



2024

PRODUCT HIGHLIGHTS



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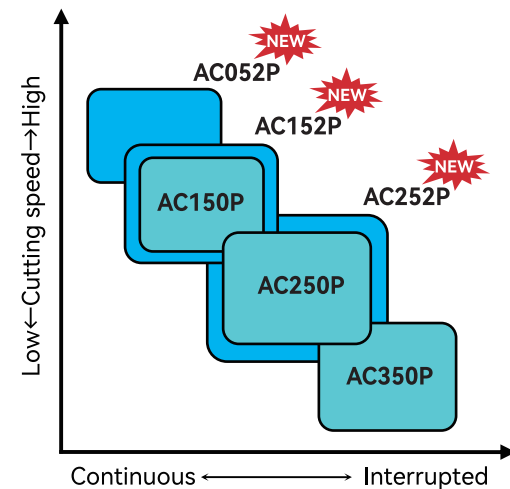
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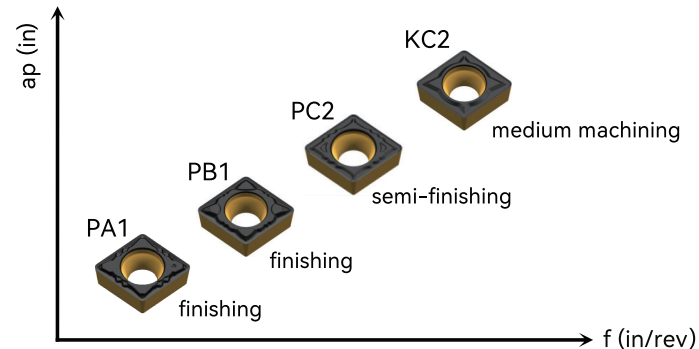
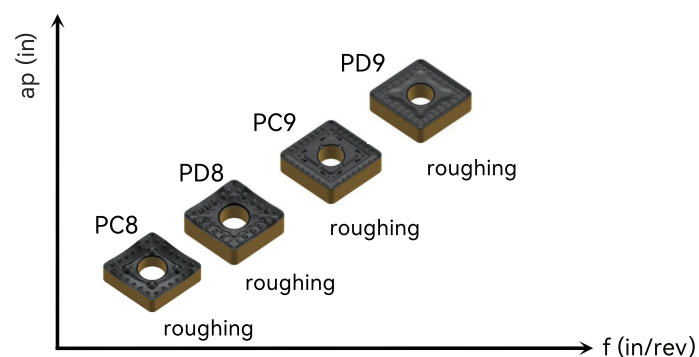
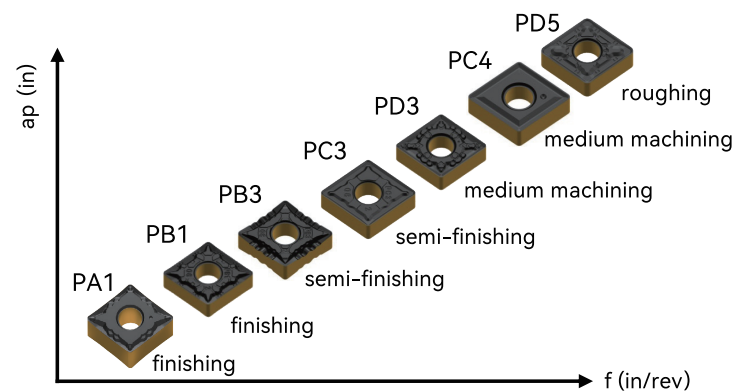
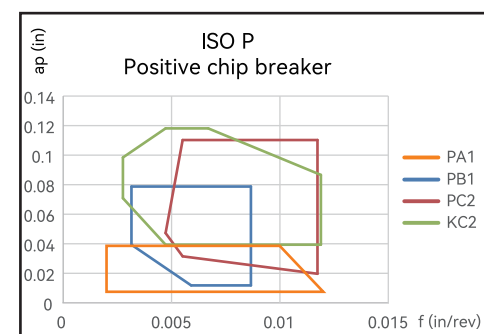
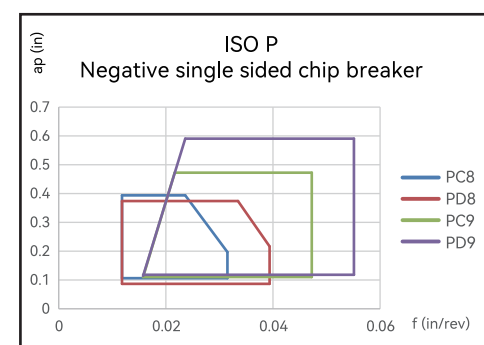
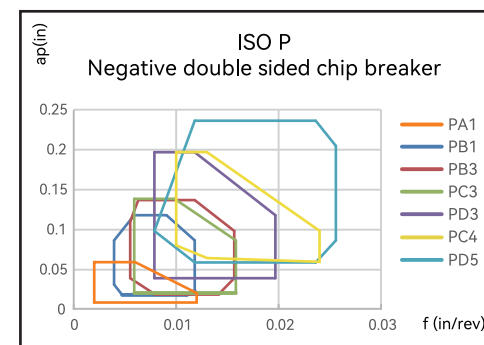
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New Generation of Steel Turning Grades AC052P/AC152P/AC252P/AC350P

