

Non-rotating product introduction

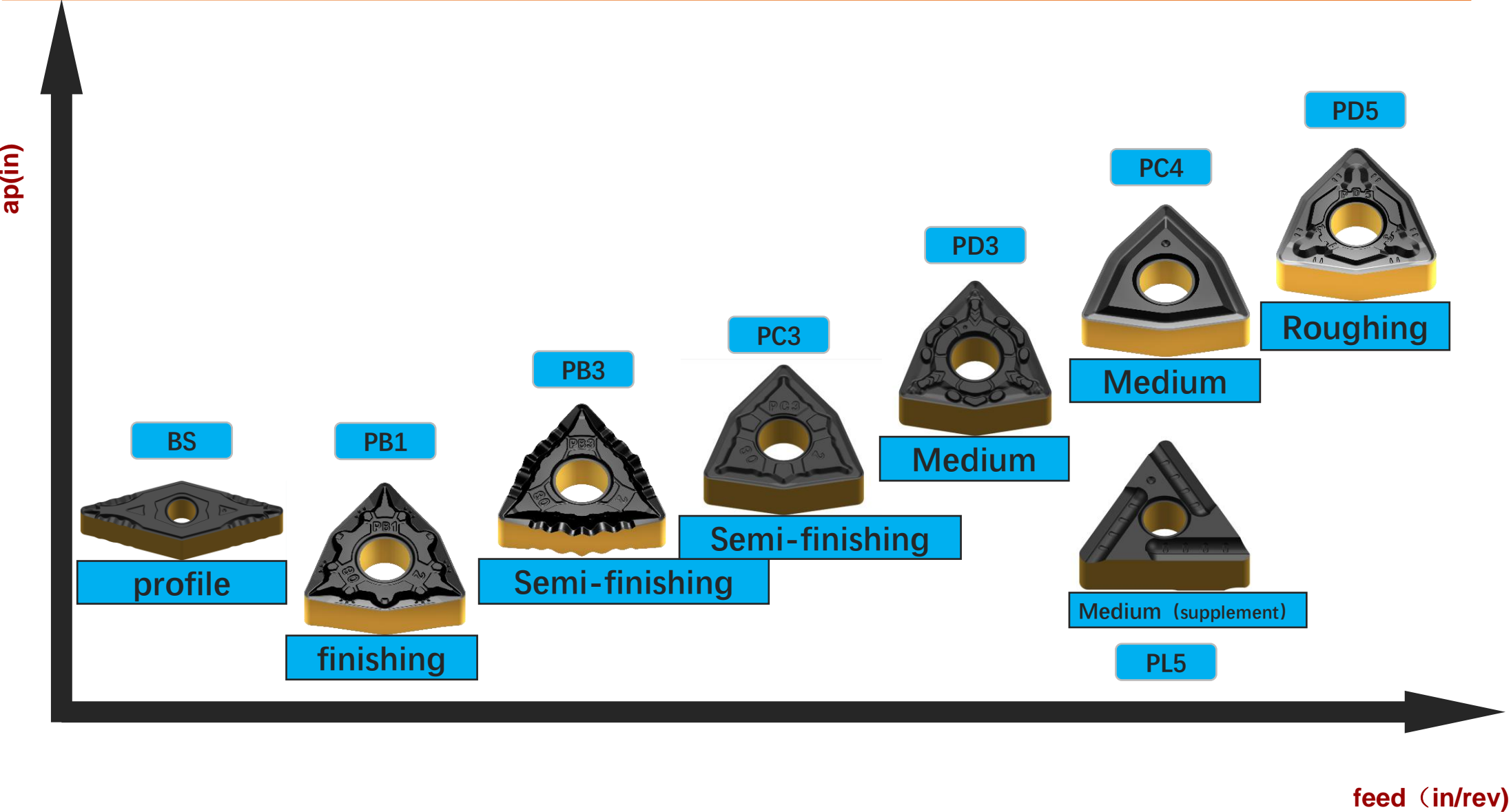
难加工材料切削专家
THE EXPERT OF DIFFICULT MACHINING

01

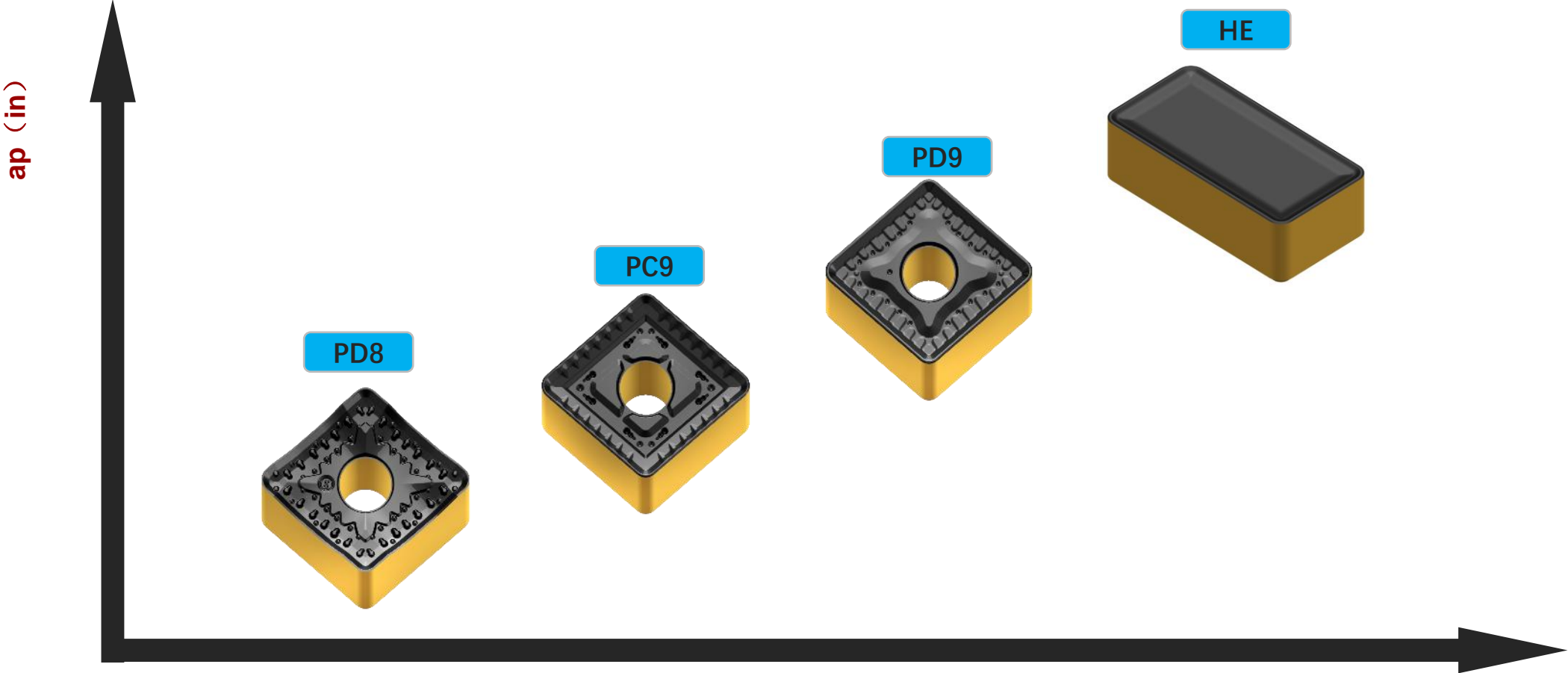
ISO Turning



Negative geometries for steel turning



Negative heavy duty-geometries for steel turning

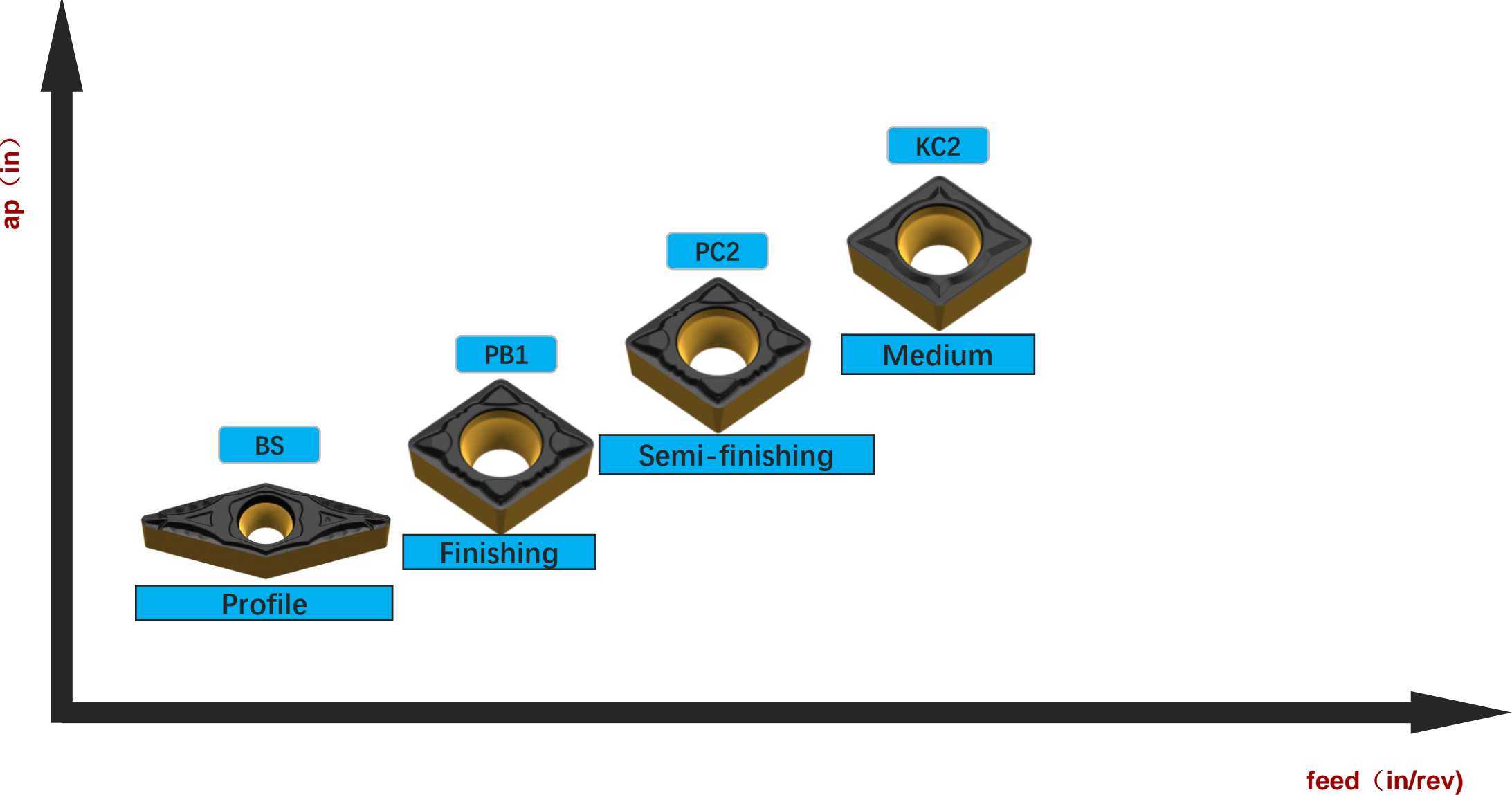


Stable machine
Continuous
Sharper cutting edge
Poor fixture and high vibration trend

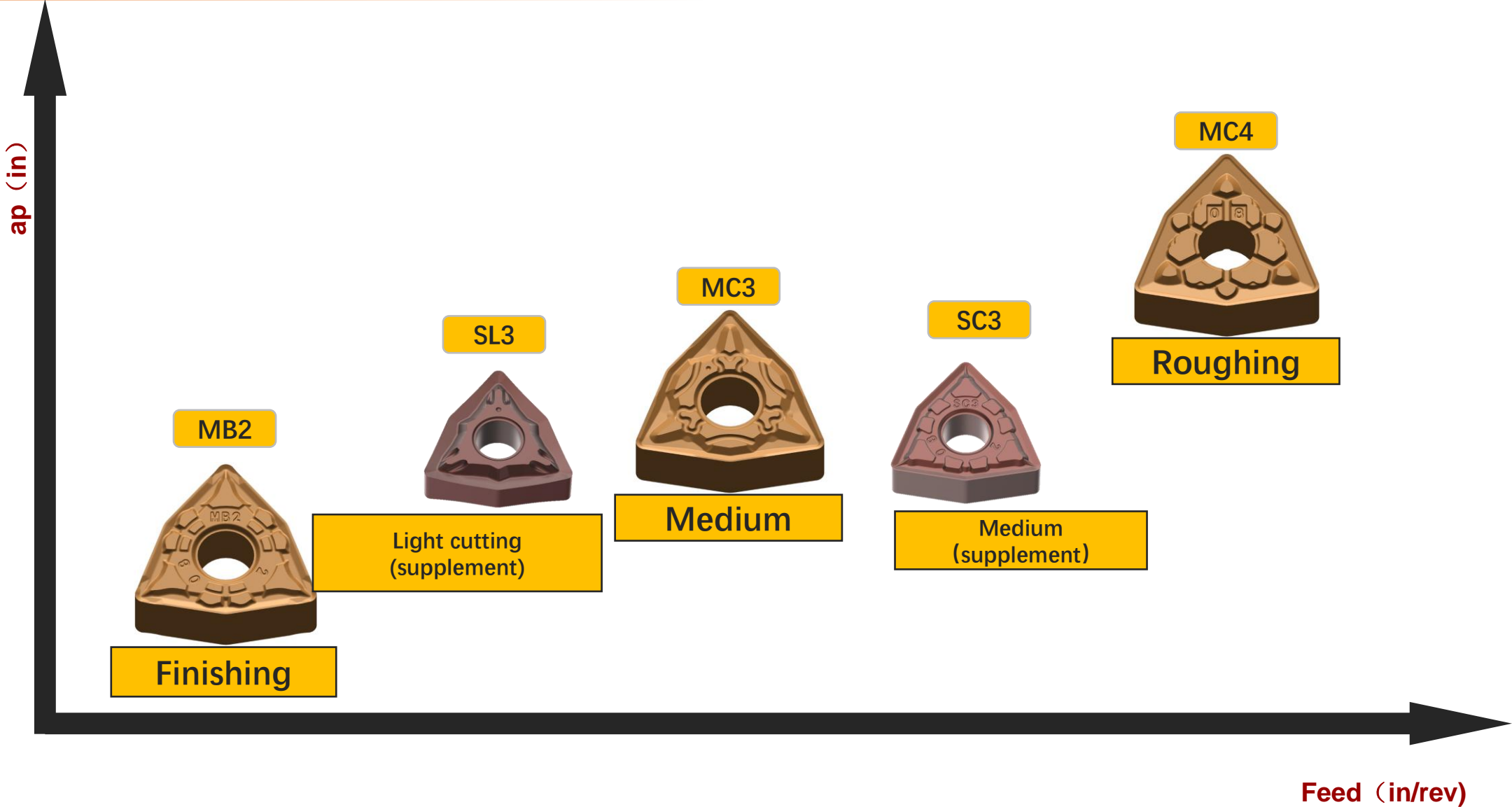
feed (in/rev)

Strong cutting edge
High feed rate
Interrupted

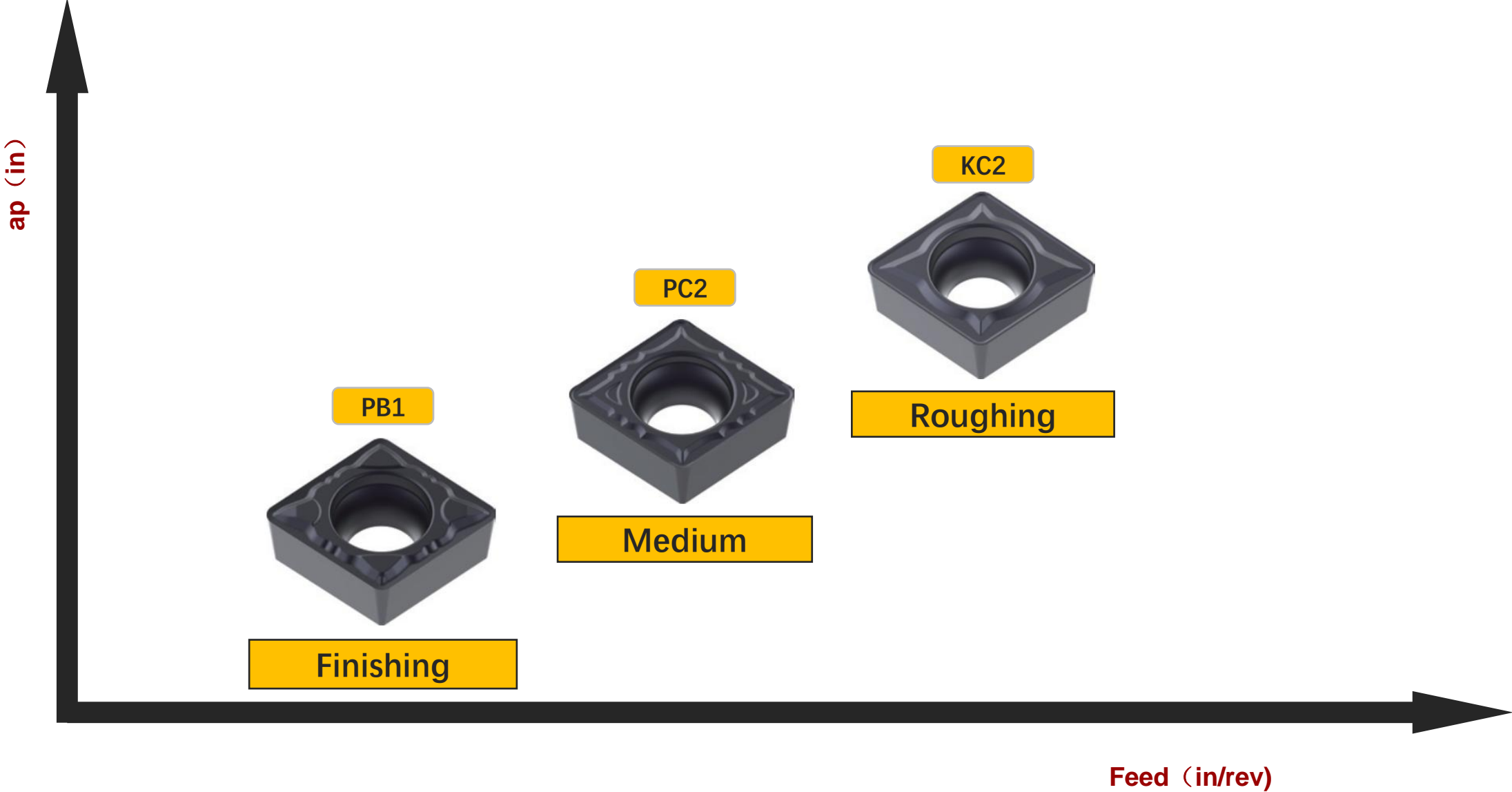
Positive geometries for steel turning



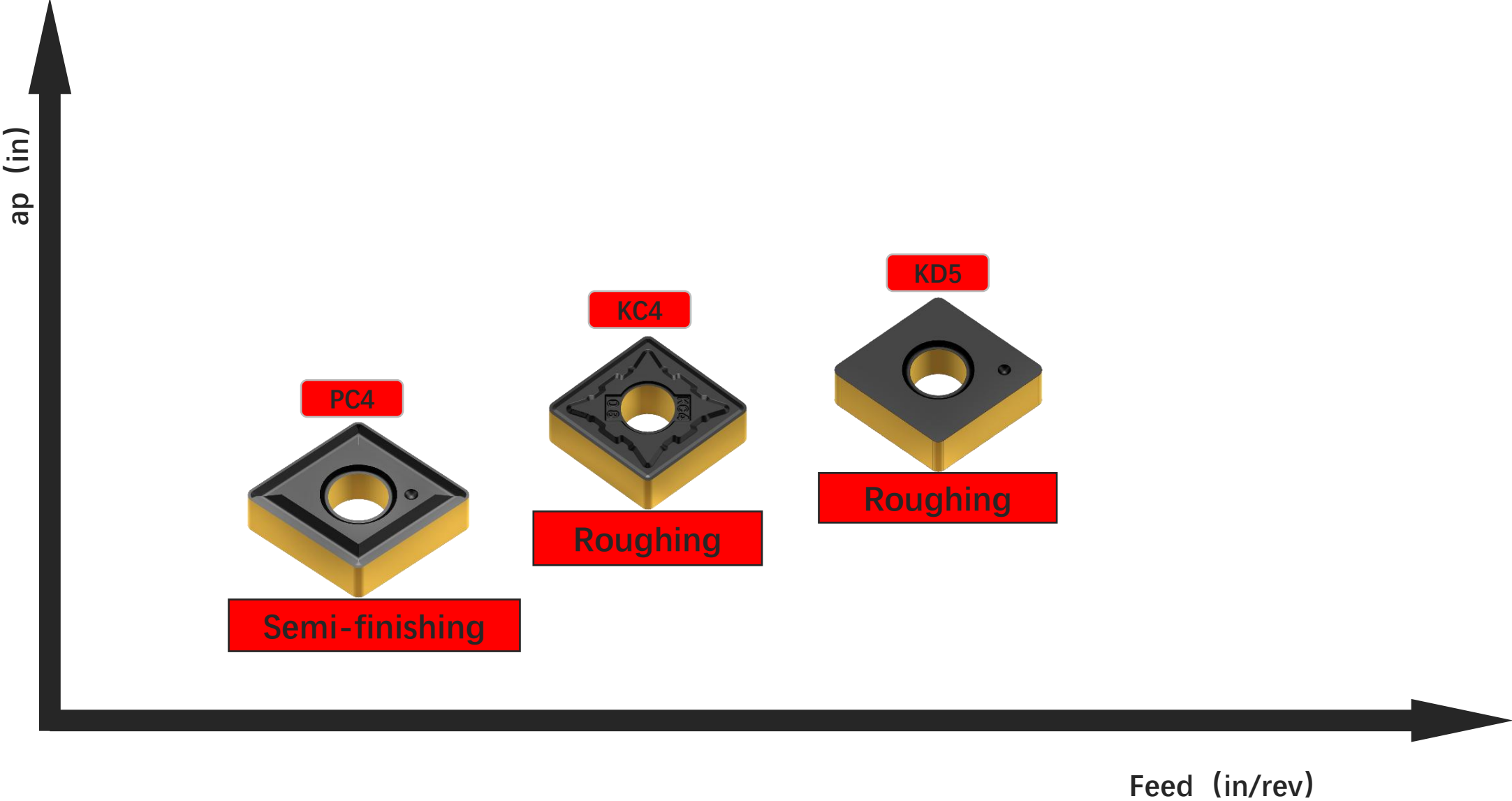
Negative geometries for stainless steel turning



