sharp corner Wiper Full radius Radius+wiper

J-type

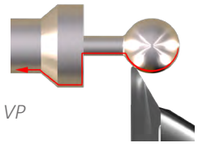




Turning
Style H, HP, J, JP



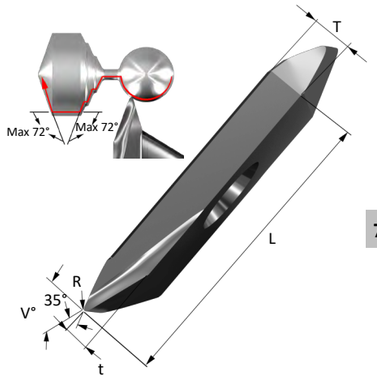
Copy turning
Style D, DP, N, NP



Profiling
Style N, NP, V, VP

Style H, J, D, N, V | Inserts for turning, copy turning

	INSERTS	L	V°	R	C	C. RAKE°	STOCK 8M	C8	F8	B8	NF8	ND8	PRICE
H = 3°	J15ER H6-0	15	3	0	0	6	R	K	R	R	-	-	A3
	J15ER H6-05	15	3	0,05	0	6	R	K	R	R	-	-	A4
	J15ER H6-2	15	3	0,2	0	6	R	K	R	R	R	R	A4
	J15ER H16-0	15	3	0	0	16	R	K	R	R	-	-	A3
	J15ER H16-1	15	3	0,1	0	16	R	K	R	R	R	R	A4
	J15ER H16-2	15	3	0,2	0	16	R	K	R	R	-	-	A4
J=12°	J11ER/L J8-0	11	12	0	0	8	A	K	A	A	-	-	A3
	J11ER/L J8-2	11	12	0,2	0	8	A	K	A	A	R	R	A4
	J11ER/L J20-0	11	12	0	0	20	A	K	A	A	-	-	A3
	J11ER/L J20-05	11	12	0,05	0	20	A	K	A	A	-	-	A4
	J11ER/L J20-2	11	12	0,2	0	20	A	K	A	A	-	-	A4
	J15ER/L J8-0	15	12	0	0	8	A	K	B	B	R	R	A3
	J15ER/L J8-1	15	12	0,1	0	8	A	K	B	B	R	R	A4
	J15ER/L J8-2	15	12	0,2	0	8	A	K	B	B	R	R	A4
	J15ER/L J20-0	15	12	0	0	20	A	K	B	B	-	-	A3
	J15ER/L J20-1	15	12	0,1	0	20	A	K	B	B	-	-	A4
	J15ER/L J20-2	15	12	0,2	0	20	A	K	B	B	-	-	A4
	J20ER J8-2	20	12	0,2	0	8	R	K	R	R	R	R	A21
	J20ER J8-4	20	12	0,4	0	8	R	K	R	R	R	R	A21
	J20ER J20-2	20	12	0,2	0	20	R	K	R	R	R	R	A23
	J20ER J20-4	20	12	0,4	0	20	R	K	R	R	R	R	A23
D = 33°	J11ER/L D2-0	11	33	0,02	0	2	A	K	A	A	-	-	A5
	J11ER/L D2-0-1	11	33	0	0,12	2	A	K	A	A	-	-	A5
	J11ER/L D12-0	11	33	0,02	0	12	A	K	A	A	-	-	A5
	J11ER/L D12-05	11	33	0,05	0	12	A	K	A	A	-	-	A5
	J11ER/L D12-0-1	11	33	0	0,12	12	A	K	A	A	-	-	A5
	J15ER/L D2-0	15	33	0,02	0	2	B	K	B	B	-	-	A5
	J15ER/L D2-0-2	15	33	0	0,2	2	B	K	B	B	-	-	A5
	J15ER/L D12-0	15	33	0,02	0	12	B	K	B	B	-	-	A5
	J15ER D16-1	15	33	0,1	0	16	R	K	R	R	-	-	A5
	J15ER/L D12-0-2	15	33	0	0,2	12	B	K	B	B	-	-	A5
	J15ER/L D12-1-3	15	33	0,15	0,3	12	B	K	B	B	R	R	A6
	J20ER D2-2-5	20	33	0,2	0,5	2	R	K	R	R	R	R	A23
	J20ER D12-2-5	20	33	0,2	0,5	12	R	K	R	R	R	R	A24
N= 48°	J15ER/L N2-0-2	15	48	0	0,2	2	B	K	B	B	-	-	A6
	J15ER N2-1-3	15	48	0,1	0,3	2	R	K	R	R	-	-	A7
	J15ER/L N12-0-2	15	48	0	0,2	12	B	K	B	B	-	-	A6
	J15ER N12-1-3	15	48	0,1	0,3	12	R	K	R	R	R	R	A7
	J20ER N2-2-5	20	48	0,2	0,5	2	R	K	R	R	R	R	A24
	J20ER N12-2-5	20	48	0,2	0,5	12	R	K	R	R	-	-	A25
V= 53°	J11ER/L V2-1	11	53	0,1	0	2	A	K	B	B	-	-	A6
	J11ER/L V12-05	11	53	0,05	0	12	A	K	B	B	-	-	A7
	J11ER/L V12-2	11	53	0,2	0	12	A	K	B	B	-	-	A7
	J15ER/L V2-1	15	53	0,1	0	2	A	K	B	B	-	-	A6
	J15ER/L V2-0-2	15	53	0	0,2	2	B	K	B	B	-	-	A6
	J15ER/L V12-2	15	53	0,2	0	12	B	K	B	B	R	R	A7
	J15ER V12-4	15	53	0,4	0	12	R	K	R	R	R	R	A7

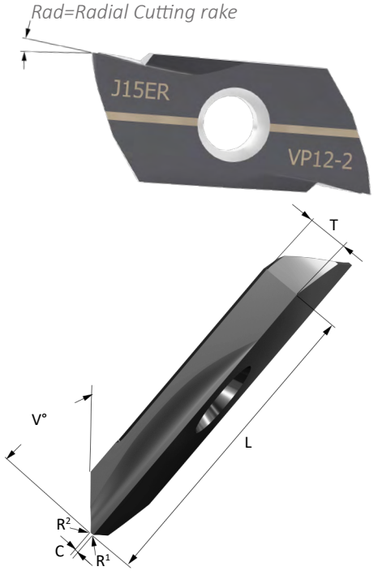


Style M | Inserts for profile, copy turning

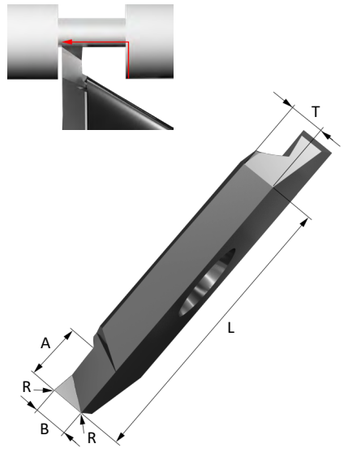
	INSERTS	L	t	V°	R	C. RAKE°	STOCK 8M	C8	F8	B8	NF8	ND8	PRICE
72,5°	J15ER M12-08	15	1,3	17,5	0,08	12	R	K	R	R	-	-	A7
	J15ER M12-2	15	1,3	17,5	0,2	12	R	K	R	R	R	R	A7

J-type

Rad=Radial Cutting rake



Pic. of profiling insert MP see page 12.



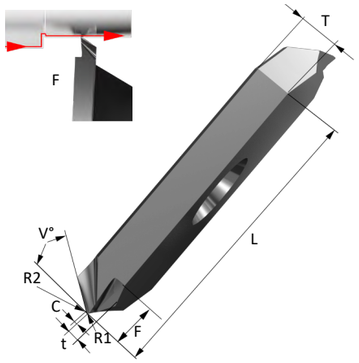
P - Line | Inserts for turning sticky and exotic materials

	INSERTS	L	V°	R¹	R²	C	C. RAKE° Ax	RAD	STOCK 8M	F8	B8	NF8	ND8	PRICE
HP	J11ER HP6-0	11	3	0	-	0	6	6	R	R	R	R	R	A5
	J11ER HP6-05	11	3	0,05	-	0	6	6	R	R	R	R	R	A6
	J15ER HP8-1	15	3	0,1	-	0	8	12	-	-	-	R	R	A5
	J15ER HP8-2	15	3	0,2	-	0	8	12	-	-	-	R	R	A5
	J15ER HP16-0	15	3	0	-	0	16	12	R	R	R	-	-	A4
	J15ER HP16-03	15	3	0,03	-	0	16	12	R	R	R	-	-	A5
	J15ER HP16-05	15	3	0,05	-	0	16	12	R	R	R	-	-	A5
	J15ER HP16-2	15	3	0,2	-	0	16	12	R	R	R	R	R	A5
JP	J15ER JP12-0	15	12	0	-	0	12	12	R	R	R	-	-	A4
	J15ER JP20-1	15	12	0,1	-	0	20	12	R	R	R	-	-	A5
	J20ER JP20-4	20	12	0,4	-	0	20	12	R	R	R	R	R	A24
DP	J15ER DP8-4	15	33	0,4	-	0	8	12	-	-	-	R	R	A6
	J15ER DP12-0	15	33	0,02	-	0	12	12	R	R	R	-	-	A6
	J15ER DP12-05	15	33	0,05	-	0	12	12	R	R	R	-	-	A7
	J15ER DP12-1	15	33	0,1	-	0	12	12	R	R	R	-	-	A6
	J15ER DP12-15	15	33	0,15	-	0	12	12	R	R	R	-	-	A6
	J15ER DP12-2	15	33	0,2	-	0	12	12	R	R	R	R	R	A6
NP	J15ER NP12-0-2	15	48	0	-	0,2	12	12	R	R	R	-	-	A7
	J15ER NP12-03-1	15	48	0,03	-	0,15	12	12	R	R	R	-	-	A8
	J15ER NP12-05-1	15	48	0,05	-	0,15	12	12	R	R	R	-	-	A8
	J15ER NP12-052	15	48	0,05	0,2	0	12	12	R	R	R	-	-	A8
	J15ER NP12-08	15	48	0,08	-	0	12	12	R	R	R	R	R	A8
	J15ER NP12-2	15	48	0,2	-	0	12	12	R	R	R	R	R	A8
	J15ER NP12-1-3	15	48	0,1	-	0,3	12	12	R	R	R	-	-	A8
VP	J15ER VP12-05	15	53	0,05	-	0	12	12	R	R	R	-	-	A8
	J15ER VP12-08	15	53	0,08	-	0	12	12	R	R	R	R	R	A8
	J15ER VP12-2	15	53	0,2	-	0	12	12	R	R	R	R	R	A8
	J15ER VP12-4	15	53	0,4	-	0	12	12	R	R	R	R	R	A8
MP	J15ER MP12-2	15	72,5	0,2	-	0	12	12	R	R	R	-	-	A8
	J15ER MP12-4	15	72,5	0,4	-	0	12	12	R	R	R	R	R	A8

Style A | Inserts for groove turning

INSERTS	L	B	A	RX2	C. RAKE°	STOCK 8M	C8	F8	B8	NF8	ND8	PRICE
J11ER/L A0-03-0	11	0,2	0,3	0	0	A	K	B	B	-	-	A6
J11ER A0-08-0	11	0,5	0,8	0	0	R	K	R	R	-	-	A5
J11ER/L A0-0	11	1,3	2	0	0	A	K	B	B	-	-	A5
J11ER/L A12-0	11	1,3	2	0	12	A	K	B	B	-	-	A6
J11ER A12-2	11	1,3	2	0,2	12	R	K	R	R	R	R	A7
J15ER A0-03-0	15	0,2	0,3	0	0	R	-	R	R	-	-	A5
J15ER A0-05-0	15	0,3	0,5	0	0	R	-	R	R	-	-	A6
J15ER A0-08-0	15	0,5	0,8	0	0	R	K	R	R	-	-	A5
J15ER A0-08-03	15	0,5	0,8	0,03	0	R	K	R	R	-	-	A6
J15ER A0-08-05	15	0,5	0,8	0,05	0	R	K	R	R	-	-	A6
J15ER A0-12-0	15	0,75	1,2	0	0	R	K	R	R	-	-	A5
J15ER A12-12-0	15	0,75	1,2	0	12	R	K	R	R	-	-	A6
J15ER A0-12-05	15	0,75	1,2	0,05	0	R	K	R	R	-	-	A7
J15ER A12-12-05	15	0,75	1,2	0,05	12	R	K	R	R	-	-	A7
J15ER A0-16-0	15	1	1,6	0	0	R	K	R	R	-	-	A5
J15ER A12-16-0	15	1	1,6	0	12	R	K	R	R	-	-	A6
J15ER A12-16-05	15	1	1,6	0,05	12	R	K	R	R	-	-	A7
J15ER A0-0	15	1,5	2,3	0	0	R	K	R	R	R	R	A5
J15ER/L A12-0	15	1,5	2,3	0	12	B	K	B	R	R	R	A6
J15ER A12-08	15	1,5	2,3	0,08	12	R	K	R	R	-	-	A7
J15ER A12-1/L	15	1,5	2,3	0,1	12	A	K	B	B	R	R	A7
J15ER A12-40-0	15	2	4	0	12	R	K	R	R	R	R	A7
J15ER A12-40-1	15	2	4	0,1	12	R	K	R	R	R	R	A7
J15ER A12-40-2	15	2	4	0,2	12	R	K	R	R	R	R	A7
J20ER A0-3-0	20	2	3	0	0	R	K	R	R	-	-	A22
J20ER A0-5-0	20	3	5	0	0	R	K	R	R	-	-	A22
J20ER A12-3-0	20	2	3	0	12	R	K	R	R	-	-	A24
J20ER A12-3-1	20	2	3	0,1	12	R	K	R	R	R	R	A25
J20ER A12-5-0	20	3	5	0	12	R	K	R	R	-	-	A24
J20ER A12-5-2	20	3	5	0,2	12	R	K	R	R	R	R	A25

For stock status definitions see page 7.



Style F | Inserts for reverse turning

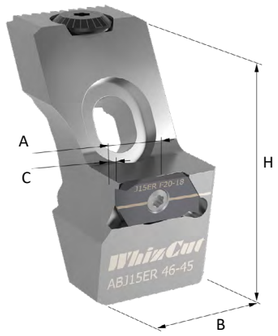
									STOCK				
INSERTS	C	R1	R2	t	F	V°	C.	RAKE°	8M	C8	F8	B8	PRICE
J15ER FD16-0-03	0,15	0,03	-	0,6	3	30		16	R	K	R	K	A7
J15ER FD16-0-05	0,15	0,05	-	0,6	3	30		16	R	K	R	K	A7
J15ER FN10-2-07	0,15	0,07	0,07	0	3	45		10	R	-	R	R	A7
J15ER FN8-052	0	0,05	0,2	0	-	48		8	R	-	R	R	A7
J15ER FN8-12	0	0,1	0,2	0	-	48		8	R	-	R	R	A7
J15ER FV16-1-3	0,15	0,2	0,2	0	-	53		16	R	K	R	R	A7
J15ER FV20-18	0	0,18	-	0	-	58		20	R	-	R	R	A8

At t=0 Max plunge F is 15 mm.

Benefits of reverse turning

- Higher feed with an improved surface finish.
- Clears burrs on sharp corners.
- Corner radius protected when turning.
- Increased tool life.
- Angled cutting edge gives smoother cutting.

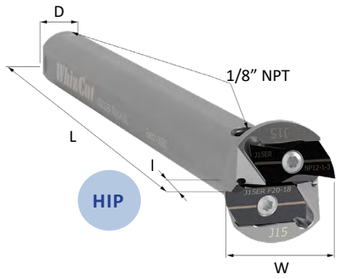
J-type



ABJ | WhizAdjust toolholder head

TOOLHOLDER HEAD	H	B	A	C MAX DOC	MAX FEED LENGTH	INSERT TYPE	CLAMPING SCREW	KEY	STOCK	PRICE
ABJ15ER-46-45	46	24	10	2	45	J15ER	M3X7	J3IP	R	D55

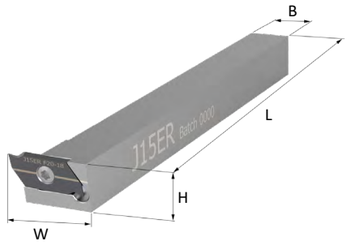
For more information and shanks see WhizAdjust page: 38.
A is measurement from cutting edge to center of shank.



DSJ | Double inserts toolholders with round shank

TOOLHOLDER	D	W	L	I	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
DSJ15ER 0625M-8C	5/8"	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87
DSJ15ER 0016M-8C	16	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87
DSJ15ER 0750M-8C	3/4"	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87
DSJ15ER 0020M-8C	20	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87
DSJ15ER 0022M-8C	22	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87
DSJ15ER 0025M-8C	25	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87
DSJ15ER 1000M-8C	1"	24	150	40	J15ER	1/8" NPT	M3X7	J3IP	R	A87

All double holders have four location flats.

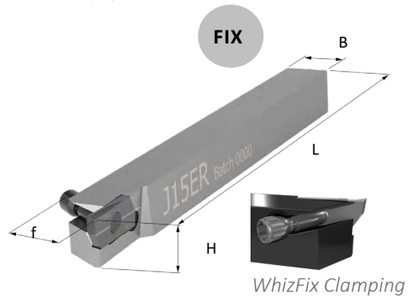


ZSJ | Square shank toolholders

TOOLHOLDER	H	B	L	W	INSERT	SCREW	KEY	STOCK	PRICE
ZSJ15ER 1212K-8T	12	12	125	20	J15ER	M3X7	J3IP	R	A72
ZSJ15ER 1616K-8T	16	16	125	24	J15ER	M3X7	J3IP	R	A73

For stock status definitions see page 7.

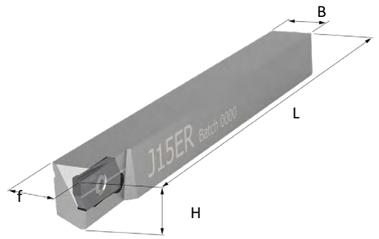
J-type



WhizFix Clamping

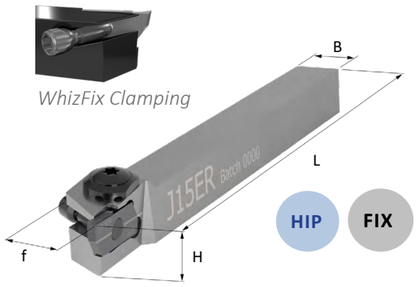
WPJ | Toolholders with WhizFix pin type clamping

TOOLHOLDER	H	B	L	f	INSERT	PIN	BIT	STOCK	PRICE
WPJ11ER/L 88K-8T	8	8	125	8	J11ER/L	PIN 8	K3	A	A62
WPJ11ER/L 1010K-8T	10	10	125	10	J11ER/L	PIN 8	K3	A	A62
WPJ15ER/L 1010K-8T	10	10	125	10	J15ER/L	PIN 12	J5	A	A62
WPJ15ER 1212F-8T	12	12	85	12	J15ER	PIN 12	J5	R	A61
WPJ15ER/L 1212K-8T	12	12	125	12	J15ER/L	PIN 12	J5	A	A62
WPJ15ER 0500K-8T	1/2"	1/2"	125	1/2"	J15ER	PIN 12	J5	R	A62
WPJ15ER/L 1616K-8T	16	16	125	16	J15ER/L	PIN 12	J5	A	A63
WPJ20ER 1212K-8T	12	12	125	12	J20ER	PIN 16	K3	R	A62
WPJ20ER 0500K-8T	1/2"	1/2"	125	1/2"	J20ER	PIN 16	K3	R	A62
WPJ20ER 1616K-8T	16	16	125	16	J20ER	PIN 16	K3	R	A63
WPJ20ER 2020K-8T	20	20	125	20	J20ER	PIN 16	K3	R	A64



WSJ | Toolholders with conventional clamping

TOOLHOLDER	H	B	L	f	INSERT	SCREW	KEY	STOCK	PRICE
WSJ11ER/L 88K-8T	8	8	125	8	J11ER/L	M2,5X6	J2	A	A52
WSJ15ER/L 1010K-8T	10	10	125	10	J15ER/L	M3X7	J3IP	A	A52
WSJ15ER/L 1212K-8T	12	12	125	12	J15ER/L	M3X7	J3IP	A	A52
WSJ15ER 0500K-8T	1/2"	1/2"	125	1/2"	J15ER	M3X7	J3IP	R	A52
WSJ15ER/L 1616K-8T	16	16	125	16	J15ER/L	M3X7	J3IP	A	A53
WSJ20ER 1212K-8T	12	12	125	12	J20ER	M4X9	J4	R	A52
WSJ20ER 0500K-8T	1/2"	1/2"	125	1/2"	J20ER	M4X9	J4	R	A52
WSJ20ER 1616K-8T	16	16	125	16	J20ER	M4X9	J4	R	A53
WSJ20ER 2020K-8T	20	20	125	20	J20ER	M4X9	J4	R	A54
WSJ20ER 2525M-8T	25	25	150	25	J20ER	M4X9	J4	R	A55
WSJ20ER 1000M-8T	1"	1"	150	1"	J20ER	M4X9	J4	R	A55

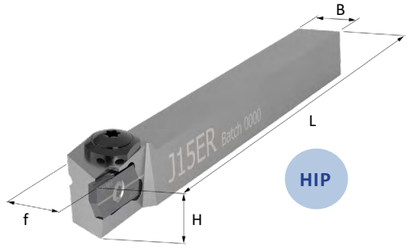


WhizFix Clamping

WPJ | WhizFix toolholders with high pressure coolant

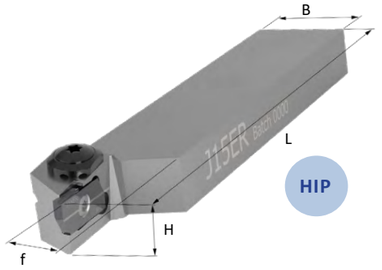
TOOLHOLDER	H	B	L	f	INSERT	PLUG	PIN	BIT	STOCK	PRICE
WPJ15ER 1010K-8C	10	10	125	10	J15ER	M8X1	PIN 12	J5	R	A82
WPJ15ER 1010H-8C	10	10	100	10	J15ER	M8X1	PIN 12	J5	R	A82
WPJ15ER 1212K-8C	12	12	125	12	J15ER	1/8 NPT	PIN 12	J5	R	A82
WPJ15ER 0500K-8C	1/2"	1/2"	125	1/2"	J15ER	1/8 NPT	PIN 12	J5	R	A82
WPJ15ER 1616K-8C	16	16	125	16	J15ER	1/8 NPT	PIN 12	J5	R	A83
WPJ20ER 1216K-8C	12	16	125	16	J20ER	1/8 NPT	PIN 16	K3	R	A82
WPJ20ER 0516K-8C	1/2"	16	125	16	J20ER	1/8 NPT	PIN 16	K3	R	A82
WPJ20ER 1616K-8C	16	16	125	16	J20ER	1/8 NPT	PIN 16	K3	R	A83
WPJ20ER 2020K-8C	20	20	125	20	J20ER	1/8 NPT	PIN 16	K3	R	A83

For more info on WhizHip see page 60.



WSJ | Toolholders with high pressure coolant

TOOLHOLDER	H	B	L	f	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
WSJ15ER 1010K-8C	10	10	125	10	J15ER	M8X1	M3X7	J3IP	R	A72
WSJ15ER 1010K-8H	10	10	100	10	J15ER	M8X1	M3X7	J3IP	R	A72
WSJ15ER 1212K-8C	12	12	125	12	J15ER	1/8 NPT	M3X7	J3IP	R	A72
WSJ15ER 0500K-8C	1/2"	1/2"	125	1/2"	J15ER	1/8 NPT	M3X7	J3IP	R	A72
WSJ15ER 1616K-8C	16	16	125	16	J15ER	1/8 NPT	M3X7	J3IP	R	A73
WSJ20ER 1216K-8C	12	16	125	16	J20ER	1/8 NPT	M4X9	J4	R	A72
WSJ20ER 0516K-8C	1/2"	16	125	16	J20ER	1/8 NPT	M4X9	J4	R	A72
WSJ20ER 1616K-8C	16	16	125	16	J20ER	1/8 NPT	M4X9	J4	R	A73
WSJ20ER 2020K-8C	20	20	125	20	J20ER	1/8 NPT	M4X9	J4	R	A73
WSJ20ER 2525M-8C	25	25	150	25	J20ER	1/8 NPT	M4X9	J4	R	A74
WSJ20ER 1000M-8C	1"	1"	150	1"	J20ER	1/8 NPT	M4X9	J4	R	A74



WSJ | Toolholders with high pressure coolant/shifted edge

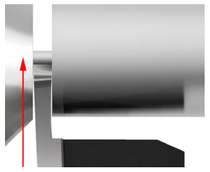
TOOLHOLDER	H	B	L	f	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
WSJ15ER 1020H-8C	10	20	100	10	J15ER	M8X1	M3X7	J3IP	R	A72
WSJ15ER 1224K-8C	12	24	125	12	J15ER	1/8 NPT	M3X7	J3IP	R	A72
WSJ15ER 0510K-8C	1/2"	1"	125	1/2"	J15ER	1/8 NPT	M3X7	J3IP	R	A72
WSJ15ER 1632K-8C	16	32	125	16	J15ER	1/8 NPT	M3X7	J3IP	R	A73

K-type inserts and toolholders

Radial turning

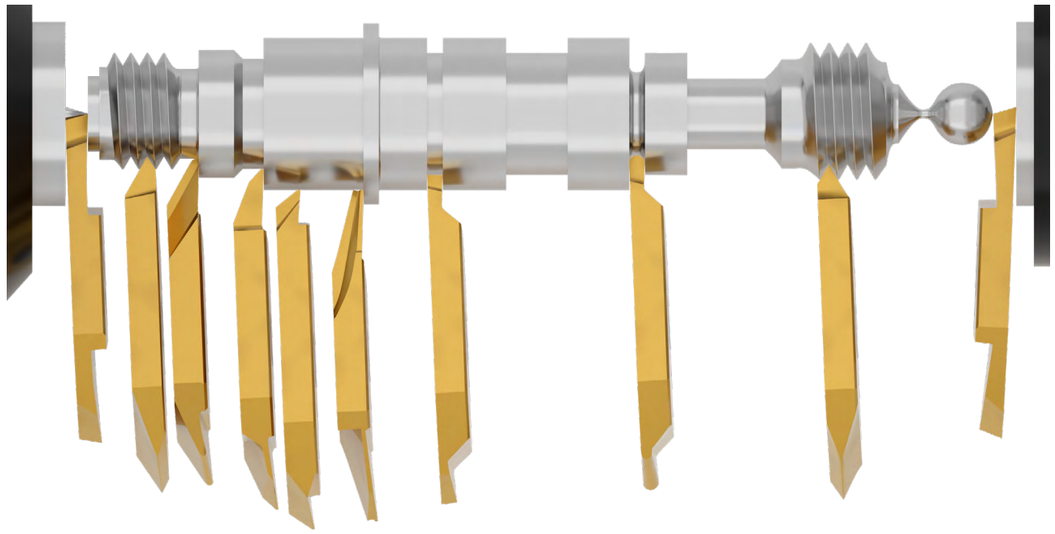
The K-type inserts are designed for back turning, threading, grooving and parting off. WhizCut offers a wide range of inserts for these applications - you can get the ideal insert for your operation.
The K-type insert is slightly tilted in the toolholder, to give enough clearance - while maintaining maximum stability.