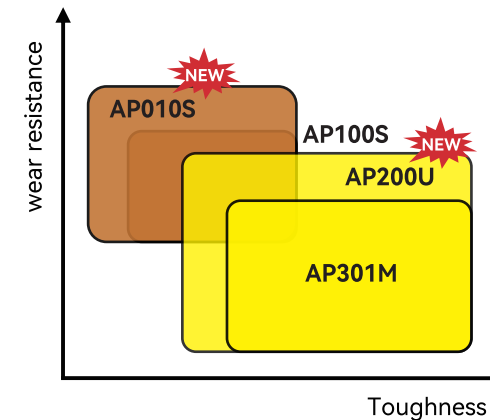
AC052P/AC152P/AC252P Application range



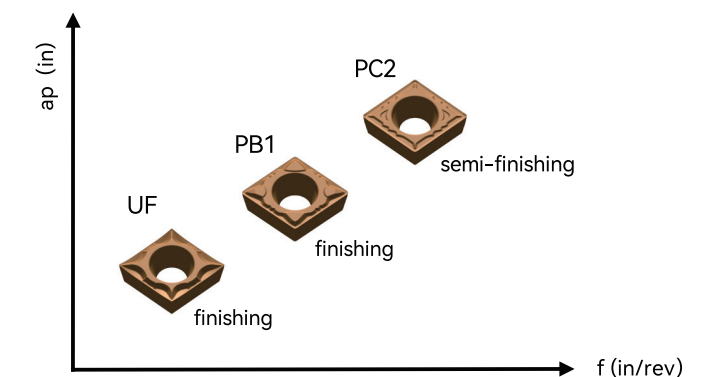
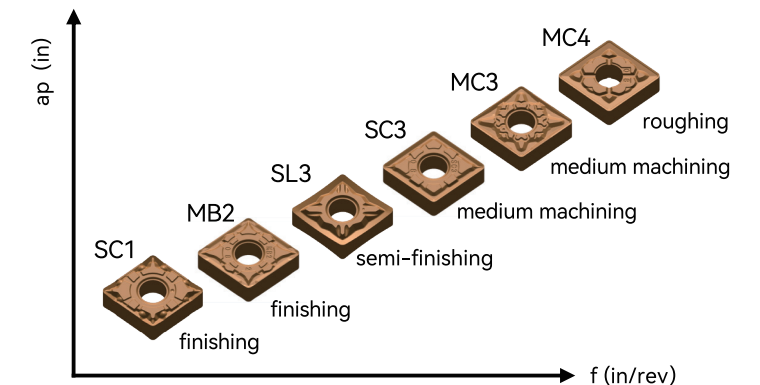
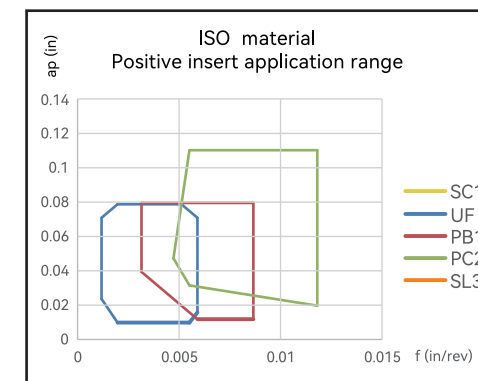
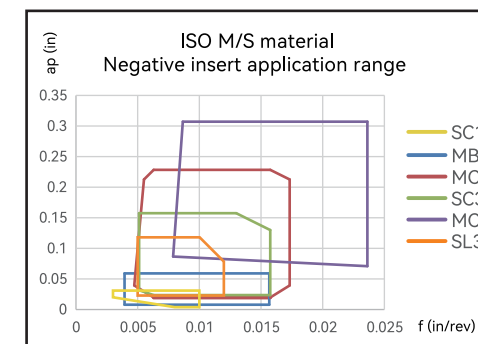
- **AC052P: P01-P15**
Excellent crater wear resistance and plastic deformation resistance. Recommended for steel finish to rough turning under stable condition. Guaranteed cutting edge reliability in dry, wet or high temperature applications.
- **AC152P: P05-P25**
A CVD grade suitable for steel and cast steel rough to finish turning. Recommend for continuous and light interrupted turning. A grade with higher metal removal rates. Upgraded from AC150P
- **AC252P: P15-P35**
First choice for steel turning. Recommended for steel, cast steel and ferritic/martensitic stainless steel turning, from finishing to roughing. Suitable for continuous and interrupted turning. Upgraded from AC250P
- **AC350P: P35-P45**
Low speed roughing, excellent impact resistance, suitable for heavy interrupted turning.



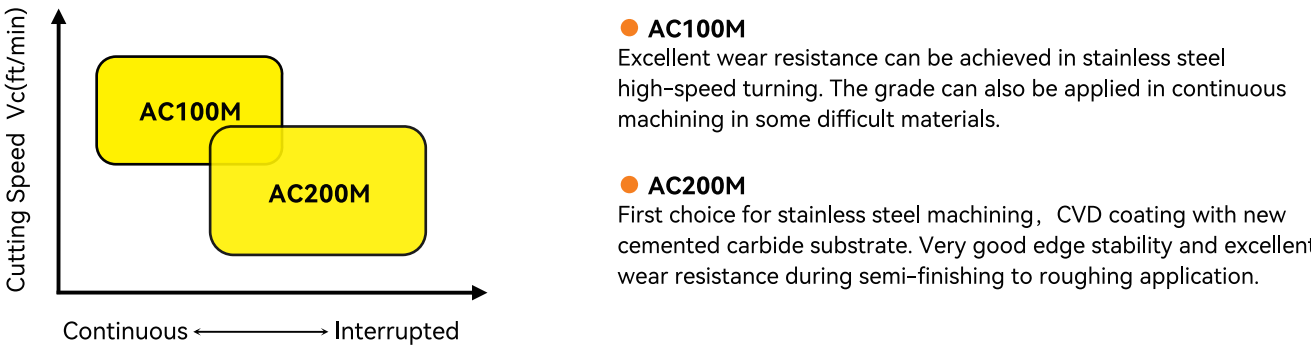
Stainless Steel and Heat Resistant Alloys Turning Grades AP010S/AP100S/AP200U/AP301M



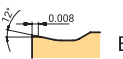

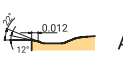
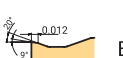

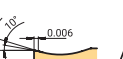
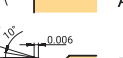

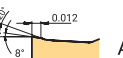
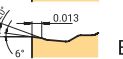
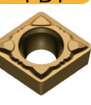
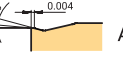
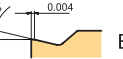

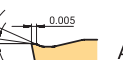


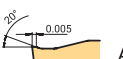
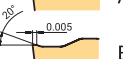


- **AP010S: S01-S15/M01-M15**
Excellent wear resistance, recommended for super alloy semi-finish turning and stainless steel finish turning. First choice for super alloy high speed turning.
- **AP100S: S05-S25/M05-M25**
For super alloy semi-finish turning, and stainless steel finish turning. First choice for super alloy turning.
- **AP200U: M15-M35/S15-S35/P15-P35**
Universal grade, for stainless steel /super alloy semi-finish to rough turning. Also used in steel turning while cutting speed is low (<492 ft/min). First choice for stainless steel turning.
- **AP301M: M15-M35/S15-S35**
Universal grade, for stainless steel/super alloy semi-finish to rough turning.

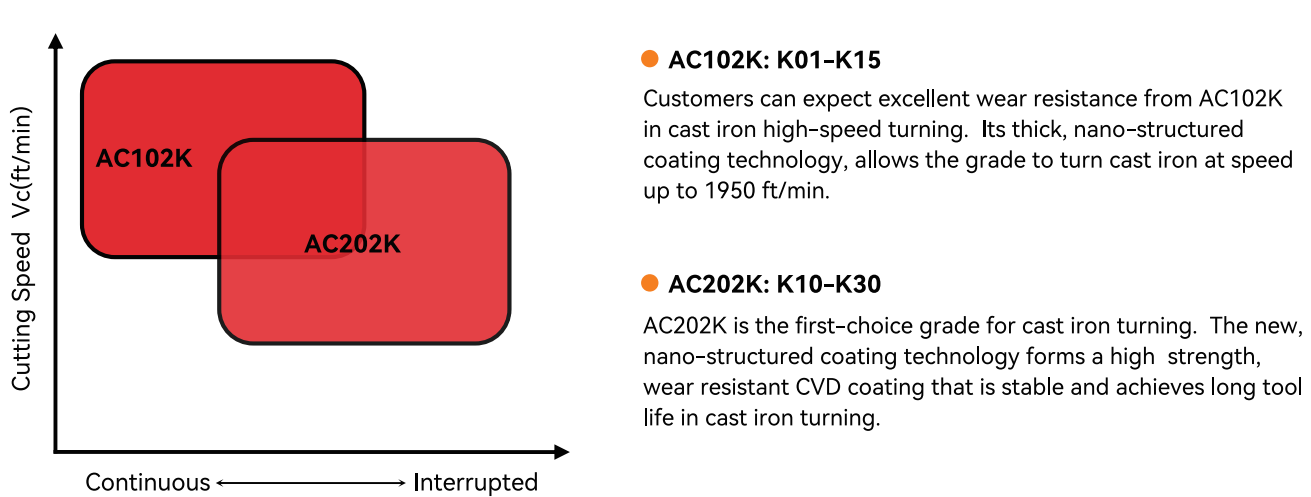


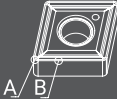


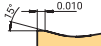
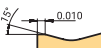
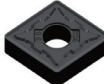

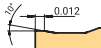
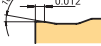
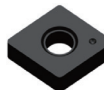


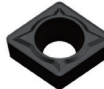

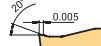
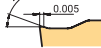