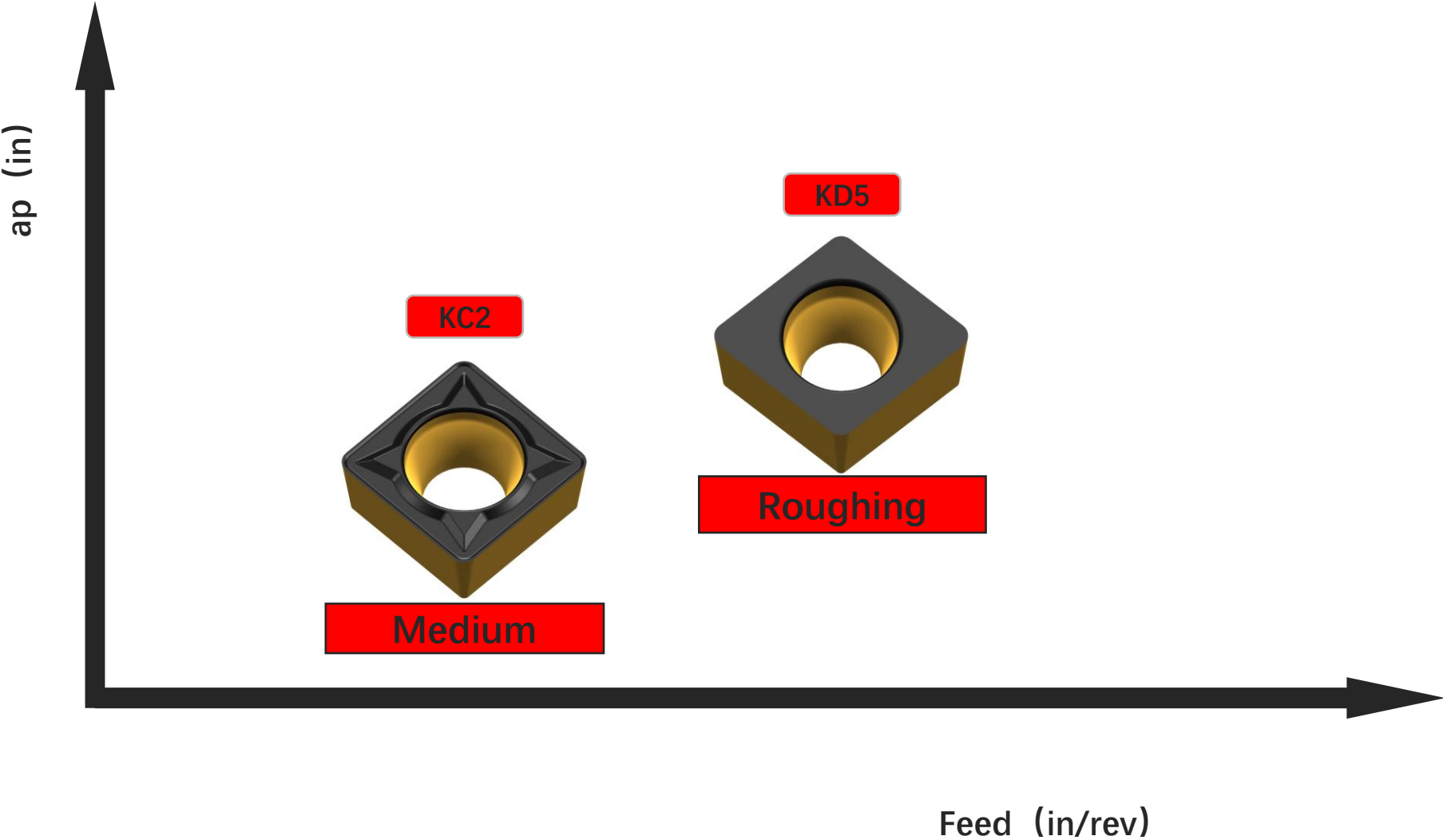
Positive geometries for stainless steel turning



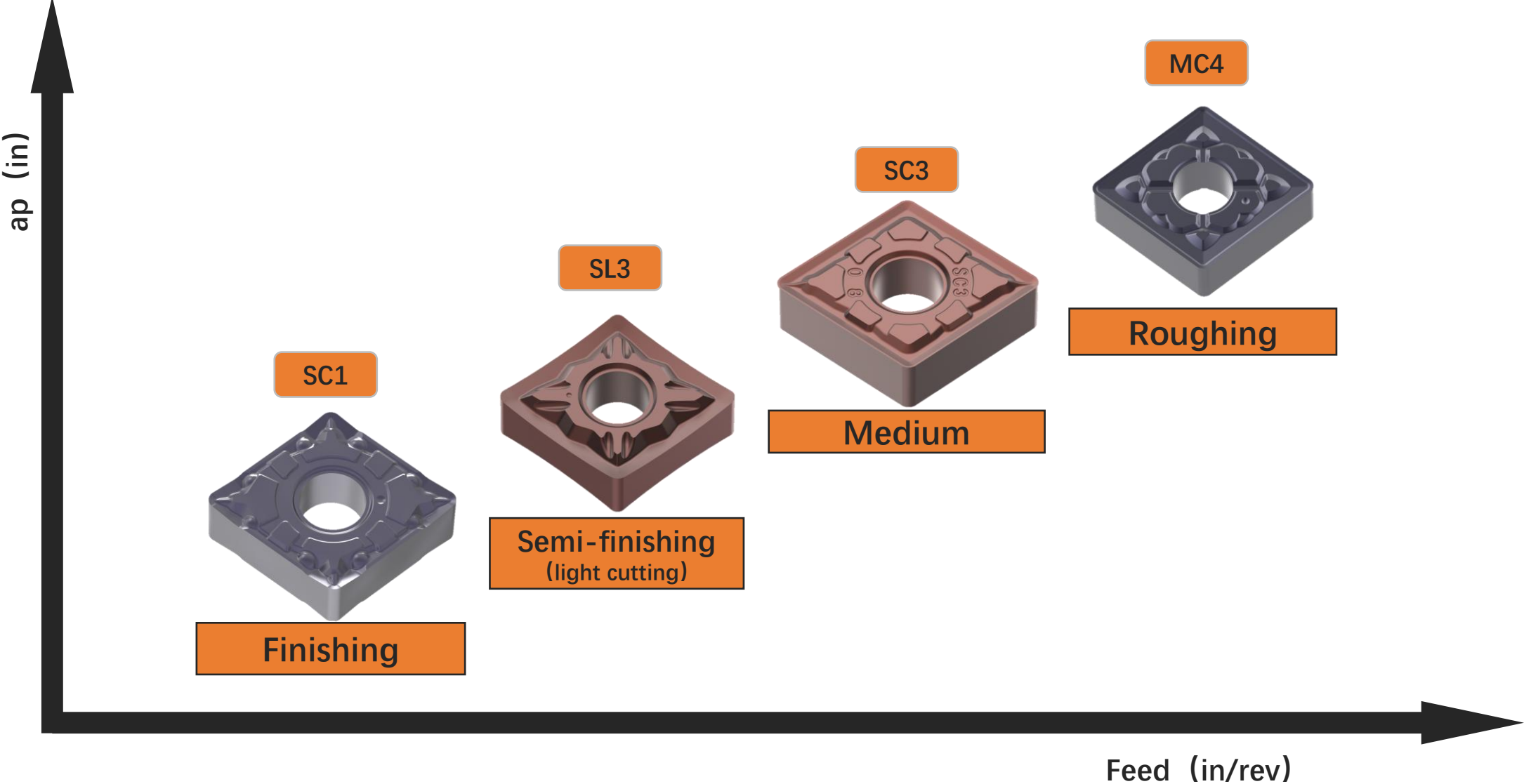
Negative geometries for cast iron turning



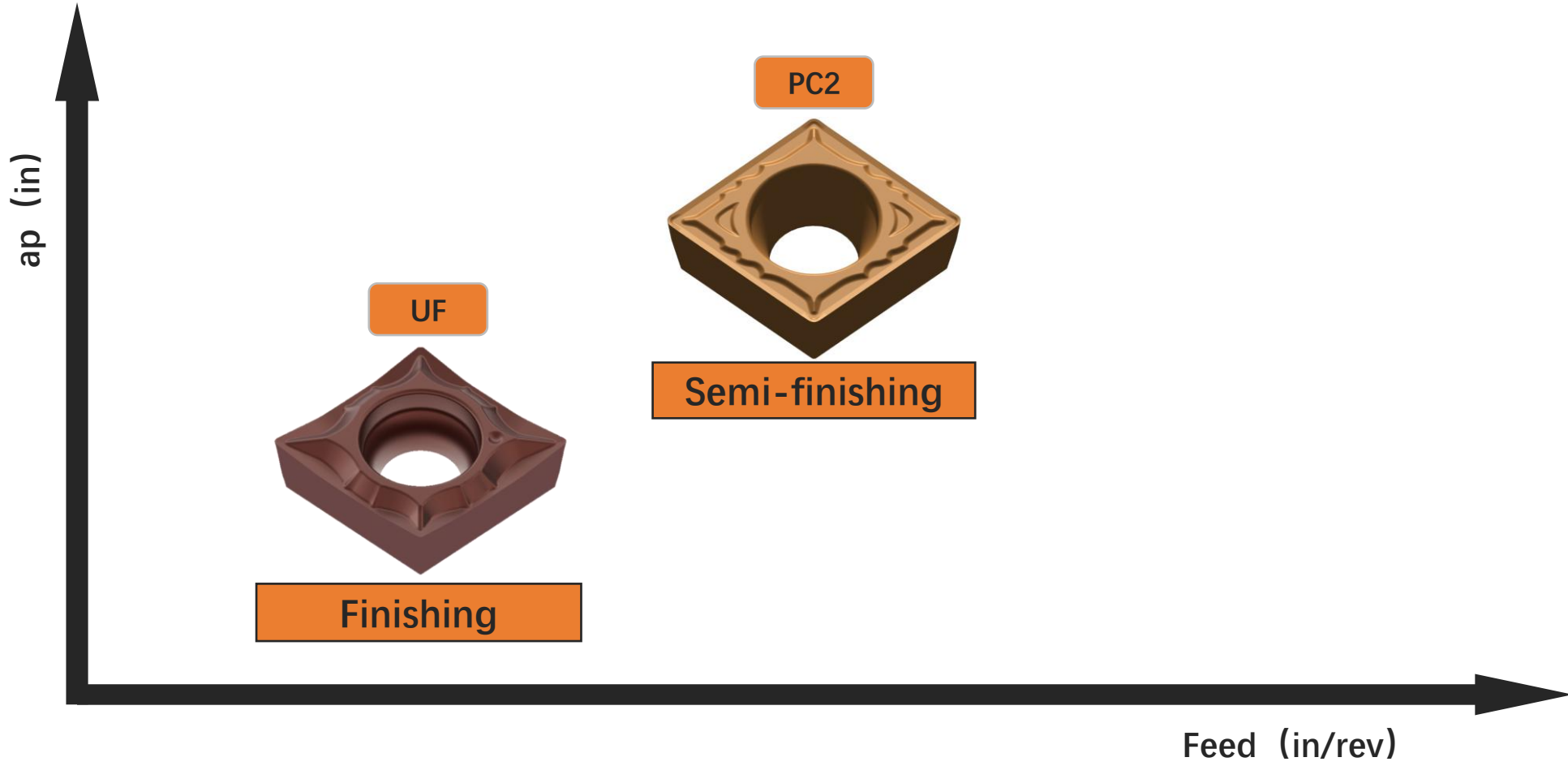
Positive geometries for cast iron turning



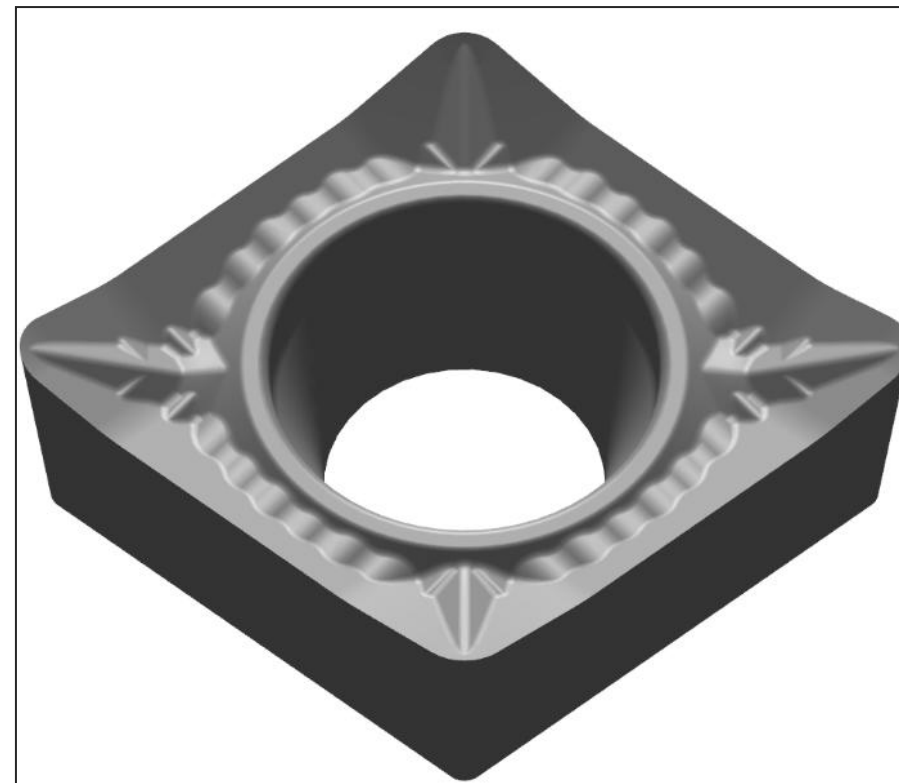
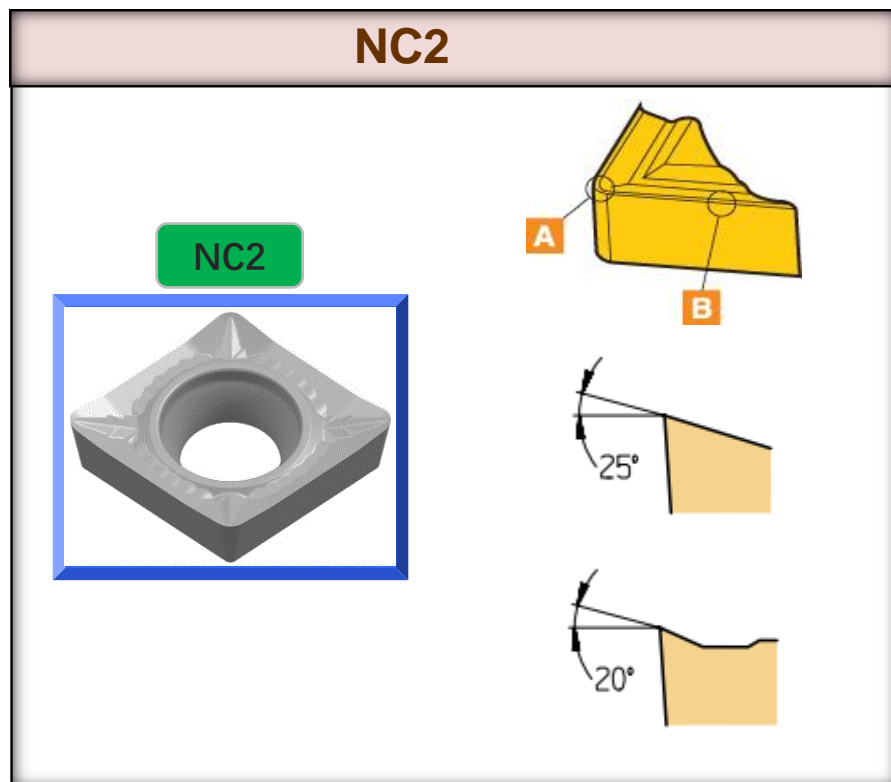
Negative geometries for super-alloy turning



Positive geometries for superalloy turning



Positive geometry for aluminium turning



- Semi-finishing for aluminium
- Ground and polished inserts, first choice for aluminium machining

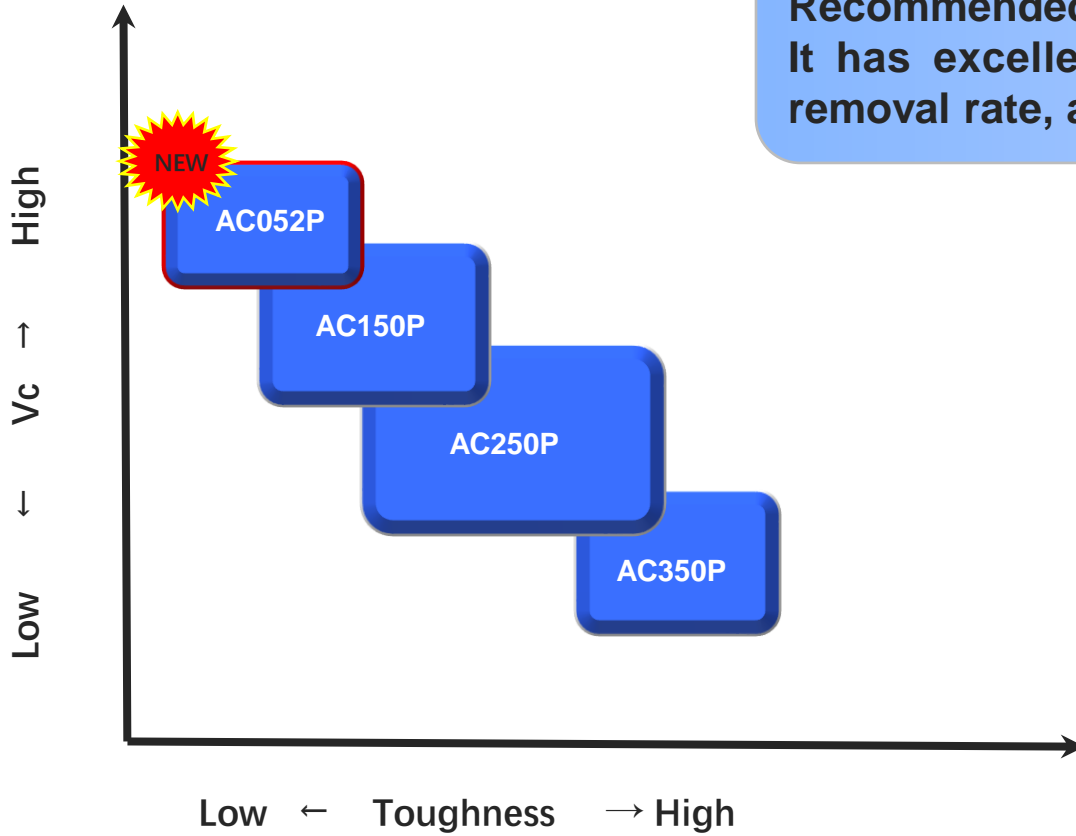
ISO turning grade map



New Grade for Steel Turning-AC052P



- AC052P Application



AC052P
Recommended for steel finish to semi-finish turning under stable conditions. It has excellent resistance to wear and plastic deformation, high metal removal rate, and can withstand high temperature.