Resulting cutting force



Turning direction

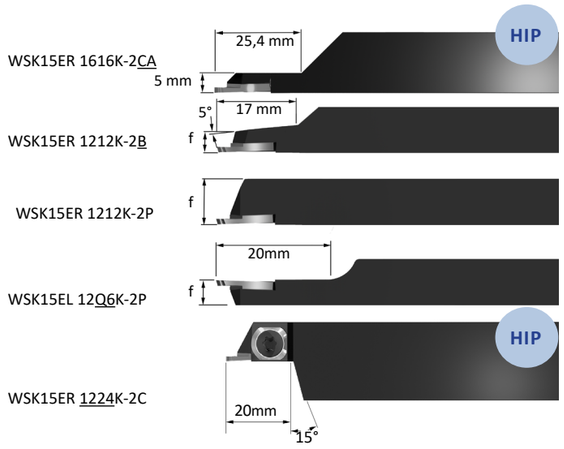
K-type inserts



K-type toolholders

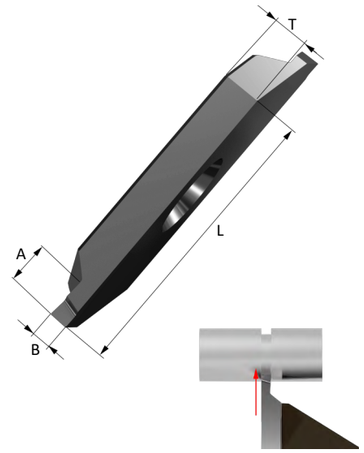
Find the right toolholder for the parting off job. WhizCut has developed a selection of diverse types of toolholders for parting off:

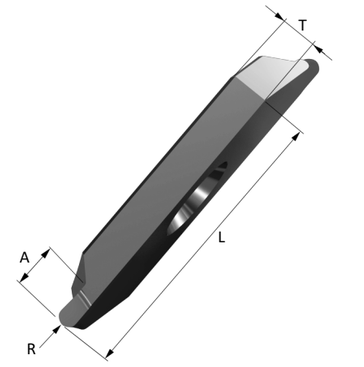
1. Against the sub spindle.
2. When the part is extremely small and needs to be grabbed by the sub spindle.
3. WhizAdjust is a height adjustable toolholder for backworking. Read more on page 38.

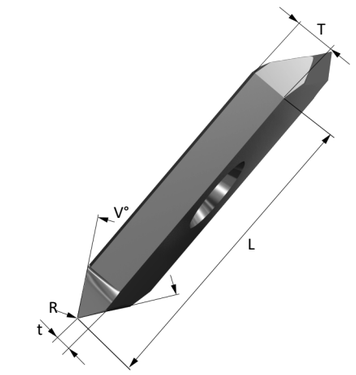


For recommended cutting data K-type insert please see page 71.

K-type







Right hand insert shown.

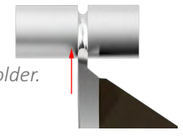
Style G | Inserts for grooving

				STOCK				
INSERTS	B	MAX A	CIRCLIP	8M	C8	F8	B8	PRICE
K11ER G0,5	0,5	1	0,4	R	K	R	R	A4
K11ER G0,8	0,8	1,6	0,7	R	K	R	R	A4
K11ER G1,0	1	2	0,9	R	K	R	R	A4
K15ER G0,1	0,1	0,2		R	K	R	R	A6
K15ER/L G0,2	0,2	0,4		B	K	B	B	A5
K15ER/L G0,25	0,25	0,5		B	K	B	B	A5
K15ER G0,3	0,3	0,6		R	K	R	R	A4
K15ER G0,4	0,4	0,8		R	K	R	R	A4
K15ER/L G0,5	0,5	1	0,4	B	K	B	B	A4
K15ER/L G0,6	0,6	1,2	0,5	B	K	B	B	A4
K15ER/L G0,7	0,7	1,4	0,6	B	K	B	B	A4
K15ER G0,75	0,75	1,5		R	K	R	R	A4
K15ER/L G0,8	0,8	1,6	0,7	B	K	B	B	A4
K15ER G0,9	0,9	1,8		R	K	R	R	A4
K15ER G0,95	0,95	1,9		R	K	R	R	A4
K15ER/L G1,0	1	2	0,9	B	K	B	B	A4
K15ER/L G1,15	1,15	2,3	1	B	K	B	B	A4
K15ER G1,2	1,2	2,4		R	K	R	R	A4
K15ER/L G1,35	1,35	2,7	1,2	B	K	B	B	A4
K15ER/L G1,5	1,5	3		B	K	B	B	A4
K15ER/L G1,65	1,65	3,3	1,5	B	K	B	B	A4
K15ER/L G1,90	1,9	3,8	1,75	B	K	B	B	A4
K15ER/L G2,05	2,05	4,1		B	K	B	B	A4
K20ER G2,0	2	4		R	K	R	R	A24
K20ER G2,5	2,5	5		R	K	R	R	A24
K20ER G3,0	3	6		R	K	R	R	A24

Style GR | Inserts for radius grooving

					STOCK				
INSERTS	R	A	L	T	8M	C8	F8	B8	PRICE
K15ER GR0,25	0,25	1	15	2,1	R	K	R	R	A7
K15ER GR0,5	0,5	2	15	2,1	R	K	R	R	A7
K15ER GR0,75	0,75	3	15	2,1	R	K	R	R	A7
K15ER GR1,0	1	4	15	2,1	R	K	R	R	A7
K20ER GR1,25	1,25	5	20	3,5	R	K	R	R	A27
K20ER GR1,5	1,5	6	20	3,5	R	K	R	R	A27
K20ER GR1,75	1,75	7	20	3,5	R	K	R	R	A27

All angles are shown when mounted in toolholder.

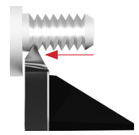


Style T | Inserts for partial profile threading

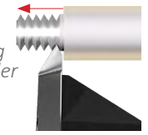
					STOCK				
INSERTS	L	V°	t	R	8M	C8	F8	B8	PRICE
K11ER/L T60-5	11	60	0,5	0,03	A	K	B	B	A4
K15ER/L T55-5	15	55	0,5	0,03	B	K	B	B	A5
K15ER/L T60-5	15	60	0,5	0,03	A	K	B	B	A4
K15ER/L T60-8	15	60	0,8	0,05	A	K	B	B	A4
K15ER/L TS60-16	15	60	1,6	0,03	B	K	B	B	A5
K20ER T60-10	20	60	1	0,1	R	K	R	R	A25
K20ER T60-15	20	60	1,5	0,2	R	K	R	R	A25
K20ER TS60-25	20	60	2,5	0,1	R	K	R	R	A25

See page 30 for the WhizThread full line of threading inserts.

T - Normal threading



TS - Threading from a shoulder



For stock status definitions see page 7.

Backturning

Get more done - every time. WhizCut back turning inserts are unlike any inserts you have experienced before. Don't accept the hassle that comes with back turning. Eliminate problems, cut cycle times and improve quality with the help of WhizCut.

Succeed with WhizCut B style back turning insert

- **100% part roundness -** WhizCut back turning inserts give minimum radial cutting pressure.
- **Flawless finish** - Exceptional chip control when the chip is curled along the chip control groove - away from the part.
- **Improved tool life** - The radius is only worn when the plunging process
- **Time saving** - Keeps the size longer without adjustment.
- **Flexible** - Available in a wide range of unique geometries and highly suitable for small diameters.

WhizGuide
select the ideal back turning insert

Style BT
Style BT inserts has a chamfer on the leading corner that improves the tool-life in harder materials. This insert is suitable when the wear on the style B insert is found in an early stage.

Style C
Style C is used when there is an undercut required.

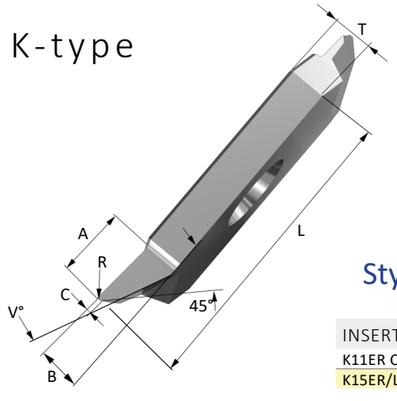
Style VLR
Style VLR is used for back turning when a smooth surface is needed when profiling. It is for example excellent to go in behind the head of a bone screw with.

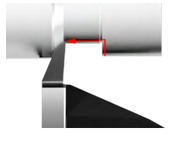
Style B
Style B is for general use in back turning applications in stainless steel and other hard and long-chipping materials where good chip control is needed.

Style E
Style E is used for fine turning, using high cutting speed and low feed rate. This insert will give the best possible surface finish. By protecting the small radius with the larger radius the tool life is extended compared with conventional full radius inserts.

Style BP
Style BP is used for sticky materials when there is a chance of an edge build up that can spoil the surface finish or reduce tool-life.

K-type

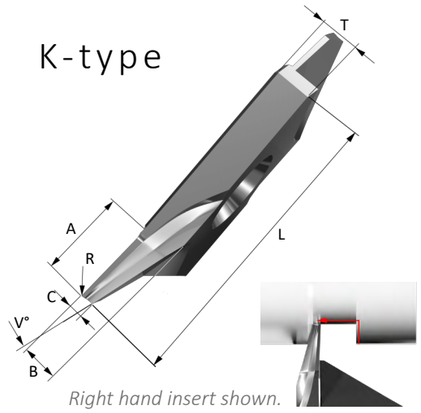




Style C | Inserts for back turning when an undercut required

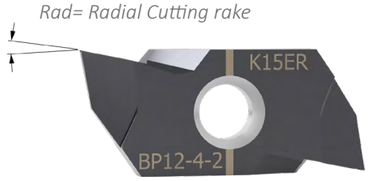
							STOCK						
INSERTS	A	B	C	R	V°	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
K11ER C0-1-0	1,3	1	0,2	0	30	0	R	K	R	R	-	-	A6
K15ER/L C0-3-0	3	1,9	0,2	0	20	0	A	K	B	B	R	R	A7

K-type

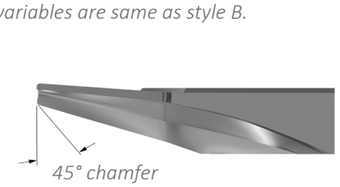


Right hand insert shown.

Rad= Radial Cutting rake



All other variables are same as style B.



Style B | Inserts for back turning in steel and other hard and long-chipping materials

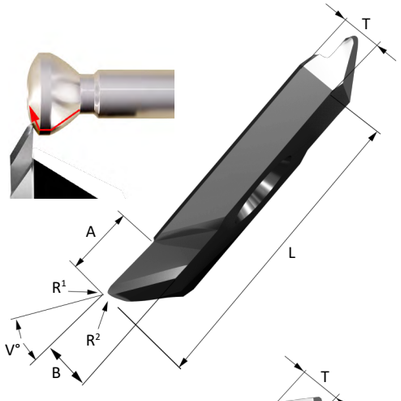
							STOCK						
INSERTS	A	B	C	R	V°	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
K11ER/L B12-2-0	2	1	0,4	0	15	12	A	K	B	B	-	-	A8
K11ER B12-2-05	2	1	0,4	0,05	15	12	R	K	R	R	-	-	A9
K11ER/L B12-3-0	3,5	1,5	0,6	0	15	12	A	K	B	B	-	-	A8
K15ER/L B12-2-0	2,5	1,3	0,5	0	15	12	A	K	B	B	-	-	A8
K15ER/L B12-4-0	4	1,9	0,7	0	15	12	A	K	B	B	R	R	A8
K15ER/L B12-4-05	4	1,9	0,7	0,05	15	12	A	K	B	B	-	-	A9
K15ER/L B12-4-1	4	1,9	0,7	0,1	15	12	A	K	B	B	R	R	A9
K15ER/L B12-4-2	4	1,9	0,7	0,2	15	12	A	K	B	B	R	R	A9
K20ER B12-7-0	7	3,2	1,3	0	15	12	R	K	R	R	-	-	A28
K20ER B12-7-2	7	3,2	1,3	0,2	15	12	R	K	R	R	R	R	A29

Style BP | Inserts for back turning in sticky materials

						CUTTING RAKE		STOCK					
INSERTS	A	B	C	R	V°	Ax	RAD	8M	F8	B8	NF8	ND8	PRICE
K15ER BP12-2-0	2,5	1,3	0,5	0	20	12	14	R	R	R	-	-	A8
K15ER BP12-2-03	2,5	1,3	0,5	0,03	20	12	14	R	R	R	-	-	A9
K15ER BP12-2-05	2,5	1,3	0,5	0,05	20	12	14	R	R	R	-	-	A9
K15ER BP12-4-0	4	1,9	0,7	0	20	12	14	R	R	R	-	-	A8
K15ER BP12-4-1	4	1,9	0,7	0,1	20	12	14	R	R	R	R	R	A9
K15ER BP12-4-2	4	1,9	0,7	0,2	20	12	14	R	R	R	R	R	A9

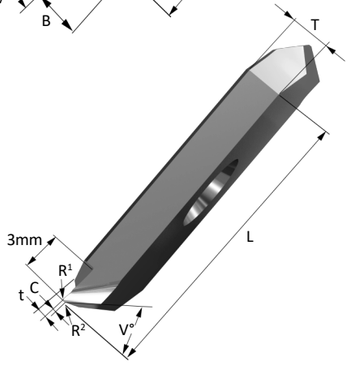
Style BT | Inserts for back turning, tough materials, longer tool life

							STOCK						
INSERTS	A	B	C	R	V°	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
K15ER BT12-4-2	4	1,9	0,7	0,2	15	12	R	K	R	R	R	R	A9
K20ER BT12-7-2	7	3,2	1,3	0,2	15	12	R	K	R	R	R	R	A29



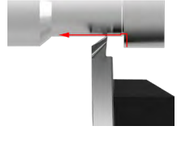
Style VLR | Inserts for back turning profiles

							STOCK						
INSERTS	A	B	R^1	R^2	V°	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
K15ER VLR12-04	3	1,0	0,04	0,04	35	20	R	K	R	R	-	-	A7
K15ER VLR12-05	3	1,9	0,05	0,05	35	20	R	K	R	R	-	-	A7
K15ER VLR12-08	3	1,9	0,08	0,08	35	20	R	K	R	R	-	-	A7
K15ER VLR12-12	3	1,9	0,1	0,2	35	20	R	K	R	R	-	-	A7
K15ER VLR12-15	3	1,9	0,15	0,15	35	20	R	K	R	R	-		A7
K15ER VLR12-2-28	3	1,9	0,2	0,2	28	20	R	K	R	R	-	-	A7
K15ER VLR12-2	3	1,9	0,2	0,2	35	20	R	K	R	R	R	R	A7
K15ER VLR8-2	3	1,9	0,2	0,2	42	8	-	-	-	-	R	R	A7
K15ER VLR8-2L	6	1,9	0,2	0,2	42	8	-	-	-	-	-	R	A7
K20ER VLR12-2	9	3,4	0,2	0,2	35	20	R	R	R	R	R	R	A27



Style E | Inserts for an extra finishing cut, back turning

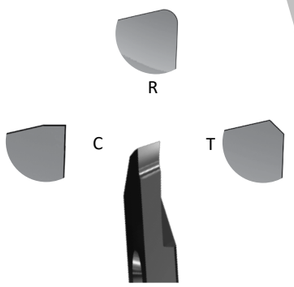
							STOCK				
INSERTS	MAX CUT	C	t	R^1	R^2	V°	C. RAKE°	8M	F8	B8	PRICE
K15ER E16-0-0	0,8	0	0,6	0,05	0,15	30	16	R	R	R	A8
K15ER E16-12	0,8	0	0,6	0,1	0,2	30	16	R	R	R	A8
K15ER E16-1-0	1	0,12	0,6	0,1	0	45	16	R	R	R	A8



For stock status definitions see page 7.

Parting off

WhizGuide
select the ideal parting off insert



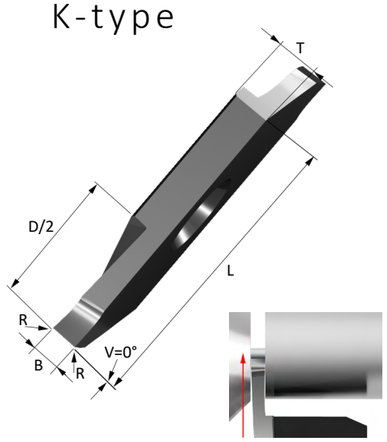
1. Axial relief vs. component possibilities
- Style P: 0° gives the strongest tool. Suitable with use of sub spindle. Style PS can be used for extra stability.
- Style Y: 6° gives a strong tool but can leave a small nib if a sub spindle is not used.
- Style Z: 15° is an all-round parting off insert. It can be used without a sub spindle.
- Style S, U: 20-30° is a less strong tool suitable for small parts where a fine surface finish is needed.

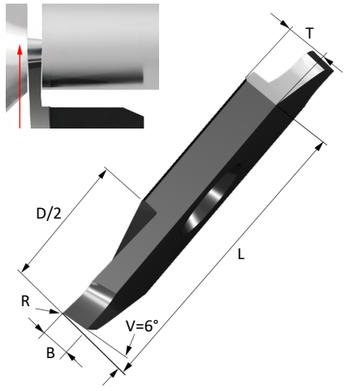
2. Cutting rake vs. material
- 0° for short-chipping materials.
- 12° for long-chipping materials.
- 20° for sticky long-chipping materials.

3. Machining against the sub spindle
- Recommended inserts are YR, ZR and SR.
- For maximum stability of the part use special toolholder: WSK15EL 12Q6K-2P.

4. Corner alternatives for parting off insert
Parting off applications can demand a different kind of corner execution on the parting off insert. WhizCut will arrange any type of corner execution. Contact your local distributor for assistance to find the type that best suits your needs.

K-type





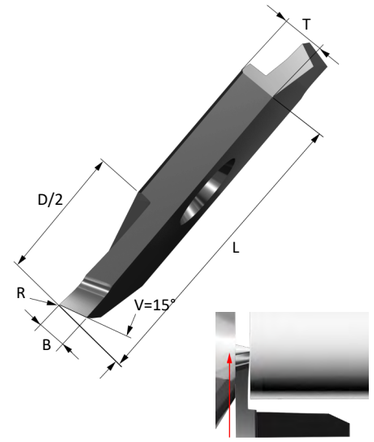
Style P, PS | Inserts for parting off

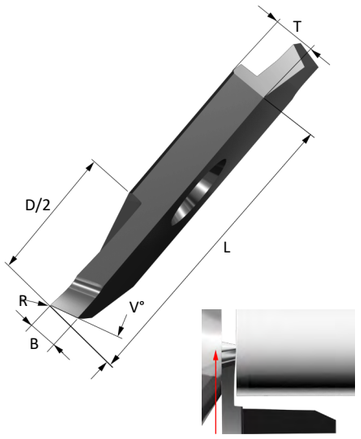
		MAX			STOCK						
	INSERTS	B	D	R	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
V = 0°	K11ER/L P0,5-12	0,5	4	0	12	B	K	B	B	-	-	A5
	K11ER/L P0,8-12	0,8	7	0	12	B	K	B	B	-	-	A5
	K11ER/L P1,0-12	1	9	0	12	B	K	B	B	-	-	A5
	K11ER/L P1,5-12	1,5	11	0	12	B	K	B	B	-	-	A5
	K15ER/L PS0,5-12	0,5	3	0	12	B	K	B	B	-	-	A4
	K15ER/L P0,7-12	0,7	5	0	12	B	K	B	B	-	-	A5
	K15ER/L P1,0-12	1	10	0	12	A	K	B	B	R	R	A5
	K15ER/L P1,0-12-R05	1	10	0,05	12	A	K	A	A	A	A	A6
	K15ER PS1,0-12	1	6	0	12	R	K	R	R	-	-	A5
	K15ER P1,0-20	1	10	0	20	R	K	R	R	R	R	A5
	K15ER/L P1,2-12	1,2	12	0	12	A	K	B	B	-	-	A5
	K15ER/L P1,5-12	1,5	12,7	0	12	A	K	B	B	R	R	A5
	K15ER/L P1,5-12-R05	1,5	12,7	0,05	12	A	K	A	A	A	A	A6
	K15ER PS1,5-12	1,5	9	0	12	R	K	A	R	-	-	A4
	K15ER/L P1,5-20	1,5	12	0	20	B	K	B	B	R	R	A4
	K15ER/L P2,0-12	2	12,7	0	12	A	K	B	B	-	-	A4
	K20ER P1,5-12	1,5	16	0	12	R	K	R	R	R	R	A25
	K20ER P2,0-12	2	20	0	12	R	K	R	R	R	R	A25
	K20ER P2,5-12	2,5	20	0	12	R	K	R	R	R	R	A25
	K20ER P3,0-12	3	20	0	12	R	K	R	R	R	R	A25

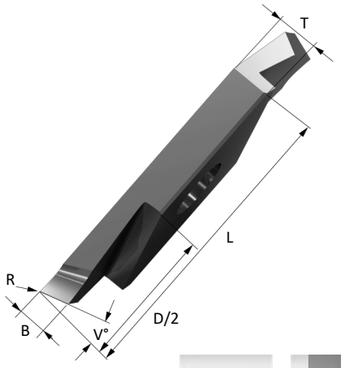
Style Y | Inserts for parting off

		MAX			STOCK						
	INSERTS	B	D	R	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
V = 6°	K11ER/L Y1,0-12	1	9	0	12	B	K	B	B	-	-	A6
	K11ER/L Y1,5-12	1,5	11	0	12	B	K	B	B	-	-	A5
	K15ER/L Y1,0-12	1	10	0	12	A	K	B	B	R	R	A6
	K15ER Y1,0-12-R05	1	10	0,05	12	K	K	K	K	R	R	A7
	K15ER/L Y1,2-12	1,2	12	0	12	B	K	B	B	-	-	A5
	K15ER/L Y1,5-12	1,5	12,7	0	12	A	K	B	B	-	-	A5
	K15ER Y1,5-12-R05	1,5	12,7	0,05	12	K	K	K	K	R	R	A6
	K15ER/L Y2,0-12	2	12,7	0	12	A	K	B	B	-	-	A5
	K20ER Y2,0-12	2	20	0	12	R	K	R	R	K	K	A26
	K20ER Y2,5-12	2,5	20	0	12	R	K	R	R	K	K	A26

K-type







All angles are shown when mounted in toolholder.

Style Z | Inserts for parting off

		MAX			STOCK						
	INSERTS	B	D	R	C. RAKE°	8M	C8	F8	B8	NF8	ND8	PRICE
V = 15°	K11ER/L Z0,5-12	0,5	4	0	12	A	K	B	B			A6
	K11ER/L Z1,0-0	1	9	0	0	A	K	B	B	R	R	A6
	K11ER/L Z1,0-12	1	9	0	12	A	K	B	B			A6
	K11ER/L Z1,5-0	1,5	11	0	0	A	K	B	B			A5
	K11ER/L Z1,5-12	1,5	11	0	12	A	K	B	B	R	R	A5
	K15ER Z0,5-12	0,5	5	0	12	R	K	R	R			A6
	K15ER Z0,7-0	0,7	5	0	0	R	K	R	R	R	R	A6
	K15ER/L Z0,7-12	0,7	5	0	12	B	K	B	B			A6
	K15ER/L Z1,0-0	1	10	0	0	A	K	B	B	R	R	A6
	K15ER Z1,0-0-T10	1	10	C=0,1	0	R	K	R	R			A6
	K15ER Z1,0-0-R05	1	10	0,05	1	R	K	R	R	R	R	A7
	K15ER/L Z1,0-12	1	10	0	12	A	K	B	B			A6
	K15ER/L Z1,5-0	1,5	12,7	0	0	A	K	B	B			A5
	K15ER/L Z1,5-12	1,5	12,7	0	12	A	K	B	B	R	R	A5
	K15ER/L Z1,5-12D	1,5	12,7	0	12	A	K	B	B	R	R	A5
	K15ER/L Z2,0-0	2	12,7	0	0	A	K	B	B			A5
	K15ER/L Z2,0-12	2	12,7	0	12	A	K	B	B			A5
	K20ER Z2,0-0	2	20	0	0	R	R	R	R	R	R	A26
	K20ER Z2,0-12	2	20	0	12	R	R	R	R			A26
	K20ER Z2,5-0	2,5	20	0	0	R	R	R	R	R	R	A26
	K20ER Z2,5-12	2,5	20	0	12	R	R	R	R			A26

Style S | Inserts for parting off

		MAX			STOCK				
	INSERTS	B	D	R	C. RAKE	8M	C8	F8	B8	PRICE
V = 20°	K15ER S1,0-0	1	6	0	0	R	K	R	R	A5
	K15ER S1,0-12	1	6	0	12	R	K	R	R	A6
	K15ER S1,5-0	1,5	9	0	0	R	K	R	R	A5
	K15ER S1,5-12	1,5	9	0	12	R	K	R	R	A6

Style U | Inserts for parting off

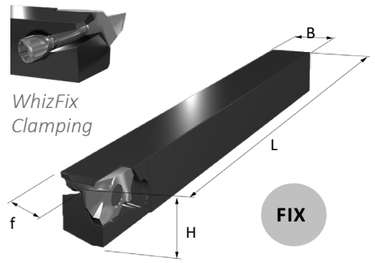
		MAX			STOCK				
	INSERTS	B	D	R	C. RAKE	8M	C8	F8	B8	PRICE
V = 30°	K11ER/L U1,0-0	1	8	0	0	B	K	B	B	A6
	K15ER/L U1,0-0	1	8	0	0	B	K	B	B	A6
	K15ER/L U1,0-0-R05	1	8	0,05	0	B	K	B	B	A6
	K15ER/L U1,5-0	1,5	12	0	0	B	K	B	B	A6
	K20ER U2,0-0	2	16	0	0	R	K	R	R	A26
	K20ER U2,5-0	2,5	20	0	0	R	K	R	R	A26

Style YR, ZR, SR | Inserts for parting off against sub spindle etc.

		MAX			STOCK					
	INSERTS	B	D	R	C.RAKE	8M	C8	F8	B8	PRICE
YR V = 6°	K15EL YR1,5-12	1,5	12	0	12	L	K	L	L	A6
	K15EL YR2,0-12	2	12	0	12	L	K	L	L	A6
ZR V = 15°	K11EL ZR0,5-12	0,5	4	0	12	L	K	L	L	A6
	K11EL ZR1,0-0	1	9	0	0	L	K	L	L	A6
	K11EL ZR1,0-12	1	9	0	12	L	K	L	L	A6
	K11EL ZR1,5-0	1,5	11	0	0	L	K	L	L	A6
	K11EL ZR1,5-12	1,5	11	0	12	L	K	L	L	A6
	K15EL ZR1,0-0	1	10	0	0	L	K	L	L	A6
	K15EL ZR1,0-12	1	10	0	12	L	K	L	L	A6
	K15EL ZR1,0-12-R05	1	10	0,05	12	L	K	L	L	A7
	K15EL ZR1,5-0	1,5	12	0	0	L	K	L	L	A6
	K15EL ZR1,5-12	1,5	12	0	12	L	K	L	L	A6
	K15EL ZR1,5-12-R05	1,5	12	0,05	12	L	K	L	L	A7
	K15EL ZR2,0-0	2	12	0	0	L	K	L	L	A6
	K15EL ZR2,0-12	2	12	0	12	L	K	L	L	A6
SR Short V = 20°	K15EL SR1,0-0	1	5,5	0	0	L	K	L	L	A6
	K15EL SR1,0-12	1	5,5	0	12	L	K	L	L	A6
	K15EL SR1,5-0	1,5	8	0	0	L	K	L	L	A6
	K15EL SR1,5-12	1,5	8	0	12	L	K	L	L	A6

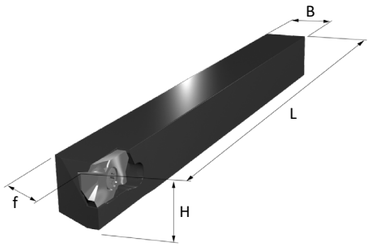
For stock status definitions see page 7.