Stainless Steel Turning Grades with CVD Coating AC100M/AC200M



Application		Geometry		Features	Chipbreaker cross section
Negative	Finish machining	MB2		First choice for finish turning. The sharp edge design reduces cutting forces, decreases built-up edge, produces an excellent surface and has excellent chip removal at low feeds in small to larger depth of cut.	 A  B
	Medium machining	MC3		First choice for medium turning. The sharp cutting edge design provides low cutting forces and excellent chip evacuation. The variable rake angle from the nose radius to the main cutting edge expands the chip breaking ability of this geometry while also protecting against edge line chipping and fracture.	 A  B
		SC3		Second choice for medium turning. The geometry is suitable for medium turning in stainless steel due to its high rake angle and reinforced edge line plus small edge width design, works well in higher speed and interrupted applications.	 A  B
	Rough machining	MC4		First choice for rough turning. The geometry is designed for excellent chip removal, good chip breaking and high removal rates in stainless steels.	 A  B
Positive	Finish machining	PB1		First choice for finish turning. The positive rake angle reduces built-up edge, achieve good surface finish and long tool life. The geometry is mainly applied in steel and stainless steel turning.	 A  B
	Medium machining	PC2		First choice for medium turning. The positive rake angle and sharp cutting edge design effectively avoids built-up edge and provides a wide range of chip breaking.	 A  B
	Rough machining	KC2		First choice for rough turning. The geometry is universally applied to turning with a simple and durable chip breaker.	 A  B

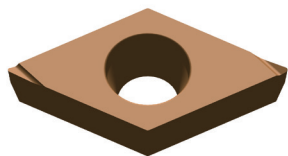
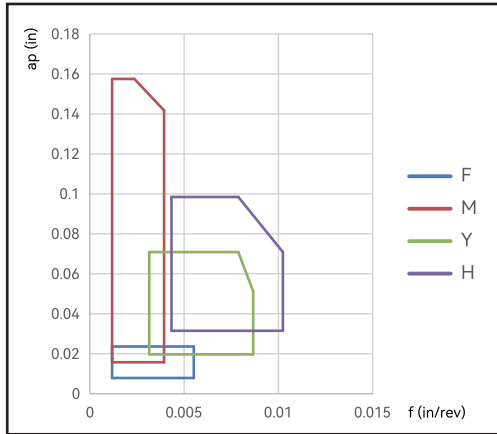
New Cast Iron Turning Grades AC102K/AC202K



Application		Geometry		Features		Chipbreaker cross section
Negative	Medium machining	<div>PC4</div> 		First choice for cast iron medium turning and nodular cast iron turning. It has high cutting edge strength with good all-around chip breaking designed to satisfy a wide application area.	 A  B	
	Rough machining	<div>KC4</div> 		First choice for cast iron rough turning. The geometry has a strong cutting edge, offering reliable machining and stable performance.	 A  B	
		<div>KD5</div> 		First choice for grey cast iron rough turning. The geometry has high edge strength and is suitable for interrupted and unstable cutting.	 A	
Positive	Rough machining	<div>KC2</div> 		General purpose cast iron turning geometry. It is used for cast iron medium machining, and has a wide application area with a simple and durable chip breaker design.	 A  B	
		<div>KD5</div> 		Used for cast iron rough machining. The geometry has a strong cutting edge with good edge chipping resistance.	 A	

Swiss Tools

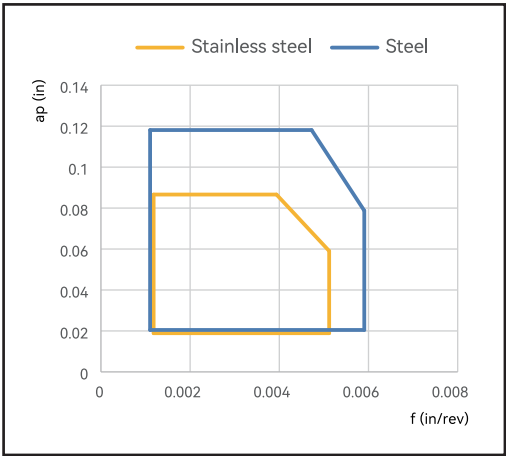
- Large rake angle design reduces cutting forces
- Excellent chip breaking can be achieved in both right and left handed geometries
- Sharp edge improves the work piece surface quality
- Periphery ground inserts can control the dimensional precision in all directions
- Inserts tend to have a small hone (<0.001 in) and are used in machining small parts
- Customized ground geometries to handle all types of machining conditions from finishing to roughing



Geometry	Chipbreaker	Features	Chipbreaker profile
F		<ul style="list-style-type: none">• Low cutting force and stable cutting• Used in finish turning applications	
M		<ul style="list-style-type: none">• Suitable for low and medium feed rates and stable cutting• Large rake angle design prevents work hardening	
Y		<ul style="list-style-type: none">• Low cutting forces• Chip evacuation is excellent, and the geometry can be used for a large range of applications	
H		<ul style="list-style-type: none">• The geometry has a high strength edge line.• Suitable for semi-finishing to rough turning	

UF Chipbreaker

A 3D perspective view of a UF chipbreaker insert. Red callouts point to specific features: 'The chip breaker extends to the nose', 'Large rake angle with low cutting force', 'Sharp edge', and 'Achieves an excellent turned surface quality'.



LF Chipbreaker

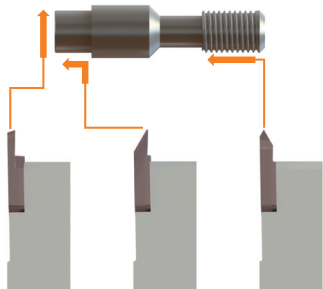
A 3D perspective view of an LF chipbreaker insert. Red callouts point to specific features: 'Polished big chip space', 'Effectively reduce built-up edge', 'Sharp and large rake angle for lower cutting force', 'Stable chip evacuation at large cutting depth', 'Sharp side cutting edge with large rake angle', and 'Excellent surface finish'.

A line graph showing the relationship between cutting depth (ap) in inches and feed rate (f) in inches per revolution for the LF chipbreaker. The y-axis ranges from 0.039 to 0.157 in increments of 0.079. The x-axis ranges from 0.002 to 0.008 in increments of 0.002. The ap is constant at 0.118 for f up to 0.004, then decreases to 0.039 at f = 0.008.

Large rake angle for smooth chip evacuation
Cutting depth: 0.012-0.118"

ASW Multi-function Swiss Tool

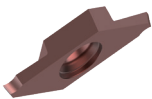
The product offering can be used in parting off, back turning and threading operations in small parts. The dedicated grades for small parts machining achieve long stable performance.



Parting off applications

ASWP series

- Max. parting off dia.: ASWP09 $\varnothing 5 \sim \varnothing 12$, ASWP10 $\varnothing 16$
- Width of cutting edge: 0.5 ~ 2.0mm
- Three different geometries can be chosen for different applications



Back turning application

ASWB series

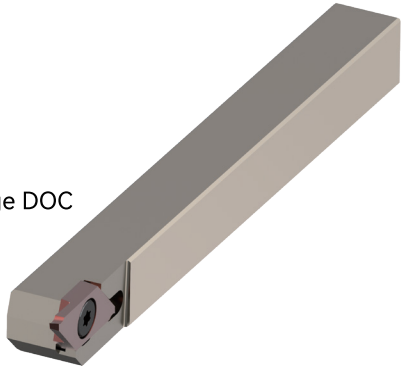
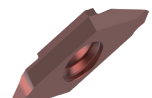
- Max.DOC: ASWB09 ap 3 ~ 4mm, ASWB10 ap 5mm
- Width of cutting edge: 1.5 ~ 3.8mm
- Large rake angle with sharp cutting edge can achieve low cutting forces at large DOC



Threading applications

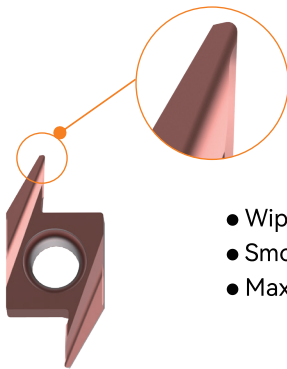
ASWT series

- ASWT is suitable for pitch 0.2-1.5mm
- Right and left hand holders and inserts offering
- Special edge preparation can achieve high feed, very good flexibility