AC150P
Recommended for steel finish to rough turning, it is used in continuous turning as well as light interrupted turning with high metal removal rate.

AC250P
Recommended for steel finish to rough turning, it is used in continuous turning as well as interrupted turning. Frist choice for steel part turning.

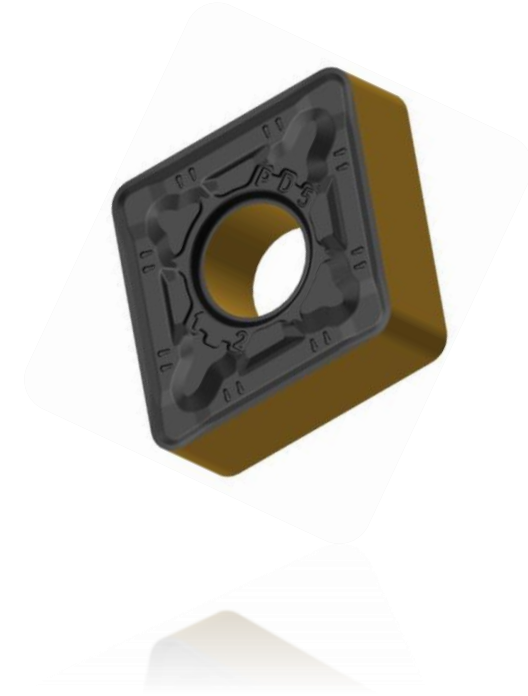
New Grade for Steel Turning-AC052P



- AC052P Technical Features

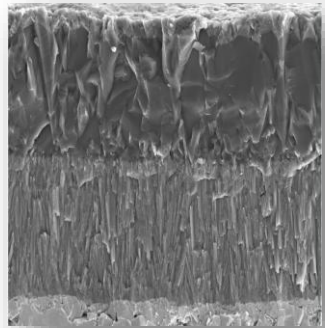
Substrate with excellent toughness and wear resistance

- Excellent resistance to plastic deformation and high temperature
- Excellent toughness and improved impact resistance
- Cobalt-enriched layer with gradient sintering technology enhanced reliability



Newly developed nano-coating

- Controlled growth direction of Al₂O₃ coating crystal get the hardest surface of alumina coating crystal which improved plastic deformation resistance and edge strength along the cutting direction.
- The wear is more uniform and the wear resistance has been significantly improved.
- Coating adhesion is greatly improved and coating peeling is reduced.



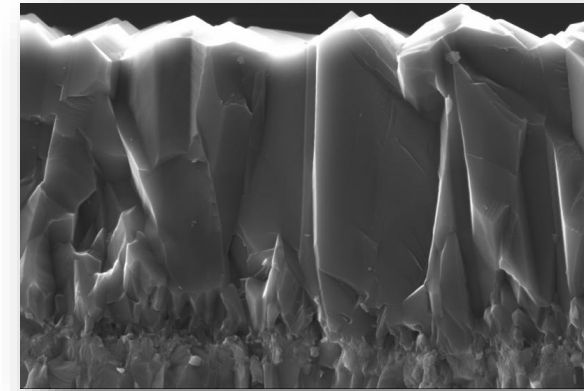
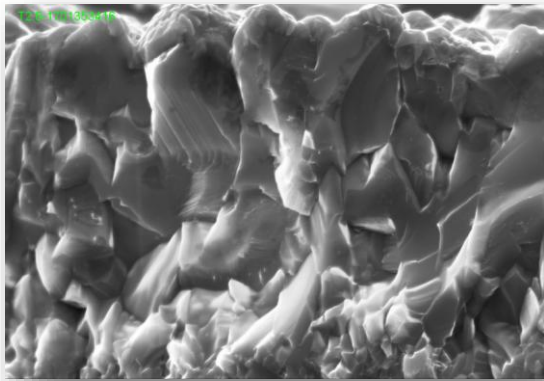
New Grade for Steel Turning-AC052P



·ACHTECK·

- **New coating technology**

Controlled growth direction of Al₂O₃ coating crystal improved wear resistance and got longer tool life.



Previous coating technology

The crystal growth direction is random for CVD alumina coating that is not uniform.

Newly developed coating

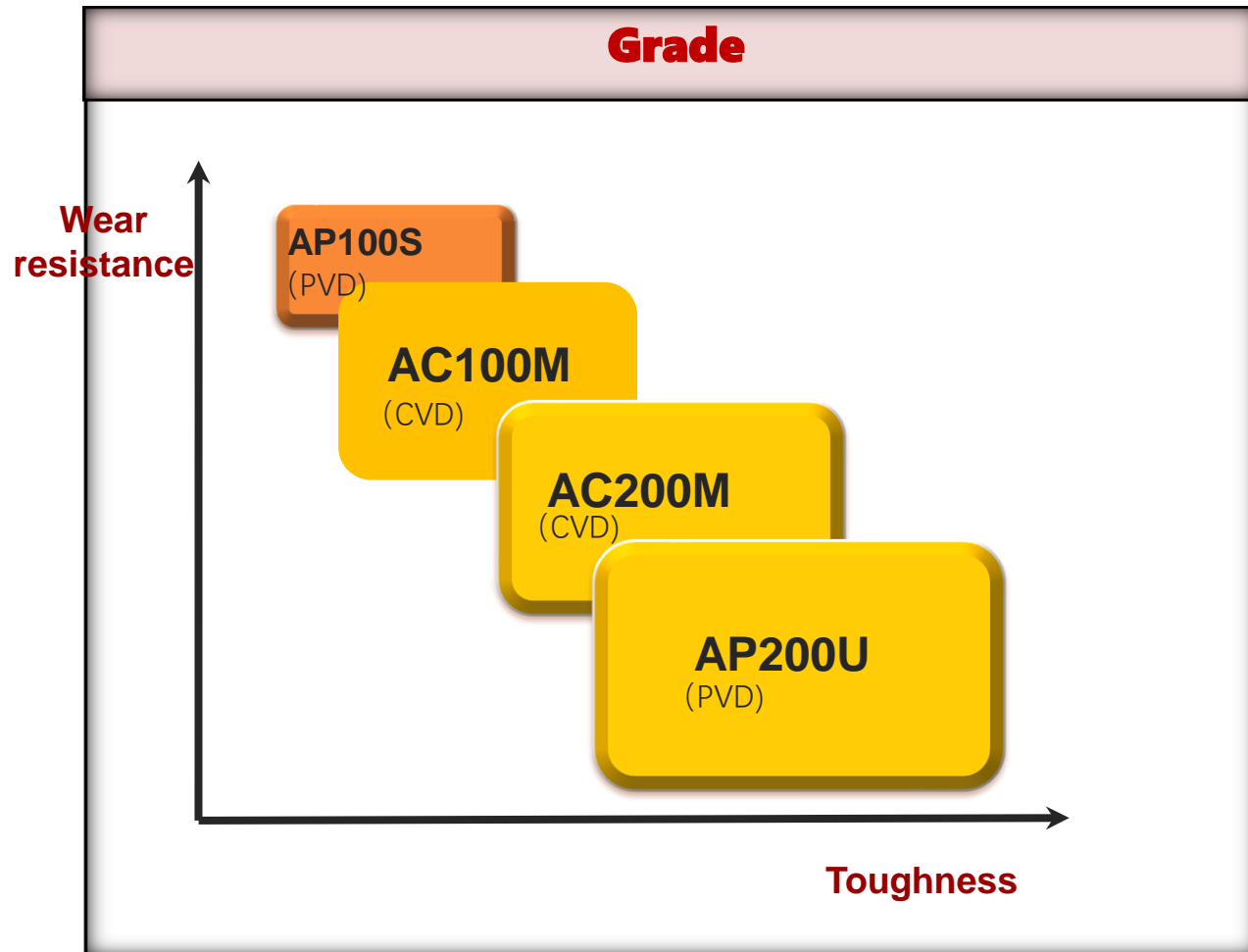
All the crystal in aluminum oxide coating is in the same direction, to get stronger cutting edge



Brand	Competitor	ACHTECK
Machine	Horizontal CNC Machine	
Material	40MnB	
Tool Holder	2525	2525
Insert	WNMG 080408-TM T9115	WNMG 080408E-PD3 AC052P
Geometry	TM	PD3
Application	Rough external turning	Rough external turning
Vc(ft/min)	1050	1050
f(in/rev)	0.01	0.01
ap(in)	0.06	0.06
Coolant	Emulsion	Emulsion
Tool life (pieces)	15	25
Result	Under the same cutting conditions, the tool life is 66% higher than the customer's current tool; the customer has reduced the tool change time.	



ISO M turning grades



AP100S(PVD): M05-M25

Is suitable for finish turning due to its high hardness and plastic deformation resistance.

AC100M(CVD): M10-M20

Is suitable for finish turning and light rough turning, at medium to high cutting speed due to its heat resistance feature of wear resistant coating.

AC200M(CVD): M15-M30

Is suitable for semi-finish to rough turning, with interrupted turning with good edge reliability due to good thermal shock resistance and mechanical shock resistance.

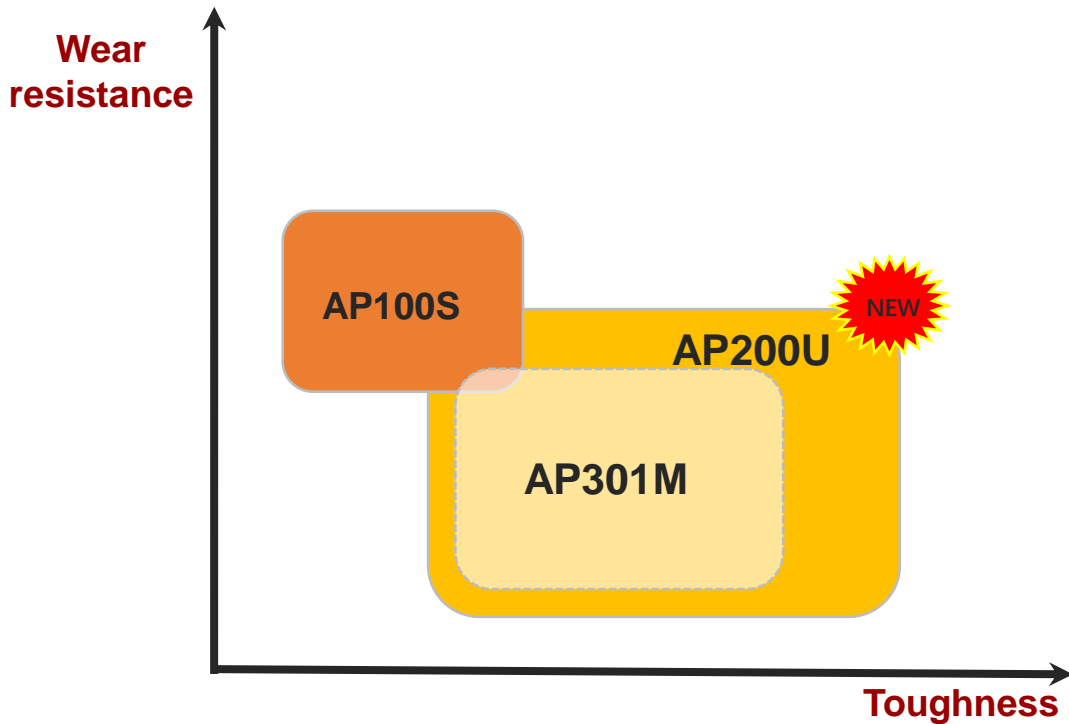
AP200U(PVD): M15-35

Is suitable for finish turning at low to medium speed with interrupted turning. It has excellent thermal stability, outstanding performance in machining when sharp edge and edge toughness or good surface quality are requested.

New universal grade AP200U



- AP200U Applications



AP100S: S05-25/M05-M25
High wear resistance, used in heat resistant alloy semi-finishing, and stainless steel finishing. First choice for heat resistant alloys.

AP200U: M15-35/S15-35/P15-P35
Universal grade, used in stainless steel and high temperature alloy semi-finishing and rough machining, and steel turning at low cutting speeds (<150m/min). First choice for stainless steel machining. It's a replacement of AP301M

AP301M: M15-35/S15-35
Universal grade for stainless steel and high-temperature alloy semi-finishing and roughing

AP200U Stories-1



Brand	Current Cutting Tool I	ACHTECK
Machine	Horizontal CNC Machine	
Material	17-4	
Tool Holder	2525	2525
Insert	CNMG 120404-MA VP15TF	CNMG 120404E-MB2 AP200U
Geometry	MA	MB2
Application	Finishing end face	Finishing end face
Vc(ft/min)	131-721	131-721
f(in/rev)	0.003	0.003
ap(in)	0.012	0.012
Coolant	Emulsion	Emulsion
Tool life (pieces)	25	35
Result	40% longer tool life than the customer's current product.	



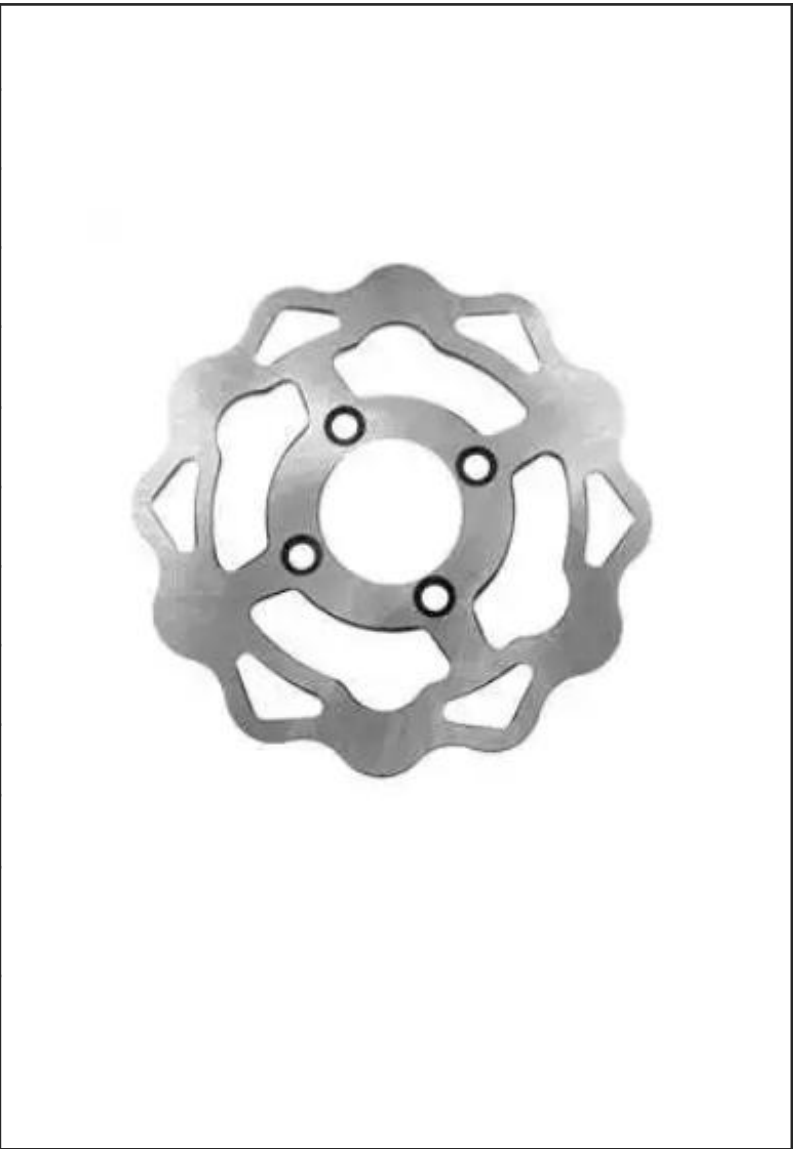


Brand	Current Cutting Tool I	ACHTECK
Machine	Horizontal CNC Machine	
Material	316L	
Tool Holder	2525	2525
Insert	CNMG 120408-EM TT9080	CNMG 120412E-SC3 AP200U
Geometry	EM	SC3
Application	Rough external turning	Rough external turning
Vc(ft/min)	393	393
f(in/rev)	0.012	0.012
ap(in)	0.059	0.059
Coolant	Emulsion	Emulsion
Tool life (pieces)	3	4
Result	Reduced tool change time, reduced tool cost and increased tool life by 33%.	





Brand	Current Cutting Tool I	ACHTECK
Machine	Horizontal CNC Machine	
Material	12Cr13	
Tool Holder	2525	2525
Insert	SCMT 120408 VP15TF	SCMT 120408E-PC2 AP200U
Geometry	-	SC3
Application	End face finish turning	End face finish turning
Vc(ft/min)	476	492
f(in/rev)	0.004	0.005
ap(in)	0.012	0.03
Coolant	Emulsion	Emulsion
Tool life (pieces)	600	700
Result	Increased tool life by 16% over the customer's current tool.	