K-type



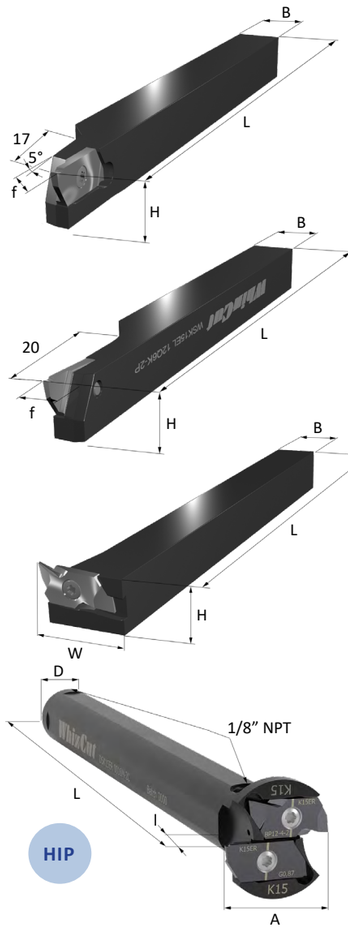
WPK | Toolholders with WhizFix pin type clamping

TOOLHOLDER	H	B	L	f	INSERT	PIN	BIT	STOCK	PRICE
WPK11ER/L 88K-2P	8	8	125	8	K11ER/L	PIN 8	K3	A	A62
WPK11ER/L 1010K-2P	10	10	125	10	K11ER/L	PIN 8	K3	A	A62
WPK15ER/L 1010K-2P	10	10	125	10	K15ER/L	PIN 12	J5	A	A62
WPK15ER 1212F-2P	12	12	85	12	K15ER	PIN 12	J5	R	A61
WPK15ER/L 1212K-2P	12	12	125	12	K15ER/L	PIN 12	J5	A	A62
WPK15ER 0500K-2P	1/2"	1/2"	125	1/2"	K15ER	PIN 12	J5	R	A62
WPK15ER/L 1616K-2P	16	16	125	16	K15ER/L	PIN 12	J5	A	A63
WPK20ER 1212K-2P	12	12	125	12	K20ER	PIN 16	K3	R	A62
WPK20ER 0500K-2P	1/2"	1/2"	125	1/2"	K20ER	PIN 16	K3	R	A62
WPK20ER 1616K-2P	16	16	125	16	K20ER	PIN 16	K3	R	A63
WPK20ER 2020K-2P	20	20	125	20	K20ER	PIN 16	K3	R	A64



WSK | Toolholders with conventional clamping

TOOLHOLDER	H	B	L	f	INSERT	SCREW	KEY	STOCK	PRICE
WSK11ER/L 88K-2P	8	8	125	8	K11ER/L	M2,5X6	J2	A	A52
WSK15ER/L 1010K-2P	10	10	125	10	K15ER/L	M3X7	J3IP	A	A52
WSK15ER/L 1212K-2P	12	12	125	12	K15ER/L	M3X7	J3IP	A	A52
WSK15ER/L 0500K-2P	1/2"	1/2"	125	1/2"	K15ER/L	M3X7	J3IP	A	A52
WSK15ER/L 1616K-2P	16	16	125	16	K15ER/L	M3X7	J3IP	A	A53
WSK15ER 2020K-2P	20	20	125	20	K15ER	M3X7	J3IP	R	A54
WSK15ER 2525M-2P	25	25	150	25	K15ER	M3X7	J3IP	R	A55
WSK15ER 1000M-2P	1"	1"	150	1"	K15ER	M3X7	J3IP	R	A55
WSK20ER 1212K-2P	12	12	125	12	K20ER	M4X9	J4	R	A52
WSK20ER 0500K-2P	1/2"	1/2"	125	1/2"	K20ER	M4X9	J4	R	A52
WSK20ER 1616K-2P	16	16	125	16	K20ER	M4X9	J4	R	A53
WSK20ER 2020K-2P	20	20	125	20	K20ER	M4X9	J4	R	A54
WSK20ER 2525M-2P	25	25	150	25	K20ER	M4X9	J4	R	A55
WSK20ER 1000M-2P	1"	1"	150	1"	K20ER	M4X9	J4	R	A55

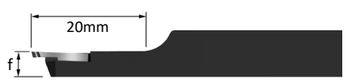


WSK | Toolholders for small parts

TOOLHOLDER	H	B	L	f	INSERT	SCREW	KEY	STOCK	PRICE
WSK15ER 1010K-2B	10	10	125	5	K15ER	M3X5	J3IP	R	A52
WSK15ER 1212K-2B	12	12	125	6	K15ER	M3X5	J3IP	R	A52

WSK | Left hand toolholders with insert in center

TOOLHOLDER	H	B	L	f	INSERT	SCREW	KEY	STOCK	PRICE
WSK15EL 12Q6K-2P	12	12	125	6	K15EL	M3X5	J3IP	L	A52

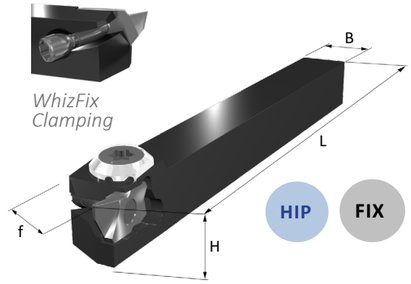


ZSK | Square shank toolholders

TOOLHOLDER	H	B	L	W	INSERT	SCREW	KEY	STOCK	PRICE
ZSK15ER 1212K-2P	12	12	125	20	K15ER	M3X7	J3IP	R	A72
ZSK15ER 1616K-2P	16	16	125	24	K15ER	M3X7	J3IP	R	A73

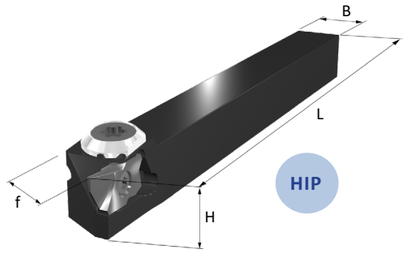
DSK | Double inserts toolholder round shank

TOOLHOLDER	D	A	L	l	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
DSK15ER 0625M-8C	5/8"	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87
DSK15ER 0016M-8C	16	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87
DSK15ER 0750M-8C	3/4"	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87
DSK15ER 0020M-8C	20	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87
DSK15ER 0022M-8C	22	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87
DSK15ER 0025M-8C	25	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87
DSK15ER 1000M-8C	1"	24	150	40	K15ER	1/8" NPT	M3X7	J3IP	R	A87



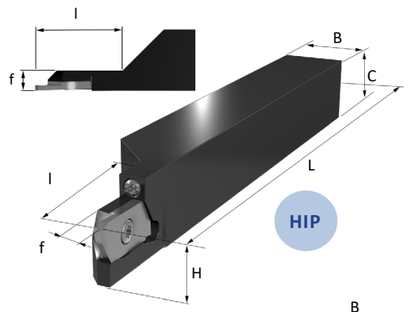
WPK | WhizHip pin type toolholders for high pressure coolant

TOOLHOLDER	H	B	L	f	INSERT	PLUG	PIN	BIT	STOCK	PRICE
WPK15ER 1010H-2C	10	10	100	10	K15ER	M8X1	PIN12	J5	R	A82
WPK15ER 1010K-2C	10	10	125	10	K15ER	M8X1	PIN12	J5	R	A82
WPK15ER 1212K-2C	12	12	125	12	K15ER	1/8 NPT	PIN12	J5	R	A82
WPK15ER 0500K-2C	1/2"	1/2"	125	1/2"	K15ER	1/8 NPT	PIN12	J5	R	A82
WPK15ER 1616K-2C	16	16	125	16	K15ER	1/8 NPT	PIN12	J5	R	A83



WSK | WhizHip toolholders for high pressure coolant

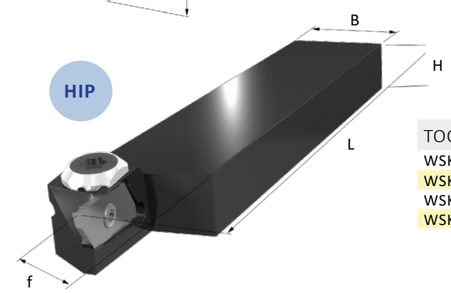
TOOLHOLDER	H	B	L	f	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
WSK15ER/L 1010H-2C	10	10	100	10	K15ER	M8X1	M3X7	J3IP	B	A72
WSK15ER/L 1010K-2C	10	10	125	10	K15ER	M8X1	M3X7	J3IP	B	A72
WSK15ER/L 1212K-2C	12	12	125	12	K15ER	1/8 NPT	M3X7	J3IP	B	A72
WSK15ER/L 0500K-2C	1/2"	1/2"	125	1/2"	K15ER	1/8 NPT	M3X7	J3IP	B	A72
WSK15ER/L 1616K-2C	16	16	125	16	K15ER	1/8 NPT	M3X7	J3IP	B	A73
WSK15ER/L 0750K-2C	3/4"	3/4"	125	3/4"	K15ER	1/8 NPT	M3X7	J3IP	B	A73
WSK20ER 1216K-2C	12	16	125	16	K20ER	1/8 NPT	M4X9	J4	R	A72
WSK20ER 0516K-2C	1/2"	16	125	16	K20ER	1/8 NPT	M4X9	J4	R	A72
WSK20ER 1616K-2C	16	16	125	16	K20ER	1/8 NPT	M4X9	J4	R	A73
WSK20ER 2020K-2C	20	20	125	20	K20ER	1/8 NPT	M4X9	J4	R	A74
WSK20ER 2525M-2C	25	25	150	25	K20ER	1/8 NPT	M4X9	J4	R	A74
WSK20ER 1000M-2C	1"	1"	150	1"	K20ER	1/8 NPT	M4X9	J4	R	A74



WSK | WhizHip toolholders for parting off small parts

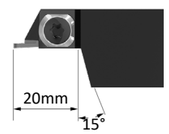
TOOLHOLDER	C	B	H	L	l	f	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
WSK15ER 1010H-2CA	10	10	10	100	18	5	K15ER	M8X1	M3X5	J3IP	R	A72
WSK15ER 1010K-2CA	10	10	10	125	18	5	K15ER	M8X1	M3X5	J3IP	R	A72
WSK15ER 1212K-2CA	12	12	12	125	18	5	K15ER	1/8 NPT	M3X5	J3IP	R	A72
WSK15ER 0500K-2CA	1/2"	1/2"	1/2"	125	18	5	K15ER	1/8 NPT	M3X5	J3IP	R	A72
WSK15ER 1616K-2CA	16	16	12	125	25,4	5	K15ER	1/8 NPT	M3X5	J3IP	R	A73

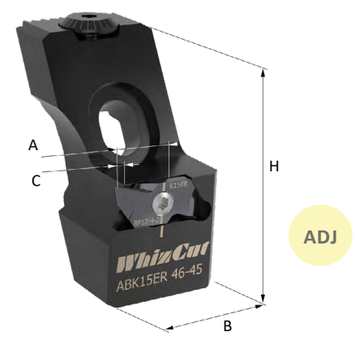
For more information on WhizHip see page 64.



WSK | Shifted WhizHip toolholders

TOOLHOLDER	H	B	L	f	INSERT	PLUG	SCREW	KEY	STOCK	PRICE
WSK15ER 1020H-2C	10	20	100	10	K15ER	M8X1	M3X7	J3IP	R	A72
WSK15ER 1224K-2C	12	24	125	12	K15ER	1/8 NPT	M3X7	J3IP	R	A72
WSK15ER 0510K-2C	1/2"	1"	125	1/2"	K15ER	1/8 NPT	M3X7	J3IP	R	A72
WSK15ER 1632K-2C	16	32	125	16	K15ER	1/8 NPT	M3X7	J3IP	R	A72





ABK | WhizAdjust toolholder

T.HOLDER HEAD	H	B	A	C MAX DOC	MAX FEED LENGTH	INSERT TYPE	CLAMPING SCREW	KEY	STOCK	PRICE
ABK15ER-46-45	46	24	12	4	45	K15ER	M3X7	J3IP	R	D55

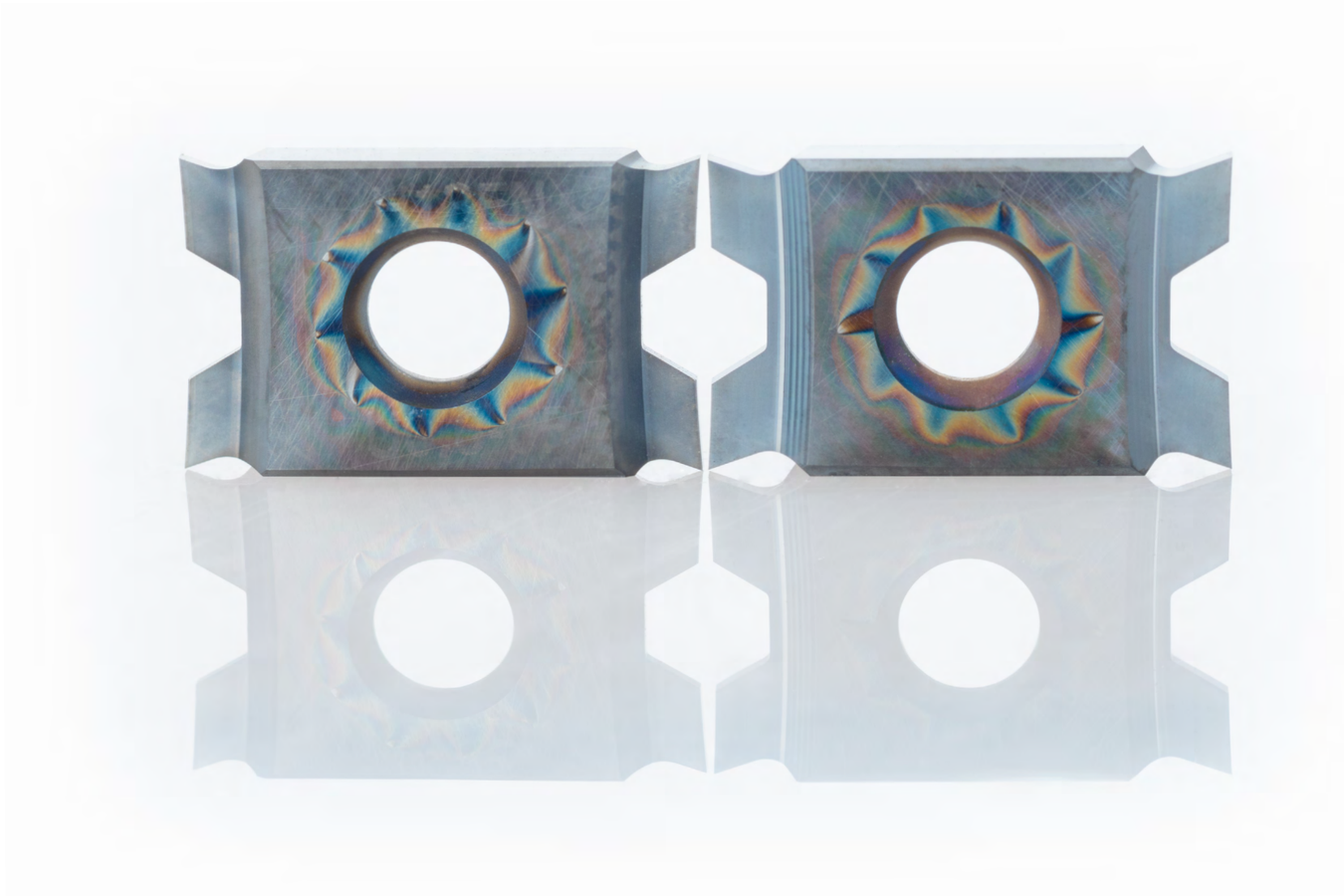
For more information and shanks see WhizAdjust page: 38.
A is measurement from cutting edge to center of shank.

For stock status definitions see page 7.

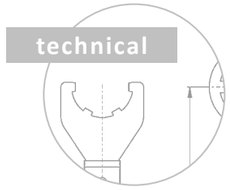
PRECISION GROOVING

WhizGroove

Have the cutting edge your way. WhizGroove inserts have four precision ground cutting edges and they come in four different shapes: sharp cutting edges and corners, corner radiuses, full radius and slightly honed cutting edges. It is a great combo of precision, stability and low cost per cutting edge.



TIGHT TOLERANCES PRECISE GEOMETRIES QUICK TOOL CHANGE



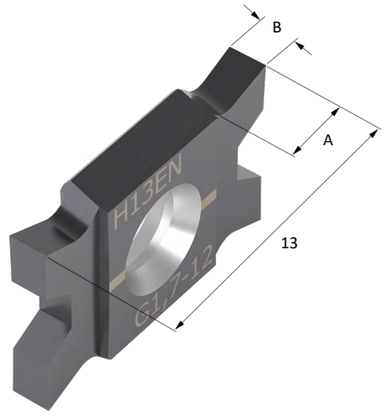
WhizGroove - for tight tolerances

We are proud to present WhizGroove - WhizCuts most recent product range. Perform excellent and eliminate variation in cut parts. Increase your productivity with WhizGroove: precision ground inserts with four cutting edges.
WhizGroove was explicitly designed to manage tight tolerance production - down to the decimal and achieve consistent quality with +- 0,01 tolerance.
WhizCut offers a standard cutting rake of 12 degrees and 2, 6, 16, and 20 degrees as special requests. WhizGroove is available with sharp corner, radius, and full radius. Special designs are available on request.

Tighten the tolerance with WhizGroove

Range benefits

- **Winning combo:** of precise geometries and four sharp cutting edges.
- **Precision ground:** all inserts are precision ground on all four edges.
- **Your choice:** WhizGroove comes with sharp corners, radius, and full radius.
- **On request:** contact us if you need a special design.
- **Mix it and fix it:** operate WhizGroove together with WhizFix toolholder system and index the inserts in 15 seconds.
- **Improve productivity:** with enhanced chip control. We recommend using WhizHip holders, feeding the coolant through the holder.

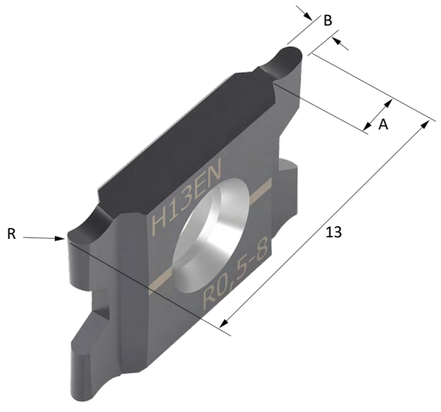


Style G | Inserts for grooving, sharp corners

			STOCK			
INSERTS	B	MAX A	8M	F8	B8	PRICE
H13EN G0,1-12	0,1	0,2	A	-	A	H4
H13EN G0,2-12	0,2	0,4	A	-	A	H4
H13EN G0,25-12	0,25	0,5	A	-	A	H4
H13EN G0,3-12	0,3	0,6	A	-	A	H4
H13EN G0,35-12	0,35	0,7	A	-	A	H4
H13EN G0,4-12	0,4	0,8	A	A	A	H4
H13EN G0,45-12	0,45	0,9	A	A	A	H4
H13EN G0,5-12	0,5	1	A	A	A	H3
H13EN G0,5-12L	0,5	3	A	A	A	H3
H13EN G0,6-12	0,6	1,2	A	A	A	H3
H13EN G0,7-12	0,7	1,4	A	A	A	H3
H13EN G0,8-12	0,8	1,6	A	A	A	H3
H13EN G0,9-12	0,9	1,8	A	A	A	H3
H13EN G0,95-12	0,95	1,9	A	A	A	H3
H13EN G1,0-12	1	2	A	A	A	H3
H13EN G1,0-12L	1	3	A	A	A	H3
H13EN G1,05-12	1,05	2,1	A	A	A	H3
H13EN G1,10-12	1,1	2,2	A	A	A	H3
H13EN G1,15-12	1,15	2,3	A	A	A	H3
H13EN G1,25-12	1,25	2,5	A	A	A	H3
H13EN G1,3-12	1,3	2,6	A	A	A	H3
H13EN G1,45-12	1,45	2,9	A	A	A	H3
H13EN G1,5-12	1,5	3	A	A	A	H3
H13EN G1,65-12	1,65	3	A	A	A	H3
H13EN G1,75-12	1,75	3	A	A	A	H3
H13EN G1,9-12	1,9	3	A	A	A	H3
H13EN G2,0-12	2	3	A	A	A	H3
H13EN G2,05-12	2,05	3	A	A	A	H3
H13EN G2,15-12	2,15	3	A	A	A	H3

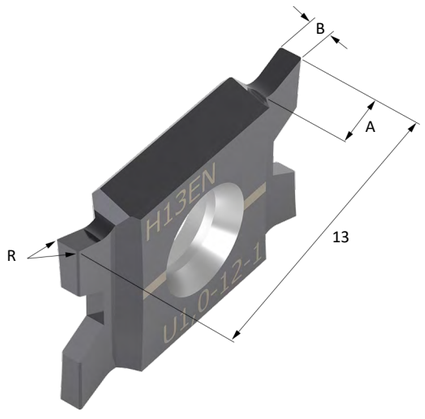
Perfect fit with WhizCut signature toolholders:

HIP FIX ADJ



Style R | Inserts for radius grooving

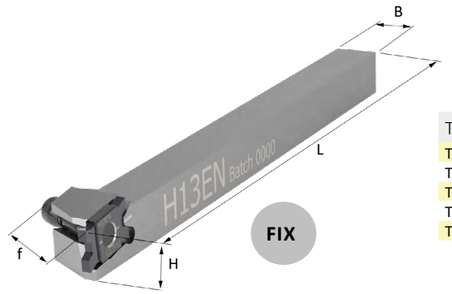
				STOCK			
INSERTS	R	B	MAX A	8M	F8	B8	PRICE
H13EN R0,2	0,2	0,4	0,8	A	A	A	H4
H13EN R0,25	0,25	0,5	1	A	A	A	H4
H13EN R0,3	0,3	0,6	1,2	A	A	A	H4
H13EN R0,35	0,35	0,7	1,4	A	A	A	H4
H13EN R0,4	0,4	0,8	1,6	A	A	A	H4
H13EN R0,5	0,5	1	2	A	A	A	H4
H13EN R0,6	0,6	1,2	2,4	A	A	A	H4
H13EN R0,75	0,75	1,5	3	A	A	A	H4
H13EN R1,0	1	2	3	A	A	A	H4



Style U | Inserts for grooving, radius corners

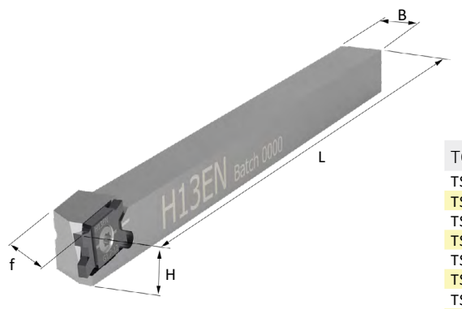
				STOCK					
INSERTS	B	MAX A	R	8M	F8	B8	NF8	ND8	PRICE
H13EN U0,4-12-05	0,4	0,8	0,05	A	A	A	-	-	H4
H13EN U0,45-12-05	0,45	0,9	0,05	A	A	A	-	-	H4
H13EN U0,5-12-05	0,5	1	0,05	A	A	A	-	-	H4
H13EN U0,6-12-05	0,6	1,2	0,05	A	A	A	-	-	H4
H13EN U0,7-12-05	0,7	1,4	0,05	A	A	A	-	-	H4
H13EN U0,8-12-05	0,8	1,6	0,05	A	A	A	K	K	H4
H13EN U0,9-12-05	0,9	1,8	0,05	A	A	A	K	K	H4
H13EN U0,95-12-05	0,95	1,9	0,05	A	A	A	K	K	H4
H13EN U1,0-12-05	1	2	0,05	A	A	A	K	K	H4
H13EN U1,0-12-1	1	2	0,1	A	A	A	A	A	H4
H13EN U1,05-12-1	1,05	2,1	0,1	A	A	A	K	K	H4
H13EN U1,10-12-1	1,1	2,2	0,1	A	A	A	K	K	H4
H13EN U1,15-12-1	1,15	2,3	0,1	A	A	A	A	A	H4
H13EN U1,25-12-1	1,25	2,5	0,1	A	A	A	K	K	H4
H13EN U1,3-12-1	1,3	2,6	0,1	A	A	A	A	A	H4
H13EN U1,45-12-1	1,45	2,9	0,1	A	A	A	K	K	H4
H13EN U1,5-12-1	1,5	3	0,1	A	A	A	A	A	H4
H13EN U1,65-12-1	1,65	3	0,1	A	A	A	A	A	H4
H13EN U1,75-12-1	1,75	3	0,1	A	A	A	A	A	H4
H13EN U1,9-12-1	1,9	3	0,1	A	A	A	A	A	H4
H13EN U2,0-12-1	2	3	0,1	A	A	A	K	K	H4
H13EN U2,05-12-1	2,05	3	0,1	A	A	A	A	A	H4
H13EN U2,15-12-1	2,15	3	0,1	A	A	A	A	A	H4

For stock status definitions see page 7.