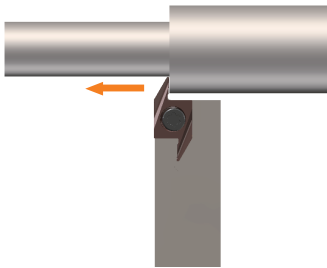


ABF Back Turning Series

Dedicated for small part back turning applications
Will achieve stable high productivity and performance with our dedicated grades for small parts machining



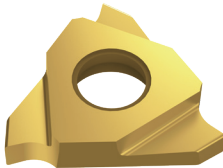
- Wiper design can achieve good surface quality
- Smooth cutting and low cutting forces due to sharp and positive geometry
- Max.DOC: 4mm, High productivity



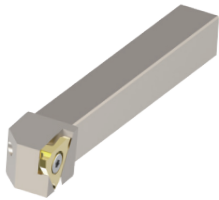
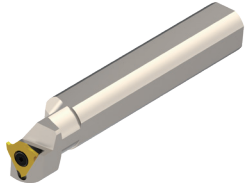
ASG Shallow Grooving Series

Stable, high productivity and performance machining with AP301U grade

- Precision inserts, width tolerance: ±0.025mm
- Better cost per edge due to triangle design. Tailor-made possibilities with blank insert
- High positive rake angel and sharp edge preparation can achieve good surface quality
- Width range of cutting edge: 0.33–2.5mm



Holder offering

Product code		Shank dimension (mm)	Width of cutting edge (mm)	DOC (mm)
ASGHR/L		10	0.33	0.8
		I	I	I
		25	2.5	2.5
S...ASGHL		Φ12	0.33	0.8
		I	I	I
		Φ25.4	2.5	2.5

Grades Recommendation for Swiss Tools

First choice for general machining

M15-M35
P15-P35
AP301M

The dedicated grade for small part turning, suitable for steel and stainless steel turning, with good built-up edge resistance

First choice for heat resistant alloys

S05-S25
M05-M25
AP100S

PVD coating grade with high hardness and good plastic deformation resistance to get even wear resistance and good performance

Material	Steel (Carbon steel/Alloy steel)					Stainless Steel					Titanium alloy				
Application range	Finishing ↔ Roughing					Finishing ↔ Roughing					Finishing ↔ Roughing				
ISO classification	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	S01	S10	S20	S30	S40
Grade			AP301M					AP301M				AP100S			
			AP301U				AP100S						AP301M		

ASI Small Dia Boring Tools

- Dmin 0.02”
- High precision fully ground bar
- The inclined positioning surface is located on the rear end of the holder, can achieve high positioning accuracy.
- Various tool selections including boring, internal grooving, face grooving and internal threading.
- Sleeve with internal coolant design can achieve longer tool life.



Boring



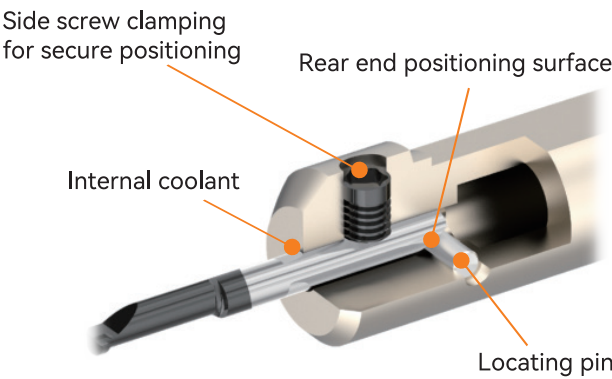
Face grooving



Threading



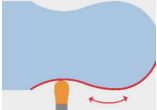
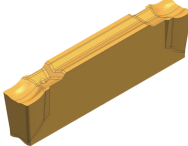
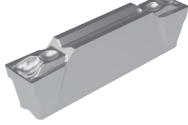
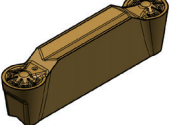
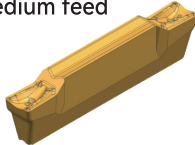
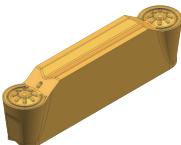
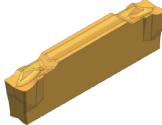
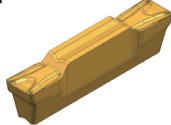

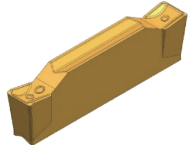
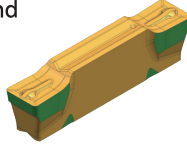
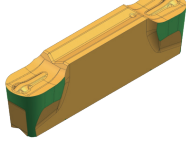


Grooving



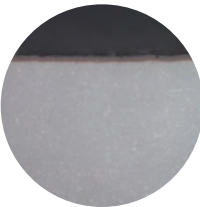
Grooving Insert -ACD/ATD

● Insert Geometry Introduction

Grooving & Parting	Turning & Grooving	Profiling
		
CS-Low feed  1. Used in parting off & grooving stainless steel, heat resistant alloy and low carbon steel 2. For low feed rates	GS-Low feed  1. Excellent chip breaking, suitable for grooving and finish turning. 2. Geometry for finish machining, low cutting force, low feed, excellent surface quality. 3. Ground insert, better precision control and positioning repeatability.	RS -Finishing to semi-finishing  1. Grooving, turning, copying processing 2. Positive rake angle with good edge protection 3. Low feed application 4. Ground insert, high precision control, good surface quality
	TS-Low to Medium feed  1. Used in parting off & grooving low carbon steel and stainless steel 2. For sticky materials, pipe fittings, thin-walled part parting off, low cutting forces 3. For low to medium feed rates	RM-Medium  1. External grooving, turning, profiling 2. For medium feed rates
CM-Medium feed  1. Used in parting off & grooving low carbon steel and stainless steel 2. For sticky materials, pipe fittings, thin-walled part parting off, low cutting forces 3. For low to medium feed rates	TM-Medium feed  1. Multi-functional insert for external, internal turning and grooving, parting off, face grooving and face turning 2. Excellent chip control 3. For low and medium feed rates	RA-Aluminum  1. For turning and profiling aluminum alloys 2. High positive rake angle and sharp cutting edge 3. Ground inserts with high precision
CH-High feed  1. Used in parting off and grooving steel with high hardness and toughness, alloy steel and stainless steel 2. Strong cutting edge 3. For parting off & grooving at medium to high feed rates	G-Ground   1. Multi-functional insert for external, internal turning and grooving, parting off, face grooving and face turning 2. Stronger cutting edge design 3. For medium feed rates 4. Ground insert, better precision control and positioning repeatability.	

Grooving Insert -ACD / ATD

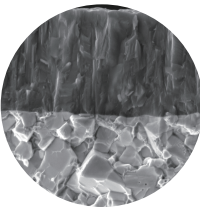
● Grooving Grade Description



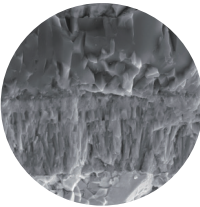
- AP301U**
1. Suitable for steel, stainless steel and heat resistant alloy grooving. The grade has a high strength and wear resistant submicron carbide substrate with a multi-layer nanostructured PVD coating.
 2. Good coating adhesion and high wear resistance
 3. ISO application range: P15-P35, M15-M35
 4. Available in all ACD/ATD geometries



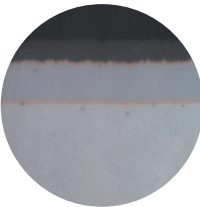
- AP330M**
1. First choice for stainless steel PG&T but is also suitable for steel
 2. Used primarily in stainless steel. The new PVD coating has improved cracking resistance and thermal security. The grade also shows excellent wear resistance and coating adhesion.
 3. The new substrate has a fine grain size WC and high content in cobalt and chromium, resulting in good hardness, excellent impact resistance and endurance of the cutting edge on heavy interrupted cutting conditions.
 4. Available in the CS/CM/CH/TS/TM/RM geometries
 5. ISO application range: M25-M45, P25-P45