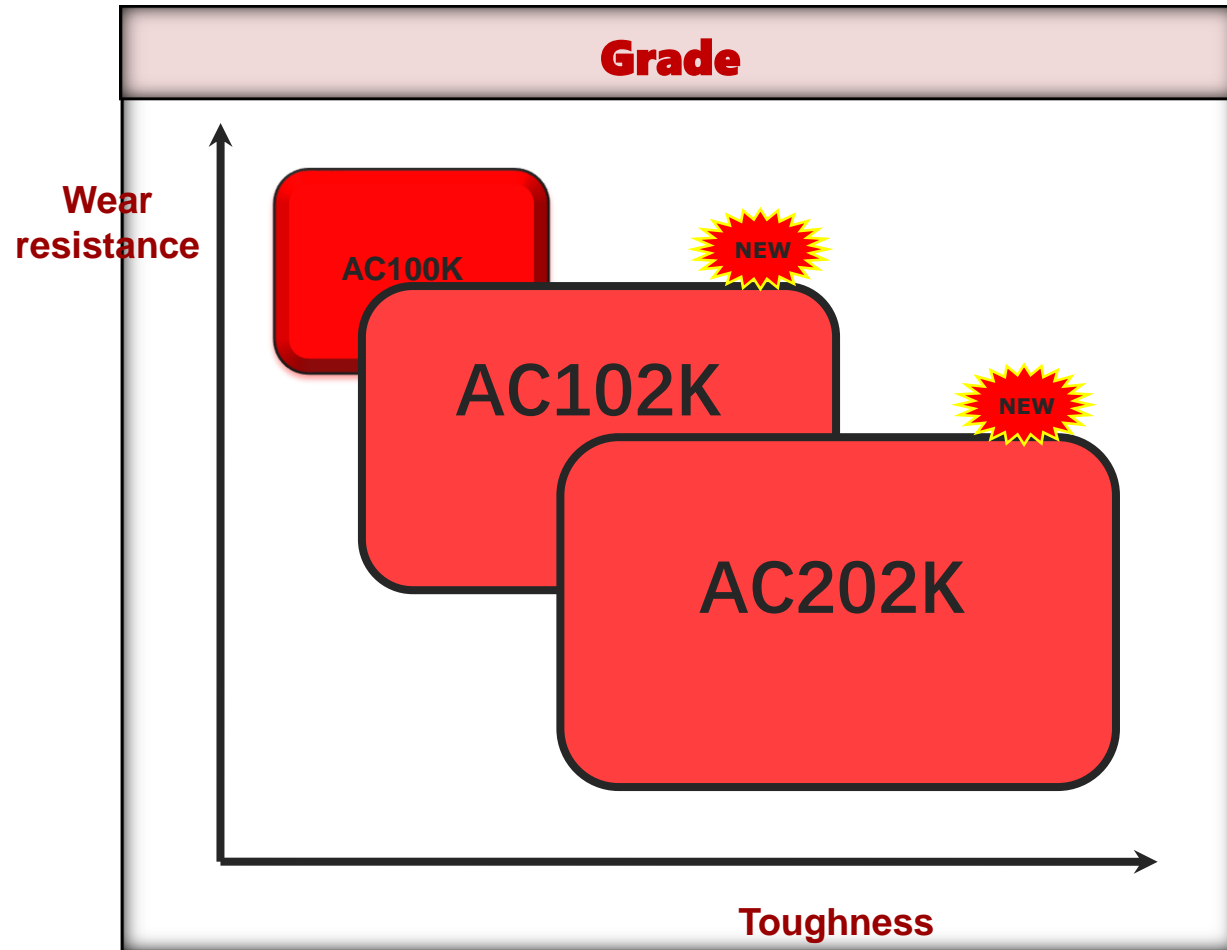




Brand	Current Cutting Tool I	ACHTECK
Machine	Horizontal CNC Machine	
Material	Flange 304	
Tool Holder	2525	2525
Insert	CCMT 120408 VP15	CCMT 120408E-PC2 AP200U
Geometry	-	SC3
Application	Finish external turning	Finish external turning
Vc(ft/min)	492	492
f(in/rev)	0.005	0.005
ap(in)	0.03	0.03
Coolant	Emulsion	Emulsion
Tool life (pieces)	15	25
Result	Reduced tool change time; reduced tool cost and improved tool life by 66%.	



ISO K turning grades



AC100K : K01-K15

CVD coated grade, has thick and smooth wear resistant coating and hard substrate, recommended for grey cast iron high speed turning.

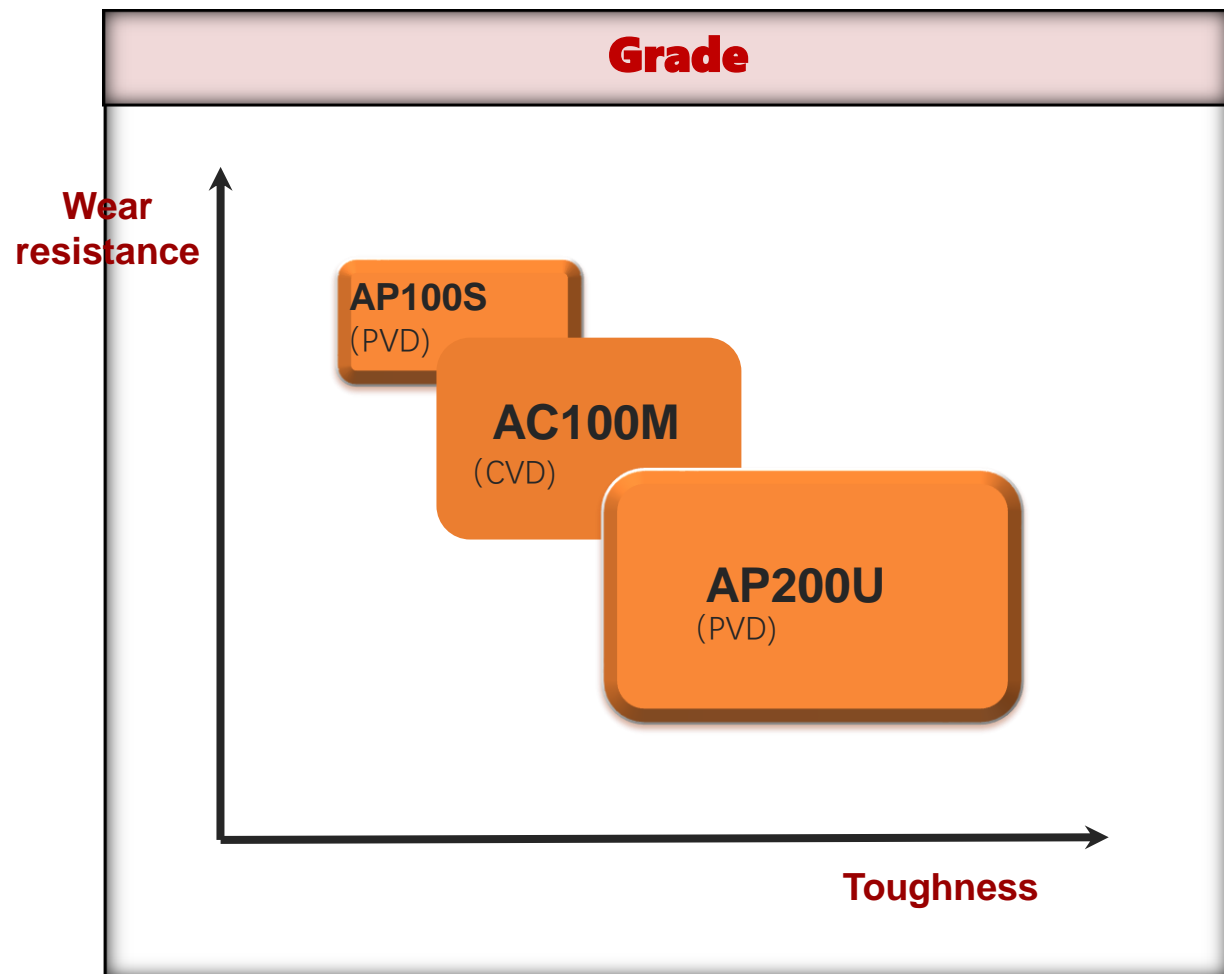
AC102K : K05-K15

CVD coated grade, has thick and smooth wear resistant coating and hard substrate, recommended for nodular cast iron high speed turning

AC202K : K10-30

1st choice for cast iron turning. It can deal with interrupted cutting due to its high wear-resistant CVD coating. It is used in finish to rough turning on cast iron at low to medium cutting speed.

ISO S turning grades



AP100S : S05-S25

1st choice for heat resistant alloy turning. PVD coated grade has high hardness and plastic deformation resistance, can get high performance and good wear resistance.

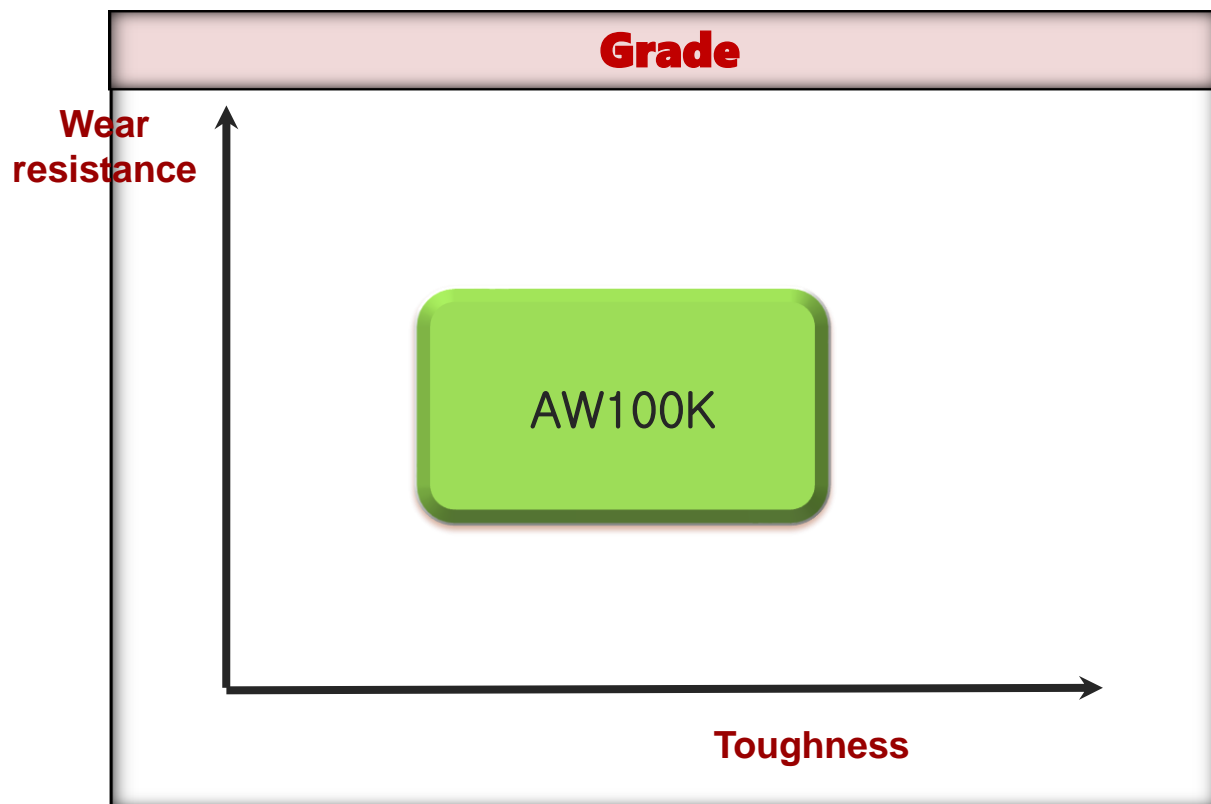
AC100M : S10-S25

CVD coated grade, suitable for heat resistant alloy continuous high speed turning

AP200U : S15-S35

PVD coated grade. Used in low cutting speed or light interrupted cutting. Suitable for semi-roughing or continuous turning for a short time due to its good notch wear resistance and anti-heat shock capability

ISO N turning grade

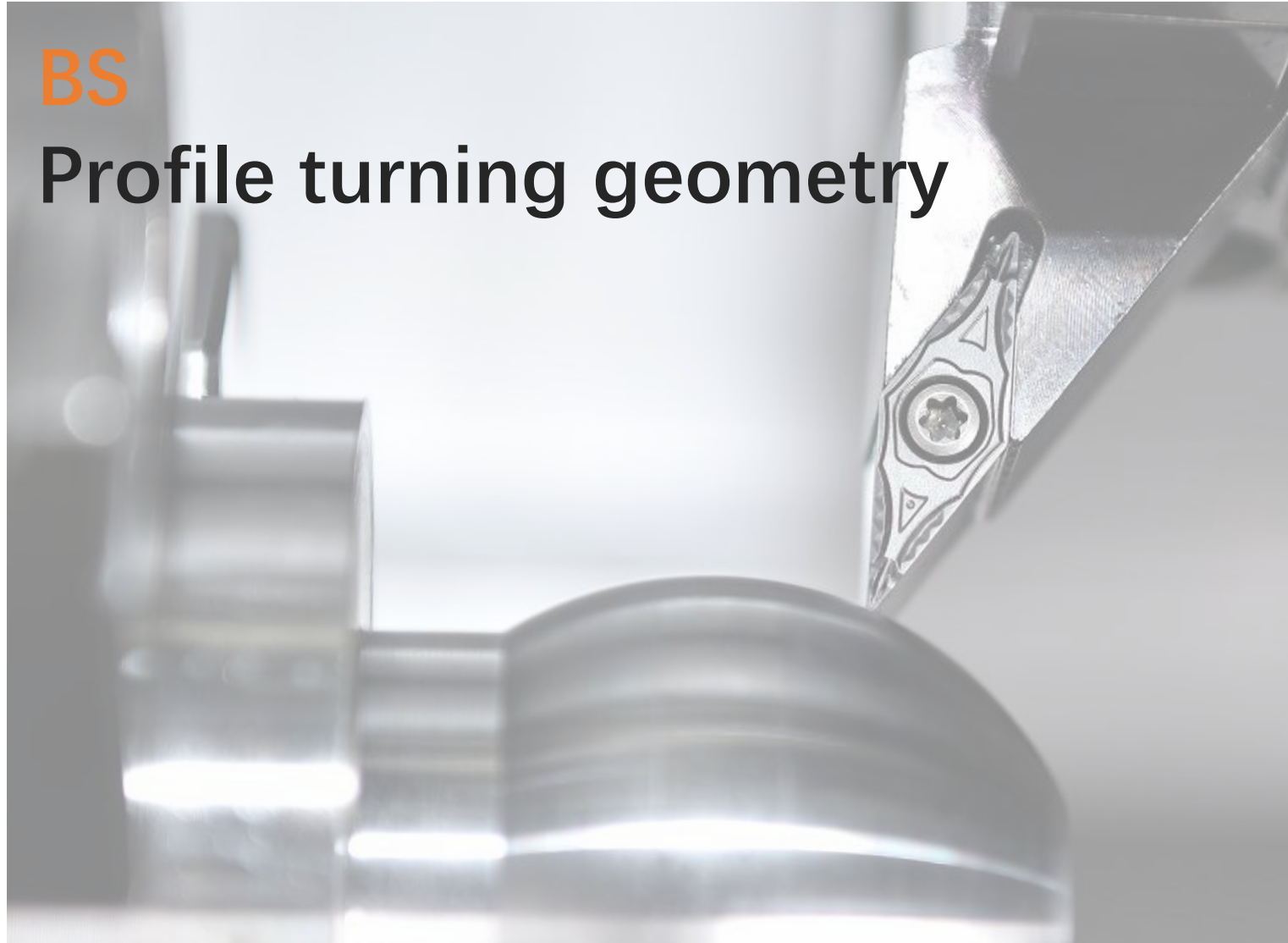


AW100K : N05-N25

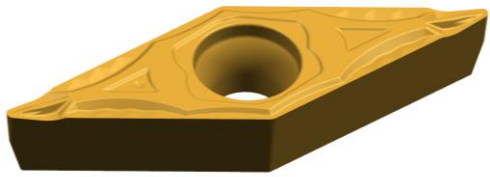
uncoated cemented carbide grade. It has excellent resistance to abrasive wear, and sharp cutting edges. Used in aluminum alloy rough to finish turning.

BS

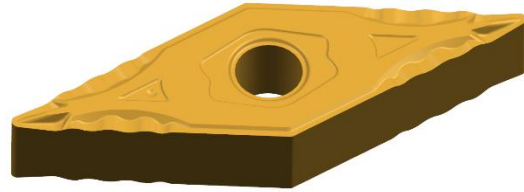
Profile turning geometry



Profile turning geometry-BS



Positive
insert



Negative
insert

Applications:

- Low cutting force, reduced vibration
- Suitable for long shaft and unstable machining conditions
- Profile turning with difference cutting depth
-



Profile turning geometry-BS

- Improvement on spherical surface turning

PB1



BS



Holder : PVLNL2525M-16Q

Insert : VNMG160408PB1/BS (AC052P)

Material : 4340

Cutting data: $v_c=656$ ft/min, $a_p=0.02\sim0.059$ in, $f=0.006$ in/rev, DRY

Profile turning geometry-BS

- V shaped slot machining improvement



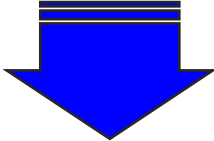
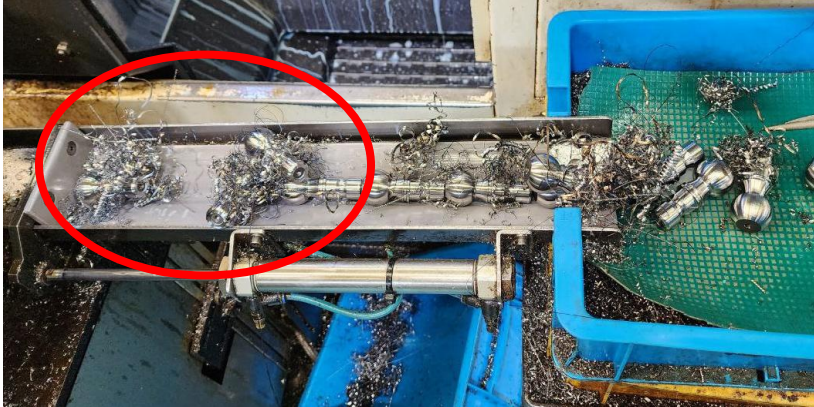
Holder : PVVNL2525M-16Q

Insert : VNMG160408PB1/BS (AC052P)

Material : 4340

Cutting data: $v_c=1312$ ft/min, $a_p=0.008$ in, $f=0.008$ in/rev, DRY

Brand	Competitor	ACHTECK
Machine Tool	Automatic CNC Lathe	
Workpiece	Ball shaft	
Holder		
Insert	VNMG160404-FX TT8115	VBMT 160408E-BS AC052P
Geometry	FX	BS
Application	Finish turning ($\phi 0.787'' - \phi 1.22''$)	Finish turning ($\phi 0.787'' - \phi 1.22''$)
Vc(ft/min)	958	958
f(in/rev)	0.006	0.006
ap(in)	0.008	0.008
Coolant	Emulsion	Emulsion
Tool life (pcs)	200 pcs/edge	200 pcs/edge



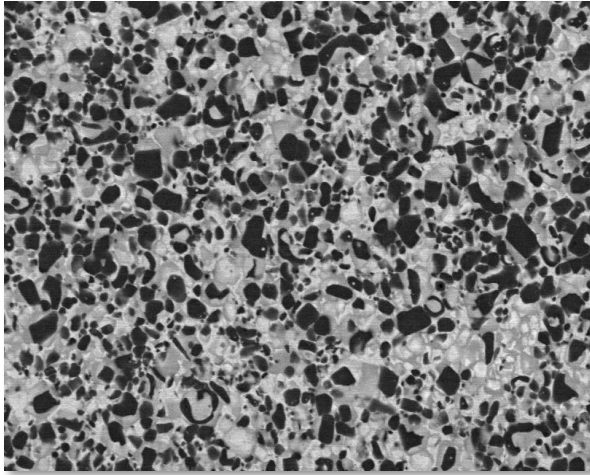
39 Result

The current tool faced long chip problem. The operator had to remove the chips manually which is very time consuming and affects the productivity. BS geometry dramatically improved chip breaking and productivity. The insert had normal wear.

02

Cermet





High stability

The hot hardness and thermal shock resistance are greatly improved. Therefore, constant tool life can be obtained under difficult cutting conditions.


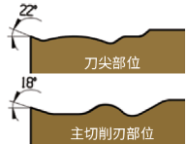
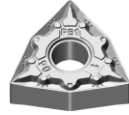
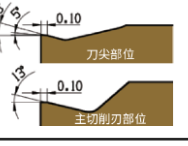
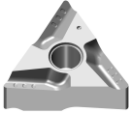
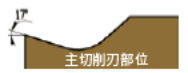

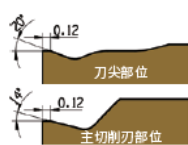



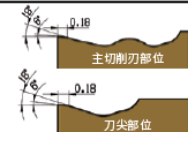
Excellent performance

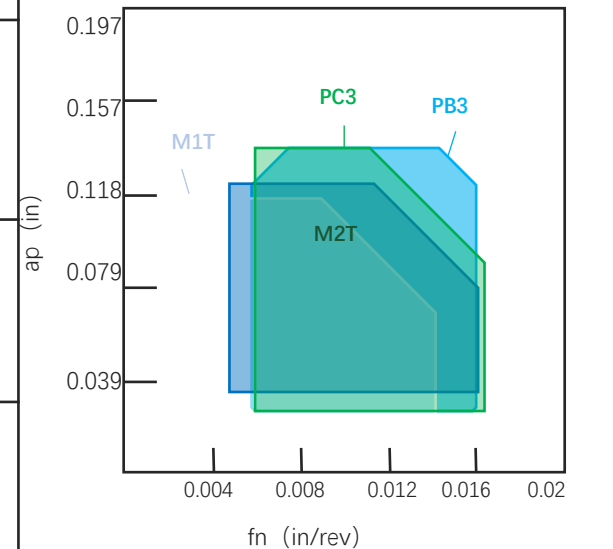
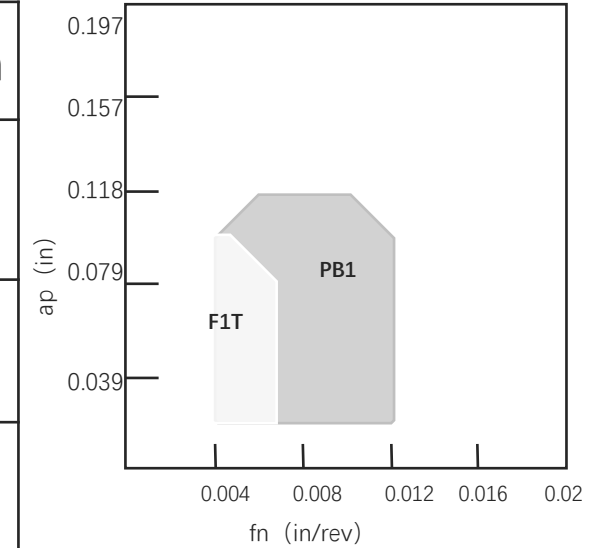
Edge chipping is minimized for excellent cutting performance.