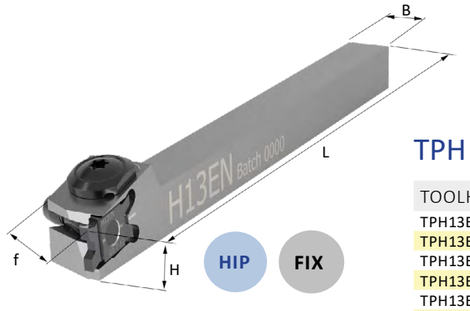
TPH | Toolholders with WhizFix pin type clamping

TOOLHOLDER	H	B	L	f	INSERT	PIN	BIT	STOCK	PRICE
TPH13ER 1010K-0	10	10	125	10	H13EN	PIN 12	J5	R	A62
TPH13ER 0375K-0	3/8"	3/8"	125	3/8"	H13EN	PIN 12	J5	R	A62
TPH13ER 1212K-0	12	12	125	12	H13EN	PIN 12	J5	R	A62
TPH13ER 0500K-0	1/2"	1/2"	125	1/2"	H13EN	PIN 12	J5	R	A62
TPH13ER 1616K-0	16	16	125	16	H13EN	PIN 12	J5	R	A63



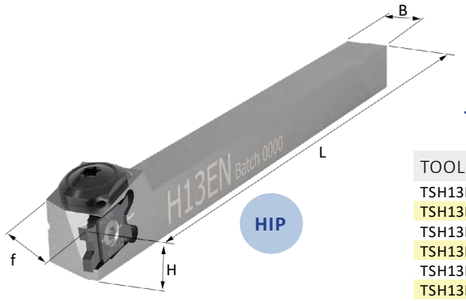
TSH | Toolholders with conventional clamping

TOOLHOLDER	H	B	L	f	INSERT	SCREW	KEY	STOCK	PRICE
TSH13ER 88K-0	8	8	125	8	H13EN	M3X7	J3IP	R	A52
TSH13ER 1010K-0	10	10	125	10	H13EN	M3X7	J3IP	R	A52
TSH13ER 0375K-0	3/8"	3/8"	125	3/8"	H13EN	M3X7	J3IP	R	A52
TSH13ER 1212K-0	12	12	125	12	H13EN	M3X7	J3IP	R	A52
TSH13ER 0500K-0	1/2"	1/2"	125	1/2"	H13EN	M3X7	J3IP	R	A52
TSH13ER 1616K-0	16	16	125	16	H13EN	M3X7	J3IP	R	A53
TSH13ER 0750K-0	3/4"	3/4"	125	3/4"	H13EN	M3X7	J3IP	R	A54
TSH13ER 2020K-0	20	20	125	20	H13EN	M3X7	J3IP	R	A54
TSH13ER 2525M-0	25	25	150	25	H13EN	M3X7	J3IP	R	A55
TSH13ER 1000M-0	1"	1"	150	1"	H13EN	M3X7	J3IP	R	A55



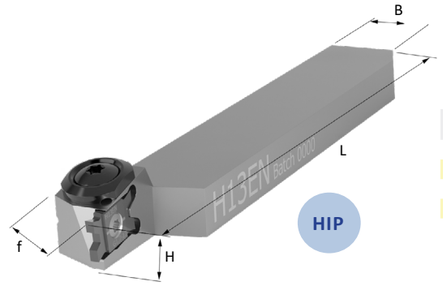
TPH | WhizHip pin type toolholders for high pressure coolant

TOOLHOLDER	H	B	L	f	INSERT	PIN	PLUG	BIT	STOCK	PRICE
TPH13ER 1010H-0C	10	10	100	10	H13EN	PIN12	M8X1	J5	R	A82
TPH13ER 1010K-0C	10	10	125	10	H13EN	PIN12	M8X1	J5	R	A82
TPH13ER 0375K-0C	3/8"	3/8"	125	3/8"	H13EN	PIN12	M8X1	J5	R	A82
TPH13ER 1212K-0C	12	12	125	12	H13EN	PIN12	1/8 NPT	J5	R	A82
TPH13ER 0500K-0C	1/2"	1/2"	125	1/2"	H13EN	PIN12	1/8 NPT	J5	R	A82
TPH13ER 1616K-0C	16	16	125	16	H13EN	PIN12	1/8 NPT	J5	R	A83



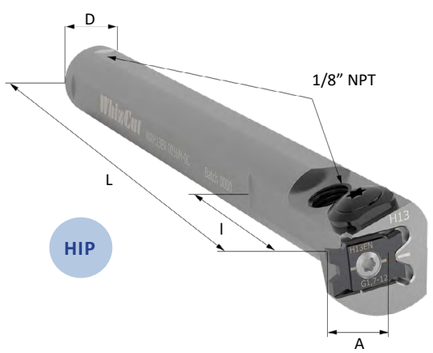
TSH | WhizHip toolholders for high pressure coolant

TOOLHOLDER	H	B	L	f	INSERT	SCREW	PLUG	KEY	STOCK	PRICE
TSH13ER 1010H-0C	10	10	100	10	H13EN	M3X7	M8X1	J3IP	R	A72
TSH13ER 1010K-0C	10	10	125	10	H13EN	M3X7	M8X1	J3IP	R	A72
TSH13ER 0375K-0C	3/8"	3/8"	125	3/8"	H13EN	M3X7	M8X1	J3IP	R	A72
TSH13ER 1212K-0C	12	12	125	12	H13EN	M3X7	1/8 NPT	J3IP	R	A72
TSH13ER 0500K-0C	1/2"	1/2"	125	1/2"	H13EN	M3X7	1/8 NPT	J3IP	R	A72
TSH13ER 1616K-0C	16	16	125	16	H13EN	M3X7	1/8 NPT	J3IP	R	A73



TSH | Shifted WhizHip toolholders

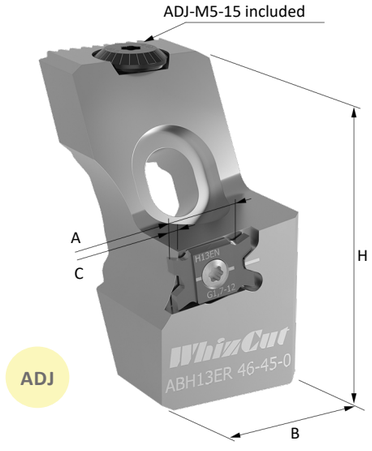
TOOLHOLDER	H	B	L	f	INSERT	SCREW	PLUG	KEY	STOCK	PRICE
TSH13ER 1020H-0C	10	20	125	10	H13EN	M3X7	M8X1	J3IP	R	A72
TSH13ER 1224K-0C	12	24	125	12	H13EN	M3X7	1/8 NPT	J3IP	R	A72
TSH13ER 0510K-0C	1/2"	1"	125	1/2"	H13EN	M3X7	1/8 NPT	J3IP	R	A72
TSH13ER 1632K-0C	16	32	125	16	H13EN	M3X7	1/8 NPT	J3IP	R	A73



WRH | Round shank WhizHip holders

TOOLHOLDER	D	A	L	l	INSERT	COOL. THREAD	SCREW	KEY	STOCK	PRICE
WRH13ER 0625M-0C	5/8"	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A72
WRH13ER 0016M-0C	16	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A72
WRH13ER 0750M-0C	3/4"	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A72
WRH13ER 0020M-0C	20	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A72
WRH13ER 0022M-0C	22	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A73
WRH13ER 0025M-0C	25	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A73
WRH13ER 1000M-0C	1"	10	150	40	H13EN	1/8" NPT	M3X7	J3IP	K	A73

Available from January 1st 2019.



ABH | WhizAdjust toolholder

TOOLHOLDER HEAD	H	B	A	C MAX DOC	MAX FEED LENGTH	INSERT TYPE	CLAMPING SCREW	KEY	STOCK	PRICE
ABH13ER-46-45-0	46	24	11	3	45	H13EN	M3X7	J3IP	R	D55

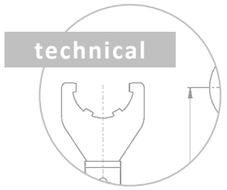
For more information and shanks see WhizAdjust page: 38.
A is measurement from cutting edge to center of shank.

PRECISION THREADING

WhizThread

Increase productivity together with the winning concepts of Whiz-Thread. The four very sharp cutting edges are precision ground on all four sides - and tangentially mounted. This results in longer lasting inserts and great performance.

STABLE GREAT CUTTING CONDITIONS LONG LASTING



Four cutting edges - maximum stability

Stable and long lasting- the focal point of the WhizThread design. It is a unique tool system where the insert is fixed in the most solid position. The resulting clamping force goes diagonally through the insert and toolholder. The insert is forced back into the toolholder pocket to boost stability.

Machine marvellous with WhizThread

Range benefits

- **Better cutting conditions:** by a standing-up-insert in the toolholder. The cutting forces are drawn through the insert into the holder - for stability.
- **Work close to the shoulder:** with minimal distance between the side of the insert and the thread.
- **Improved thread quality:** with precision ground cutting edges on all sides and a stable insert.
- **Less time with tool change:** combine WhizThread with WhizFix tool holder system and index the inserts with the toolholder still in the machine.
- **Quick-change coolant through:** all WhizThread inserts can be used with the WhizHip coolant through holders.

Perfect fit with WhizCut signature toolholders:

HIP FIX ADJ

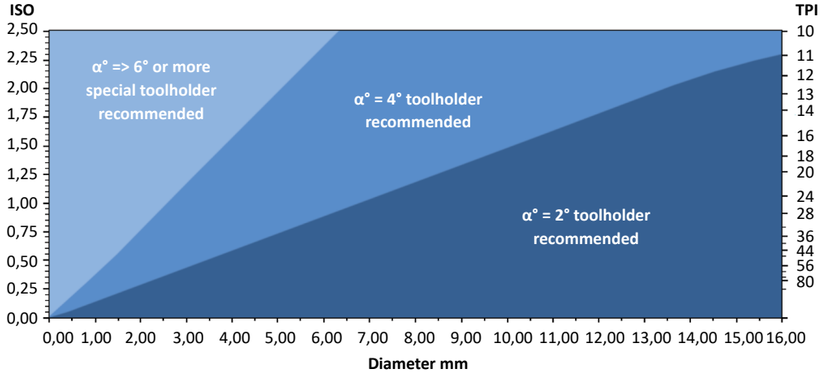
WhizGuide
select holder with the ideal cutting angle

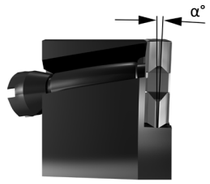
1. Cutting angle: 2,4 & 6°

- The secret of threading really small parts is to select the correct cutting angle of the toolholder.
- WhizThread toolholders are available with a 2, 4 and 6° cutting angle.

2. Pitch and diameter

- The WhizGuide-table recommends the appropriate toolholder, depending on the part pitch and diameter.
- If you have a very high pitch-to-diameter-ratio we advice special toolholders.

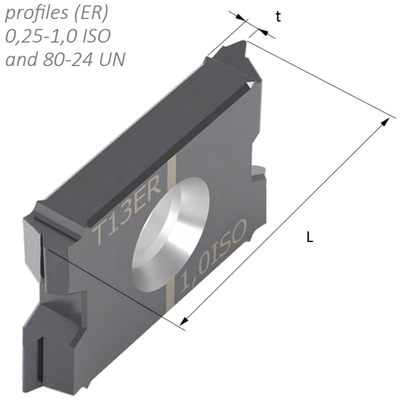




For recommended cutting data T-type insert please see page 70 .

T-ISO| Inserts for full profile threading

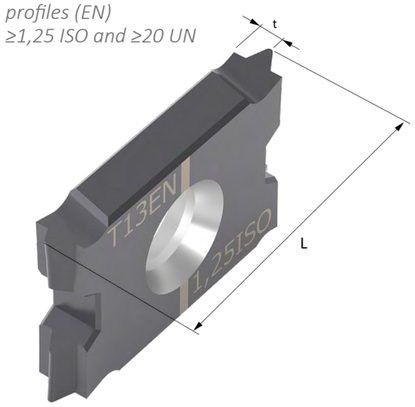
Small thread profiles (ER) 0,25-1,0 ISO and 80-24 UN



PITCH MM	INSERTS	L	t	STOCK 8M	C8	F8	B8	PRICE
0,25	T13ER 0,25ISO	13	0,2	R	-	R	R	E5
0,3	T13ER 0,3ISO	13	0,2	R	-	R	R	E5
0,35	T13ER 0,35ISO	13	0,25	R	-	R	R	E5
0,4	T13ER 0,4ISO	13	0,25	R	K	R	R	E4
0,45	T13ER 0,45ISO	13	0,3	R	K	R	R	E4
0,5	T13ER 0,5ISO	13	0,3	R	K	R	R	E3
0,6	T13ER 0,6ISO	13	0,35	R	K	R	R	E3
0,7	T13ER 0,7ISO	13	0,4	R	K	R	R	E3
0,75	T13ER 0,75ISO	13	0,4	R	K	R	R	E3
0,8	T13ER 0,8ISO	13	0,45	R	K	R	R	E3
1	T13ER 1,0ISO	13	0,55	R	K	R	R	E3
1,25	T13EN 1,25ISO	13	1,1	A	K	A	A	E2
1,5	T13EN 1,5ISO	13	1,1	A	K	A	A	E2
1,75	T13EN 1,75ISO	13	1,1	A	K	A	A	E2
2	T13EN 2,0ISO	13	1,1	A	K	A	A	E2

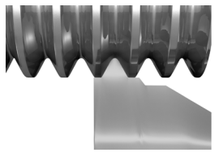
T-UN | Inserts for full profile threading UNC, UNF, UNEF, UNS

Larger thread profiles (EN) ≥1,25 ISO and ≥20 UN



TPI	INSERTS	L	t	STOCK 8M	C8	F8	B8	PRICE
120	T13ER 120UN	13	0,15	R	-	R	R	E5
90	T13ER 90UN	13	0,2	R	-	R	R	E5
80	T13ER 80UN	13	0,2	R	K	R	R	E5
72	T13ER 72UN	13	0,25	R	K	R	R	E5
64	T13ER 64UN	13	0,25	R	K	R	R	E4
56	T13ER 56UN	13	0,3	R	K	R	R	E4
48	T13ER 48UN	13	0,35	R	K	R	R	E3
44	T13ER 44UN	13	0,35	R	K	R	R	E3
40	T13ER 40UN	13	0,4	R	K	R	R	E3
36	T13ER 36UN	13	0,4	R	K	R	R	E3
32	T13ER 32UN	13	0,45	R	K	R	R	E3
28	T13ER 28UN	13	0,5	R	K	R	R	E3
24	T13ER 24UN	13	0,55	R	K	R	R	E3
20	T13EN 20UN	13	1,1	A	K	A	A	E2
18	T13EN 18UN	13	1,1	A	K	A	A	E2
16	T13EN 16UN	13	1,1	A	K	A	A	E2
14	T13EN 14UN	13	1,1	A	K	A	A	E2
13	T13EN 13UN	13	1,1	A	K	A	A	E2
12	T13EN 12UN	13	1,1	A	K	A	A	E2

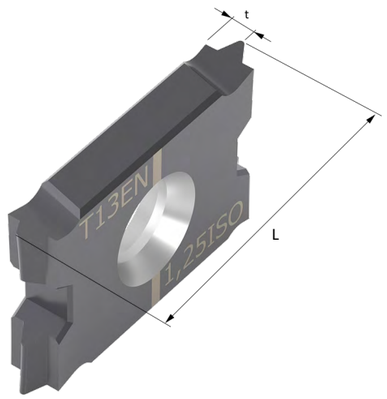
T-UNJ | Inserts for full profile threading UNJC, UNJF, UNJEF, UNJS



Full Profile Threading

TPI	INSERTS	L	t	STOCK 8M	C8	F8	B8	PRICE
48	T13ER 48UNJ	13	0,35	R	K	R	R	E3
40	T13ER 40UNJ	13	0,4	R	K	R	R	E3
36	T13ER 36UNJ	13	0,4	R	K	R	R	E3
32	T13ER 32UNJ	13	0,45	R	K	R	R	E3
28	T13ER 28UNJ	13	0,5	R	K	R	R	E3
24	T13ER 24UNJ	13	0,55	R	K	R	R	E3
20	T13EN 20UNJ	13	1,1	A	K	A	A	E2
18	T13EN 18UNJ	13	1,1	A	K	A	A	E2
16	T13EN 16UNJ	13	1,1	A	K	A	A	E2
14	T13EN 14UNJ	13	1,1	A	K	A	A	E2
13	T13EN 13UNJ	13	1,1	A	K	A	A	E2
12	T13EN 12UNJ	13	1,1	A	K	A	A	E2

For stock status definitions see page 7.



T-NPT | Inserts for full profile threading - NPT

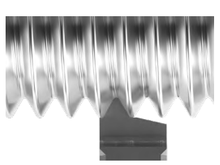
				STOCK				
TPI	INSERTS	L	t	8M	C8	F8	B8	PRICE
27	T13ER 27NPT	13	0,55	R	K	R	R	E5
18	T13EN 18NPT	13	1,1	A	K	A	A	E4
14	T13EN 14NPT	13	1,1	A	K	A	A	E4

T-NPTF | Inserts for full profile threading - NPTF

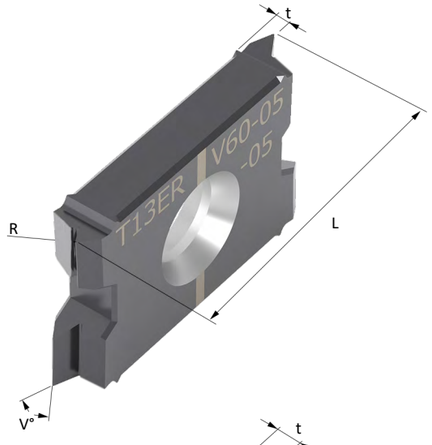
				STOCK				
TPI	INSERTS	L	t	8M	C8	F8	B8	PRICE
27	T13ER 27NPTF	13	0,55	R	K	R	R	E5
18	T13EN 18NPTF	13	1,1	A	K	A	A	E4
14	T13EN 14NPTF	13	1,1	A	K	A	A	E4

T-W | Inserts for full profile threading whitworth BSW, BSP, BSF, BSB

				STOCK				
TPI	INSERTS	L	t	8M	C8	F8	B8	PRICE
28	T13ER 28W	13	0,55	R	K	R	R	E5
19	T13EN 19W	13	1,1	A	K	A	A	E4
14	T13EN 14W	13	1,1	A	K	A	A	E4

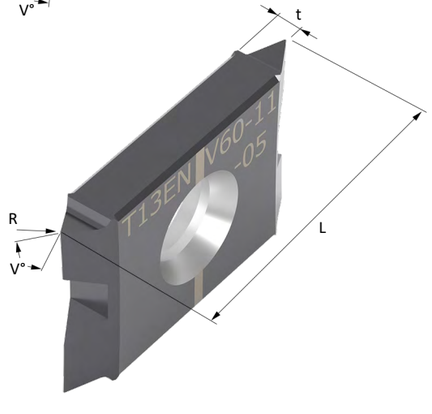


Full profile threading



Style V | Inserts for partial profile micro threading

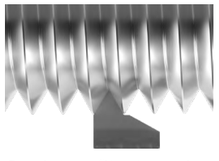
					STOCK				
INSERTS	L	V°	t	R	8M	C8	F8	B8	PRICE
T13ER V55-02-02	13	55	0,2	0,02	R	K	R	R	E3
T13ER V55-05-02	13	55	0,5	0,05	R	K	R	R	E2
T13ER V60-01-01	13	60	0,1	0,01	R	K	R	R	E3
T13ER V60-02-02	13	60	0,2	0,02	R	K	R	R	E3
T13ER V60-05-02	13	60	0,5	0,02	R	K	R	R	E2
T13ER V60-05-05	13	60	0,5	0,05	R	K	R	R	E2



Style V | Inserts for partial profile threading

					STOCK						
INSERTS	L	V°	t	R	8M	C8	F8	B8	NF8	ND8	PRICE
T13EN V55-11-10	13	55	1,1	0,1	A	K	A	A	A	A	E3
T13EN V60-11-05	13	60	1,1	0,05	A	K	A	A	A	A	E2
T13EN V60-11-10	13	60	1,1	0,1	A	K	A	A	A	A	E2
T13EN V80-11-14	13	80	1,1	0,14	A	K	A	A	A	A	E3
T13EN V90-11	13	90	1,1	C 0,10	A	K	A	A	A	A	E2

T13EN V90-11 has a 0,1mm flat instead of a radius.



Partial profile threading

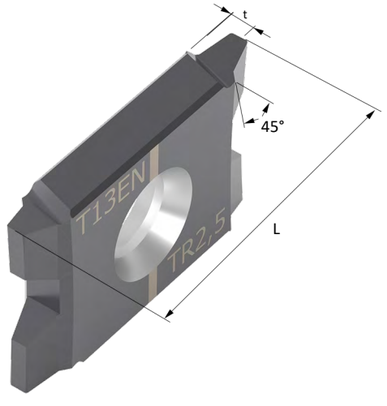
For stock status definitions see page 7.

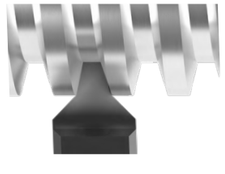
TR, ACME and stub ACME

TR, ACME and Stub ACME threading inserts are now designed with extra side clearance along the profile with a maintained stability.

Succeed with WhizThread TR, ACME and stub ACME

- **Perfect for all tolerance classes** - all inserts and corners are precision ground.
- **Great clearance** - even when helix angle varies at major and minor diameters.
- **Good surface finish** - thanks to sufficient clearance.
- **Identical** - all profiles and reliefs are the same on all four corners and cutting edges.
- **Outstanding stability** - compared to other threading inserts.
- **Productivity increases** - use higher speeds and feeds thanks to the combination of hight stability and reliefs
- **Special inserts** - can be made with similar benefits for module and other thread types.





Partial profile threading

T-Tr | Inserts for threading trapezoidal DIN 103

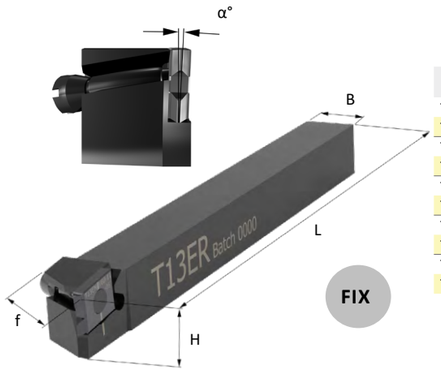
				STOCK					
PITCH MM	INSERTS	L	t	8M	F8	B8	NF8	ND8	PRICE
1,5	T13EN 1,5TR	13	1,1	K	K	K	A	A	E5
2	T13EN 2,0TR	13	1,1	K	K	K	A	A	E4
2,5	T13EN 2,5TR	13	1,1	K	K	K	A	A	E4

T-ACME | Inserts for threading - ACME

				STOCK					
TPI	INSERTS	L	t	8M	F8	B8	NF8	ND8	PRICE
16	T13EN 16ACME	13	1,1	K	K	K	A	A	E5
14	T13EN 14ACME	13	1,1	K	K	K	A	A	E4
12	T13EN 12ACME	13	1,1	K	K	K	A	A	E4
10	T13EN 10ACME	13	1,1	K	K	K	A	A	E4

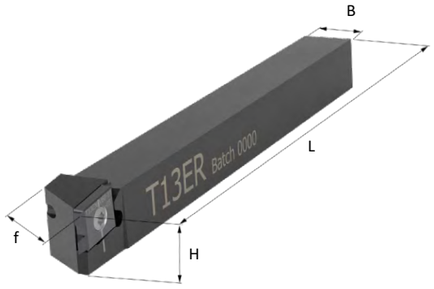
T-STACME | Inserts for threading - STUB ACME

				STOCK					
TPI	INSERTS	L	t	8M	F8	B8	NF8	ND8	PRICE
16	T13EN 16STACME	13	1,1	K	K	K	A	A	E5
14	T13EN 14STACME	13	1,1	K	K	K	A	A	E4
12	T13EN 12STACME	13	1,1	K	K	K	A	A	E4
10	T13EN 10STACME	13	1,1	K	K	K	A	A	E4



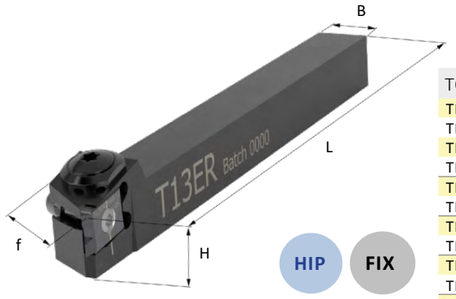
TPT | Toolholders with WhizFix pin type clamping

TOOLHOLDER	H	B	L	f	α°	INSERT	PIN	BIT	STOCK	PRICE
TPT13ER 1010K-2	10	10	125	10	2°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 1010K-4	10	10	125	10	4°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 0375K-2	3/8"	3/8"	125	3/8"	2°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 0375K-4	3/8"	3/8"	125	3/8"	4°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 1212K-2	12	12	125	12	2°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 1212K-4	12	12	125	12	4°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 0500K-2	1/2"	1/2"	125	1/2"	2°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 0500K-4	1/2"	1/2"	125	1/2"	4°	T13ER/EN	PIN 12	J5	R	A62
TPT13ER 1616K-2	16	16	125	16	2°	T13ER/EN	PIN 12	J5	R	A63
TPT13ER 1616K-4	16	16	125	16	4°	T13ER/EN	PIN 12	J5	R	A63



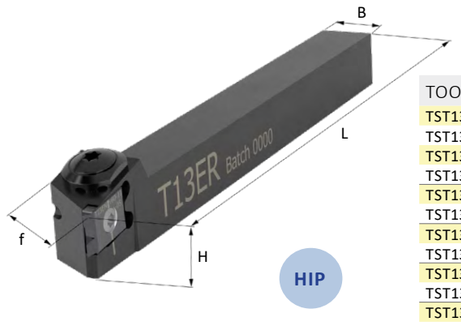
TST | Toolholders with conventional clamping

TOOLHOLDER	H	B	L	f	α°	INSERT	SCREW	KEY	STOCK	PRICE
TST13ER 88K-2	8	8	125	8	2°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 88K-4	8	8	125	8	4°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1010K-2	10	10	125	10	2°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1010K-4	10	10	125	10	4°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1010K-6	10	10	125	10	6°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 0375K-2	3/8"	3/8"	125	3/8"	2°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 0375K-4	3/8"	3/8"	125	3/8"	4°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1212K-2	12	12	125	12	2°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1212K-4	12	12	125	12	4°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1212K-6	12	12	125	12	6°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1212K-8	12	12	125	12	8°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 0500K-2	1/2"	1/2"	125	1/2"	2°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 0500K-4	1/2"	1/2"	125	1/2"	4°	T13ER/EN	M3X7	J3IP	R	A52
TST13ER 1616K-2	16	16	125	16	2°	T13ER/EN	M3X7	J3IP	R	A53
TST13ER 1616K-4	16	16	125	16	4°	T13ER/EN	M3X7	J3IP	R	A53
TST13ER 0750K-2	3/4"	3/4"	125	3/4"	2°	T13ER/EN	M3X7	J3IP	R	A54
TST13ER 0750K-4	3/4"	3/4"	125	3/4"	4°	T13ER/EN	M3X7	J3IP	R	A54
TST13ER 2020K-2	20	20	125	20	2°	T13ER/EN	M3X7	J3IP	R	A54
TST13ER 2525M-2	25	25	150	25	2°	T13ER/EN	M3X7	J3IP	R	A55
TST13ER 1000M-2	1"	1"	150	1"	2°	T13ER/EN	M3X7	J3IP	R	A55



TPT | WhizHip pin type toolholders for high pressure coolant

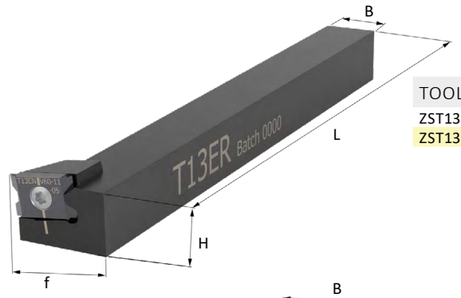
TOOLHOLDER	H	B	L	f	α°	INSERT	PIN	PLUG	BIT	STOCK	PRICE
TPT13ER 1010H-2C	10	10	100	10	2°	T13ER/EN	PIN12	M8X1	J5	R	A82
TPT13ER 1010K-2C	10	10	125	10	2°	T13ER/EN	PIN12	M8X1	J5	R	A82
TPT13ER 1010H-4C	10	10	100	10	4°	T13ER/EN	PIN12	M8X1	J5	R	A82
TPT13ER 1010K-4C	10	10	125	10	4°	T13ER/EN	PIN12	M8X1	J5	R	A82
TPT13ER 0375K-2C	3/8"	3/8"	125	3/8"	2°	T13ER/EN	PIN12	M8X1	J5	R	A82
TPT13ER 0375K-4C	3/8"	3/8"	125	3/8"	4°	T13ER/EN	PIN12	M8X1	J5	R	A82
TPT13ER 1212K-2C	12	12	125	12	2°	T13ER/EN	PIN12	1/8 NPT	J5	R	A82
TPT13ER 1212K-4C	12	12	125	12	4°	T13ER/EN	PIN12	1/8 NPT	J5	R	A82
TPT13ER 0500K-2C	1/2"	1/2"	125	1/2"	2°	T13ER/EN	PIN12	1/8 NPT	J5	R	A82
TPT13ER 0500K-4C	1/2"	1/2"	125	1/2"	4°	T13ER/EN	PIN12	1/8 NPT	J5	R	A82
TPT13ER 1616K-2C	16	16	125	16	2°	T13ER/EN	PIN12	1/8 NPT	J5	R	A83



TST | WhizHip toolholders for high pressure coolant

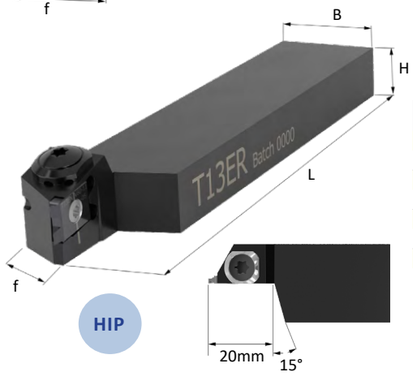
TOOLHOLDER	H	B	L	f	α°	INSERT	SCREW	PLUG	KEY	STOCK	PRICE
TST13ER 1010H-2C	10	10	100	10	2°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 1010K-2C	10	10	125	10	2°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 1010H-4C	10	10	100	10	4°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 1010K-4C	10	10	125	10	4°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 0375K-2C	3/8"	3/8"	125	3/8"	2°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 0375K-4C	3/8"	3/8"	125	3/8"	4°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 1212K-2C	12	12	125	12	2°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 1212K-4C	12	12	125	12	4°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 0500K-2C	1/2"	1/2"	125	1/2"	2°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 0500K-4C	1/2"	1/2"	125	1/2"	4°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 1616K-2C	16	16	125	16	2°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A73

For stock status definitions see page 7.