- AP130S**
1. Major application is grooving and turning of inconel, titanium and Fe-based super alloys. It also can be used in stainless steel. A unique sintering process intensifies the substrates' ability to withstand high temperatures and improves the impact resistance of the inserts.
 2. The improved substrate combined with the latest thin, smooth PVD coating reduces the coefficient of friction which reduces BUE and oxidation while increasing the wear resistance at high temperatures.
 3. ISO application range: S10-S20, M05-M20
 4. Available in GS/TS/TM/RM/RS geometries



- AC230P**
1. AC230P is the CVD grade for steel, grey and nodular cast iron grooving, turning and profiling at high cutting speeds
 2. This grade has a gradient structured substrate and equalized nano coating structure for better toughness, stability and wear resistance during machining.
 3. The transition layers in the coating provide better adhesion and peeling resistance, which greatly improves tool life.
 4. Available in the TS/TM/RM geometries
 5. ISO application range: P10-P30, K20-K40



- AW100K**
1. An uncoated grade that is the first choice for grooving aluminum alloys
 2. The grade has an ultra-fine grain substrate and specially treated cutting edge
 3. Available in the RA geometry
 4. ISO application range: N05-N15

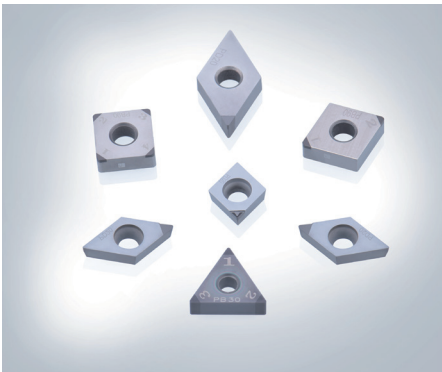
PCBN & PCD Turning Inserts

● Super-hard Turning Insert Series

Super-hard turning inserts mainly include single crystal diamond inserts, polycrystalline diamond (PCD) inserts and polycrystalline cubic boron nitride (PCBN) inserts. They are an ideal solution for machining aluminum alloys and hardened materials. Super-hard material inserts are applied to machining processes which can result in the elimination of expensive grinding processes. These inserts can significantly improve the dimensional quality, surface finish, and machining time of components over large batches of components. These techniques are currently being applied to the machining of automobile components, aviation components, mining equipment, electronics, glass and other industries.

● Product Features

- High hardness and excellent wear resistance
- High thermal stability
- Good chemical stability
- Good thermal conductivity
- Low friction coefficient



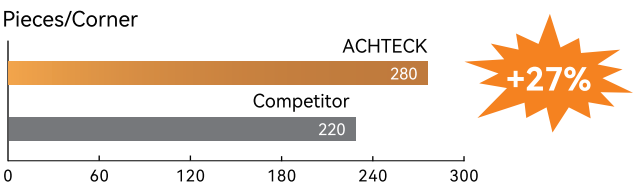
● PCB&PCD Insert Grade Introduction

PCBN			
Grade	Material	Feature	Application
PB30	ISO: H	Excellent wear resistance and mild shock-resistance	Suitable for continuous to light interrupted machining of hardened steel
PB60	ISO: H/K	Good wear resistance and toughness	Mainly applied to medium interrupted cuts of hardened steel, interrupted and continuous cuts of powder metallurgy and cast iron
PB90	ISO: K/H	Good wear resistance and excellent toughness	Mainly applied to ISO K machining Applied in ISO H applications where highly interrupted cutting of hardened steel is expected. Also can be applied to powder metallurgy processing

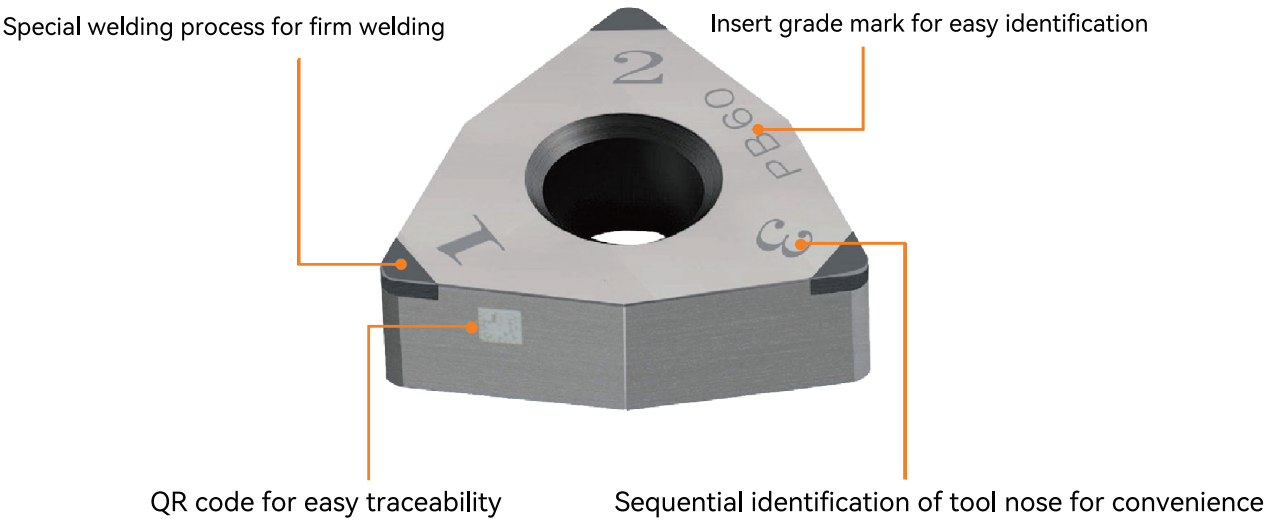
PCD			
Grade	Material	Feature	Application
PD20	ISO: N	Preferred grade, excellent wear resistance	Preferred for general processing of aluminum alloy materials

● Case Stories

Workpiece: Engine Cylinder Block
Material: Gray Cast Iron
Hardness: HB 200-220
Insert: CCGW 3(2.5)1-S0320-SL-2 PB90
Competitor: CCMW 3(2.5)1 S0525
Vc = 1870 ft/min, f = 0.008 in/rev, ap = 0.012 in
Coolant: Dry
Machining type: Boring