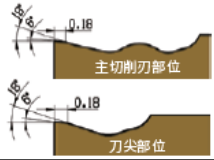
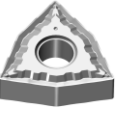
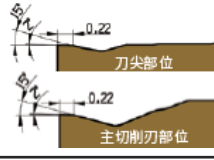

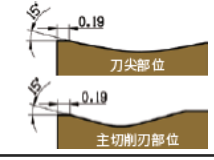

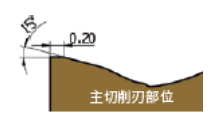

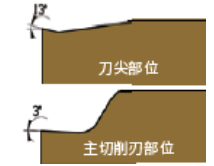
	Material	Hardness	Cutting speed (ft/min)
P	Soft steel ASTM A36, C10...	HB \geq 180	492-984
	Carbon steel Alloyed steel C45, 40CrMo...	HB \geq 180	393-853

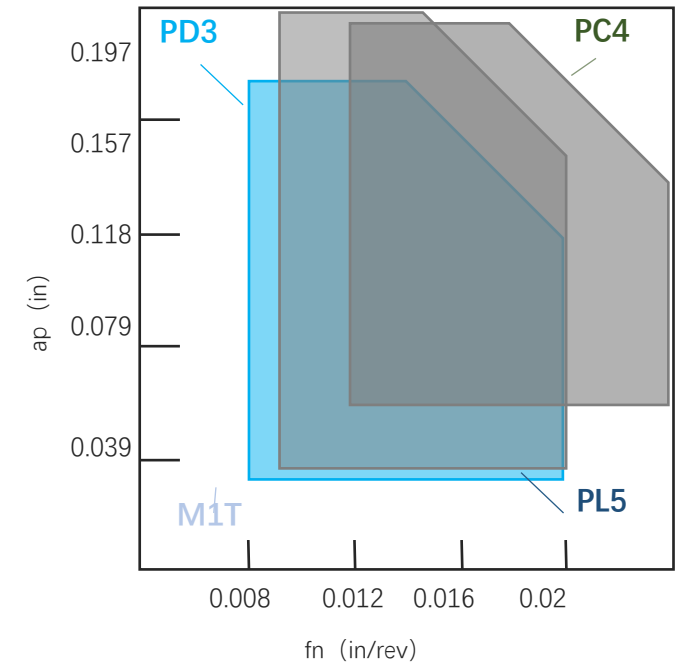
Chip breakers - Negative

Application	Chip breaker		Features	Cross section
Finishing	F1T		Finish machining. Very good chip control at small cutting depth	
	PB1		General purpose finish geometry. Good stability	
Semi-finishing	MIT		Big positive rake angle, low cutting force, suitable for different cutting depth	
	PB3		First choice for steel semi-finishing turning, can be used in profile turning with different cutting depth, and offer excellent chip control	
	M2T		Designed for low cutting force, combined strengthened cutting edge. Suitable for medium turning with big cutting depth.	
	PC3		2nd choice for steel semi-finish turning	

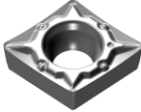
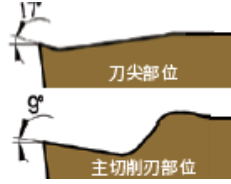
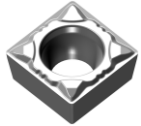
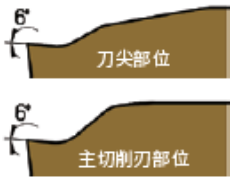
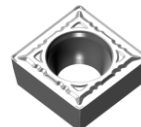
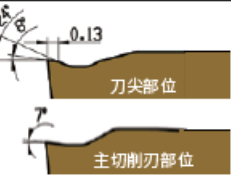
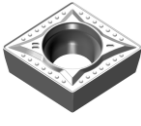
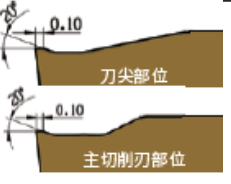
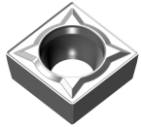
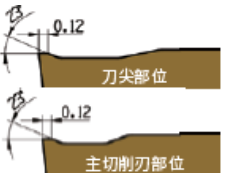


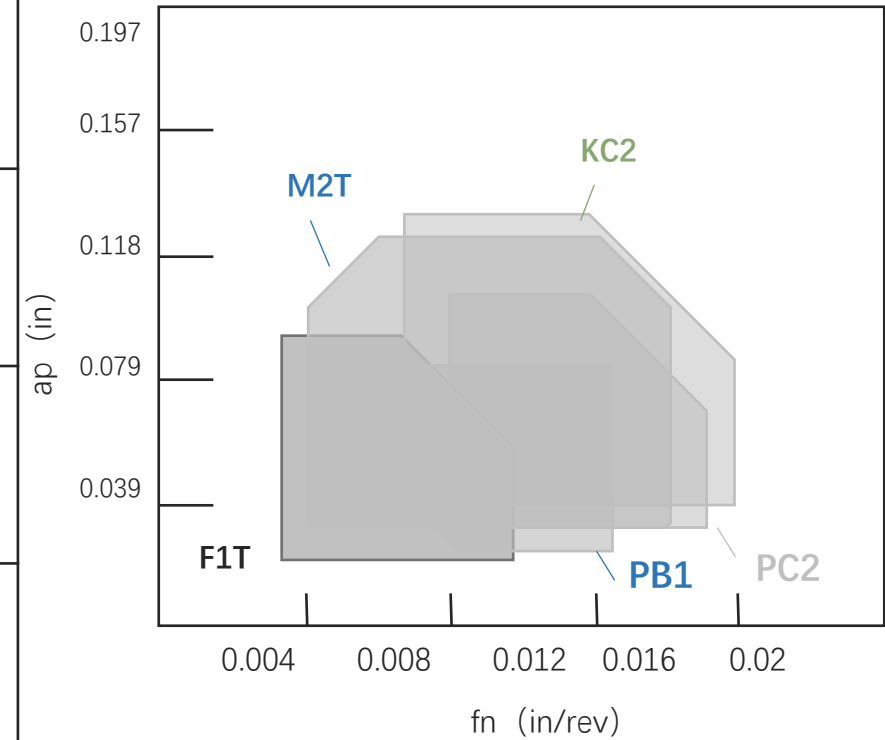
Chip breakers - Negative

Application	Chip breaker	Features	Cross section	
Medium	PD3		Guaranteed stability, stronger cutting edge, can be used in interrupted turning	
	M3T		Smooth rake surface, suitable for medium turning with high feed rate.	
	PC4		Reduced cutting force, suitable for steel and cast iron general purpose machining	
	PL5		Suitable for medium machining with low cutting force, big cutting depth. Suitable for long shaft turning	
Profiling	BS		Suitable for profile turning with changing cutting depth. Smooth chip evacuation	



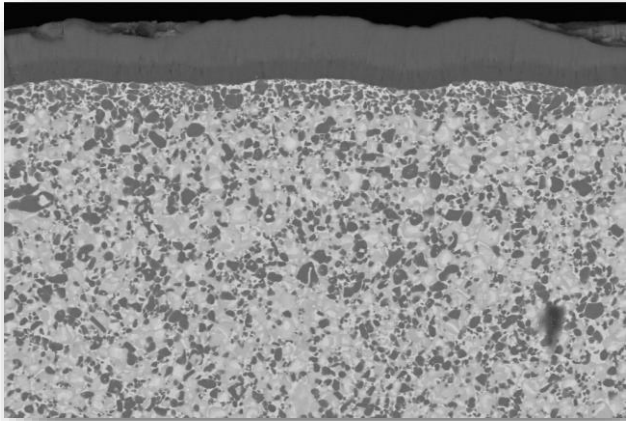
Chip breakers - Positive

Application	Chip breaker		Features	Cross section
Finishing	F1T		Low cutting force, excellent chip control	
	PB1		General purpose geometry for finish machining with good stability	
Semi-finishing	PC2		1 st choice for semi-finish turning. Good edge strength and chip control	
	M2T		Designed for high feed turning with smooth chip evacuation	
	KC2		Big chip breaker design, suitable for machining with big cutting depth	

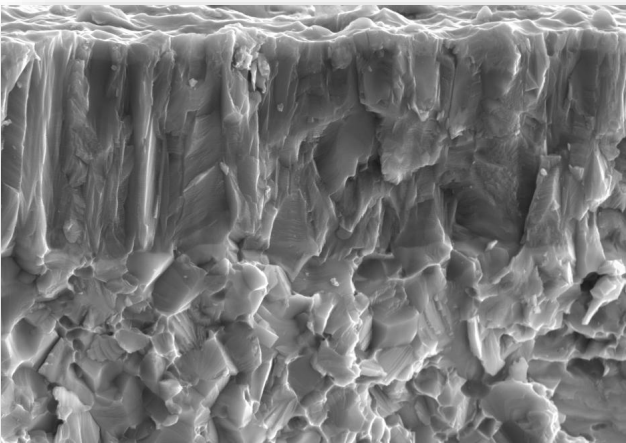


AT210A grade features:

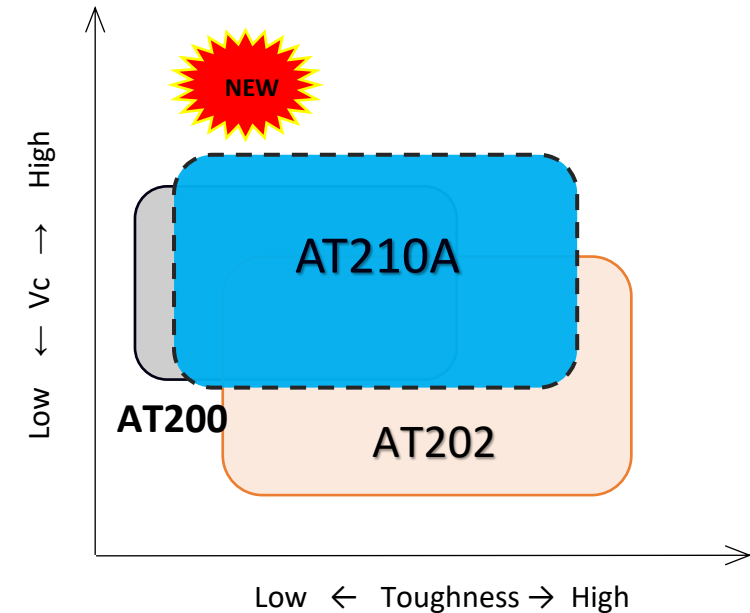
The substrate is a combination of super-fine crystal and complex binder. Nano-structured coating is good for the steel finish turning and high productivity.



- Gradient transition layer balanced the wear resistance and toughness.
- Super fine crystal combined with complex binder for excellent surface finish.



- Nano-structure coating has higher coating adhesion, anti-oxidation and longer tool life.
- Suitable for steel continuous and light medium turning.



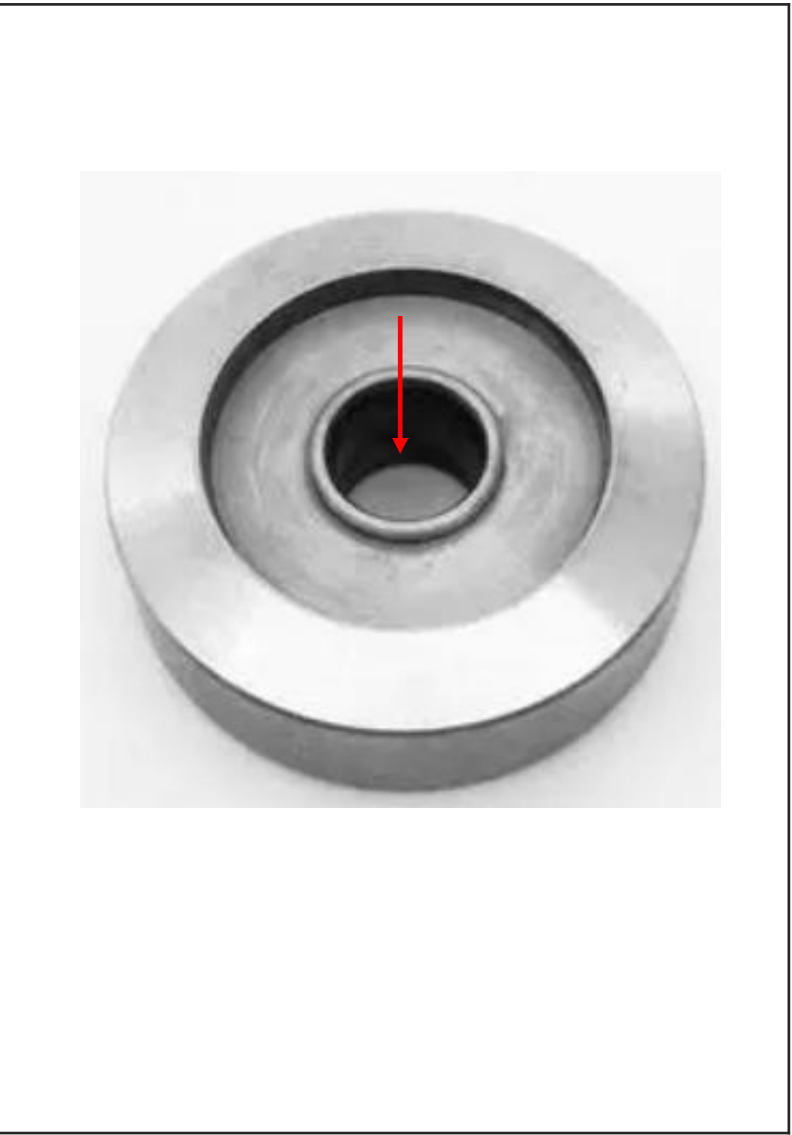
AT210A Success story

Brand	Current tool	ACHTECK
Machine Tool	Horizontal CNC lathe	
Material	C45	
Holder	2525	2525
Insert	VBMT 110304 PP PV720	VBMT 110304E-PB1 AT210A
Geometry	PP	PB1
Application	OD and face rough turning	OD and face rough turning
Vc(ft/min)	250-1030	250-1030
f(in/rev)	0.006	0.006
ap(in)	0.012	0.012
Coolant	Emulsion	Emulsion
Tool life (pcs)	143	172
Result	Reduced tool changing time and tooling cost. Increased tool life by 20%	



AT210A Success story

Brand	Current tool	ACHTECK
Machine tool	Horizontal CNC Lathe	
Workpiece	Gear 20CrMo	
Holder	2525	2525
Insert	CCMT 09T304 HQ PV720	CCMT 09T304E-PB1 AT210A
Geometry	HQ	PB1
Application	OD and face rough turning	OD and face rough turning
Vc(ft/min)	407	407
f(in/rev)	0.003	0.003
ap(in)	0.02	0.02
Coolant	Emulsion	Emulsion
Tool life (pcs)	220	280
Result	Reduced tool changing time, reduced tool cost and increased tool life by 27%	



03


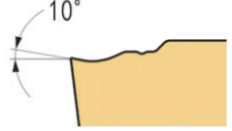



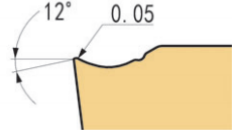
Grooving






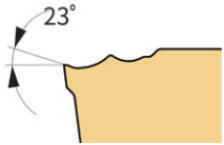
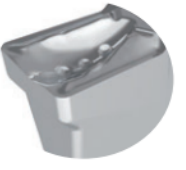

Geometry-double cutting edges

·ACHTECK·

Geometry	Insert	Shape of cutting edge	Description	Insert Width (in)									
				External grooving					Face grooving		Internal grooving		
				Grooving	Parting off	Turning	Profiling	Under cutting	Grooving	Turning	Grooving	Turning	
CS	 	<ul style="list-style-type: none"> ● Used in parting off & grooving stainless steel, heat resistant alloy and low carbon steel ● For low feed rate application 	0.079	0.079	-	-	-	0.118	-	0.118	-		
			0.118	0.118	-	-	-	-	-	-			
CM	 	<ul style="list-style-type: none"> ● Used in parting off & grooving low carbon steel and stainless steel ● For sticky material, pipe fitting, thin-walled part parting off, low cutting force ● For low to medium feed rate 	0.079	0.079	-	-	-	-	-	-			
			0.118	0.118	-	-	-	0.118	-	0.118			
			0.157	0.157	-	-	-	0.157	-	0.157	-		
			0.197	0.197	-	-	-	0.197	-	0.197	-		
			0.236	0.236	-	-	-	0.236	-	0.236	-		
0.315	0.315	-	-	-	-	-	-						
CH	 	<ul style="list-style-type: none"> ● Used in parting off and grooving steel, alloy steel and stainless steel with high hardness and toughness. ● Strong cutting edge ● For parting off and grooving at medium to high feed rate 	0.079	0.079	-	-	-	-	-	-			
			0.118	0.118	-	-	-	0.118	-	0.118			
			0.157	0.157	-	-	-	0.157	-	0.157	-		
			0.197	0.197	-	-	-	0.197	-	0.197	-		
			0.236	0.236	-	-	-	0.236	-	0.236	-		
0.315	0.315	-	-	-	-	-	-	0.315	-				


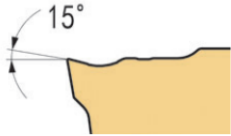




Geometry-double cutting edges

Geometry	Insert	Shape of cutting edge	Description	Insert Width (in)								
				External grooving					Face grooving		Internal grooving	
				Grooving	Parting off	Turning	Profiling	Under cutting	Grooving	Turning	Grooving	Turning
GS			<ul style="list-style-type: none"> ● Excellent chip breaking, suitable for grooving and finish turning. ● Geometry for finish machining, low cutting force, low feed, excellent surface quality. ● Ground insert, high precision and positioning repeatability. 	0.079	0.079	0.079	-	-	0.118	0.118	0.079	0.079
				 0.281	 0.281	 0.281			 0.236	 0.236	 0.281	 0.281
TS			<ul style="list-style-type: none"> ● Multifunctional insert for external, internal turning and grooving, parting off, face grooving and face turning ● Excellent chip control ● For low and medium feed rate. 	0.079	0.079	0.079					0.079	0.079
				0.118	0.118	0.118			0.118	0.118	0.118	0.118
				0.157	0.157	0.157	-	-	0.157	0.157	0.157	0.157
				0.197	0.197	0.197			0.197	0.197	0.197	0.197
				0.236	0.236	0.236			0.236	0.236	0.236	0.236
				0.315	0.315	0.315					0.315	0.315