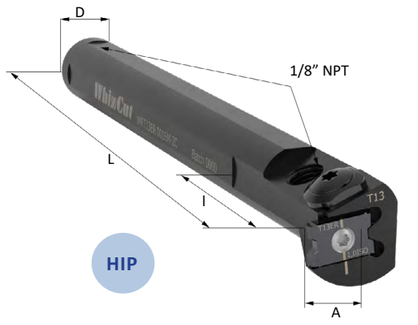
ZST | Square shank toolholders

TOOLHOLDER	H	B	L	f	α°	INSERT	SCREW	KEY	STOCK	PRICE
ZST13ER 1212K-2	12	12	125	20	2°	T13ER/EN	M3X7	J3IP	R	A72
ZST13ER 1616K-2	16	16	125	24	2°	T13ER/EN	M3X7	J3IP	R	A73



TST | Shifted WhizHip toolholders

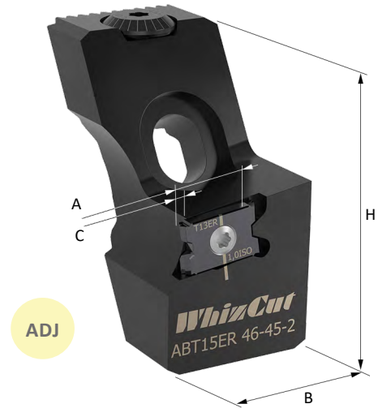
TOOLHOLDER	H	B	L	f	α°	INSERT	SCREW	PLUG	KEY	STOCK	PRICE
TST13ER 1020K-2C	10	20	125	10	2°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 1020K-4C	10	20	125	10	4°	T13ER/EN	M3X7	M8X1	J3IP	R	A72
TST13ER 1224K-2C	12	24	125	12	2°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 1224K-4C	12	24	125	12	4°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 0510K-2C	1/2"	1"	125	1/2"	2°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 0510K-4C	1/2"	1"	125	1/2"	4°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A72
TST13ER 1632K-2C	16	32	125	16	2°	T13ER/EN	M3X7	1/8 NPT	J3IP	R	A73



WRT| Round shank WhizHip holders

TOOLHOLDER	D	A	L	I	α°	INSERT	COOL.THREAD	SCREW	KEY	STOCK	PRICE
WRT13ER 0625M-2C	5/8"	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0625M-4C	5/8"	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0016M-2C	16	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0016M-4C	16	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0750M-2C	3/4"	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0750M-4C	3/4"	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0020M-2C	20	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0020M-4C	20	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A72
WRT13ER 0022M-2C	22	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A73
WRT13ER 0022M-4C	22	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A73
WRT13ER 0025M-2C	25	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A73
WRT13ER 0025M-4C	25	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A73
WRT13ER 1000M-2C	1"	10	150	40	2°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A73
WRT13ER 1000M-4C	1"	10	150	40	4°	T13ER/EN	1/8" NPT	M3X7	J3IP	K	A73

Available from January 1st 2019.
A is measurement from cutting edge to center of shank.



ABT | WhizAdjust toolholder

TOOLH. HEAD	H	B	A	α°	C MAX DOC	MAX FEED LENGTH	INSERT	CLAMP. SCREW	KEY	STOCK	PRICE
ABT13ER-46-45-2	46	24	10	2°	2	45	T13ER/EN	M3X7	J3IP	R	D55
ABT13ER-46-45-4	46	24	10	4°	2	45	T13ER/EN	M3X7	J3IP	R	D55

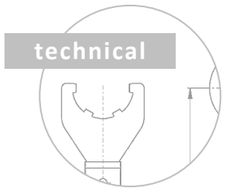
For more information and shanks see WhizAdjust page: 38.
A is measurement from cutting edge to center of shank.

HEIGHT ADJUSTABLE TOOLHOLDERS

WhizAdjust

Take back working to a new level with WhizAdjust and enjoy the flexibility. This is an innovative and patented toolholder system that is perfect for turning against the sub spindle. The height adjustment goes quick and easy- without loss of stability.

ADJUSTABLE STABLE PRECISE



WhizAdjust - for perfecting center height

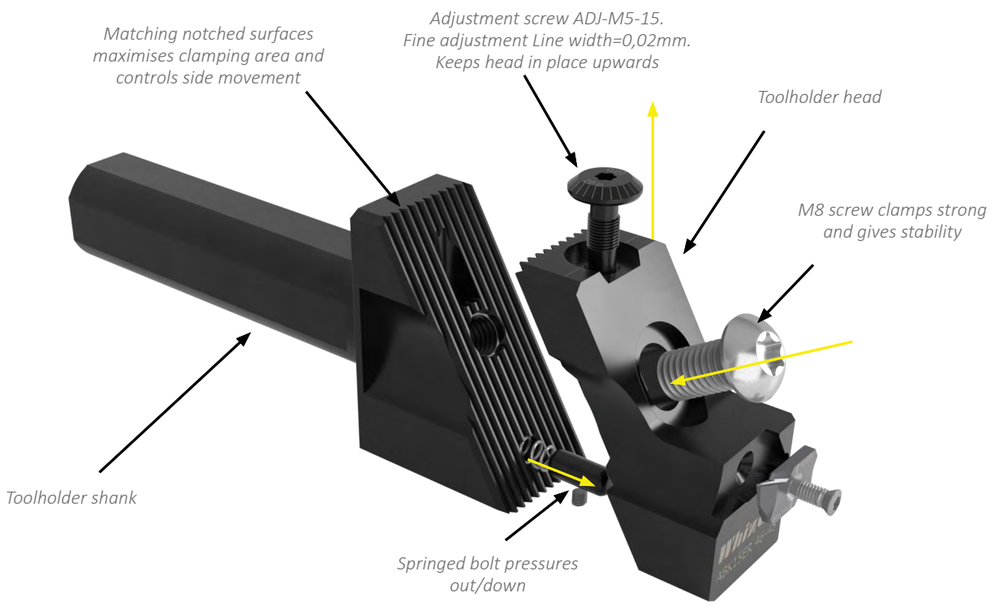
Fine-tune your way into the future of backworking, with the patented toolholdersystem WhizAdjust. It is a brand new and adjustable toolholder system from WhizCut- with quick height adjustment and no loss of stability. The quick: The fine-tune adjustment screw together with stable clamping makes it possible to modify center height. Loosen one clamping screw from the WhizAdjust head and shank- and the adjustment can be done. It is as easy as that. The stable: The shank and adjustable head are positioned together with serrated surfaces in X-axis and the adjustment screw plus a spring in Y. The repeatability, by releasing the toolholder and fastening it again, is under 0,005mm.

Harmonise the height with WhizAdjust

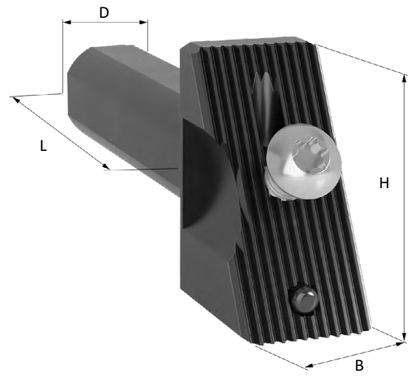
Range benefits

- **Quick release and easy to adjust:** You only need one clamp screw and one adjustment screw.
- **Rigid toolholder:** with slanted and serrated connection surfaces.
- **Combine adjustable heads:** use the same shank part for multiple adjustable heads: WhizCut, WhizThread and WhizGroove.
- **Precise adjustment:** +/- 0,02 per line. Fine tuning and repeatability down to 0,005mm.

WhizGuide
functions of the WhizAdjust holder

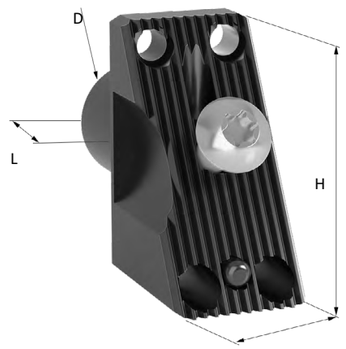


Please note. Due to the slant in the holder if a movement in Y is 0,01mm then movement in X will be 0,006.



Toolholder shank

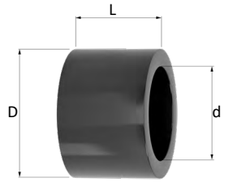
TOOLHOLDER SHANK	D	L	H	B	FLATS	SCREW	BIT	STOCK	PRICE
AB4624 D0625J	5/8"	80	46	24	4	M8X16	J8	R	D75
AB4624 D0750J	3/4"	80	46	24	4	M8X16	J8	R	D75
AB4624 D1000J	1"	80	46	24	4	M8X16	J8	R	D75
AB4624 D16J	16	80	46	24	4	M8X16	J8	R	D75
AB4624 D20J	20	80	46	24	4	M8X16	J8	R	D75
AB4624 D22J	22	80	46	24	4	M8X16	J8	R	D75
AB4624 D25J	25	80	46	24	4	M8X16	J8	R	D75



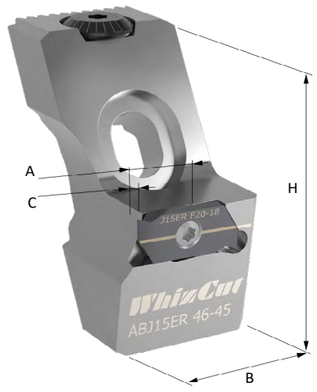
Toolholder shank - front clamping

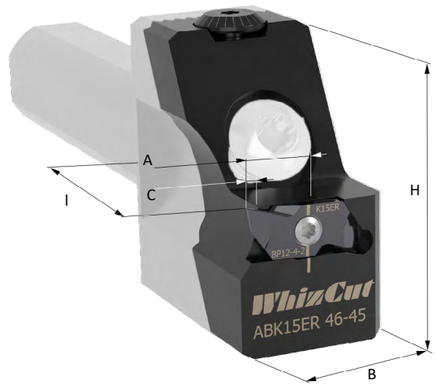
TOOLHOLDER SHANK	D	L	H	B	HOLE POSITION	SCREW	BIT	STOCK	PRICE
AB4624-S38D16	16+22	15	6	24	38/14	M8X16	J8	R	D75

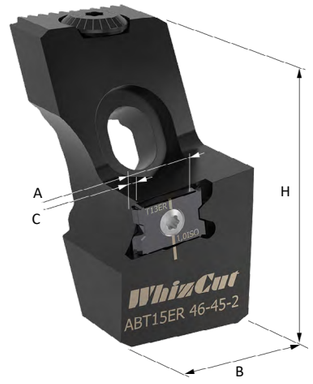
Note: All front clamping holders come with 16mm shank plus 22mm sleeve.



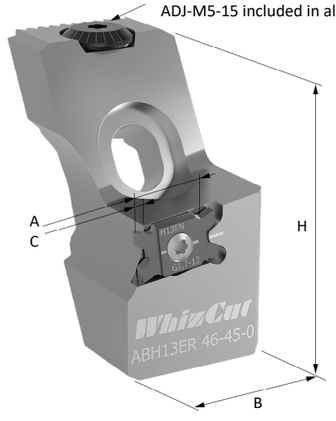
SHANK SLEEVES	D	d	L	PRICE
AT0750-16-15	3/4"	16	15	D3
AT1000-16-15	1"	16	15	D3
AT20-16-15	20	16	15	D3
AT22-16-15	22	16	15	D3
AT25-16-15	25	16	15	D3







ADJ-M5-15 included in all heads



Toolholder Adjustable head

TOOLHOLDER HEAD	H	B	A	C MAX DOC	I WITH SHANK	INSERT TYPE	CLAMPING SCREW	KEY	STOCK	PRICE
ABH13ER-46-45-0	46	24	11	3	45	H13EN	M3X7	J3IP	R	D55
ABT13ER-46-45-2	46	24	10	2	45	T13ER/EN	M3X7	J3IP	R	D55
ABT13ER-46-45-4	46	24	10	2	45	T13ER/EN	M3X7	J3IP	R	D55
ABJ15ER-46-45	46	24	10	2	45	J15ER	M3X7	J3IP	R	D55
ABK15ER-46-45	46	24	12	4	45	K15ER	M3X7	J3IP	R	D55

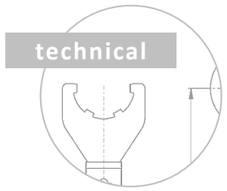
Note: 1. A is distance from cutting edge to center of toolholder.
2. Difference between-2 and -4 WhizThread is the α° of the insert pocket.

SOLID CARBIDE BORING BARS

WhizIn

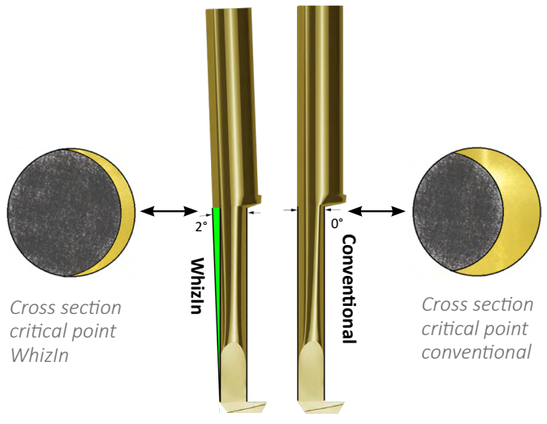
We clamp it crooked - and you get a tool unlike anything ever experienced before. WhizIn toolholders has the carbide bar mounted at an angle to create more stability. WhizIn improves your productivity, by better surface finish and increased tool life.

CONSISTENT GREAT SURFACE FINISH LONG TOOL LIFE



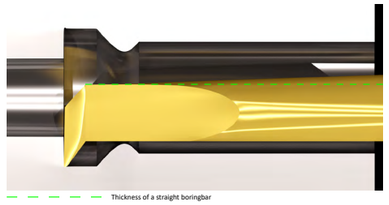
WhizIn - angled for better productivity

Consistent, strong and stable. A WhizIn boring bar has up to 50% more material at the critical point compared to a conventional boring bar. The boring bar is clamped into the toolholder at an angle and the boring bar grows thicker with the length of the bar. Minimal grinding is required which results in less grinding stress and a more consistent tool for you.



Cross section critical point WhizIn

Cross section critical point conventional



Range benefits

Optimize your output with WhizIn

- **Unique chip control geometries:** control down to the smallest dimensions.
- **Increased tool life:** the added material at the crucial points gives a match-less tool life.
- **Improved surface finish:** thanks to the additional material and stability.
- **Wide range:** a wide selection of toolholders, some with coolant through.

The WhizIn toolholder

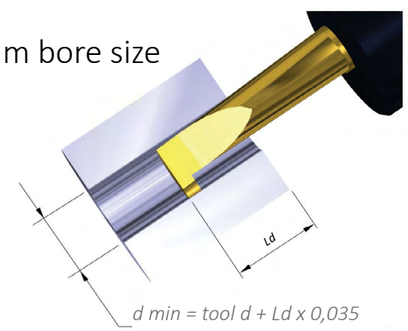
Perfect conditions for high pressure coolant. The boring bar is mounted in a 2° angle in the toolholder, and a natural incline angle is achieved.

- **Coolant through:** ideal for high pressure coolant. Read more on page 60.
- **Secure and stable:** with double screws.
- **Special toolholder designs:** for Swiss type automatic lathes.
- **Self locating system:** when clamping within 30° the boring bar rotates itself into a correct position in the toolholder

WhizGuide select minimum bore size

Minimum bore size

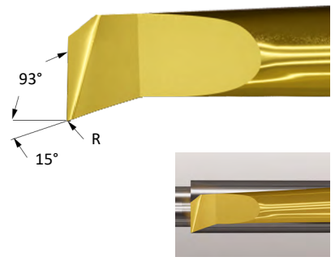
The minimum bore size is determined by what depth the tool goes into the smaller hole. This is a result of the inventive angular mounting of the WhizIn boring. Get it right with a simple calculation, as shown in the picture.



d min = tool d + Ld x 0,035

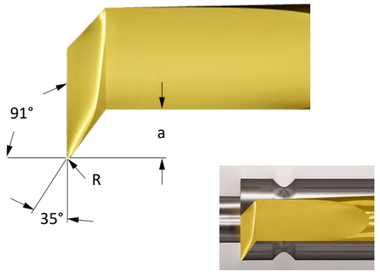
For recommended cutting data WhizIn, please see page 70.

Please note: WhizIn boring bars are only compatible with WhizIn toolholders.



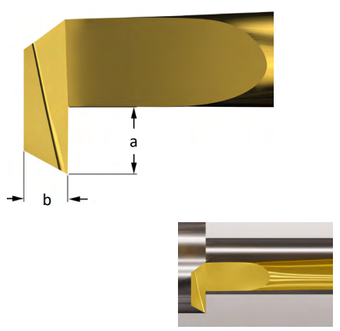
Style J | Boring bars for turning

BORING BAR	D	d	C. RAKE	R	f	L	l	STOCK 10M	C10	F10	B10	PRICE
C31NR J8-0	3	0,8	8°	0	0,4	24	4	B	K	B	B	B4
C314NR J8-0	3	1,4	8°	0	0,7	24	4	B	K	B	B	B4
C32NR J8-0	3	1,6	8°	0	0,8	24	7	B	K	B	B	B3
C32NR J16-0	3	1,6	16°	0	0,8	24	7	B	K	B	B	B3
C33NR J8-0	3	2,2	8°	0	1,1	24	10	B	K	B	B	B3
C33NR J16-0	3	2,2	16°	0,0	1,1	24	10	B	K	B	B	B3
C33NR J8-1	3	2,2	8°	0,1	1,1	24	10	B	K	B	B	B4
C33NR J16-1	3	2,2	16°	0,1	1,1	24	10	B	K	B	B	B4
C34NR J8-0	3	3	8°	0	1,5	24	12	B	K	B	B	B2
C34NR J16-0	3	3	16°	0	1,5	24	12	B	K	B	B	B2
C34NR J8-1	3	3	8°	0,1	1,5	24	12	B	K	B	B	B3
C34NR J16-1	3	3	16°	0,1	1,5	24	12	B	K	B	B	B3
C4NR J8-0	4	4	8°	0	2	32	16,5	B	K	B	B	B3
C4NR J16-0	4	4	16°	0	2	32	16,5	B	K	B	B	B3
C4NR J8-1	4	4	8°	0,1	2	32	16,5	B	K	B	B	B4
C4NR J16-1	4	4	16°	0,1	2	32	16,5	B	K	B	B	B4
C5NR J8-0	5	5	8°	0	2,5	40	21	B	K	B	B	B4
C5NR J16-0	5	5	16°	0	2,5	40	21	B	K	B	B	B4
C5NR J8-1	5	5	8°	0,1	2,5	40	21	B	K	B	B	B5
C5NR J16-1	5	5	16°	0,1	2,5	40	21	B	K	B	B	B5
C6NR J8-0	6	6	8°	0	3	48	26	B	K	B	B	B6
C6NR J16-0	6	6	16°	0	3	48	26	B	K	B	B	B6
C6NR J8-1	6	6	8°	0,1	3	48	26	B	K	B	B	B7
C6NR J16-1	6	6	16°	0,1	3	48	26	B	K	B	B	B7
C8NR J8-0	8	8	8°	0	4	72	45	B	K	B	B	B10
C8NR J16-0	8	8	16°	0	4	72	45	B	K	B	B	B10
C8NR J8-1	8	8	8°	0,1	4	72	45	B	K	B	B	B11
C8NR J16-1	8	8	16°	0,1	4	72	45	B	K	B	B	B11



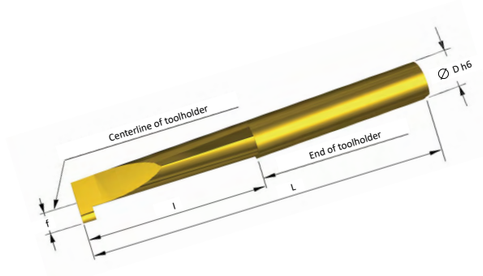
Style V | Boring bars for copy turning

BORING BAR	D	d	C. RAKE	a	R	f	L	l	STOCK 10M	C10	F10	B10	PRICE
C32NR V8	3	1,6	8°	0,5	0,04	0,8	24	7	B	K	B	B	B3
C33NR V8	3	2,2	8°	0,7	0,07	1,1	24	10	B	K	B	B	B3
C3NR V8	3	3	8°	1	0,1	1,5	24	12	B	K	B	B	B3
C4NR V8	4	4	8°	1,4	0,15	2	32	16,5	B	K	B	B	B4
C5NR V8	5	5	8°	1,7	0,2	2,5	40	21	B	K	B	B	B5
C6NR V8	6	6	8°	2	0,25	3	48	26	B	K	B	B	B7
C8NR V8	8	8	8°	2,7	0,3	4	72	45	B	K	B	B	B11

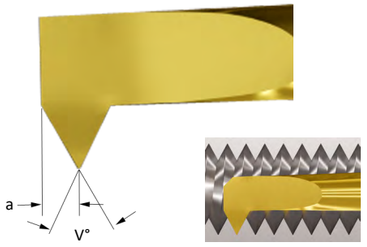


Style B | Boring bars for back turning

BORING BAR	D	d	a	b	f	L	l	STOCK 10M	C10	F10	B10	PRICE
C3NR B12-1-0	3	3	1	0,75	1,5	24	11	B	K	B	B	B4
C4NR B12-1,4-0	4	4	1,4	1	2	32	16,5	B	K	B	B	B5
C5NR B12-1,7-0	5	5	1,7	1,25	2,5	40	21	B	K	B	B	B6
C6NR B12-2-0	6	6	2	1,5	3	48	27	B	K	B	B	B8
C8NR B12-2,7-0	8	8	2,7	1,8	4	72	45	B	K	B	B	B12

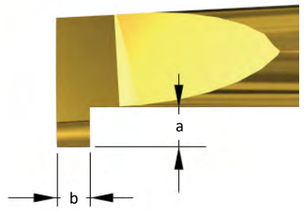


For stock status definitions see page 7.



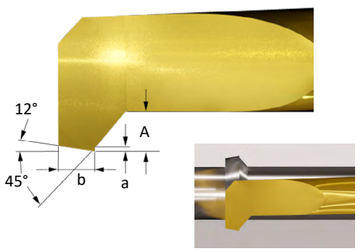
Style T | Boring bars for threading

									STOCK				
BORING BAR	D	d	PITCH	V°	a	f	L	l	10M	C10	F10	B10	PRICE
C31NR T60	3	0,8	0,2-0,4	60	0,2	0,5	24	4	B	K	B	B	B4
C32NR T60	3	1,6	0,2-0,6	60	0,3	0,75	24	7	B	K	B	B	B3
C33NR T60	3	2,2	0,2-0,8	60	0,4	1,25	24	10	B	K	B	B	B3
C34NR T60	3	3	0,2-1,0	60	0,5	1,5	24	12	B	K	B	B	B2
C4NR T60	4	4	0,25-1,25	60	0,6	2	32	16,5	B	K	B	B	B3
C4NR T55	4	4	0,25-1,25	55	0,6	2	32	16,5	B	K	B	B	B3
C5NR T60	5	5	0,25-1,5	60	0,7	2,5	40	21	B	K	B	B	B4
C6NR T60	6	6	0,25-1,75	60	0,8	3	48	27	B	K	B	B	B5
C6NR T55	6	6	0,25-1,75	55	0,8	3	48	27	B	K	B	B	B5
C8NR T60	8	8	0,35-2,5	60	1,2	4	72	45	B	K	B	B	B10



Style G | Boring bars for straight grooves

								STOCK				
BORING BAR	D	d	b	a	f	L	l	10M	C10	F10	B10	PRICE
C31NR G0,2	3	0,8	0,2	0,3	0,4	24	4	B	K	B	B	B4
C32NR G0,3	3	1,6	0,3	0,5	0,8	24	7	B	K	B	B	B4
C33NR G0,5	3	2,2	0,5	0,7	1,1	24	10	B	K	B	B	B4
C34NR G0,2	3	3	0,2	0,3	1,5	24	12	B	K	B	B	B3
C34NR G0,5	3	3	0,5	0,8	1,5	24	12	B	K	B	B	B3
C34NR G0,8	3	3	0,8	1,0	1,5	24	12	B	K	B	B	B3
C34NR G1,0	3	3	1,0	1,0	1,5	24	12	B	K	B	B	B3
C4NR G0,5	4	4	0,5	0,8	2	32	16,5	B	K	B	B	B4
C4NR G1,0	4	4	1,0	1,3	2	32	16,5	B	K	B	B	B4
C5NR G0,5	5	5	0,5	0,8	2,5	40	21	B	K	B	B	B5
C5NR G1,0	5	5	1,0	1,5	2,5	40	21	B	K	B	B	B5
C5NR G1,5	5	5	1,5	1,5	2,5	40	21	B	K	B	B	B5
C6NR G0,7	6	6	0,7	1,3	3	48	26	B	K	B	B	B7
C6NR G1,0	6	6	1,0	1,3	3	48	26	B	K	B	B	B7
C6NR G1,5	6	6	1,5	2	3	48	26	B	K	B	B	B7
C6NR G2,0	6	6	2,0	2	3	48	26	B	K	B	B	B7
C8NR G1,0	8	8	1,0	1,7	4	72	45	B	K	B	B	B11
C8NR G1,5	8	8	1,5	2,2	4	72	45	B	K	B	B	B11
C8NR G2,0	8	8	2	2,7	4	72	45	B	K	B	B	B11
C8NR G2,5	8	8	2,5	2,7	4	72	45	B	K	B	B	B11



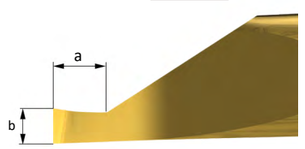
Style P | Boring bars for grooving and chamfering - before parting off

									STOCK				
BORING BAR	D	d	b	A	a	F	L	l	10M	C10	F10	B10	PRICE
C3NR P0,8	3	3	0,8	0,8	0,1	1,5	24	12	B	K	B	B	B4
C4NR P1,0	4	4	1	1	0,1	2	32	16,5	B	K	B	B	B5
C5NR P1,0	5	5	1	1,3	0,2	2,5	40	21	B	K	B	B	B6
C6NR P1,0	6	6	1	1,5	0,2	3	48	26	B	K	B	B	B8
C8NR P1,5	8	8	1,5	2	0,3	4	72	45	B	K	B	B	B12

Style A | Boring bars for face grooving

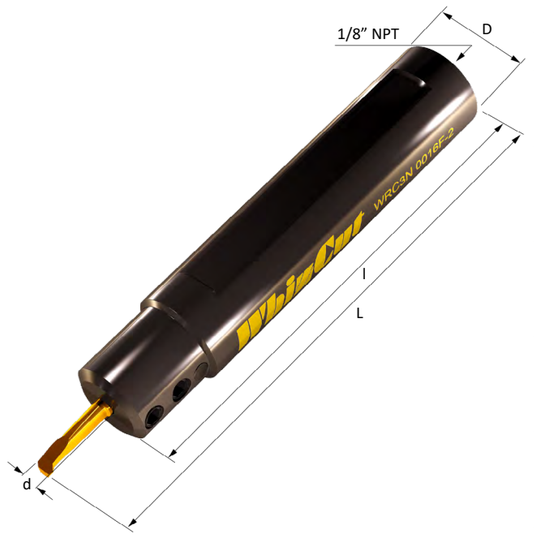
									STOCK				
BORING BAR	D	b	a	L	l	10M	C10	F10	B10	PRICE
C3NR A8-3-07	3	0,7	0,8	18	6	B	K	B	B	B2
C4NR A8-4-10	4	1	1,25	23,5	8	B	K	B	B	B3
C5NR A8-5-12	5	1,2	1,5	29	10	B	K	B	B	B4
C6NR A8-6-15	6	1,5	2	34	12	B	K	B	B	B6
C8NR A8-8-20	8	2	2,5	43	16	B	K	B	B	B10

Special widths and depths can be produced. Contact your local distributor for a quote.