Comparison result: ACHTECK insert’s tool life is 27% higher than the competitor

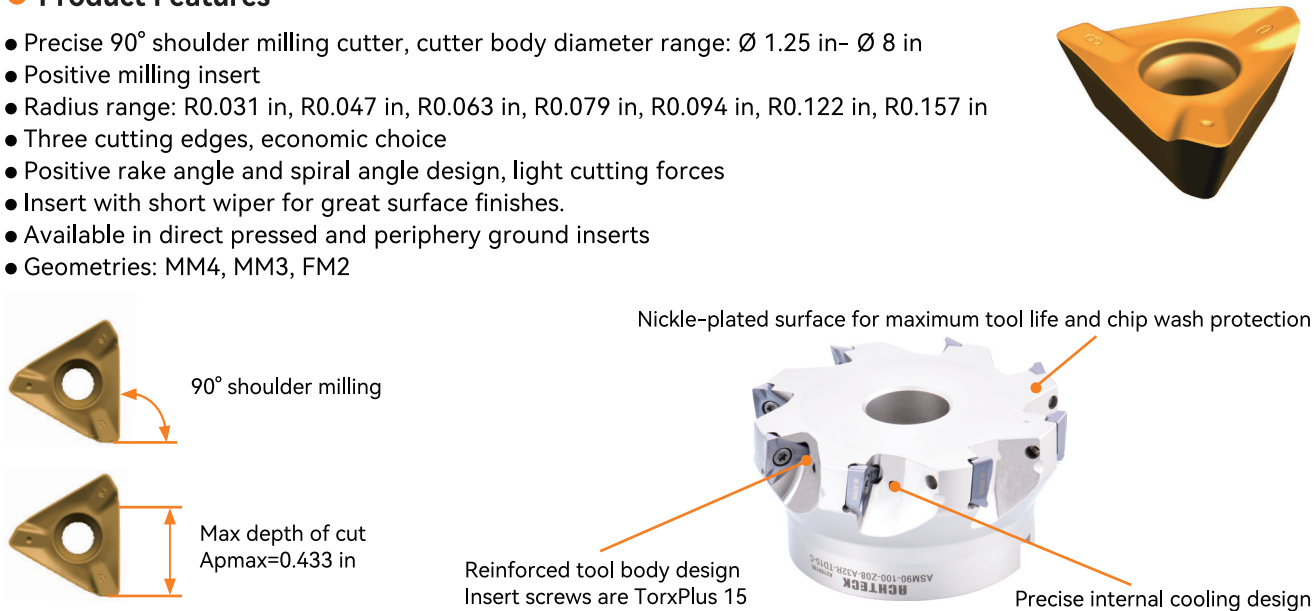


ASM90-TD15 Shoulder Milling Cutter

The triangular insert is available in the MM3 and MM4 geometries, combined with existing CVD and PVD grades. It's suitable for machining steel, stainless steel, cast iron, heat resistant alloys and other materials. In addition inserts in grade AW100K and the FM2 geometry are available for machining non-ferrous materials.

Product Features

- Precise 90° shoulder milling cutter, cutter body diameter range: Ø 1.25 in- Ø 8 in
- Positive milling insert
- Radius range: R0.031 in, R0.047 in, R0.063 in, R0.079 in, R0.094 in, R0.122 in, R0.157 in
- Three cutting edges, economic choice
- Positive rake angle and spiral angle design, light cutting forces
- Insert with short wiper for great surface finishes.
- Available in direct pressed and periphery ground inserts
- Geometries: MM4, MM3, FM2

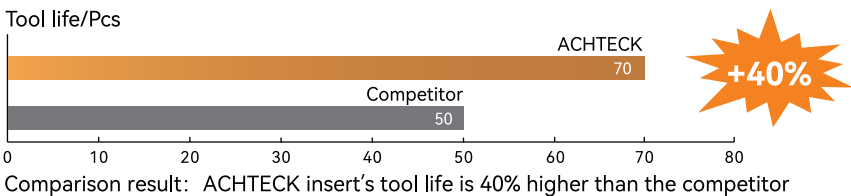


Insert Geometry Introduction

Insert	Geometry	Cutting edge	Application Range
	MM4		For medium cutting conditions 1st choice for general machining
	MM3		For good cutting conditions, finishing Low cutting forces, can be used for low-power machines
	FM2		Sharp geometry Low cutting force Used for aluminum machining

Case Stories

Workpiece: Pump body
Material: Grey Cast Iron
Insert: TDMT 150508R-MM4 AC301K
Cutter: ASM90-050-Z05-A22R-TD15-C
Machining position: Milling flange plane
Cutting parameters:
Vc= 919 ft/min
ap= 0.025 in
fz= 0.012 in/tooth
Coolant: Emulsion



ASM90-LN13 Shoulder Milling Cutter
—Tangentially Mounted Inserts

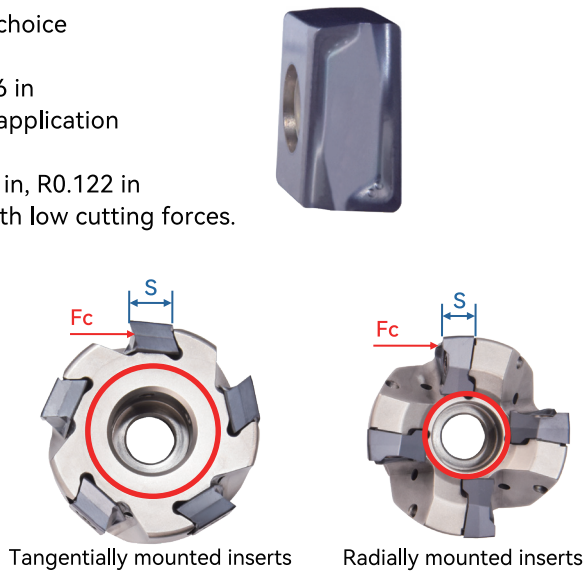
The ASM90 with LN 13 inserts provides an excellent shoulder milling solution. The new cutter with a 90° entering angle is an ideal choice for shoulder milling. The geometry MR2 combined with Achteck's CVD and PVD grade technology provides exceptional performance. This combination can achieve excellent performance and better surface finish quality in steel, stainless steel, cast iron and heat resistant alloy material milling.

Product Features

- The insert has 4 strong cutting edges, which is the economical choice and provides efficient milling.
- Precise 90° shoulder milling cutter, diameter range: Ø 1.5 in-Ø 6 in
- General purpose geometry MR2 has a short wiper. It has wide application area and produces good surface quality.
- Radius range: R0.031 in, R0.047 in, R0.063 in, R0.079 in, R0.094 in, R0.122 in
- High positive rake angle insert provides very smooth cutting with low cutting forces.

The advantages of the tangential design cutters compared to radially mounted insert cutters:

- The core area has been greatly increased, and the rigidity of cutter body has been strengthened.
- The insert thickness has been greatly increased and can resist greater cutting forces.

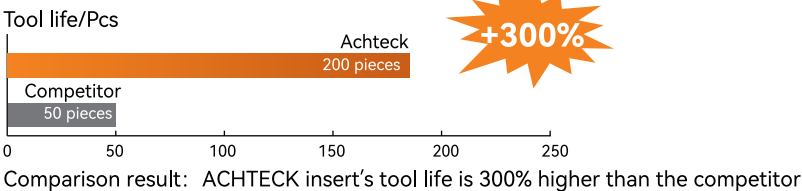


Insert Geometry Introduction

Geometry	Cutting edge	Application Range
MR2		<ul style="list-style-type: none">• 35° rake angle• Can be used in most materials• For average machining conditions
FM2		<ul style="list-style-type: none">• Sharp geometry• Low cutting force• Used for aluminum machining

Case Stories

Workpiece: Brake plate
Material: Nodular Cast Iron
Insert: LNHU 130608ER-MR2 AC301K
Cutter: ASM90-080-Z07-A27R-LN13-C
Machining position: Milling flange plane
Cutting parameters:
Vc= 820 ft/min
ap= 0.08 in
fz= 0.006 in/tooth
Coolant: Emulsion

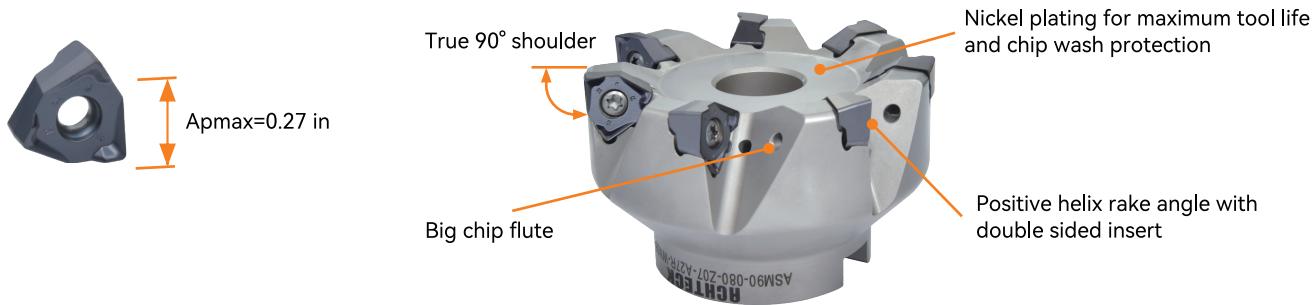


ASM90-WN08 Shoulder Milling Cutter

The 90° shoulder milling cutter, with triangular negative insert, provides a superior shoulder milling solution. A six cutting edge insert provides an economic solution and reduces machining cost. Three geometries MM3, MM4 and MR2 combined with Achteck CVD and PVD grade technology provide excellent performance. ASM90-WN08 has improved performance, tool life and surface quality, and is suitable for machining steel, stainless steel, cast iron, heat resistant alloys and other materials. The insert WN08-W has a long wiper edge and provides a good surface finish and high productivity.