Geometry-double cutting edges

Geometry	Insert	Shape of cutting edge	Description	Insert Width (in)									
				External grooving					Face grooving		Internal grooving		
				Grooving	Parting off	Turning	Profiling	Under cutting	Grooving	Turning	Grooving	Turning	
RA			<ul style="list-style-type: none"> ● For turning and profiling aluminum alloy ● High positive rake angle and sharp cutting edge ● Ground inserts with high precision 	0.118	-	0.118	0.118	0.118	0.118	0.118	0.118	0.118	0.118
				0.157		0.157	0.157	0.157	0.157	0.157	0.157	0.157	
				0.197		0.197	0.197	0.197	0.197	0.197	0.197	0.197	
				0.236		0.236	0.236	0.236	0.236	0.236	0.236	0.236	
				0.315		0.315	0.315	0.315	0.315	0.315	0.315	0.315	
Precision ground			<ul style="list-style-type: none"> ● Ground insert with high precision ● Complete product offering ● Good surface quality 	0.039	-	0.087	0.118	0.118	0.118	0.118	0.087	0.087	
							0.157	0.157	0.157	0.157			
				0.315		0.315	0.189	0.189	0.189	0.189	0.315	0.315	
							0.197	0.197	0.197	0.197			
							0.236	0.236	0.236	0.236			
							0.315	0.315	0.315	0.315			



Grade introduction

·ACHTECK·

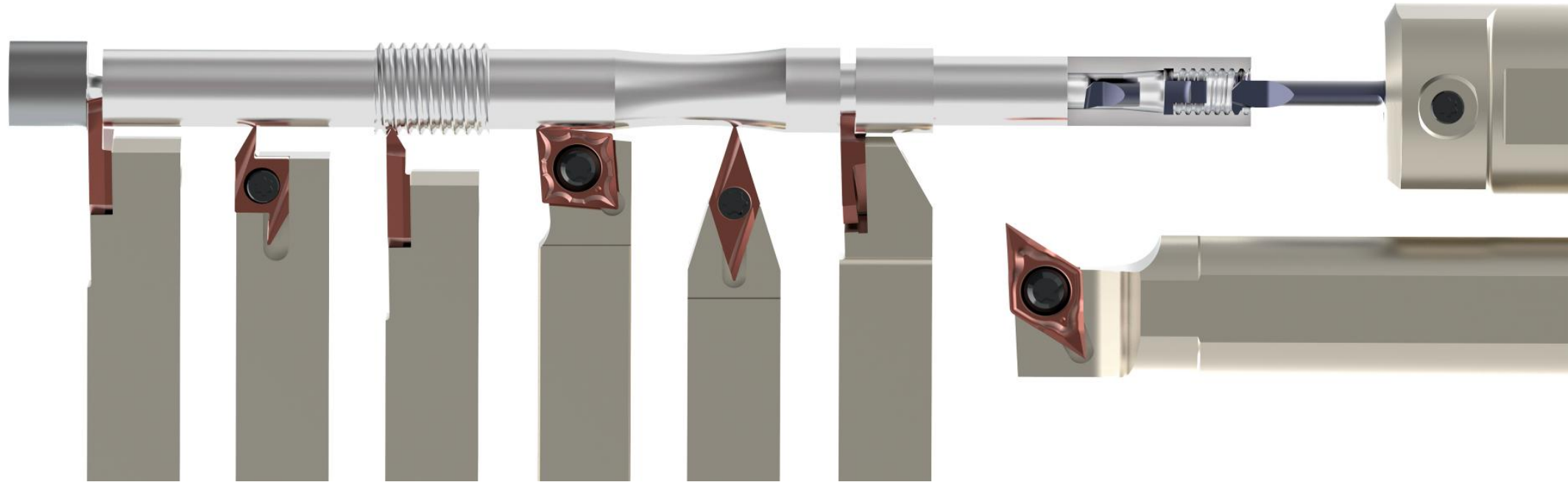
No.	ISO range	Grade	Coating	Main Application	Description	Supplement	Description
1	S01-20	AP130S	PVD	S	PVD coating with hard superfine substrate, with excellent wear resistance. Suitable for super alloy, titanium alloy and hardened steel	M	
2	M10-30	AP301U	PVD	M	Grade with versatility, can be used in different material and various grooving applications	P/S	Universal for steel grooving, continuous to interrupted
3	M20-40	AP330M	PVD	M	High toughness, suitable for low speed to medium speed deep grooving and parting off. In the deep grooving and interrupted grooving conditions, it has excellent performance	P	Suitable for steel deep grooving and interrupted grooving at low to medium speed
4	P10-30	AC230P	CVD	P	Suitable for high cutting speed grooving, with excellent wear resistance.	K	Suitable for gray cast iron and nodular cast iron high cutting speed grooving
5	N01-20	AW100K	—	N	For aluminum alloy rough to finishing grooving	—	
6	K10-K30	AC130K	CVD	K	Suitable for gray cast iron and nodular cast iron high cutting speed grooving	P	Suitable for high cutting speed grooving, with excellent wear resistance

04

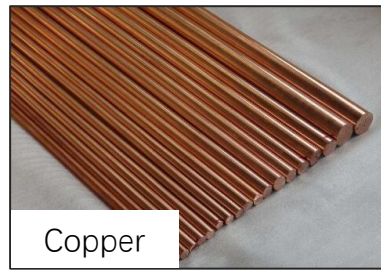
Swiss tool



◆ Swiss tool machining materials



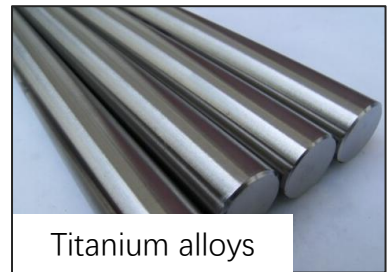
Stainless steel



Copper



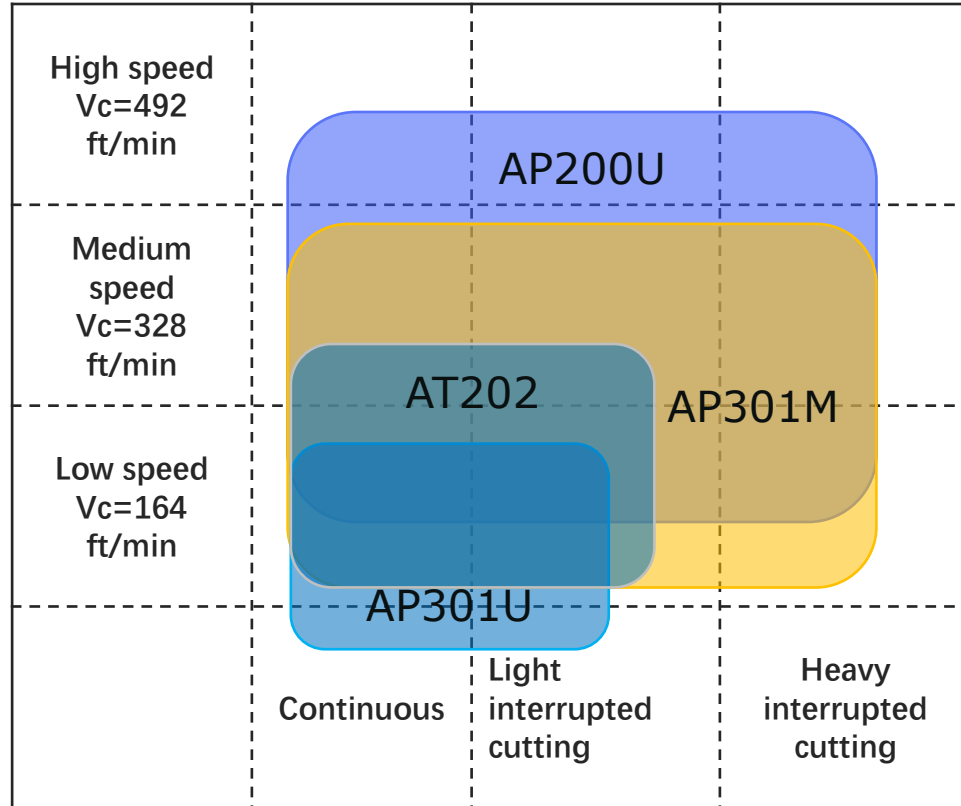
Aluminum alloys



Titanium alloys

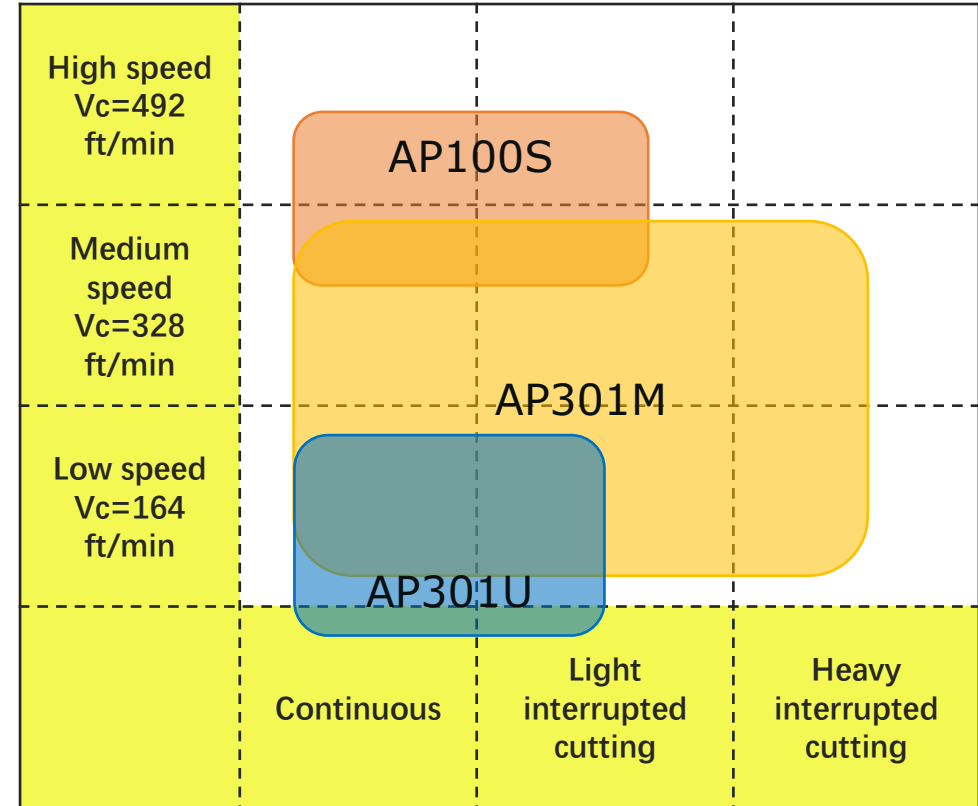
■ Swiss tool-workpiece materials

Steel (carbon steel, soft steel)



- **First Recommended Grade: AP200U**
- Recommended grade for general purpose: AP301M
- Recommended grade for continuous cutting at low to medium speed: AP301U

Stainless steels



- **1st Recommended Grade: AP301M**
- Recommended grade for continuous cutting at high speed: AP100S
- Recommended grade for continuous cutting at low to medium speed: AP301U

◆ Chip Breakers for Swiss tool

**PC2**

Steel and stainless steel semi-finish turning. The design of the rake angle makes the cutting lighter, and the design of the sharp edge effectively avoids the built-up edge and with good chip removal.

**PB1**

Positive rake angle reduces the tendency of built-up-edge. Good surface quality can be obtained for stainless steel and steel turning

**UF**

Sharp cutting edge and large rake angle ensure good cutting result

**LF**

Large rake angle and wide chip breaker design reduced cutting force and improved chip breaking, bi-directional cutting for Swiss machine tool

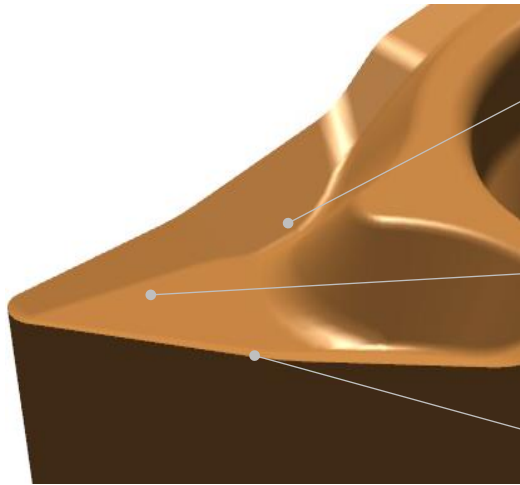
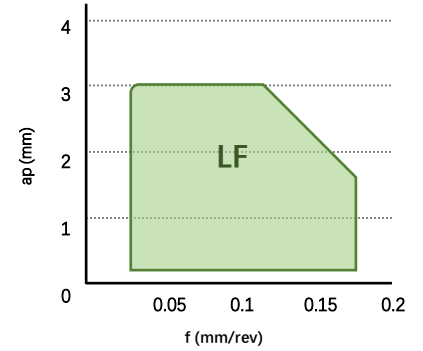
Low cutting force Geometry-LF



LF Geometry



Large depth of cut, low cutting force



- Large chip space with mirror finish

Effectively reduces built-up edge

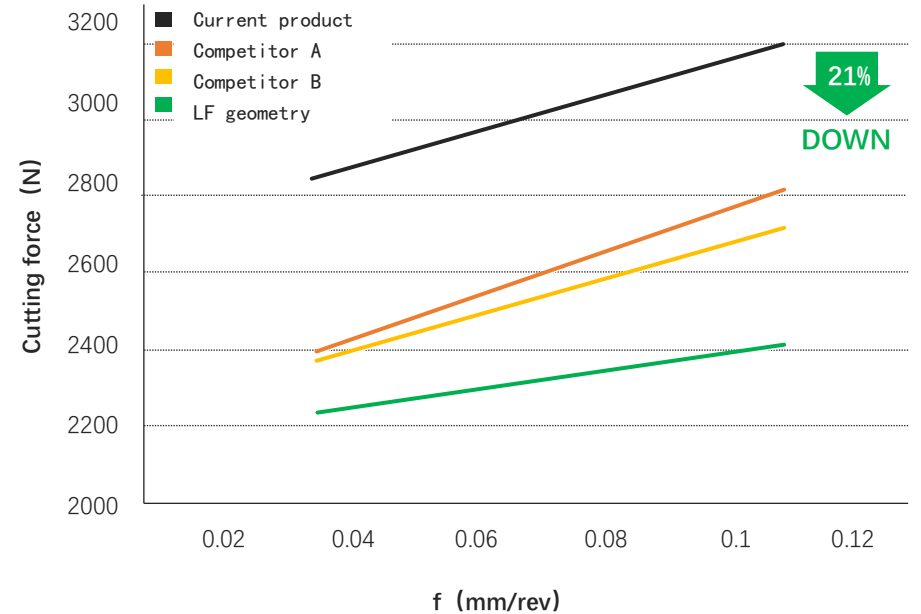
- Sharp, large rake angle; low cutting force design

Large depth of cut and stable chip evacuation.

- Sharp edge with big inclination

Excellent surface finish

Large rake angle ensures smooth chip evacuation
Depth of cut 0.012~0.12 in

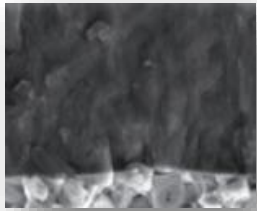


Cutting parameters: $V_c=393$ ft/min, $f=0.003$ in/rev, $a_p=0.039$ in, wet
Workpiece material: SUS316L

Low cutting force Geometry-LF



■ Features



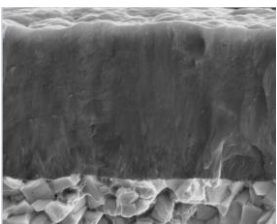
● Smooth coating surface makes cutting more constant, reduces built-up edge, effectively reduces burrs, and get excellent surface finish.

● Sub-micron substrate, good wear resistance, suitable for carbon steel, alloy steel and stainless steel turning.

1st choice for general purpose

M15-M35
P15-P35
AP301M

Specialized grade for Swiss Tool, suitable for steel and stainless steel turning, with good built-up edge resistance.



● New nano-structured coating with high density and strong adhesion force can effectively increase insert hardness and oxidation resistance.

● Sub-micron substrate, good wear resistance, suitable for carbon steel, alloy steel and stainless steel turning.

1st choice for heat-resistant alloy

S05-S25
M05-M25
AP100S

A PVD grade with high hardness and good resistance to plastic deformation, which ensures uniform wear and excellent performance.

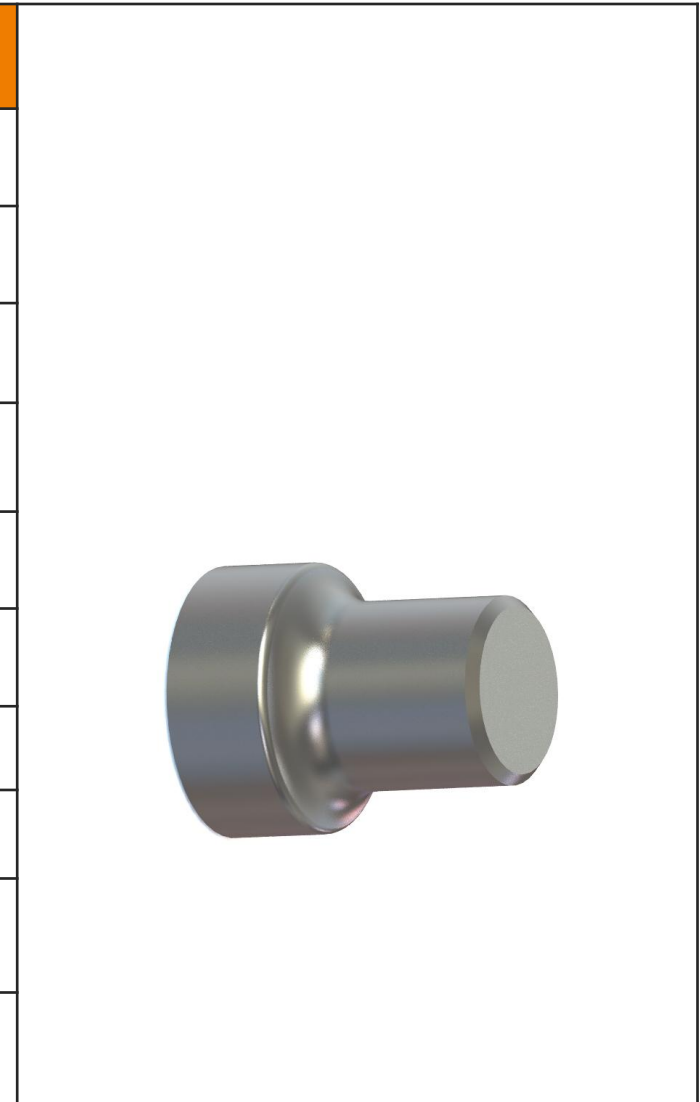


Brand	Original tool	ACHTECK
Machine	STAR CNC Automatic Lathe	
Component	Connecting part, 440C	
Insert	DCGT 11T302N-JS AH725	DCGT 11T302FP-LF AP200U
Application	External Finish Turning	External Finish Turning
Vc(ft/min)	328	328
f(in/rev)	0.002	0.002
ap(in)	0.004	0.004
Coolant	Emulsion	Emulsion
Tool life (pieces)	5 pieces	50 pieces
Result	The surface finish request was not reached in the past, and LF successfully machined 50 pieces	

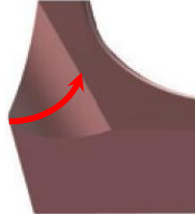
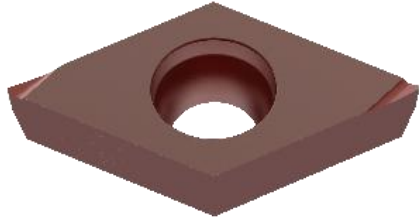




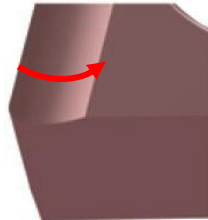
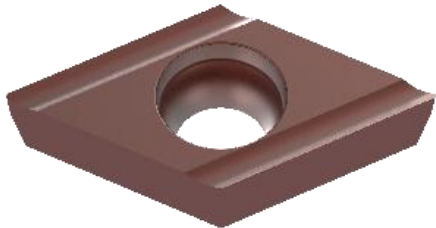
Brand	Original tool	ACHTECK
Machine	Hardinger CNC Machine	
Component	Screws, TC4	
Insert	CCGT 09T304-F BQ320	CCGT 09T304FP-LF AP301M
Application	External Finish Turning	External Finish Turning
Vc(ft/min)	98	98
f(in/rev)	0.002	0.002
ap(in)	0.008	0.008
Coolant	Emulsion	Emulsion
Tool life (pieces)	100 pieces/edge	150 pieces/edge
Result	Tool life has been increased by 50%.	