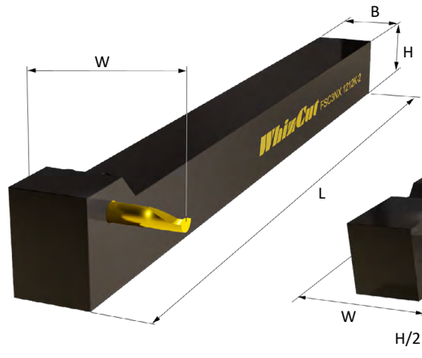


For stock status definitions see page 7.

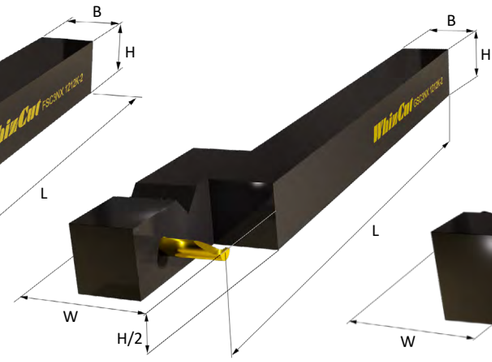
WRC | Round toolholder with internal coolant



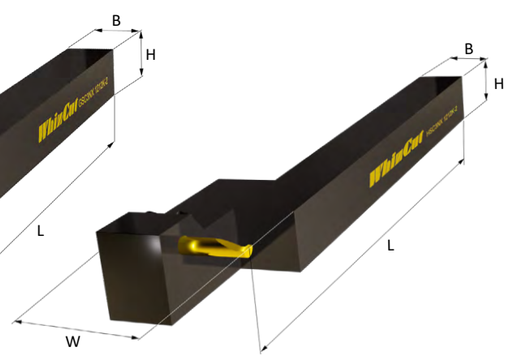
TOOLHOLDER	D	d INSERT SIZE	l	L WITH STANDARD INSERT	BORING BAR	STOCK	PRICE
WRC3N 0812E-2	8	3	60,5	72,5	C3N---	R	B20
WRC4N 0812E-2	8	4	60,5	77	C4N---	R	B20
WRC3N 0012E-2	12	3	70	82	C3N---	R	B20
WRC4N 0012E-2	12	4	75	91,5	C4N---	R	B20
WRC3N 0016F-2	16	3	80	92	C3N---	R	B21
WRC4N 0016F-2	16	4	85	101,5	C4N---	R	B21
WRC5N 0016G-2	16	5	90	111	C5N---	R	B21
WRC6N 0016G-2	16	6	95	121	C6N---	R	B21
WRC3N 0750H-2	3/4"	3	100	112	C3N---	R	B22
WRC4N 0750H-2	3/4"	4	105	121,5	C4N---	R	B22
WRC5N 0750J-2	3/4"	5	110	131	C5N---	R	B22
WRC6N 0750J-2	3/4"	6	115	141	C6N---	R	B22
WRC8N 0750J-2	3/4"	8	120	165	C8N---	R	B22
WRC3N 0020H-2	20	3	100	112	C3N---	R	B22
WRC4N 0020H-2	20	4	105	121,5	C4N---	R	B22
WRC5N 0020J-2	20	5	110	131	C5N---	R	B22
WRC6N 0020J-2	20	6	115	141	C6N---	R	B22
WRC8N 0020J-2	20	8	120	165	C8N---	R	B22
WRC3N 0022J-2	22	3	110	122	C3N---	R	B23
WRC4N 0022J-2	22	4	115	131,5	C4N---	R	B23
WRC5N 0022J-2	22	5	120	141	C5N---	R	B23
WRC6N 0022K-2	22	6	125	151	C6N---	R	B23
WRC8N 0022K-2	22	8	130	175	C8N---	R	B23
WRC3N 0025J-2	25	3	110	122	C3N---	R	B24
WRC4N 0025J-2	25	4	115	131,5	C4N---	R	B24
WRC5N 0025J-2	25	5	120	141	C5N---	R	B24
WRC6N 0025K-2	25	6	125	151	C6N---	R	B24
WRC8N 0025K-2	25	8	130	175	C8N---	R	B24
WRC3N 1000J-2	1"	3	110	122	C3N---	R	B24
WRC4N 1000J-2	1"	4	115	131,5	C4N---	R	B24
WRC5N 1000J-2	1"	5	120	141	C5N---	R	B24
WRC6N 1000K-2	1"	6	125	151	C6N---	R	B24
WRC8N 1000K-2	1"	8	130	175	C8N---	R	B24



FSC | Square shanks with centerline at top



GSC | Square shanks with centerline at center



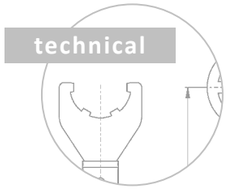
HSC | Square shanks with centerline at top

FSC, GSC and HSC are machine specific toolholders, available upon request.
Please contact your local distributor for a quote.

WhizThrill

Thread mill without battling burrs! WhizCut has revitalized the world of thread milling: the innovation of WhizThrill creates a de-burred thread in one single move - with a perfect result.

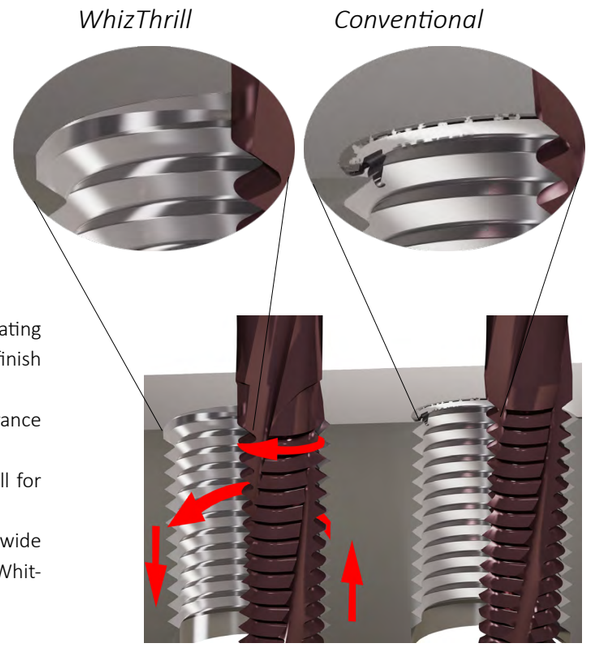
DEBURRED THREADS UNIQUE GEOMETRIES WIDE RANGE



WhizThrill - deburring thread mills

WhizThrill is an unmatched WhizCut-concept of solid carbide thread mills. The range is designed with various unique geometries - to meet your specific needs and machining challenges.

Deburr desirable with WhizThrill

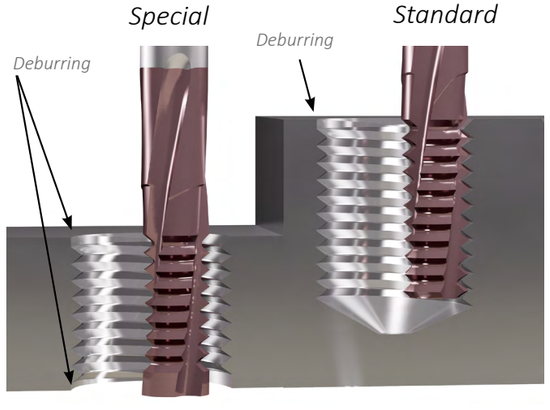


Range benefits

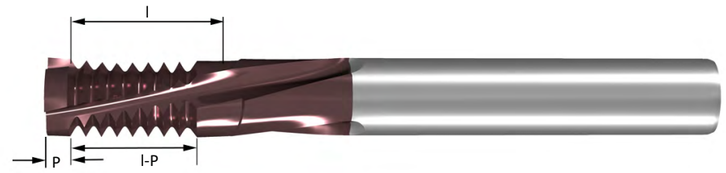
- **Upgraded output:** the great carbide and coating combinations of WhizThrill gives better surface finish and longer tool life.
- **Time saving:** WhizThrill deburrs the thread entrance without having to make a chamfer.
- **Unique geometries:** find the perfect thread mill for your specific job.
- **Wide range:** from M1-M42, 0,4-4 mm pitch and wide range of special thread types: NPT, NPTF and Whitworth.
- **Coolant through:** both straight and radial.

Double deburr WhizThrill

Are burrs on both sides causing you a headache - when thread milling a through hole? WhizCut has designed double deburring thread mills, where both sides are deburred in the standard thread milling process. We only need to know one thing from you: the exact length of the thread - and it will be produced as a special.

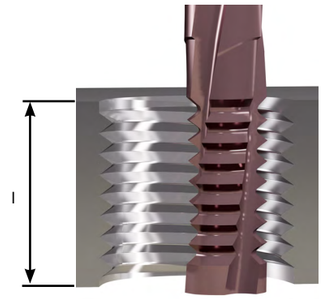


WhizGuide
select the ideal thread mill



Double deburr specs
Information we need: diameter, pitch, thickness of the plate that will be thread milled.

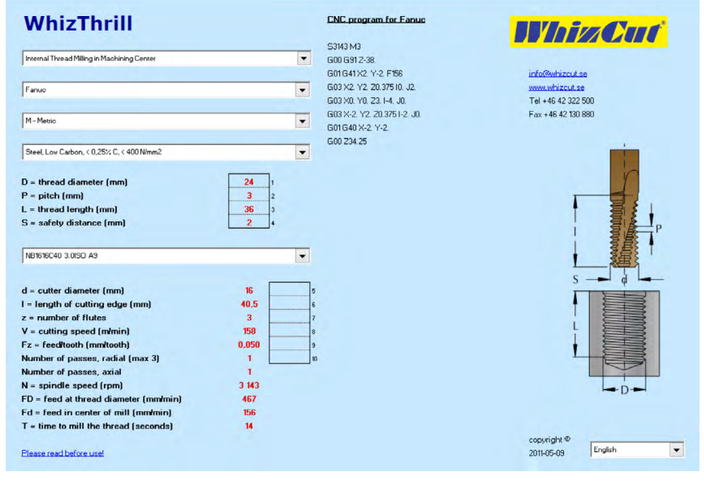
Specials
If you require a measurement apart the WhizCut standards - no problem! For a minor fee, we cut a standard thread mill to your desired length or grind a unique form - like a tapered thread mill for bone plates.



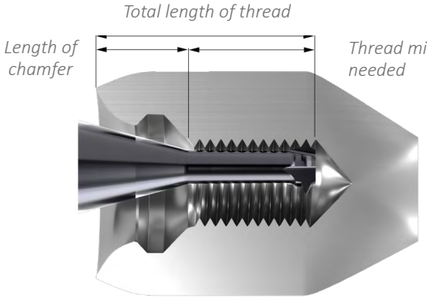
Smooth operations with WhizThrill software
Program your machine together with us and thread milling will be easy. Our software aid is great when programming the machine and it also calculates the deburring automatically. (It is important to use the correct thread mill.) The WhizThrill aid is a user friendly excel based program that recommends the programming for your CNC-machine. Order it free of charge from the WhizCut website: whizcut.com .

Cut to length

Special double deburring thread mill for bone plates.



Micro thread mills
WhizThrill



Range benefits

- **Unique shank design:** with increased stability.
- **Coated carbide grade:** (B9), extra edge sharpness.
- **Down to M1:** full profile, with minimal cutting forces gives great surface finish and longer tool life.
- **15° exit angle to full diameter:** use short thread mill.
- Specials, single or double deburring micro thread mills, and more flutes available upon request.

WhizGuide
select the ideal micro thread

1. Partial profile vs. full profile

- Partial profile is better for long threads, tougher materials, and unstable machining conditions.
- Full Profile when tight tolerances of major and minor is required. Cycle time should be reduced, and a completely burr free part is the needed.

2. Grades vs. material

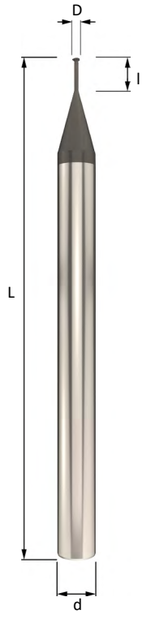
- WhizThrill have an uncoated grade 9M, a sub-micron carbide ISO K20-K30. Performs well in soft materials where no coating is needed.
- B9 is an AlCrN coating which gives an extra edge sharpness. Tool life will be 4-5 times longer than an uncoated thread mill cutting in titanium.

3. Determin length

- Always choose the shortest possible tool. Micro thread mills lose a lot of rigidity with increased length.
- WhizThrill has a 15° exit angle from the minor dimension (D) to shank (d). When possible, make the chamfer before thread milling so that you can calculate the length of the thread from the end of the chamfer.

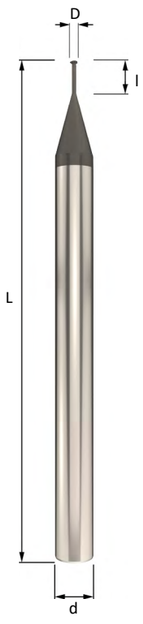
NS | Micro partial profile 60°

Cutting zone partial profile



											STOCK		
M COARSE	M FINE	S&UNM	UNC UNF	PART NUMBER	d	D	FLUTES	l	L	9M	B9	PRICE
M0,5	M0,5	0,5	#0000-160	NS03003C1.3 P60	3	0,37	3	1,3	39	B	B	T2A
M0,6	M0,6	0,6		NS03004C1.5 P60	3	0,44	3	1,5	39	B	B	T2A
M0,8	M0,8	0,8	#000-120	NS03005C1.4 P60	3	0,57	3	1,4	39	B	B	T2
M0,8	M0,8	0,8	#000-120	NS03005C2.0 P60	3	0,57	3	2,0	39	B	B	T2
M0,8	M0,8	0,8	#000-120	NS03005C2.7 P60	3	0,57	3	2,7	39	B	B	T2
M1,0	M1,0	1,0		NS03007C1.1 P60	3	0,7	3	1,1	39	B	B	T2
M1,0	M1,0	1,0		NS03007C1.7 P60	3	0,7	3	1,7	39	B	B	T2
M1,0	M1,0	1,0		NS03007C2.1 P60	3	0,7	3	2,1	39	B	B	T2
M1,0	M1,0	1,0		NS03007C2.5 P60	3	0,7	3	2,5	39	B	B	T2
M1,0	M1,0	1,0		NS03007C3.2 P60	3	0,7	3	3,2	39	B	B	T2
M1,2	M1,2	1,2	#00-95<	NS03009C2.0 P60	3	0,9	3	2	39	B	B	T2
M1,2	M1,2	1,2	#00-95<	NS03009C2.9 P60	3	0,9	3	2,9	39	B	B	T2
M1,2	M1,2	1,2	#00-95<	NS03009C3.9 P60	3	0,9	3	3,9	39	B	B	T2
M1,4	M1,4	1,4		NS03010C2.2 P60	3	1,03	3	2,2	39	B	B	T2
M1,4	M1,4	1,4		NS03010C3.3 P60	3	1,03	3	3,3	39	B	B	T2
M1,4	M1,4	1,4		NS03010C4.4 P60	3	1,03	3	4,4	39	B	B	T2
M1,6	M1,4X0,2		#0-80	NS03011C2.5 P60	3	1,16	3	2,5	39	B	B	T2
M1,6	M1,4X0,2		#0-80	NS03011C3.6 P60	3	1,16	3	3,6	39	B	B	T2
M1,6	M1,4X0,2		#0-80	NS03011C5.1 P60	3	1,16	3	5,1	39	B	B	T2
M1,8	M1,6X0,2		#1	NS03013C2.8 P60	3	1,35	3	2,8	39	B	B	T2
M1,8	M1,6X0,2		#1	NS03013C4.2 P60	3	1,35	3	4,2	39	B	B	T2
M1,8	M1,6X0,2		#1	NS03013C5.6 P60	3	1,35	3	5,6	39	B	B	T2
M2,0	M1,8		#2	NS03015C3.2 P60	3	1,5	3	3,2	39	B	B	T1
M2,0	M1,8		#2	NS03015C3.8 P60	3	1,5	3	3,8	39	B	B	T1
M2,0	M1,8		#2	NS03015C4.6 P60	3	1,5	3	4,6	39	B	B	T1
M2,0	M1,8		#2	NS03015C5.4 P60	3	1,5	3	5,4	39	B	B	T1
M2,0	M1,8		#2	NS03015C6.2 P60	3	1,5	3	6,2	39	B	B	T1
M2,5	M2,2X0,25		#3	NS03019C4.3 P60	3	1,9	3	4,3	39	B	B	T1
M2,5	M2,2X0,25		#3	NS03019C6.2 P60	3	1,9	3	6,2	39	B	B	T1
	M2,5		#4	NS03021C4.9 P60	3	2,1	3	4,9	39	B	B	T1
	M2,5		#4	NS03021C7.1 P60	3	2,1	3	7,1	39	B	B	T1
M3	M3		#5	NS03023C5.4 P60	3	2,3	3	5,4	39	B	B	T1
M3	M3		#5	NS03023C7.8 P60	3	2,3	3	7,8	39	B	B	T1
M3,5	M3		#6	NS03026C6.1 P60	3	2,6	3	6,1	39	B	B	T1
M3,5	M3		#6	NS03026C8.7 P60	3	2,6	3	8,7	39	B	B	T1
M4	M3,5-M4		#8	NS0303C7.1 P60	3	3	3	7,1	39	B	B	T1
M4	M3,5-M4		#8	NS0303C10.2 P60	3	3	3	10,2	39	B	B	T1
M4,5	M4,5		#10	NS04036C8.3 P60	4	3,6	3	8,3	51	B	B	T2
M4,5	M4,5		#10	NS04036C12.0 P60	4	3,6	3	12	51	B	B	T2
M5-M6	M5-M6		#12	NS0404C10.0 P60	4	4	3	10	51	B	B	T2
M5-M6	M5-M6		#12	NS0404C14.5 P60	4	4	3	14,5	51	B	B	T2

Cutting zone full profile



NT-ISO M| Micro single tooth full form

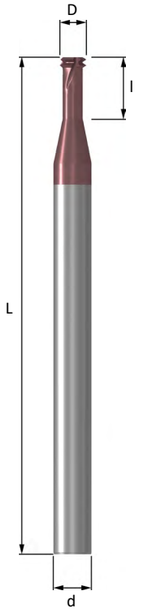
M COARSE	PITCH ISO	PART NUMBER	d	D	FLUTES	l	L	9M	F9	B9	PRICE
M1,0	0,25	NT03007C1,7-0.25ISO	3	0,7	3	1,7	39	B	K	B	T2B
M1,0	0,25	NT03007C2,5-0.25ISO	3	0,7	3	2,5	39	B	K	B	T2B
M1,0	0,25	NT03007C3,5-0.25ISO	3	0,7	3	3,5	39	B	K	B	T2B
M1,2	0,25	NT03009C2,0-0.25ISO	3	0,9	3	2	39	B	K	B	T2B
M1,2	0,25	NT03009C2,9-0.25ISO	3	0,9	3	2,9	39	B	K	B	T2B
M1,2	0,25	NT03009C3,9-0.25ISO	3	0,9	3	3,9	39	B	K	B	T2B
M1,4	0,3	NT03010C2,3-0.3ISO	3	1,03	3	2,3	39	B	K	B	T2A
M1,4	0,3	NT03010C3,3-0.3ISO	3	1,03	3	3,3	39	B	K	B	T2A
M1,4	0,3	NT03010C4,4-0.3ISO	3	1,03	3	4,4	39	B	K	B	T2A
M1,6	0,35	NT03011C2,5-0.35ISO	3	1,16	3	2,5	39	B	K	B	T2A
M1,6	0,35	NT03011C3,6-0.35ISO	3	1,16	3	3,6	39	B	K	B	T2A
M1,6	0,35	NT03011C5,1-0.35ISO	3	1,16	3	5,1	39	B	K	B	T2A
M1,8	0,35	NT03013C2,8-0.35ISO	3	1,35	3	2,8	39	B	K	B	T2A
M1,8	0,35	NT03013C4,2-0.35ISO	3	1,35	3	4,2	39	B	K	B	T2A
M1,8	0,35	NT03013C5,6-0.35ISO	3	1,35	3	5,6	39	B	K	B	T2A
M2,0	0,4	NT03015C3,2-0.4ISO	3	1,5	3	3,2	39	B	K	B	T2
M2,0	0,4	NT03015C4,7-0.4ISO	3	1,5	3	4,7	39	B	K	B	T2
M2,0	0,4	NT03015C6,2-0.4ISO	3	1,5	3	6,2	39	B	K	B	T2

NT-ISO S, UNM | Micro single tooth full form

ISO S-1501	UNM	PITCH	PART NUMBER	d	D	FLUTES	l	L	9M	F9	B9	PRICE
S1,0	1,00 UNM	0,25	NT03007C2,5-S1.0UNM	3	0,73	3	2,5	39	B	K	B	T2B
S1,2	1,20 UNM	0,25	NT03009C2,9-S1.2UNM	3	0,93	3	2,9	39	B	K	B	T2B
S1,4	1,40 UNM	0,3	NT03010C3,3-S1.4UNM	3	1,08	3	3,3	39	B	K	B	T2A

NT-UN | Micro single tooth full form

UNC UNF	#	TPI	PART NUMBER	d	D	FLUTES	l	L	9M	F9	B9	PRICE
UNF	NO. 0	80	NT03011C3,3-80UN	3	1,16	3	3,3	39	B	K	B	T2A
UNF	NO. 1	72	NT03014C4,4-72UN	3	1,45	3	4,4	39	B	K	B	T2A
UNC	NO. 1	64	NT03014C4,4-64UN	3	1,41	3	4,4	39	B	K	B	T2A
UNF	NO. 2	64	NT03017C5,2-64UN	3	1,74	3	5,2	39	B	K	B	T2
UNC	NO. 2	56	NT03016C5,2-56UN	3	1,68	3	5,2	39	B	K	B	T2

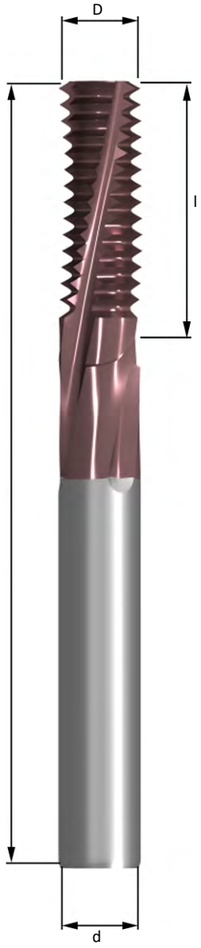


NM | Two tooth metrical

PITCH MM	M COARSE	PART NUMBER	d	D	C. EDGES	l	L	PRICE
0,4	M2 (1,5XD)	NM03015C3 0.4ISO A9	3	1,5	3	3,4	39	T3
0,4	M2 (2,25XD)	NM03015C5 0.4ISO A9	3	1,5	3	5	39	T3
0,45	M2.2 (1,5XD)	NM03016C3 0.45ISO A9	3	1,6	3	3,8	39	T3
0,45	M2.2 (2,25XD)	NM03016C5 0.45ISO A9	3	1,6	3	5,4	39	T3
0,45	M2.5 (1,5XD)	NM03019C4 0.45ISO A9	3	1,9	3	4,2	39	T3
0,45	M2.5 (2,25XD)	NM03019C6 0.45ISO A9	3	1,9	3	6,1	39	T3
0,5	M3 (1,5XD)	NM03023C5 0.5ISO A9	3	2,3	3	5	39	T3
0,5	M3 (2,25XD)	NM03023C7 0.5ISO A9	3	2,3	3	7,3	39	T3
0,6	M3.5 (1,5XD)	NM03026C6 0.6ISO A9	3	2,6	3	6	39	T3
0,6	M3.5 (2,25XD)	NM03026C8 0.6ISO A9	3	2,6	3	8,5	39	T3
0,7	M4 (1,5XD)	NM0303C7 0.7ISO A9	3	3	3	7	39	T3
0,7	M4 (2,25XD)	NM0303C10 0.7ISO A9	3	3	3	10	39	T3
0,8	M5 (1,5XD)	NM04038C9 0.8ISO A9	4	3,8	3	9	51	T3
0,8	M5 (2,25XD)	NM04038C12 0.8ISO A9	4	3,8	3	12,1	51	T3
1	M6 (1,5XD)	NM06045C10 1.0ISO A9	6	4,5	3	10	64	T4
1	M6 (2,25XD)	NM06045C14 1.0ISO A9	6	4,5	3	14,5	64	T4
1,25	M8 (1,5XD)	NM0606C14 1.25ISO A9	6	6	3	14	64	T4
1,25	M8 (2,25XD)	NM0606C19 1.25ISO A9	6	6	3	19,3	64	T4

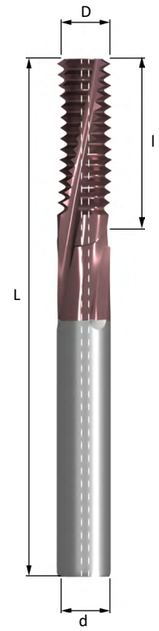
For stock status definitions see page 7.