Product Features

- Six cutting edge negative inserts with large rake angle geometry, provide an economical choice.
- Precise 90° shoulder milling cutter, diameter range: Ø 1.5 in-Ø 6 in
- Three geometries: MM3, MM4, MR2, all with short wiper cutting edge to obtain better surface quality
- Long wiper edge insert can obtain good surface quality and machining efficiency.
- Radius range: R0.016 in, R0.031 in, R0.047 in, R0.063 in
- Positive rake angle top form geometry inserts reduce cutting forces.

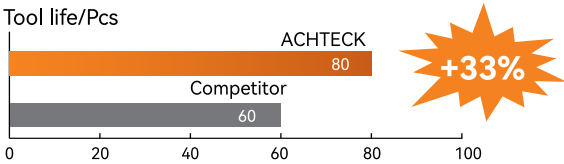


Insert Geometry Introduction

Geometry	Cutting edge	Application Range
MR2 Stable type		<ul style="list-style-type: none">• 35° rake angle• Can be used in most materials• For average machining conditions
MM4 General type		<ul style="list-style-type: none">• For medium cutting conditions• 1st choice for general machining
MM3 Sharp type		<ul style="list-style-type: none">• For good cutting conditions and finish operations• Low cutting force (used in weak machines)

Case Stories

Workpiece: Bearing housing
Material: Grey Cast Iron
Insert: WNGU 080608R-MM4 AC301K
Cutter: ASM90-063-Z07-A22R-WN08-C
Machining position: Milling flange plane
Cutting parameters:
Vc= 853 ft/min
ap= 0.08 in
fz= 0.005 in/tooth
Coolant: Dry



Comparison result: Achteck insert's tool life is 33% higher than the competitor



ASM90-AO12 Shoulder Milling Cutter

ASM90-AO12 series, a new positive shoulder milling tool with two edges. The insert is designed with spiral cutting edges for light and fast cutting, and it has dramatically improved the strength of cutting edge and effectively enhanced tool performance with new geometry. The insert's substrate and coating are suitable for machining various material groups, especially heat-resistant alloys, Titanium alloys and stainless steels

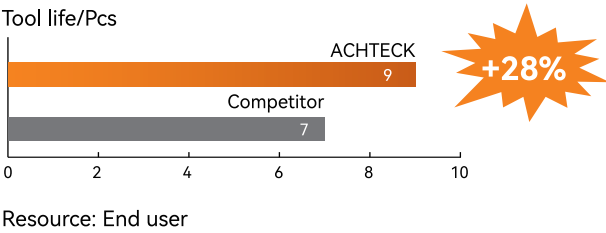


Product Features

- Approach angle: precision 90 degree shoulder milling
- The inserts have a spiral edge design for light cutting and is a good universal choice
- The inserts are designed with a wiper flat for good surface finishes
- Apmax: 0.433in
- Radius range: R0.016in R0.031in, R0.047in, R0.063in, R0.079in, R0.094in, R0.122in, R0.157in, for various applications
- Geometry: MM4
- Grades: AP251U, AP351M, AP403M, AP251K, AP403S
- Two pitch types of cutter: close and coarse
- Cutter diameter: Ø 0.75 in- Ø 3.0 in

Case Stories

Workpiece : Aircraft structural part
Material: TC4
Insert: AOMT 120431ER-MM4 AP403S
Cutter: ASM90-01250-Z04-W1250R-AO12-C
Machining position: Pocket milling
Parameter: Vc=130 ft/min, ap=0.118in,fz=0.003in/tooth
Coolant: Wet

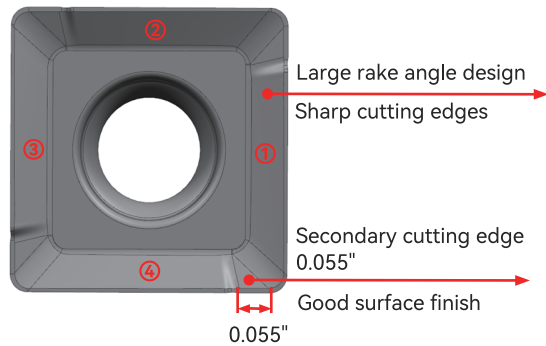
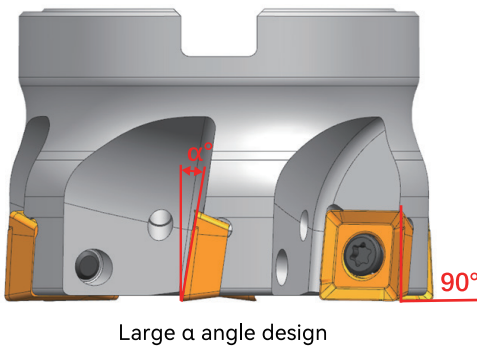
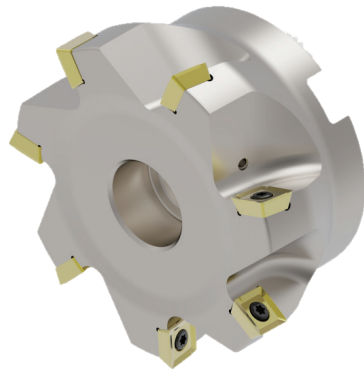


ASM90-SO12 Series Product Introduction

ASM90-SO12 Achteck's shoulder milling cutters combined with inserts that feature a self-developed next-generation substrate and coating are suitable for steel, cast iron and stainless steel, providing a complete solution for shoulder milling.

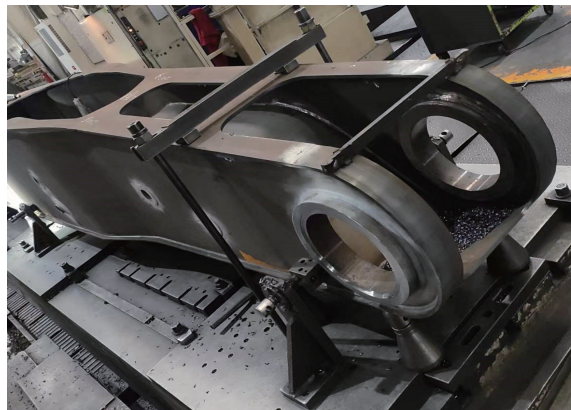
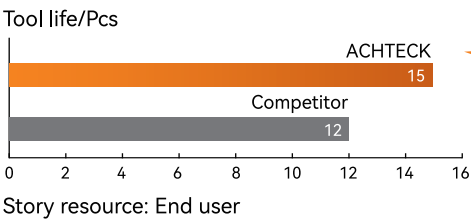
Product Features

- Precision 90° and economical.
- Double clearance angle and spiral edge design to reduce cutting forces.
- Manufactured with a short wiper to obtain a good surface finish.
- Multiple connection types: cylindrical shank, weldon shank and arbor mount.