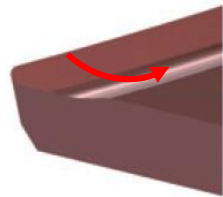
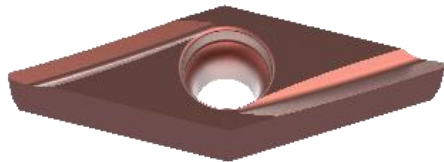
◆ Chip Breakers for Swiss tool

**F**

Low cutting force, controlled chip breaking, used in external and internal finish turning

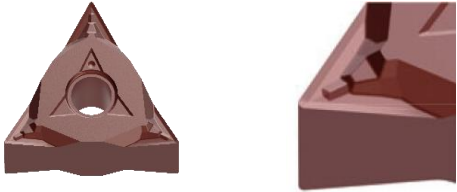
**M**

Good chip control even when depth of cut changes at low feed conditions

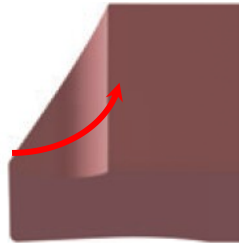
**Y**

Semi-finishing geometry, excellent cutting result, wide application range

◆ Chip Breakers for Swiss tool

**UF**

Chipbreaker for semi-finishing, very positive. Segmented chipbreaker design for a wide range of depth of cut and excellent chipbreaking control.

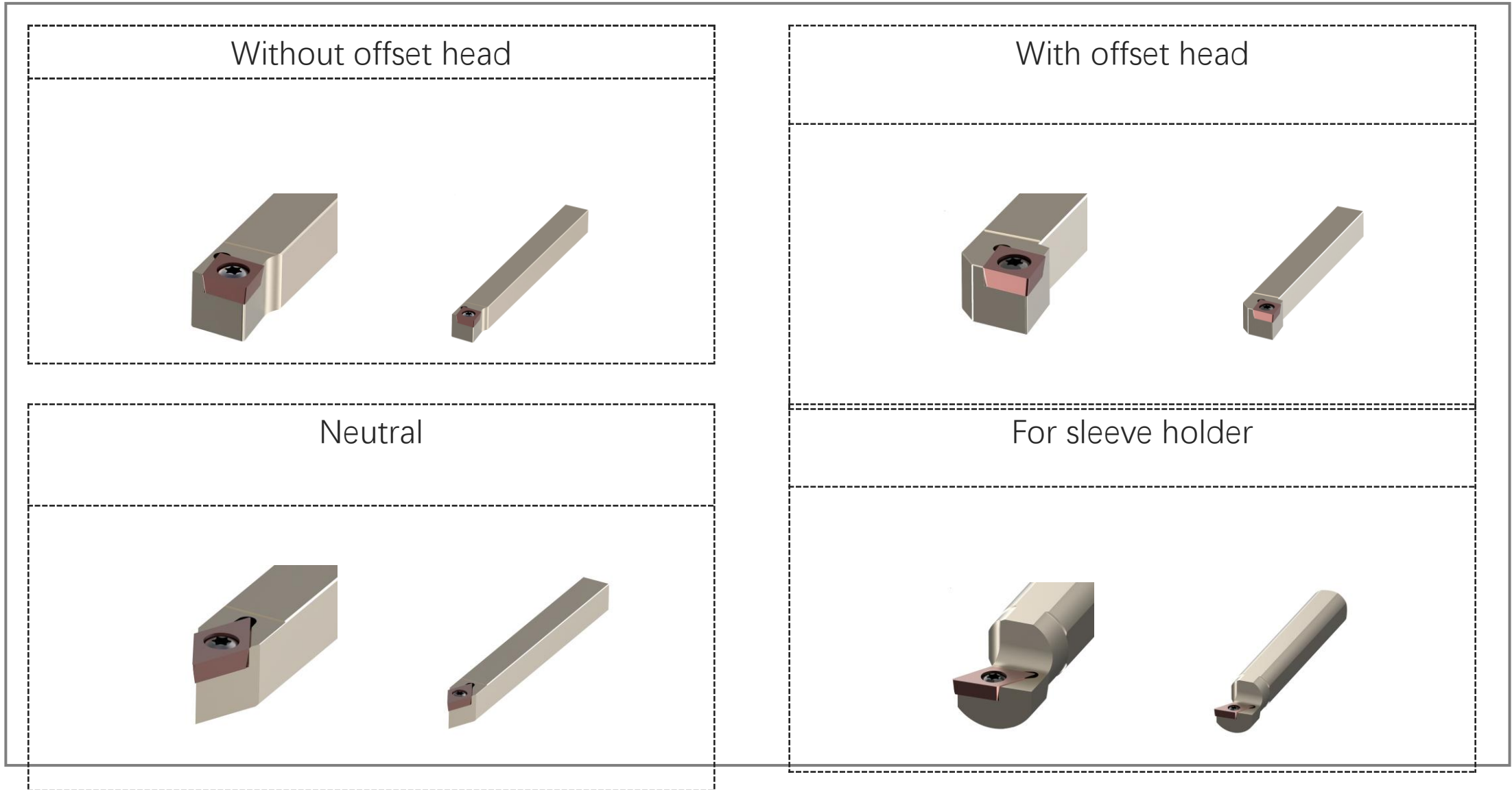
**F**

Low cutting force design presents excellent cutting result and ensures smooth and controllable chip breaking during finishing applications.

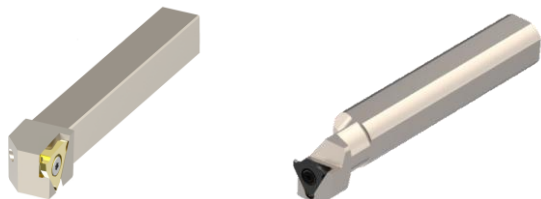
**H**

Strong cutting edge for higher feed and versatility

◆ Swiss tool holders for external turning



◆ ASG triangular grooving insert for Swiss tool



Square toolholder

Customized lengths for CNC automatic lathe, high positioning accuracy, universal toolholder

Round toolholder

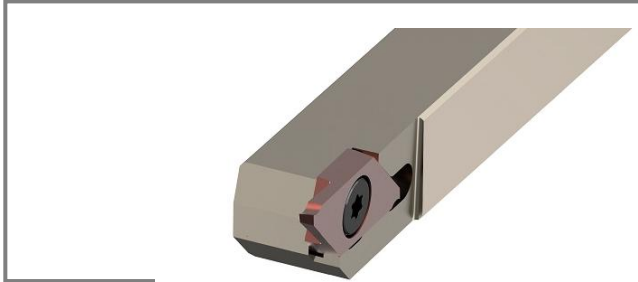
Flexible, suitable for limited space in CNC automatic lathes



ASG Triangular groove insert

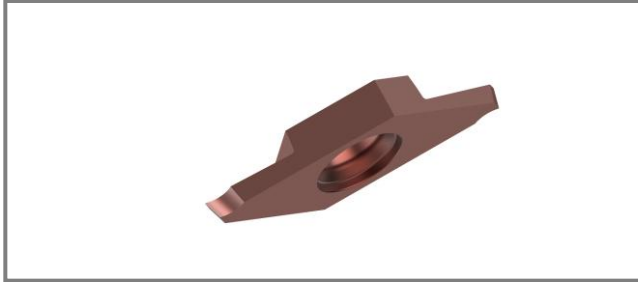
Three edges, precise ground insert, sharp and large rake angle for good surface finish

◆ ASW Multi-functional Swiss tool



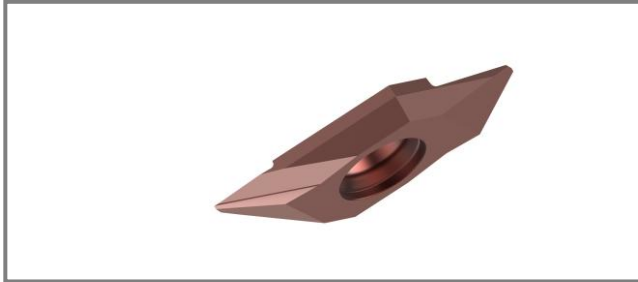
ASW tool holder

Multi-purpose, can cover parting, back turning and threading applications, reduce tooling cost



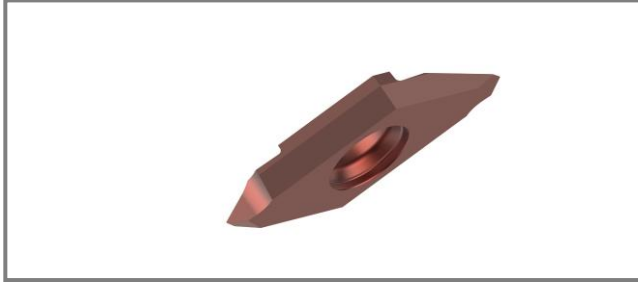
ASWP parting tool

Various cutting edge designs for various machining conditions.



ASWB Back turning tool

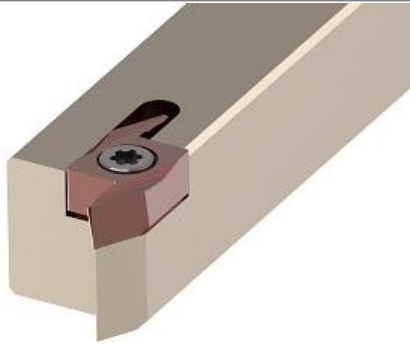
Sharp cutting edge, large rake angle, with large depth of cut and low cutting force



ASWT threading tool

Strong cutting edge for big feed and versatility

◆ Swiss tool ABF for back turning



ABF tool holder

High-precision tool holder, back-turning tool for CNC automatic lathe

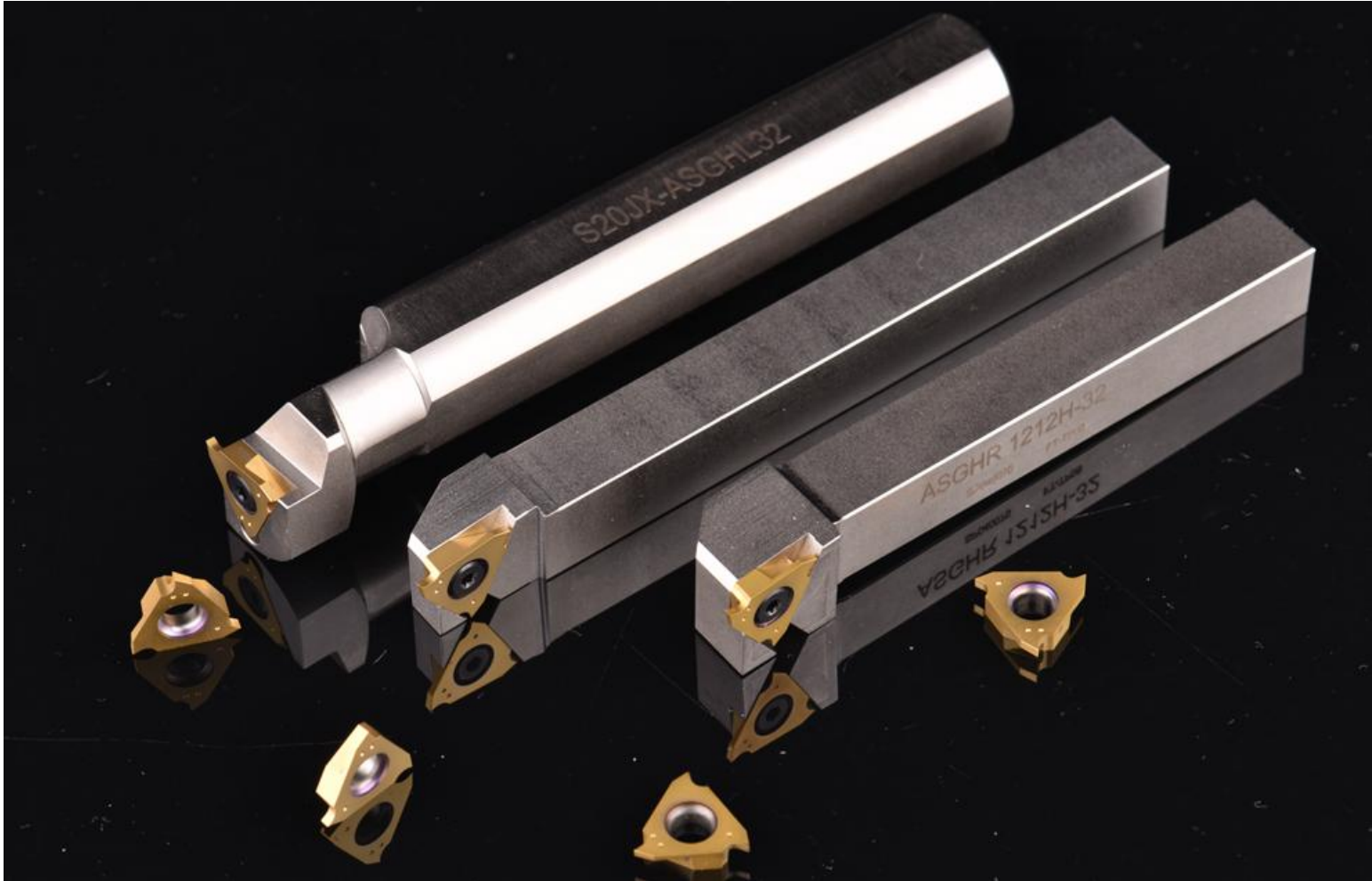


ABF back turning tool



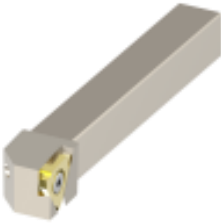



Sharp cutting edge, fully ground inserts, reliable chip control, maximum cutting depth at 4mm.

Grooving tools for Swiss Tool automatic lathe

ASG 32 Series

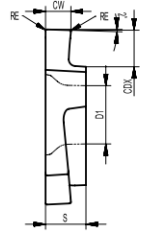
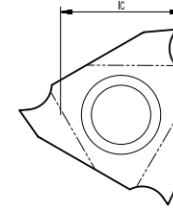


3 edge shallow grooving insert-**ASG**

Geometry	Insert	Edge shape	Features	Groove width (in)								
				OD machining					Face machining		Internal machining	
				切槽	切断	车削	仿形	越程槽	切槽	车削	切槽	车削
ASG			<ul style="list-style-type: none"> ● Precision insert ● Big rake angle, sharp edge for better surface finish ● 3 edge design 	0.031 0.098	-	-	-	-	-	-	0.031 0.098	-
Shank			Size (mm)	Max. ap (in)	Insert (ATG)		Insert width(in)	ap(in)				
ASGHR/L		□10X10	0.098		0.013	0.031						
		□25X25					0.098	0.098				
S...ASGHL		∅12	0.098		0.33	0.031						
		∅25.4					0.098	0.098				

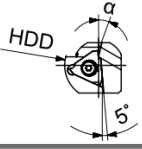
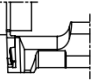
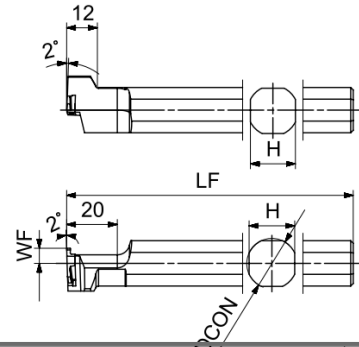
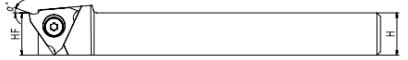
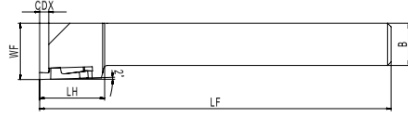
ASG-Insert

Product code	IC	S	D1
ASG 32-	0.375	0.125	0.181

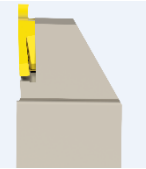


Product code	Cutting data		Size		AP301U
	Grooving	CDX	CW	RE	
	f (in/rev)				
ASG 32R/L033T08-R005	0.0004-0.002	0.031	0.013	0.002	●
ASG 32R/L050T12-R005	0.0004-0.002	0.047	0.02	0.002	●
ASG 32R/L075T20-R010	0.001-0.003	0.079	0.030	0.004	●
ASG 32R/L095T20-R010	0.001-0.003	0.079	0.037	0.0039	●
ASG 32R/L100T20-R010	0.001-0.003	0.079	0.039	0.004	●
ASG 32R/L120T20-R010	0.001-0.003	0.079	0.0472	0.004	●
ASG 32R/L125T20-R010	0.001-0.003	0.079	0.049	0.004	●
ASG 32R/L140T20-R010	0.001-0.003	0.079	0.055	0.004	●
ASG 32R/L145T20-R010	0.001-0.003	0.079	0.057	0.004	●
ASG 32R/L150T20-R010	0.001-0.003	0.079	0.059	0.004	●
ASG 32R/L175T20-R010	0.001-0.003	0.079	0.069	0.004	●
ASG 32R/L200T25-R010	0.001-0.003	0.098	0.079	0.004	●
ASG 32R/L250T25-R010	0.001-0.003	0.098	0.098	0.004	●

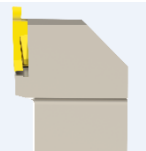
ASG-Holder



Product code	Size /in					Accessory	
	H	B	LF	LH	CDX	Screw	Key
1010JX-32F	0.394	0.394	4.724	0.728	0.098	SP040700	TP-08
1212FX-32F	0.472	0.472	3.346	0.728	0.098		
1212JX-32F	0.472	0.472	4.724	0.728	0.098		
1616JX-32F	0.630	0.630	4.724	0.728	0.098		
2020JX-32F	0.630	0.630	4.724	0.728	0.098		
1010F-32	0.394	0.394	3.150	0.728	0.098		
1212H-32	0.472	0.472	3.937	0.728	0.098		
1616H-32	0.630	0.630	3.937	0.728	0.098		
2020K-32	0.787	0.787	4.921	0.787	0.098		
2525M-32	0.984	0.984	5.906	0.787	0.098		



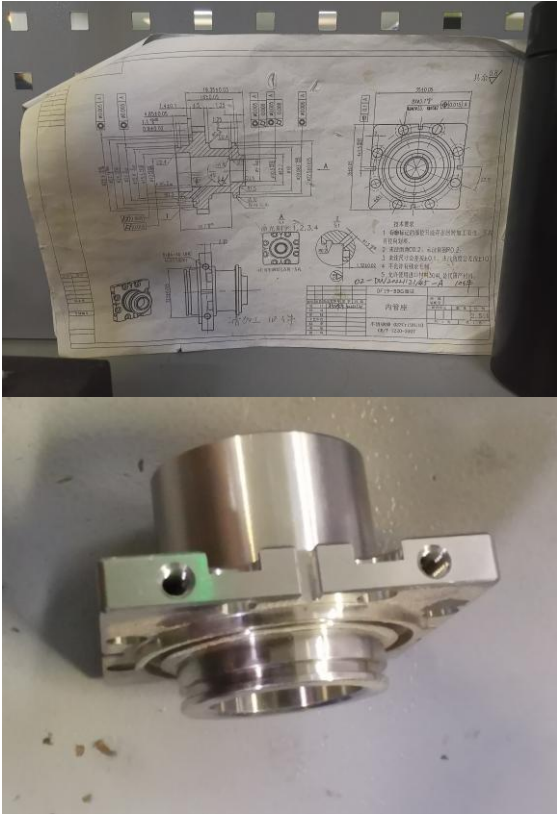
ASGHR/L



Product code	Size /in					Accessory			
	DCON	LF	WF	HDD	DMIN	Screw	Key		
S12F-ASGHL32	0.472	3.150	0.236	0.433	1.06	SP040700	TP-08		
S14H-ASGHL32	0.551	3.937		0.512					
S15.0H-ASGHL32	0.625			0.575					
S16H-ASGHL32	0.629 9								
S19.0JX-ASGHL32	0.750	4.724		0.693					
S20JX-ASGHL32	0.787	4.724		0.732					
S22JX-ASGHL32	0.866	4.724							
S25JX-ASGHL32	0.984	4.724		0.929					
S25.0JX-ASGHL32	1.000	4.724		0.394				0.929	1.46