NB-ISO| Metric deburring thread mills



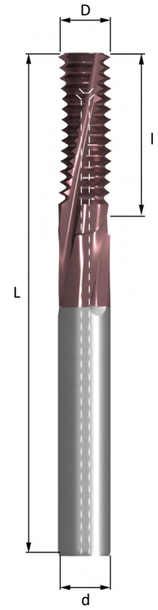
PITCH MM	M COARSE	M FINE	PART NUMBER	d	D	FLUTES	l	L	PRICE
0,4	M2 (1,5XD)		NB04015C3 0.4ISO A9	4	1,5	3	3,4	50	T5
0,4	M2 (2XD)		NB04015C4 0.4ISO A9	4	1,5	3	4,6	50	T6
0,45	M2,2 (1,5XD)		NB04016C3 0.45ISO A9	4	1,6	3	3,82	50	T5
0,45	M2,2 (2XD)		NB04016C5 0.45ISO A9	4	1,6	3	5,17	50	T6
0,45	M2,5 (1,5XD)		NB04019C4 0.45ISO A9	4	1,9	3	4,27	50	T5
0,45	M2,5 (2XD)		NB04019C5 0.45ISO A9	4	1,9	3	5,62	50	T6
0,5	M3 (1,5XD)	≥ M4	NB04023C5 0.5ISO A9	4	2,3	3	5,25	50	T5
0,5	M3 (2XD)	≥ M4	NB04023C6 0.5ISO A9	4	2,3	3	6,75	50	T6
0,5	M3 (2,5XD)	≥ M4	NB04023C8 0.5ISO A9	4	2,3	3	8,25	50	T8
0,5	M3 (1,5XD)	≥ M4	NB06023C5 0.5ISO A9	6	2,3	3	5,25	63	T7
0,5	M3 (2XD)	≥ M4	NB06023C6 0.5ISO A9	6	2,3	3	6,75	63	T9
0,5	M3 (2,5XD)	≥ M4	NB06023C8 0.5ISO A9	6	2,3	3	8,25	63	T10
0,5		≥ M5	NB04038C10 0.5ISO A9	4	3,8	3	10,75	50	T6
0,5		≥ M5	NB06038C10 0.5ISO A9	6	3,8	3	10,75	63	T9
0,6	M3,5 (1,5XD)		NB04026C6 0.6ISO A9	4	2,6	3	6,3	50	T5
0,6	M3,5 (2XD)		NB04026C8 0.6ISO A9	4	2,6	3	8,1	50	T6
0,7	M4 (1,5XD)		NB0403C7 0.7ISO A9	4	3	3	7,35	50	T5
0,7	M4 (2XD)		NB0403C8 0.7ISO A9	4	3	3	8,75	50	T6
0,7	M4 (2,5XD)		NB0403C10 0.7ISO A9	4	3	3	10,85	50	T8
0,7	M4 (1,5XD)		NB0603C7 0.7ISO A9	6	3	3	7,35	63	T7
0,7	M4 (2XD)		NB0603C8 0.7ISO A9	6	3	3	8,75	63	T9
0,7	M4 (2,5XD)		NB0603C10 0.7ISO A9	6	3	3	10,85	63	T10
0,75	M4,5 (1,5XD)		NB04034C7 0.75ISO A9	4	3,4	3	7,87	50	T5
0,75	M4,5 (2XD)		NB04034C10 0.75ISO A9	4	3,4	3	10,12	50	T6
0,75		≥ M6	NB06045C10 0.75ISO A9	6	4,5	3	10,87	63	T7
0,75		≥ M6	NB06045C16 0.75ISO A9	6	4,5	3	16,87	63	T9
0,8	M5 (1,5XD)		NB04038C8 0.8ISO A9	4	3,8	3	8,4	50	T5
0,8	M5 (2XD)		NB04038C10 0.8ISO A9	4	3,8	3	10,8	50	T6
0,8	M5 (2,5XD)		NB04038C13 0.8ISO A9	4	3,8	3	13,2	50	T8
0,8	M5 (1,5XD)		NB06038C8 0.8ISO A9	6	3,8	3	8,4	63	T7
0,8	M5 (2XD)		NB06038C10 0.8ISO A9	6	3,8	3	10,8	63	T9
0,8	M5 (2,5XD)		NB06038C13 0.8ISO A9	6	3,8	3	13,2	63	T10
1	M6 (1,5XD)	≥ M8	NB06045C10 1.0ISO A9	6	4,5	3	10,5	63	T7
1	M6 (2XD)	≥ M8	NB06045C13 1.0ISO A9	6	4,5	3	13,5	63	T9
1	M6 (2,5XD)	≥ M8	NB06045C16 1.0ISO A9	6	4,5	3	16,5	63	T10
1	M6 (3XD)	≥ M8	NB06045C19 1.0ISO A9	6	4,5	3	19,5	63	T12
1		≥ M8	NB0606C10 1.0ISO A9	6	6	3	10,5	63	T7
1		≥ M8	NB0606C13 1.0ISO A9	6	6	3	13,5	63	T8
1		≥ M10	NB0808D10 1.0ISO A9	8	8	4	10,5	63	T10
1		≥ M10	NB0808D13 1.0ISO A9	8	8	4	13,5	63	T11
1		≥ M10	NB0808D17 1.0ISO A9	8	8	4	17,5	63	T12
1		≥ M14	NB1010E14 1.0ISO A9	10	10	5	14,5	76	T16
1		≥ M14	NB1010E19 1.0ISO A9	10	10	5	19,5	76	T17
1		≥ M14	NB1212F15 1.0ISO A9	12	12	6	15,5	83	T18
1		≥ M14	NB1212F21 1.0ISO A9	12	12	6	21,5	83	T19
1,25	M8 (1,5XD)	≥ M10	NB0606C14 1.25ISO A9	6	6	3	14,37	63	T7
1,25	M8 (2XD)	≥ M10	NB0606C18 1.25ISO A9	6	6	3	18,12	63	T9
1,25	M8 (2,5XD)	≥ M10	NB0606C21 1.25ISO A9	6	6	3	21,87	63	T10
1,25	M8 (3XD)	≥ M10	NB0606C25 1.25ISO A9	6	6	3	25,62	76	T12
1,5	M10 (1,5XD)	≥ M12	NB08075C17 1.5ISO A9	8	7,5	3	17,25	63	T11
1,5	M10 (2XD)	≥ M12	NB08075C21 1.5ISO A9	8	7,5	3	21,75	76	T13
1,5	M10 (2,5XD)	≥ M12	NB08075C27 1.5ISO A9	8	7,5	3	27,75	76	T14
1,5	M10 (3XD)	≥ M12	NB08075C32 1.5ISO A9	8	7,5	3	32,25	76	T16
1,5		≥ M14	NB1010D17 1.5ISO A9	10	10	4	17,25	76	T15
1,5		≥ M14	NB1010D23 1.5ISO A9	10	10	4	23,25	76	T15
1,5		≥ M16	NB1212D15 1.5ISO A9	12	12	4	15,75	83	T17
1,5		≥ M16	NB1212D21 1.5ISO A9	12	12	4	21,75	83	T18
1,5		≥ M16	NB1212D29 1.5ISO A9	12	12	4	29,25	83	T19
1,5		≥ M20	NB1616F18 1.5ISO A9	16	16	6	18,75	100	T21
1,5		≥ M20	NB1616F26 1.5ISO A9	16	16	6	26,25	100	T22
1,5		≥ M20	NB1616F35 1.5ISO A9	16	16	6	35,25	100	T23
1,75	M12 (1,5XD)		NB0808C20 1.75ISO A9	8	8	3	20,12	76	T11
1,75	M12 (2XD)		NB0808C27 1.75ISO A9	8	8	3	27,12	76	T13
1,75	M12 (1,5XD)		NB1009C20 1.75ISO A9	10	9	3	20,12	76	T15
1,75	M12 (2XD)		NB1009C27 1.75ISO A9	10	9	3	27,12	76	T17
1,75	M12 (2,5XD)		NB1009C32 1.75ISO A9	10	9	3	32,37	100	T18
1,75	M12 (3XD)		NB1009C37 1.75ISO A9	10	9	3	37,62	100	T19
2	M14 (1,5XD)	≥ M18	NB1010C23 2.0ISO A9	10	10	3	23	76	T15
2	M14 (2XD)	≥ M18	NB1010C31 2.0ISO A9	10	10	3	31	100	T17
2	M14 (2,5XD)	≥ M18	NB1010C37 2.0ISO A9	10	10	3	37	100	T18
2	M16 (1,5XD)	≥ M18	NB1212D27 2.0ISO A9	12	12	4	27	83	T18
2	M16 (2XD)	≥ M18	NB1212D35 2.0ISO A9	12	12	4	35	100	T19
2	M16 (2,5XD)	≥ M18	NB1212D43 2.0ISO A9	12	12	4	43	100	T20
2	M16 (3XD)	≥ M18	NB1212C51 2.0ISO A9	12	12	3	51	100	T21
2		≥ M20	NB1616E29 2.0ISO A9	16	16	5	29	100	T22
2		≥ M20	NB1616E39 2.0ISO A9	16	16	5	39	100	T23
2		≥ M24	NB2020F43 2.0ISO A9	20	20	6	43	100	T26
2		≥ M30	NB2525F57 2.0ISO A9	25	25	6	57	130	T29
2,5	M18 (1,5XD)		NB1212C31 2.5ISO A9	12	12	3	31,25	100	T19
2,5	M18 (2XD)		NB1212C38 2.5ISO A9	12	12	3	38,75	100	T20
2,5	M18 (2,5XD)		NB1212C48 2.5ISO A9	12	12	3	48,75	100	T21
2,5	M20 (1,5XD)		NB1414D33 2.5ISO A9	14	14	4	33,75	89	T20
2,5	M20 (2XD)		NB1414D43 2.5ISO A9	14	14	4	43,75	100	T21
2,5	M20 (2,5XD)		NB1615D53 2.5ISO A9	16	15	4	53,75	120	T23
2,5	M20 (3XD)		NB1615C63 2.5ISO A9	16	15	3	63,75	120	T24
3	M24 (1,5XD)	≥ M30	NB1616C40 3.0ISO A9	16	16	3	40,5	100	T22
3	M24 (2XD)	≥ M30	NB1616C52 3.0ISO A9	16	16	3	52,5	120	T23
3	M24 (2,5XD)	≥ M30	NB1818C64 3.0ISO A9	18	18	3	64,5	130	T25
3		≥ M30	NB2020D46 3.0ISO A9	20	20	4	46,5	120	T25
3		≥ M33	NB2525D61 3.0ISO A9	25	25	4	61,5	130	T29
3,5	M30 (1,5XD)		NB2020C50 3.5ISO A9	20	20	3	50,75	120	T26
3,5	M30 (2XD)		NB2020C64 3.5ISO A9	20	20	3	64,75	150	T27
3,5	M30 (2,5XD)		NB2020C78 3.5ISO A9	20	20	3	78,75	150	T28
4	M36 (1,5XD)	≥ M42	NB2525C58 4.0ISO A9	25	25	3	58	130	T29
4	M36 (2XD)	≥ M42	NB2525C78 4.0ISO A9	25	25	3	78	150	T30

NBK-ISO| Metric deburring thread mills, inner coolant



PITCH MM	M COARSE	M FINE	PART NUMBER	d	D	FLUTES	l	L	PRICE
0,8	M5 (1,5XD)		NBK04038C8 0.8ISO A9	4	3,8	3	8,4	50	T6
0,8	M5 (2XD)		NBK04038C10 0.8ISO A9	4	3,8	3	10,8	50	T8
0,8	M5 (2,5XD)		NBK04038C13 0.8ISO A9	4	3,8	3	13,2	50	T9
1	M6 (1,5XD)		NBK06045C10 1.0ISO A9	6	4,5	3	10,5	63	T9
1	M6 (2XD)		NBK06045C13 1.0ISO A9	6	4,5	3	13,5	63	T10
1	M6 (2,5XD)		NBK06045C16 1.0ISO A9	6	4,5	3	16,5	63	T12
1		≥ M10	NBK0808D17 1.0ISO A9	8	8	4	17,5	76	T13
1,25	M8 (1,5XD)	≥ M10	NBK0606C14 1.25ISO A9	6	6	3	14,37	63	T9
1,25	M8 (2XD)	≥ M10	NBK0606C18 1.25ISO A9	6	6	3	18,12	63	T10
1,25	M8 (2,5XD)	≥ M10	NBK0606C21 1.25ISO A9	6	6	3	21,87	63	T12
1,5	M10 (1,5XD)	≥ M12	NBK08075C17 1.5ISO A9	8	7,5	3	17,25	76	T13
1,5	M10 (2XD)	≥ M12	NBK08075C21 1.5ISO A9	8	7,5	3	21,75	76	T14
1,5	M10 (2,5XD)	≥ M12	NBK08075C27 1.5ISO A9	8	7,5	3	27,75	76	T16
1,5	M10 (3XD)	≥ M12	NBK08075C32 1.5ISO A9	8	7,5	3	32,25	76	T17
1,5		≥ M16	NBK1212D29 1.5ISO A9	12	12	4	29,25	100	T18
1,5		≥ M20	NBK1616F35 1.5ISO A9	16	16	6	35,25	120	T22
1,75	M12 (1,5XD)		NBK0808C20 1.75ISO A9	8	8	3	20,12	76	T13
1,75	M12 (2XD)		NBK0808C27 1.75ISO A9	8	8	3	27,12	76	T14
1,75	M12 (1,5XD)		NBK1009C20 1.75ISO A9	10	9	3	20,12	100	T17
1,75	M12 (2XD)		NBK1009C27 1.75ISO A9	10	9	3	27,12	100	T18
1,75	M12 (2,5XD)		NBK1009C32 1.75ISO A9	10	9	3	32,37	100	T19
1,75	M12 (3XD)		NBK1009C37 1.75ISO A9	10	9	3	37,62	100	T20
2	M14 (1,5XD)	≥ M18	NBK1010C23 2.0ISO A9	10	10	3	23	100	T17
2	M14 (2XD)	≥ M18	NBK1010C31 2.0ISO A9	10	10	3	31	100	T18
2	M16 (1,5XD)	≥ M18	NBK1212D27 2.0ISO A9	12	12	4	27	100	T19
2	M16 (2XD)	≥ M18	NBK1212D35 2.0ISO A9	12	12	4	35	100	T20
2	M16 (2,5XD)	≥ M18	NBK1212D43 2.0ISO A9	12	12	4	43	100	T21
2	M16 (3XD)	≥ M18	NBK1212C51 2.0ISO A9	12	12	3	51	100	T22
2		≥ M20	NBK1616E39 2.0ISO A9	16	16	5	39	120	T23
2,5	M20 (1,5XD)		NBK1414D33 2.5ISO A9	14	14	4	33,75	100	T21
2,5	M20 (2XD)		NBK1414D43 2.5ISO A9	14	14	4	43,75	100	T23
2,5	M20 (2,5XD)		NBK1615D53 2.5ISO A9	16	15	4	53,75	120	T24
3	M24 (1,5XD)	≥ M30	NBK1616C40 3.0ISO A9	16	16	3	40,5	120	T23
3	M24 (2XD)	≥ M30	NBK1616C52 3.0ISO A9	16	16	3	52,5	120	T24
3,5	M30 (1,5XD)		NBK2020C50 3.5ISO A9	20	20	3	50,75	150	T27
3,5	M30 (2XD)		NBK2020C64 3.5ISO A9	20	20	3	64,75	150	T28

NBT-ISO| Metric deburring thread mills, radial coolant



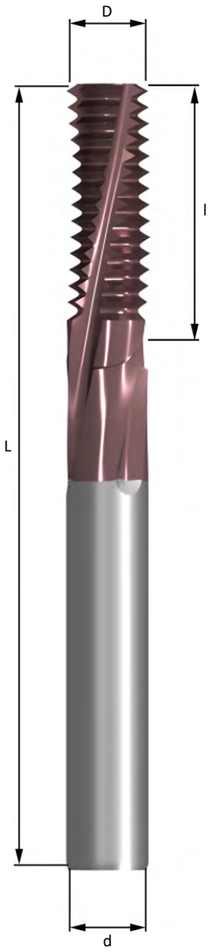
PITCH MM	M COARSE	M FINE	PART NUMBER	d	D	FLUTES	l	L	PRICE
1		≥ M10	NBT0808D17 1.0ISO A9	8	8	4	17,5	76	T14
1,25	M8 (2XD)	≥ M10	NBT0606C18 1.25ISO A9	6	6	3	18,12	76	T12
1,5	M10 (2XD)	≥ M12	NBT08075C21 1.5ISO A9	8	7,5	3	21,75	76	T16
1,5		≥ M16	NBT1212D29 1.5ISO A9	12	12	4	29,25	100	T20
1,75	M12 (2XD)		NBT0808C27 1.75ISO A9	8	8	3	27,12	76	T16
1,75	M12 (2XD)		NBT1009C27 1.75ISO A9	10	9	3	27,12	100	T19
2	M14 (2XD)	≥ M18	NBT1010C31 2.0ISO A9	10	10	3	31	100	T19
2	M16 (2XD)	≥ M18	NBT1212D35 2.0ISO A9	12	12	4	35	100	T21
2		≥ M20	NBT1616E39 2.0ISO A9	16	16	5	39	100	T24

XBT| Whitworth pipe thread, radial coolant

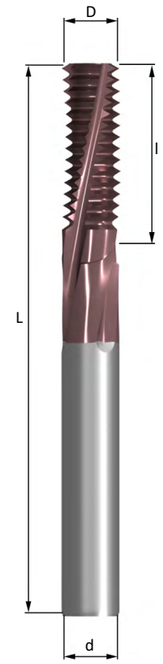
TPI	NORM	INTERNAL/EXTERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
28	G 1/8	XBT0606C10 28W A9	6	6	3	10,43	76	T10
19	G 1/4 - 3/8	XBT1010D22 19W A9	10	10	4	22,06	100	T18
14	G 1/2 - 7/8	XBT1212D28 14W A9	12	12	4	28,12	100	T21
11	G 1 - 3	XBT1616D40 11W A9	16	16	4	40,41	100	T24

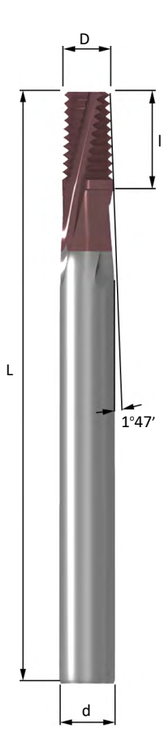
More Whitworth thread mills on page 53.

UN| Deburring thread mills unified



TPI	UNC	UNF	PART NUMBER	d	D	FLUTES	l	L	PRICE
44		NO.5 (1,5XD)	NB04024C5 44UN A9	4	2,4	3	5,48	50	T6
40	NO.5 (1,5XD)		NB04023C5 40UN A9	4	2,3	3	5,4	50	T5
40	NO.5 (2XD)		NB04023C7 40UN A9	4	2,3	3	7,3	50	T6
40	NO.5 (2,5XD)		NB04023C8 40UN A9	4	2,3	3	8,57	50	T6
40		NO.6 (1,5XD)	NB04026C6 40UN A9	4	2,6	3	6,03	50	T6
36		NO.8 (1,5XD)	NB04031C7 36UN A9	4	3,1	3	7,41	50	T6
36		NO.8 (2XD)	NB04031C9 36UN A9	4	3,1	3	9,53	50	T6
32	NO.6 (1,5XD)		NB04025C6 32UN A9	4	2,5	3	6,75	50	T5
32	NO.6 (2XD)		NB04025C8 32UN A9	4	2,5	3	8,33	50	T6
32	NO.6 (2,5XD)		NB04025C10 32UN A9	4	2,5	3	9,92	50	T6
32	NO.8 (1,5XD)		NB0403C7 32UN A9	4	3	3	7,54	50	T5
32	NO.8 (2XD)		NB0403C9 32UN A9	4	3	3	9,13	50	T6
32	NO.8 (2,5XD)		NB0403C11 32UN A9	4	3	3	11,51	50	T6
32		NO.10 (1,5XD)	NB04036C8 32UN A9	4	3,6	3	8,33	50	T6
32		NO.10 (2XD)	NB04036C10 32UN A9	4	3,6	3	10,72	50	T6
32			NB0606D13 32UN A9	6	6	4	13,1	63	T6
28		NO.12 (1,5XD)	NB0404C9 28UN A9	4	4	3	9,52	50	T6
28		NO.12 (2XD)	NB0404C12 28UN A9	4	4	3	12,25	50	T6
28		1/4 (1,5XD)	NB0605C10 28UN A9	6	5	3	10,43	63	T9
28		1/4 (2XD)	NB0605C14 28UN A9	6	5	3	14,06	63	T10
28			NB0808D17 28UN A9	8	8	4	17,69	63	T11
24	NO.10 (1,5XD)		NB04038C9 24UN A9	4	3,8	3	9	50	T5
24	NO.10 (2XD)		NB04038C11 24UN A9	4	3,8	3	11,11	50	T6
24	NO.10 (2,5XD)		NB04038C13 24UN A9	4	3,8	3	13,23	50	T6
24	NO.12 (1,5XD)		NB0404C10 24UN A9	4	4	3	10,05	50	T5
24	NO.12 (2XD)		NB0404C12 24UN A9	4	4	3	12,17	50	T6
24	NO.12 (2,5XD)		NB0404C15 24UN A9	4	4	3	15,35	50	T6
24		5/16 (1,5XD)	NB0606C13 24UN A9	6	6	3	13,23	63	T9
24		5/16 (2XD)	NB0606C17 24UN A9	6	6	3	17,46	63	T10
24		3/8 (1,5XD)	NB08076C15 24UN A9	8	7,6	3	15,35	63	T13
24		3/8 (2XD)	NB08076C20 24UN A9	8	7,6	3	20,64	76	T14
20	1/4 (1,5XD)		NB06045C10 20UN A9	6	4,5	3	10,8	63	T7
20	1/4 (2XD)		NB06045C14 20UN A9	6	4,5	3	14,6	63	T9
20	1/4 (2,5XD)		NB06045C17 20UN A9	6	4,5	3	17,15	63	T10
20		7/16 (1,5XD)	NB0808C18 20UN A9	8	8	3	18,41	63	T13
20		7/16 (2XD)	NB0808C23 20UN A9	8	8	3	23,5	76	T14
20		1/2 (1,5XD)	NB1010D21 20UN A9	10	10	4	20,96	76	T17
20		1/2 (2XD)	NB1010D27 20UN A9	10	10	4	27,31	76	T18
20			NB1212E28 20UN A9	12	12	5	28,57	83	T19
18	5/16 (1,5XD)		NB06058C13 18UN A9	6	5,8	3	13,41	63	T7
18	5/16 (2XD)		NB06058C17 18UN A9	6	5,8	3	17,64	63	T9
18	5/16 (2,5XD)		NB06058C21 18UN A9	6	5,8	3	21,87	63	T10
18		9/16 (1,5XD)	NB1010D23 18UN A9	10	10	4	23,28	76	T17
18		9/16 (2XD)	NB1010D30 18UN A9	10	10	4	30,34	100	T18
18		5/8 (1,5XD)	NB1212D26 18UN A9	12	12	4	26,11	83	T19
18		5/8 (2XD)	NB1212D33 18UN A9	12	12	4	33,16	100	T20
16	3/8 (1,5XD)		NB0606C16 16UN A9	6	6	3	16,67	63	T7
16	3/8 (2XD)		NB0606C21 16UN A9	6	6	3	21,43	63	T9
16	3/8 (2,5XD)		NB0807C26 16UN A9	8	7	3	26,19	76	T14
16		3/4 (1,5XD)	NB1212D31 16UN A9	12	12	4	30,96	100	T19
16		3/4 (2XD)	NB1212D40 16UN A9	12	12	4	40,48	100	T19
16			NB1616E35 16UN A9	16	16	5	35,72	100	T23
14	7/16 (1,5XD)		NB0808C19 14UN A9	8	8	3	19,05	63	T11
14	7/16 (2XD)		NB0808C24 14UN A9	8	8	3	24,49	76	T13
14	7/16 (2,5XD)		NB0808C30 14UN A9	8	8	3	29,94	76	T14
14		7/8 (1,5XD)	NB1616E35 14UN A9	16	16	5	35,38	100	T23
14		7/8 (2XD)	NB1616E46 14UN A9	16	16	5	46,26	120	T24
13	1/2 (1,5XD)		NB0808C22 13UN A9	8	8	3	22,47	76	T11
13	1/2 (2XD)		NB0808C28 13UN A9	8	8	3	28,33	76	T13
13	1/2 (2,5XD)		NB10093C34 13UN A9	10	9,3	3	34,19	100	T18
12	9/16 (1,5XD)		NB1010C24 12UN A9	10	10	3	24,34	76	T15
12	9/16 (2XD)		NB1010C30 12UN A9	10	10	3	30,69	100	T17
12			NB1616E43 12UN A9	16	16	5	43,39	100	T23
11	5/8 (1,5XD)		NB1010C26 11UN A9	10	10	3	26,55	76	T15
11	5/8 (2XD)		NB1010C35 11UN A9	10	10	3	35,79	100	T17
11	5/8 (2,5XD)		NB12117C42 11UN A9	12	11,7	3	42,72	100	T19
10	3/4 (1,5XD)		NB1212C31 10UN A9	12	12	3	31,75	100	T18
10	3/4 (2XD)		NB1212C41 10UN A9	12	12	3	41,91	100	T19
9	7/8 (1,5XD)		NB1616C38 9UN A9	16	16	3	38,1	100	T22
9	7/8 (2XD)		NB1616C49 9UN A9	16	16	3	49,39	120	T23
8	1 (1,5XD)		NB1616C42 8UN A9	16	16	3	42,86	100	T22
8	1 (2XD)		NB1616C55 8UN A9	16	16	3	55,56	120	T23
8			NB2020D49 8UN A9	20	20	4	49,21	120	T26
7	11/8 - 11/4 (1,5XD)		NB2020C52 7UN A9	20	20	3	52,61	120	T26
6	13/8 - 11/2 (1,5XD)		NB2525C61 6UN A9	25	25	3	61,38	130	T29





XB| Whitworth pipe thread

TPI	NORM	INTERNAL/EXTERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
28	G 1/8	XB0606C10 28W A9	6	6	3	10,43	63	T7
19	G 1/4 - 3/8	XB0808C15 19W A9	8	8	3	15,37	63	T11
19	G 1/4 - 3/8	XB1010D22 19W A9	10	10	4	22,06	76	T15
14	G 1/2 - 7/8	XB1212D20 14W A9	12	12	4	20,86	83	T18
14	G 1/2 - 7/8	XB1212D28 14W A9	12	12	4	28,12	83	T19
14	G 1/2 - 7/8	XB1616E28 14W A9	16	16	5	28,12	89	T22
11	G 1 - 1 1/2	XB1212C26 11W A9	12	12	3	26,55	83	T18
11	G 1 - 3	XB1616D40 11W A9	16	16	4	40,41	100	T22
11	G ≥ 1	XB2020E49 11W A9	20	20	5	49,65	120	T25

Available with inner coolant, see page: 51.

XB| BSPT pipe thread

TPI	NORM	INTERNAL/EXTERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
28	RC 1/8	XB0606C10 28BSPT A9	6	6	3	10,43	63	T9
19	RC 1/4 - 3/8	XB0808C15 19BSPT A9	8	8	3	15,37	63	T13
14	RC 1/2 - 7/8	XB1212D20 14BSPT A9	12	12	4	20,86	83	T19
11	RC 1 - 2	XB1616D31 11BSPT A9	16	16	4	31,17	89	T23

XB|Steel conduit thread

TPI	NORM	INTERNAL/ETERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
20	PG 7	XB0808C21 20PG A9	8	8	3	20,96	63	T13
18	PG 9 - 16	XB1010C27 18PG A9	10	10	3	27,52	76	T17
16	PG 21 - 48	XB1212D31 16PG A9	12	12	4	30,96	83	T19

XB|NPT

TPI	NORM	INTERNAL/ETERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
27	1/16 - 1/8	XB0606C10 27NPT A9	6	6	3	10,82	63	T9
18	1/4 - 3/8	XB0808C16 18NPT A9	8	8	3	16,23	63	T13
14	1/2 - 3/4	XB1212D22 14NPT A9	12	12	4	22,68	83	T19
14	3/4	XB1616D22 14NPT A9	16	16	4	22,86	89	T23
11,5	1-2	XB1616D29 11.5NPT A9	16	16	4	29,82	89	T23
8	≥ 2 1/2	XB2020D42 8NPT A9	20	20	4	42,86	100	T26

XB|NPTF

TPI	NORM	INTERNAL/ETERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
27	1/16 - 1/8	XB0606C10 27NPTF A9	6	6	3	10,82	63	T9
18	1/4 - 3/8	XB0808C16 18NPTF A9	8	8	3	16,23	63	T13
14	1/2 - 3/4	XB1212D22 14NPTF A9	12	12	4	22,68	83	T19
11,5	1-2	XB1616D29 11.5NPTF A9	16	16	4	29,82	89	T23
8	≥ 2 1/2	XB2020D42 8NPTF A9	20	20	4	42,86	100	T26

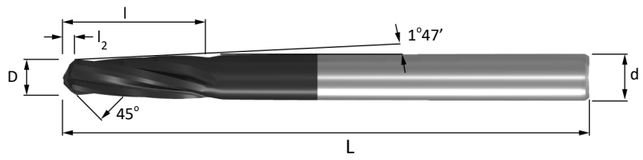
XB|NPSF

TPI	NORM	INTERNAL/ETERNAL PART NUMBER	d	D	FLUTES	l	L	PRICE
27	1/16 - 1/8	XB0606C12 27NPSF A9	6	6	3	12,7	63	T9
18	1/4 - 3/8	XB0808C16 18NPSF A9	8	8	3	16,23	63	T13
14	1/2 - 3/4	XB1212D22 14NPSF A9	12	12	4	22,68	83	T19
11,5	1	XB1616D29 11.5NPSF A9	16	16	4	29,82	89	T23

NPT|Tapered end mills for NPT/NPTF - reduces wear of the thread mill

D	d	PART NUMBER	FLUTES	l	L_2	L	PRICE
5	6	NPT0605D16 F9	4	16	1	64	T1
8,5	10	NPT10085D24 F9	4	24	1,5	76	T4
14	16	NPT1614D32 F9	4	32	2	89	T14
17	20	NPT2017D48 F9	4	48	3	120	T22

Use with cylindrical interpolation. Will save the WhizThrill thread mill from excessive wear.

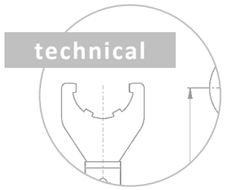


MADE-TO-ORDER MICRO DRILLS

WhizDrill

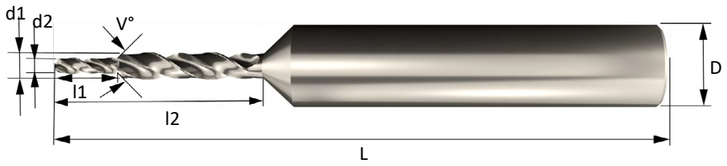
You name it. We make it WhizDrill. Together. All WhizDrills are made to your specific needs and request. WhizCut design micro drills starting at 0,05 mm in any drill form or geometries. Why settle for less when you can have the ideal drill for the job, every time.

CUSTOM-MADE REDUCED CYCLE TIME LONG LASTING



WhizDrill: Made-to-order micro drill bits

All WhizDrill micro drills are custom-made, designed and produced to your specific requirements. Thanks to our improved machining facilities WhizCut delivers perfect drills to a moderate price, starting at 20 pieces. At WhizCut we know geometries and our focus is: to help you create a supreme tool.



Range benefits

Produce to precision with WhizDrill

- **Really small:** micro drills starting at 0,05 mm.
- **Flexible:** we produce any drill form and geometry.
- **Ready to order:** blank size in stock: 1,0 mm, 1,5 mm, 2,0 mm, 2,5 mm, 3,0 mm, ⅛" and 4,0 mm.
- **Perfect design:** optimising drill design generates increased toolife and improved cycle times.
- **Smoother coating:** all drills have an improved smoothness of the coating which improves chip flow and surface finish

WhizGuide
select the perfect micro drill

1. Order the correct drill bit

All WhizDrills can be ordered for every 0,01 mm in diameter, with a range of different specifications.

2. Conversion chart

Have a look at the two examples and use the conversion chart to order the correct drill for you.

3. Specify details

Details to specify when you order: right or left hand, helix angle, point angle. The drills have h6 tolerance, unless otherwise specified.

4. Contact us

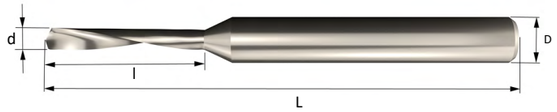
Please contact your WhizCut representative if you need assistance to choose the correct drill bit.

DRILL	TYPE	RIGHT/ LEFT HAND	DRILL D	HELIX ANGLE	POINT ANGLE	SHANK D MM	CUTTING LENGTH MM	O.V.A LENGTH MM	GRADE
D	*	*	*,**	*	*	*,*	*	**	**
D	C	R	0,58	E	D	3,0	7	38	B9
D	B	R	0,10	F	F	1,5	1	30	B9

NAME	DRILL TYPE
A	1-FLUTE TWIST DRILL WITH REINFORCED SHANK
B	2-FLUTE TWIST DRILL WITH REINFORCED SHANK
BA	2-FLUTE SELF CENTERING TWIST DRILL WITH REINFORCED SHANK
BC	2-FLUTE COOLANT THROUGH TWIST DRILL, REINFORCED SHANK
C	3-FLUTE TWIST DRILL WITH REINFORCED SHANK
D	2-FLUTE TWIST DRILL
E	2-FLUTE STEP TWIST DRILL
F	SPADE DRILL
G	CENTER DRILL
H	CENTER DRILL LONG
I	HALF ROUND DRILL
J	1,2,3 STEP HALF ROUND DRILL
K	DOUBLE COUNTERSINK DRILL

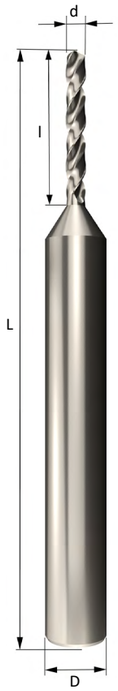
NAME	HELIX ANGLE°
A	0
B	15
C	20
D	24
E	30
F	35
G	38

NAME	POINT ANGLE°
A	90
B	100
C	110
D	118
E	120
F	130
G	140



Style A | Carbide 1-flute twist drill with reinforced shank

The large flute gives plenty of room for chip evacuation. Suitable for titanium, and other hard materials.

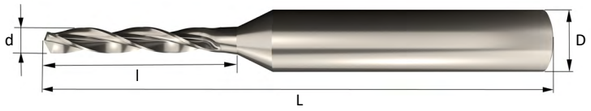


Style B | Carbide 2-flute twist drills with reinforced shank

Style BA | Carbide 2-flute *self centering* twist drill with reinforced shank

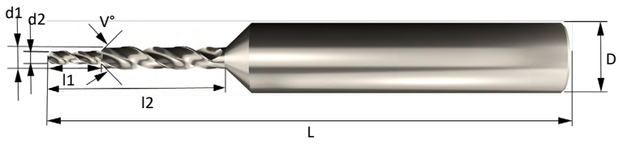
Style BC | Carbide 2-flute *coolant through* twist drill with reinforced shank

Good overall drill. Type that depends more on the application than the actual material.
Style BA to be used when high heat is generated or better chip evacuation is needed.
Style BA reamer can be eliminated and hole positioning is increased.
Suitable for most materials



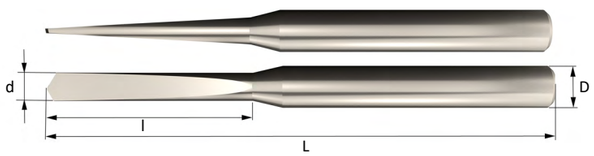
Style C | Carbide 3-flute twist drill with reinforced shank

Drills to tight tolerances so reamer can be taken away.
Most often no center drill needed.
To be used in tough stainless steel, medical steels like 316 and MP35.



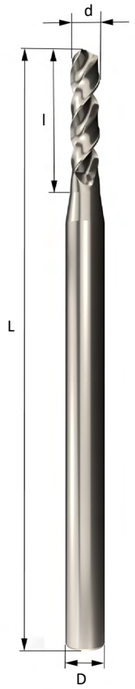
Style E | Carbide 2-flute multiple step twist drill with reinforced shank

Special applications where the cycle time, hole quality and concentricity is a priority.
For most materials.



Style F | Carbide spade drill

Often used in watchmaking.
For softer materials, short holes.



Style G | Carbide center drills

Style H | Carbide center drills long

A big benifit of choosing Helix and point angle per application.
Center drills suitable for all materials.

Style I | Carbide half round drills

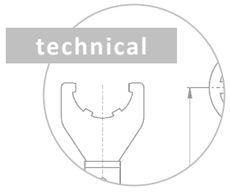
Half round drills that drill to perfection. Long tradition of usage in watchmaking and medical applications.
Exotics, copper, powdered materials

Style J | Carbide 1, 2, 3 Step half round

Use when high concentricity is needed, sames as style I.

Style K | Carbide double countersink drills

All round countersink drill, use when small and precise profiles need to be made.



Technical Information WhizDrill

- All drills are available for any type of geometry and size up to 3,17 mm.
- Diameter tolerance is h6 as standard other tolerances upon request.

Minimum drill size

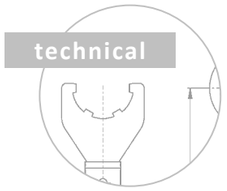
- 0,05mm = style B.
- 0,10mm = style E, G, H, I, J, K.
- 0,50mm = styles A, BA, BC,C, D, F.

HIGH PRESSURE COOLANT CONNECTION

WhizHip

WhizHip takes the heat off your tools and tool change. It is a high pressure coolant system that is quick, adjustable and easy to use. WhizHips optimised coolant angles and the closeness to the cutting edge enhances tool performance, leading to shorter machining times, less machine stops and a more consistent machining process.

QUICK CHANGE FEWER STOPS CHIP CONTROL



WhizHip - high pressure connections

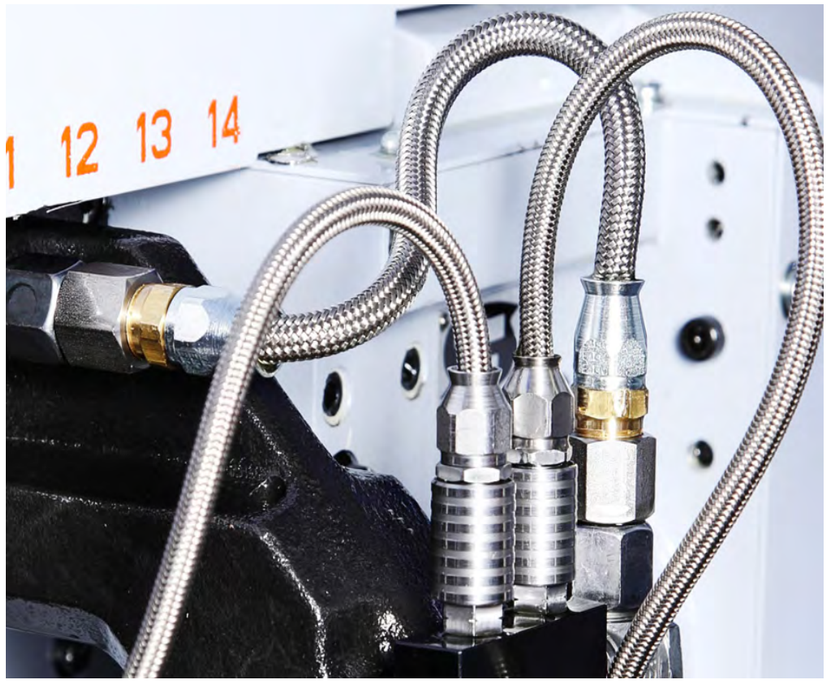
WhizHip is a distribution system for high pressure coolant, capable of handling pressures up to 300 bar, and at the same time flexible for setup and tool changes. WhizHip performs great, leading to shorter machining times, less machine stops and a more consistent process.

Be in control
with coolant

Range benefits

- **Flexible:** WhizHip is designed with flexible, hard wearing stainless steel braided hoses- bendable with quick change couplings and adjustable nozzles.
- **Heat resistant:** the hoses are designed to withstand heat from hot chips shooting from the material.
- **Time saving:** connect the hoses to the quick change coupling without using any other tools.
- **Exact:** the high pressure coolant is led through the toolholder and exits with precisely directed jets.
- **Great chip control:** high pressure controls and breaks the chip thanks to its concentration at the cutting edge.
- **Ready:** WhizHip and WhizIn toolholders are all prepared for internal high pressure coolant

Perfect fit with WhizCut signature toolholders: HIP FIX ADJ

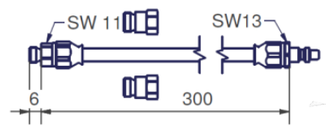


Hose set

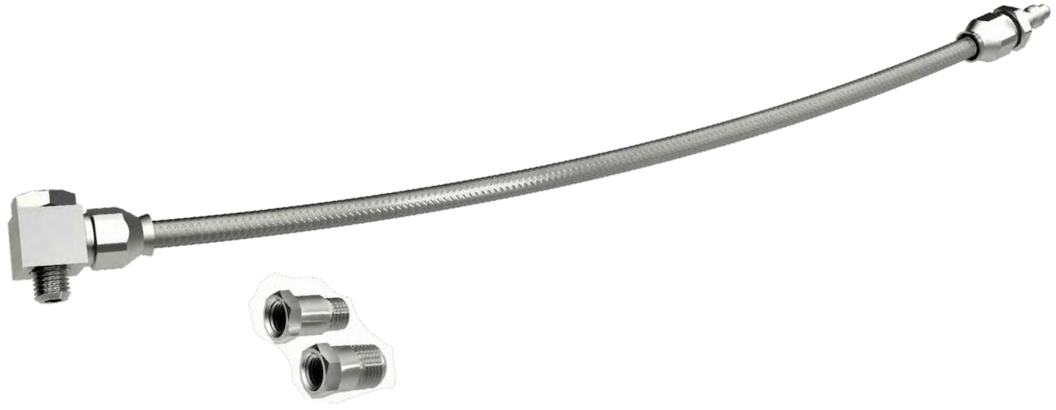
stainless steel braide,
quick release

Hose set with plug, flex-tube 100, 200 & 300 mm

straight connection, stainless steel

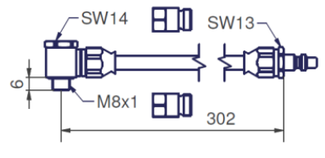


PART NBR	DESCRIPTION	THREAD	THREAD ADAPT.	LENGTH MM	WRENCH
103375	HOSE SET M8X1 100	M8X1	M10X1, G1/8	100	SW 11+13
102686	HOSE SET M8X1 200	M8X1	M10X1, G1/8	200	SW 11+13
101991	HOSE SET M8X1 300	M8X1	M10X1, G1/8	300	SW 11+13
103375U	HOSE SET M8X1 100	M8X1	M10X1, 1/8" NPT	100	SW 11+13
102686U	HOSE SET M8X1 200	M8X1	M10X1,1/8" NPT	200	SW 11+13
101991U	HOSE SET M8X1 300	M8X1	M10X1, 1/8" NPT	300	SW 11+13
103376	HOSE SET 1/8" NPT 100	1/8" NPT		100	SW 11+13
102938	HOSE SET 1/8" NPT 200	1/8" NPT		200	SW 11+13
102186	HOSE SET 1/8" NPT 300	1/8" NPT		300	SW 11+13
103453	MINI HOSE SET M5X0,8 100	M5X0,8	M6X1 M8X1	100	
103452	MINI HOSE SET M5X0,8 200	M5X0,8	M6X1 M8X1	200	
102441	MINI HOSE SET M5X0,8 300	M5X0,8	M6X1 M8X1	300	



Hose set with plug, flex-tube 100, 200 & 300 mm 90°

angled with banjo bolt M8x1 thread connection, stainless steel

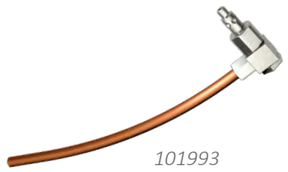


PART NBR	DESCRIPTION	THREAD	THREAD ADAPT.	LENGTH MM	WRENCH
103449	ANGLED HOSE SET M8X1 100	M8X1	M10X1, G1/8	100	SW 13+14
103448	ANGLED HOSE SET M8X1 200	M8X1	M10X1, G1/8	200	SW 13+14
101992	ANGLED HOSE SET M8X1 300	M8X1	M10X1, G1/8	300	SW 13+14
103451	ANGLED HOSE SET 1/8" NPT 100	M8X1	M8X1, 1/8" NPT	100	SW 13+14
103450	ANGLED HOSE SET 1/8" NPT 200	M8X1	M8X1, 1/8" NPT	200	SW 13+14
102182	ANGLED HOSE SET 1/8" NPT 300	M8X1	M8X1, 1/8" NPT	300	SW 13+14

Nozzles
for external coolant


102529

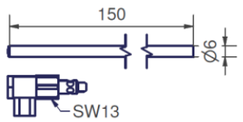

102625


101993


103394

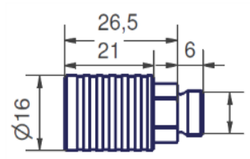

103395

Nozzles | copper, stainless steel, locks with coupling



PART NB	DESCRIPTION	LENGTH	ADDITIONAL INFO
101993	ANGLED PLUG, FLEXIBLE NOZZLE	150	COPPER NOZZLE
102529	ANGLED PLUG, FLEXIBLE AND ADJUSTABLE NOZZLE	200	ADJUSTABLE TIP ,STAINLESS
102625	STRAIGHT PLUG, FLEXIBLE, STAINLESS STEEL	200	ADJUSTABLE TIP ,STAINLESS
103394	STRAIGHT ADJUSTABLE NOZZLE M6X0,5 THREAD	0	FOR EXTERNAL COOLANT
103395	ANGLED ADJUSTABLE NOZZLE M6X0,5 THREAD	0	FOR EXTERNAL COOLANT

Coupling
steel quick release




A


B


C

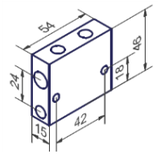

D


E

Coupling | stainless steel connection outside thread

PART NB	DESCRIPTION	ADDITIONAL INFO	PIC
101994	COUPLING – G1/8“	INCLUDES A SEAL PLUG	A
101995	COUPLING – M10X1	INCLUDES A SEAL PLUG	A
102184	COUPLING – 1/8"NPT	INCLUDES A SEAL PLUG	A
103428	COUPLING - AN/JIC4	INCLUDES A SEAL PLUG	E
102498	ANGLED COUPLING - M8X1	INCLUDES A SEAL PLUG	B
102654	ANGLED COUPLING G1/8	INCLUDES A SEAL PLUG	B
103560	ANGLED COUPLING - 1/8”NPT	INCLUDES A SEAL PLUG	B
102038	TOOLHOLDER COUPLING+ADAPTOR	INSIDE THREAD M8X1 TO PLUG	D
102449	MINI PLUG 1 COUPLING - M5	MINI VERSION INC SEAL PLUG	A/ C

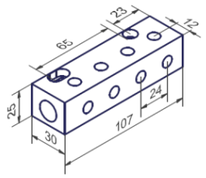
Manifolds and inlets



1


A


A



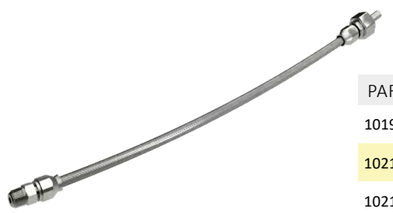
2


B


C

Manifold |type A, B & round

PART NO	TYPE	PRODUCT NAME	OUTLETS	ADDITIONAL INFO	PIC
101990	1	G 1/8 OUTLET G 1/4 INLET	5	INCL. 2 SEAL PLUGS	A
102221	1	1/8" NPT OUTLET 1/4" NPT INLET	5	INCL. 2 SEAL PLUGS	A
102533	1	G 1/8 OUTLET G 1/4 INLET FOR STAR SR-20 RIV	4	CENTER HOLE FOR FASTENING	A
101997	2	G 1/8 OUTLET G 1/4 INLET		INCL. 4 SEAL PLUGS	B
102220	2	1/8” NPT OUTLET 1/4” NPT INLET		INCL. 4 SEAL PLUGS	B
102440	ROUND	G1/4 AND Ø8MM		INCL. ADAPTOR, CONNECTION FITTING & 3 COUPLINGS	C



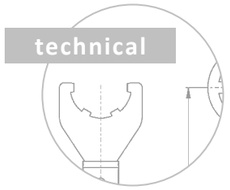
Inlet connection feed line

PART NO	PRODUCT NAME	ADDITIONAL INFO
101961	CONNECTION FEED LINE, FLEX-TUBE MINIPLUG 5, 300 MM	ND 5, TUBE STAINLESS STEEL, OUTSIDE END G1/4“, PIPE END
102166	CONNECTION FEED LINE, FLEX-TUBE MINIPLUG 5, UP TP 1000 MM	ND 5, TUBE STAINLESS STEEL, OUTSIDE THREAD G1/4“, PIPE END
102190	NPT CONNECTION FEED LINE, FLEX-TUBE MINIPLUG 5, 300 MM	ND 5, TUBE STAINLESS STEEL, OUTSIDE THREAD 1/4“NPT, PIPE END
102609	NPT CONNECTION FEED LINE, FLEX-TUBE MINIPLUG 5, UP TO 1000 MM	ND 5, TUBE STAINLESS STEEL, OUTSIDE THREAD 1/4“NPT, PIPE END

Extras

Plugs and thread adaptors

PART NO	PRODUCT NAME	PART NO	PRODUCT NAME
101980	M 8X1 FEMALE TO G 1/8 MALE	102292	G1/8 FEMALE TO G1/4 MALE
101979	M 8X1 FEMALE TO M 10X1 MALE	101919	SEAL PLUG
102585	M 8X1 FEMALE TO M 8X1 MALE Ø9,5	102042	M 8X1 FEMALE TO MINIPLUG-JACK
102915	M 8X1 FEMALE TO M 12 MALE	102601	M 8X1 FEMALE TO MINIPLUG-JACK
102188	M 8X1 FEMALE TO 1/8" NPT MALE	102683	M 8X1 MALE TO MINIPLUG-JACK
102435	M 8X1 FEMALE TO M5 MALE	102685	NPT 1/8 FEMALE TO MINIPLUG-JACK
102434	M 8X1 FEMALE TO M6 MALE	102602	NPT 1/4 FEMALE TO MINIPLUG-JACK
102864	M 8X1 FEMALE TO M8 MALE	102913	UNF 7/16 FEMALE TO MINIPLUG-JACK
102914	G1/8 FEMALE TO UNF7/16-20 MALE	102928	COLLET ER16 TO G1/8 FEMALE
		102751	CUTTING RING Ø4 MM



Recommended cutting data

Recommended cutting data J-type inserts

MATERIAL	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
CARBON STEEL	150	0,10-0,22	160-270	200-350
	250	0,08-0,17	120-220	150-275
	350	0,07-0,14	70-140	100-200
ALLOY STEEL	200	0,08-0,20	110-190	150-275
	300	0,07-0,16	70-140	100-200
	400	0,06-0,15	50-100	70-140
STAINLESS STEEL	150	0,08-0,20	110-190	150-275
	250	0,07-0,16	70-140	100-200
	350	0,06-0,15	50-100	70-140

MATERIAL	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
HIGH TEMP.	200	0,05-0,12	40-110	50-130
ALLOYS	300	0,05-0,12	25-90	30-110
	400	0,05-0,12	20-65	25-80
BRASS	<110	0,10-0,35	300-700	400-1000
	>110	0,08-0,28	250-500	300-700
COPPER	<100	0,10-0,35	250-500	300-700
	>100	0,08-0,28	175-350	250-500
ALUMINIUM	<100	0,10-0,20	300-700	400-1000
	>100	0,08-0,20	250-500	300-700

Recommended cutting data K- and H-type inserts

MATERIAL	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
CARBON STEEL	150	0,07-0,15	130-230	160-270
	250	0,05-0,12	100-190	120-220
	350	0,04-0,10	60-120	70-140
ALLOY STEEL	200	0,05-0,12	90-160	110-190
	300	0,04-0,10	60-120	70-140
	400	0,03-0,08	40-80	50-100
STAINLESS STEEL	150	0,05-0,12	90-160	110-190
	250	0,04-0,10	60-120	70-140
	350	0,03-0,08	40-80	50-100

MATERIAL	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
HIGH TEMP.	200	0,03-0,09	30-90	40-110
ALLOYS	300	0,03-0,09	20-75	25-90
	400	0,03-0,09	15-50	20-65
BRASS	<110	0,07-0,25	250-500	300-700
	>110	0,05-0,20	175-350	250-500
COPPER	<100	0,07-0,25	200-400	250-500
	>100	0,05-0,20	140-280	175-350
ALUMINIUM	<100	0,07-0,15	250-600	300-700
	>100	0,06-0,15	175-400	250-500

Recommended cutting data T-type inserts

MATERIAL	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
CARBON STEEL	150	0,07-0,15	130-230	160-270
	250	0,05-0,12	100-190	120-220
	350	0,04-0,10	60-120	70-140
ALLOY STEEL	200	0,05-0,12	90-160	110-190
	300	0,04-0,10	60-120	70-140
	400	0,03-0,08	40-80	50-100
STAINLESS STEEL	150	0,05-0,12	90-160	110-190
	250	0,04-0,10	60-120	70-140
	350	0,03-0,08	40-80	50-100

MATERIAL	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
HIGH TEMP.	200	0,03-0,09	30-90	40-110
ALLOYS	300	0,03-0,09	20-75	25-90
	400	0,03-0,09	15-50	20-65
BRASS	<110	0,07-0,25	250-500	300-700
	>110	0,05-0,20	175-350	250-500
COPPER	<100	0,07-0,25	200-400	250-500
	>100	0,05-0,20	140-280	175-350
ALUMINIUM	<100	0,07-0,15	250-600	300-700
	>100	0,06-0,15	175-400	250-500

Recommended cutting data WhizIn

Turning, copyturning etc.

	HARDNESS HB	FEED RATE MM/REV	UNCOATED M/MIN	COATED M/MIN
CARBON STEEL	150	0,10-0,22	160-270	200-350
	250	0,08-0,17	120-220	150-275
	350	0,07-0,14	70-140	100-200
ALLOY STEEL	200	0,08-0,20	110-190	150-275
	300	0,07-0,16	70-140	100-200
	400	0,06-0,15	50-100	70-140
STAINLESS STEEL	150	0,08-0,20	110-190	150-275
	250	0,07-0,16	70-140	100-200
	350	0,06-0,15	50-100	70-140
HIGH TEMP.	200	0,05-0,12	40-110	50-130
ALLOYS	300	0,05-0,12	25-90	30-110
	400	0,05-0,12	20-65	25-80
BRASS	<110	0,10-0,35	300-700	400-1000
	>110	0,08-0,28	250-500	300-700
COPPER	<100	0,10-0,35	250-500	300-700
	>100	0,08-0,28	175-350	250-500
ALUMINIUM	<100	0,10-0,20	300-700	400-1000
	>100	0,08-0,20	250-500	300-700

Grooving, threading etc.

	HARDNESS HB	FEEDRATE MM/REV	UNCOATED M/MIN	COATED M/MIN
CARBON STEEL	150	0,07-0,15	130-230	160-270
	250	0,05-0,12	100-190	120-220
	350	0,04-0,10	60-120	70-140
ALLOY STEEL	200	0,05-0,12	90-160	110-190
	300	0,04-0,10	60-120	70-140
	400	0,03-0,08	40-80	50-100
STAINLESS STEEL	150	0,05-0,12	90-160	110-190
	250	0,04-0,10	60-120	70-140
	350	0,03-0,08	40-80	50-100
HIGH TEMP.	200	0,03-0,09	30-90	40-110
ALLOYS	300	0,03-0,09	20-75	25-90
	400	0,03-0,09	15-50	20-65
BRASS	<110	0,07-0,25	250-500	300-700
	>110	0,05-0,20	175-350	250-500
COPPER	<100	0,07-0,25	200-400	250-500
	>100	0,05-0,20	140-280	75-350
ALUMINIUM	<100	0,07-0,15	250-600	300-700
	>100	0,06-0,15	175-400	250-500

YOUR NOTES

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