ASG Success story

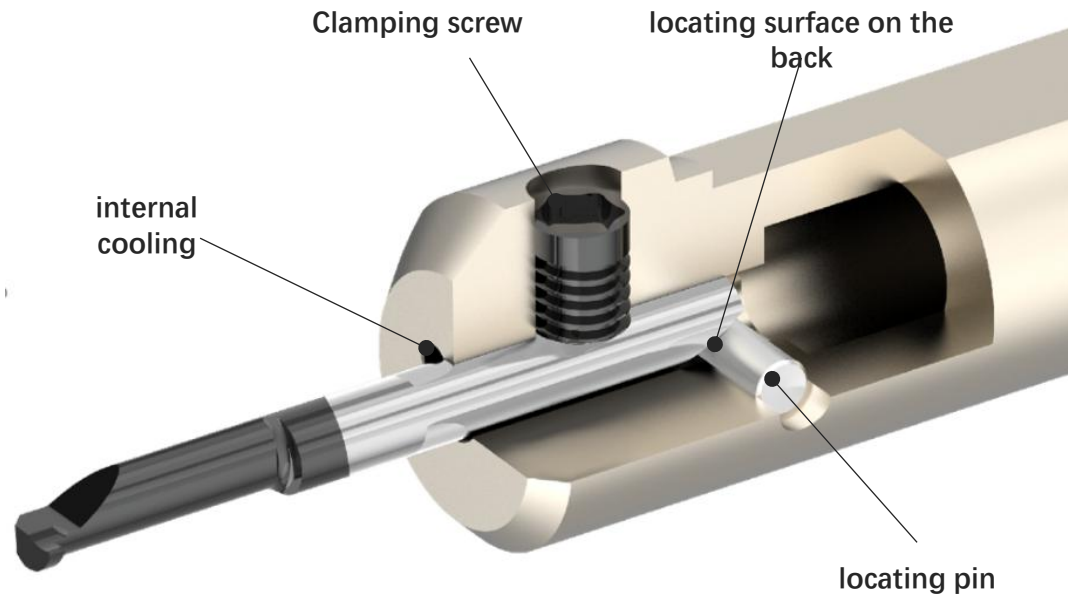
Brand	Competitor	ACHTECK
Machine tool		
Workpiece	Internal pipe seat (SUS316)	
Holder	Interchangeable	
Insert	TGF32R-150	ASG 32R150T20-R010 AP301U
Geometry		
Application	OD shallow grooving	OD shallow grooving
Vc(ft/min)	230	230
f(in/rev)	0.002	0.002
ap(in)	0.02	0.02
Coolant	Coolant	Coolant
Tool life (pcs)	80 pcs	100 pcs (OK)
Result	Longer tool life	



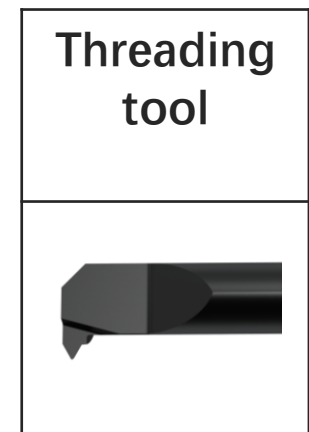
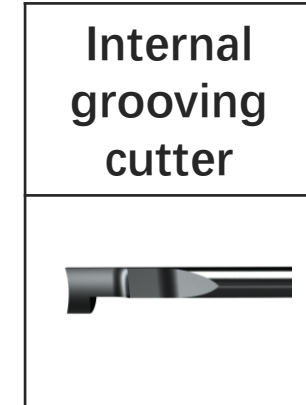
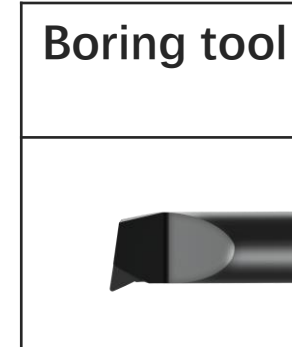
Brand	Competitor	ACHTECK
Machine tool	Horizontal CNC lathe	
Workpiece	Bolt (35CrMn)	
Holder	Interchangeable	
Insert	TGF32R200-010 PR930	ASG 32R200T25-R010 AP301U
Geometry		
Application	OD shallow grooving	OD shallow grooving
Vc(ft/min)	328	328
f(in/rev)	0.002	0.002
ap(in)	0.039	0.039
Coolant	Coolant	Coolant
Tool life (pcs)	320-350 pcs	330-350 pcs (OK)
Result	Same tool life, lower tooling cost.	



Solid carbide tools for small diameter boring-ASI series

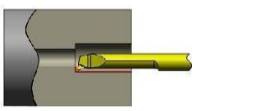
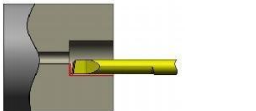
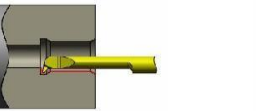
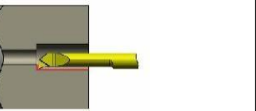


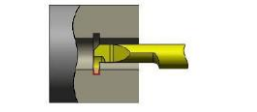
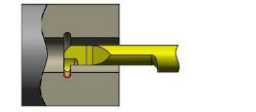
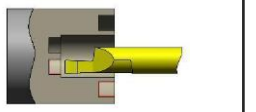
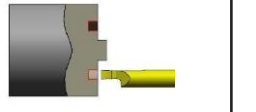
- ✓ Sleeve holder with cooling holes
- ✓ With positioning function

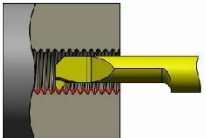


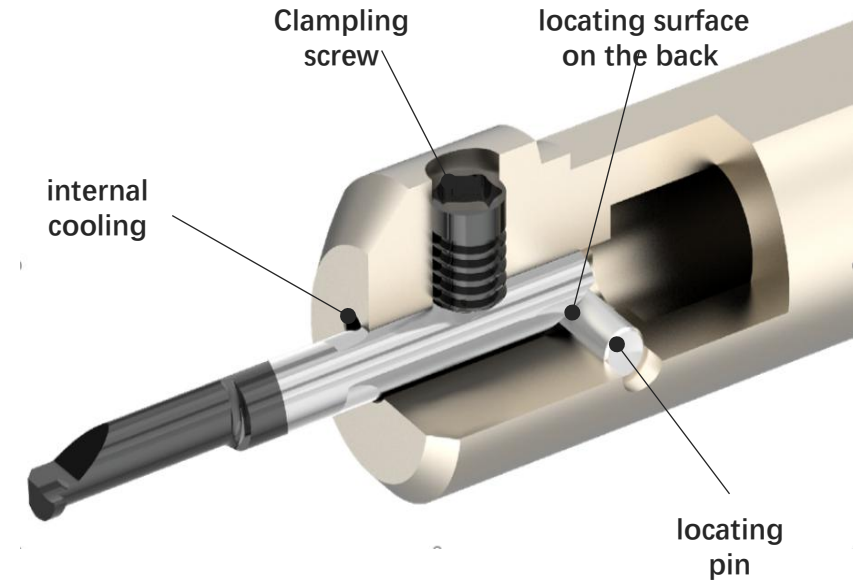
- Small diameter boring
- Solid carbide tools
- Min. machining diameter 0.5mm

External tool holders for Swiss Tool

	T type	E type	V type	S type
Boring tools				

	Internal S type	Internal R type	End facing A type	End facing B type
Grooving tools				

Threading tools	V type	M type	U type	W type	N type	T type
	Universal thread	ISO thread	UN thread	WORTH thread	NPT thread	TR 30°thread



Sensor components

**Materials:
316L**



01 External turning
Tool holder: SDJCR 1616JX-11F
Insert: DCGT 11T302E-UF AP301M

02 Profile turning
Tool holder: SDNCN 1616JX-11
Insert: DCGT 11T302E-UF AP301M

03 Drilling
Drill: D151-03-03000A1

04 chamfering
Solid carbide chamfering tool:

05 Threading
Tool holder: ASWSR 1616-09
Insert: ASWT 09R60005-FR AP301M

06 Interaction hole drilling
Drill: D1 Special drill

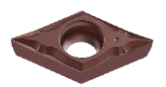
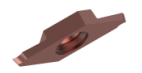
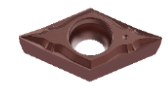
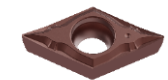
07 Parting off
Tool holder: ASWSR 1616-09
Insert: ASWP 09R150D12-F16R AP301M

08 External turning
Tool holder: S20JX-SDUCL11
Insert: DCGT 11T302E-UF AP301M

09 Milling hexagon
Solid carbide endmill: M100-4ES-030

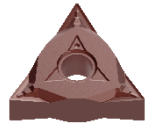
10 Drilling
Drill: D151 03-06000A1

11 Boring
Tool holder: ASI 0020-06
Insert: ASIBR 06T020-6225 AP220U



Materials:

304



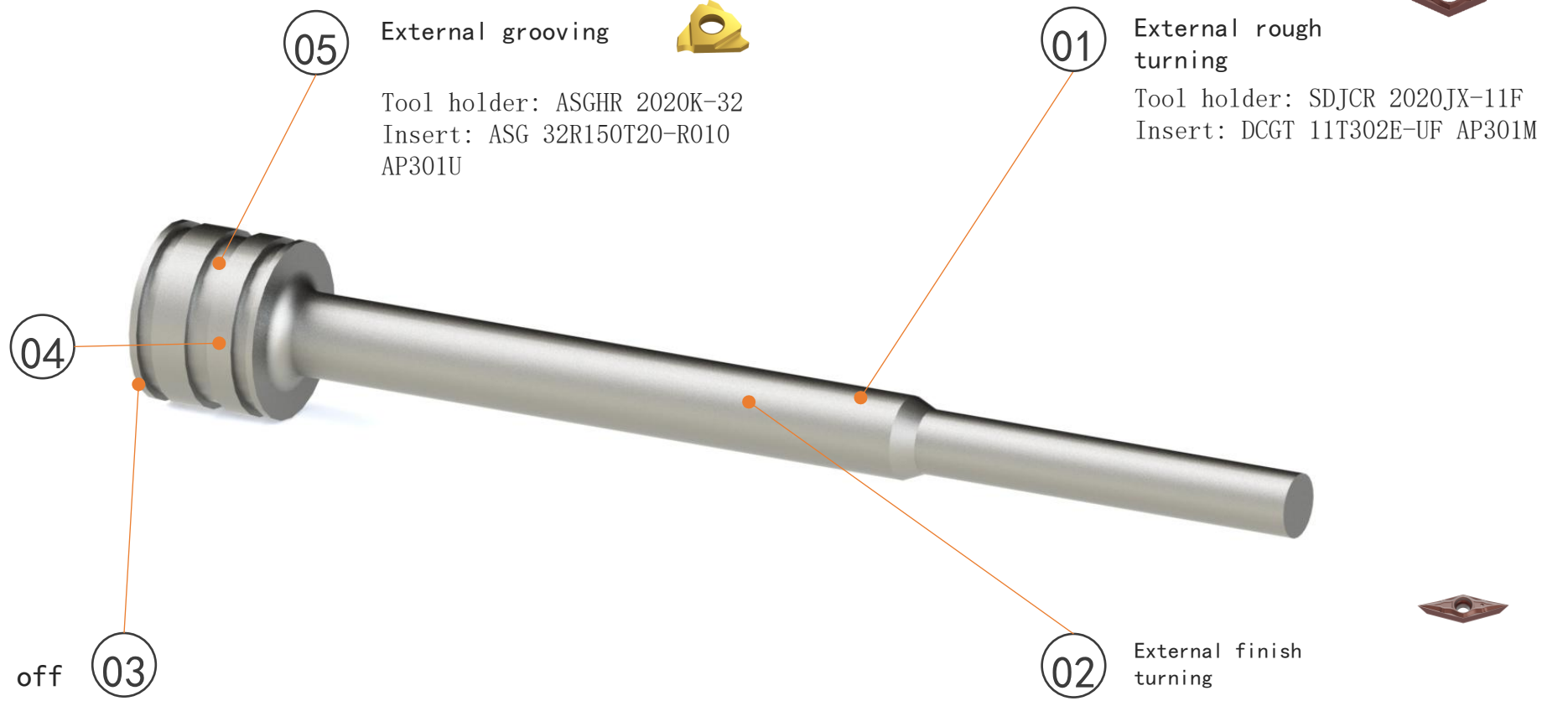
External turning

Tool holder: WTJNR2020K-16N
Insert: TNGG 160402FP-UF
AP301M



Parting off

Tool holder: ASWSR 1616-09
Insert: ASWP 09R150D12-F16R AP301M



05

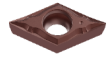
External grooving



Tool holder: ASGHR 2020K-32
Insert: ASG 32R150T20-R010
AP301U

01

External rough turning



Tool holder: SDJCR 2020JX-11F
Insert: DCGT 11T302E-UF AP301M

04

02

External finish turning



Tool holder: SVJPR 2020JX-11F
Insert: VPGT 110302FP-UF AP301M

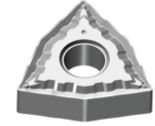
Hydraulic Valve Components

Materials:
40Cr



01

External turning



Tool holder: PWLNR 1616H-08
Insert: WNMG 080404-M3T AT202

02

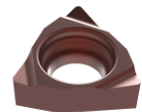
Drilling



Drill: D106 03-07000A1

03

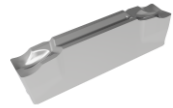
Boring



Tool holder: BAR1606-24
Insert: WBET 060104FL-F AP301M

05

Parting off



Tool holder: ATSER 1616-2D32-SW
Insert: ACD 202-CM AP301U

04

Drilling

Drill: D106 03-03200A1
D2 special drill



Lens Ring

Materials:
316L



Parting off

08

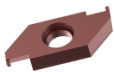
Tool holder: S20JX-ASGHL32
Insert: NSG32R060-000AA AP301M



External
grooving

07

Tool holder: S20JX-ASGHL32
Insert: NSG32R060-004AA AP301M



Internal grooving

06

Tool holder: NS20H-SSW10R14AA
Insert: NSW10L065-005AA AP301M

01

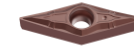
External rough
grooving



Tool holder: S20JX-ASGHL32
Insert: NSG32R160-020AA AP301M

02

External finish
turning



Tool holder: SVPBR 2020K-11
Insert: VBGT 110302E-UF AP301M

03

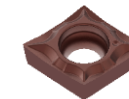
Drilling



Drill: D151-03-10000A1

04

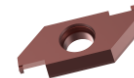
Boring



Tool holder: S08H-SCLCR06-10
Insert: CCGT 060204E-UF AP301M

05

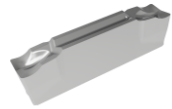
Internal
grooving



Tool holder: NS20H-SSW10R14AA
Insert: NSW10L105-020AA AP301M
(roughing)
NSW10L080-005AA AP301M
(finishing)

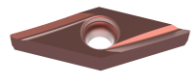


Materials:
304



Parting off (05)

Tool holder: ATSER 1616-2D32-SW
Insert: ACD 202-CM-6R AP301U



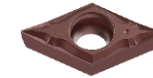
Boring (04)

Tool holder: A12M-SVUCR08-16AE
Insert: NVC08L000-005AA AP301M



(01)

External turning



Tool holder: SDJCR 1616JX-11F
Insert: DCGT 11T302E-UF AP301M

(02)

Threading



Tool holder: ASWSR 1616-09
Insert: ASWT 09R60005-FR AP301M

(03)

Drilling



Drill: D151-03-19000A1

Watch Bezel

Materials:
316L



Face finish turning

04

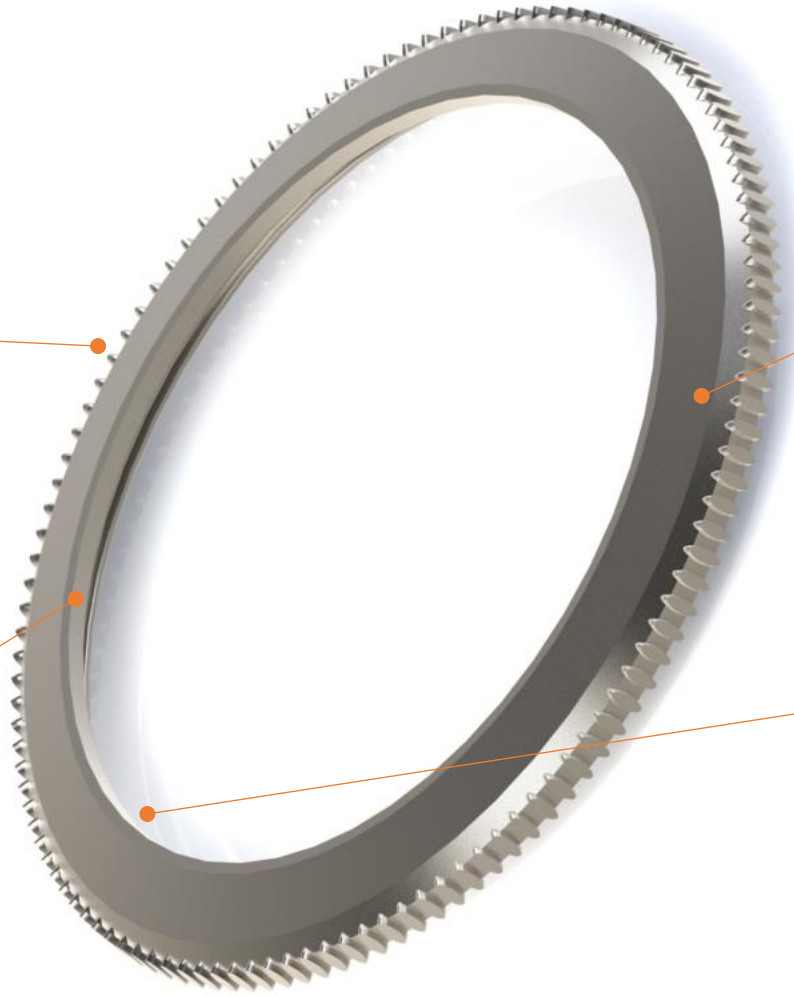
Tool holder: PTG NR 2525M-16
Insert: TNGG 160402FR-F AP301M



Internal grooving

03

Tool holder: ATGIR 25R32-35T28
Insert: ATG 32R033T08-R005
AP301U



01

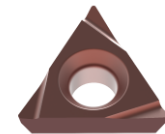
Back finish turning



Tool holder: PTG NR 2525M-16
Insert: TNGG 160402FR-F AP301M

02

Boring



Tool holder: BAR1620-83
Insert: TPEH 110302FL-F AP301M

Connecting Pin

Materials: Ti-alloy

Drilling 08

Drill: D151 03-03000A1

Bayonet milling 07

Solid carbide endmill: M100-4ES-030

Threading 06

Insert: ASIBR 06T020-6225 AP220U

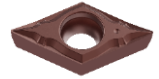
Drilling 05

Drill: D151 03-07000A1

04 External turning

Tool holder: SDJCR 1616JX-11F
Insert: DCGT 11T302E-UF AP100S

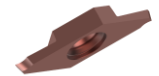
01 External turning



Tool holder: SDJCR 1616JX-11F
Insert: DCGT 11T302E-UF AP100S

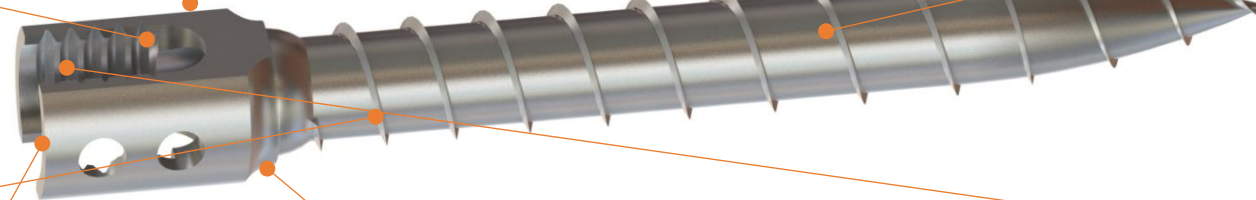
02 Threading

Holder: ASWSR 1616-10
Insert: NSW10R210-008AA AP301M



03 Parting off

Tool holder: ASWSR 1616-09
Insert: ASWP 09R150D12-F16R AP301M



·ACHTECK·



THANKS