Case Stories

Workpiece: Arm Bracket
Material: High-strength Steel
Insert: SOMT 120408PDER-MM4 AP351M
Cutter: ASM90-100-Z07-A32R-SO12-C
Machining: Face milling
Parameter: Vc=515/min, ap=0.197", fz=0.005"
Coolant: Dry



AFF40-LN12/15 Milling Cutter

- Close pitch design, approach angle 40°
- AFF40-LN12, diameter range: Ø 3 in-4 in
- AFF40-LN15, diameter range: Ø 5 in-10 in
- Special tools are available
- Wedge clamping design for roughing insert, easy to install
- Wiper cartridge designed with pre-load mounting technology, wiper insert can be easily adjusted and provides stable accuracy
- Tool body surface with black oxide treatment



AFF40-LN12/15 Insert

Rough Insert

Octagonal negative roughing insert with 16 indexes, economic choice
Insert: ONHF 050408-MM3

Insert grade: AP151H

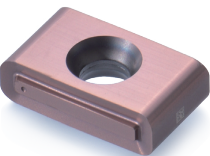
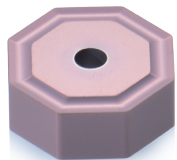
Wiper Insert

With 4 indexes

Insert: LNHQ 120408FN-W, LNHQ 150416FN-W

Insert grade: AP151H

- AP151H with high hardness substrate and high wear resistance coating
- Roughing and wiper insert are periphery ground

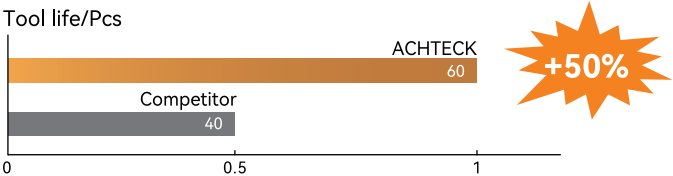


Application

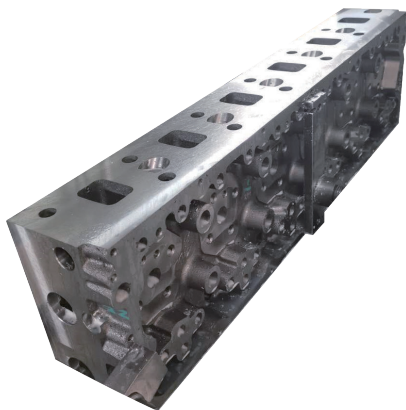
- Used for cast iron materials, such as grey cast iron, nodular cast iron, CGI material
- Used for finish milling of high-precision parts, such as engine cylinder block and cylinder head, hydraulic pump body and valve body

Case Stories

Workpiece: Engine cylinder head
Workpiece material: Alloy Cast Iron
Material hardness: HB250
Cooling type: Emulsion
Cutter: AFF40-06000-Z18-A1500R-LN15
Roughing insert: ONHF 050408-MM3 AP151H
Wiper insert: LNHQ 150416FN-W AP151H
Cutting parameters: Vc=741 ft/min fz=0.009 in/tooth ap=0.019 in



Comparison result: ACHTECK insert's tool life is 50% higher than the competitor

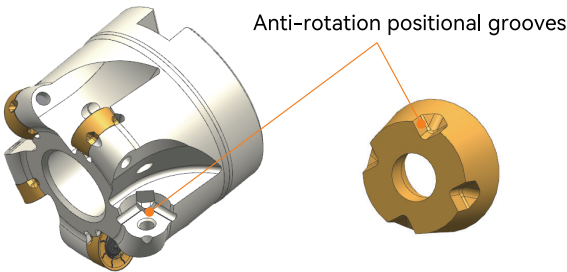


APM00-RO Profile Milling Cutter

The RO series of profile milling line focus on the Aerospace and Energy industries. The product is used for profile milling in materials such as nickel based alloys, titanium alloys and difficult to machine stainless steels. The latest proprietary, patented PVD grade technology, combined with either the MM3 or the MR6 geometries, have outstanding performance and wide application range.

Product Features

Cutter diameter range: Ø 1 in to Ø 6 in
Multiple chuck connection types: Screw connection interface, cylindrical shank and arbor cutter
Inserts have anti-rotational positioning grooves.
The periphery ground MM3 geometry, with optimized cutting edge treatment, results in longer tool life and machine utilization.
The new AP403S grade can fully cover stainless steel and heat resistant alloys machining.

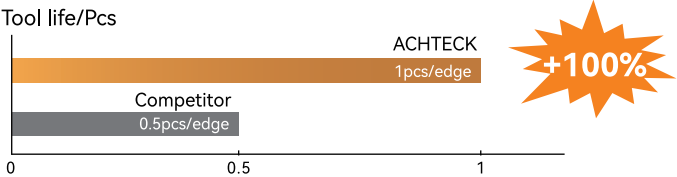


Insert Geometry Introduction

Geometry	Cutting edge	Application Range
MM3		<ul style="list-style-type: none">● Sharp geometry● Low cutting force (for weak cutting conditions)● For finishing operations
MR6		<ul style="list-style-type: none">● Negative geometry● For good cutting conditions● Highest machining stability● Higher feed rates

Case Stories

Workpiece: Turbine blade
Material: X12CrNiMoV12-2
Insert: ROMT 1204M6E-MR6 AP403S
Cutter: APM00-040-Z04-A16R-RO12-C
Machining process: Airfoil roughing
Cutting parameters:
Vc= 649 ft/min
fz= 0.01 in/tooth
ap= 0.059 in
Coolant: Emulsion



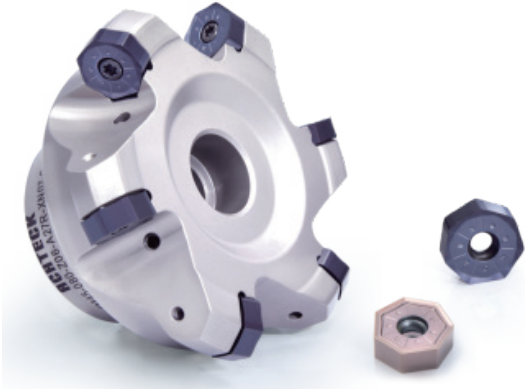
Comparison result: ACHTECK insert's tool life is 100% higher than the competitor



AFM45-XN07/09 Face Milling Cutter

Cutter

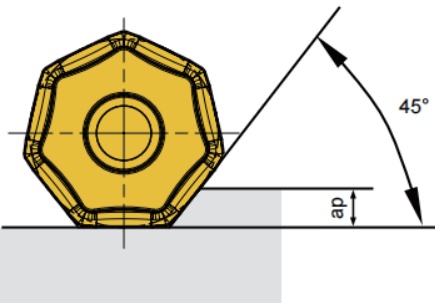
- Approach angle (Kr): 45°
- XN07 diameter range (Dc): Ø 1.5 in - Ø 6 in
- XN09 diameter range (Dc): Ø 2.5 in - Ø 8 in
- Available in coarse and close pitch cutters
- Structure design of cutter: Screw mounted inserts
- Tool body connection type: Arbor connection
- Diameters up to and including 5 inch have internal coolant
- Tool body surface coated with nickel plating treatment



Insert

- Negative insert
- 14 indexes, economic choice
- Available in direct pressed and ground inserts
- Insert geometries: MM3, MM4, MR6
- Insert grades: AP251U, AP351U, AP251K, AC301K, AC301P

Recommended maximum depth of cut by insert

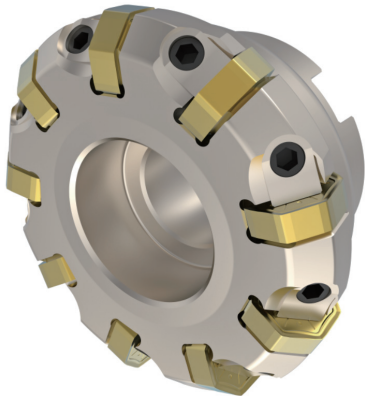


Insert	ap max(in)
XN 0705ANN	0.142
XN 070508	0.173
XN 0906ANN	0.197
XN 090612	0.236

AFM45-XN09-W Face Milling Cutter

Cutter

- Approach angle (Kr): 45°
- Diameter range (Dc): Ø 3 in - Ø 8 in
- Left and right handed cutters available
- Structure design of cutter: Wedge clamping
- Tool body connection type: Arbor connection
- Tool body surface coated with nickel plating treatment

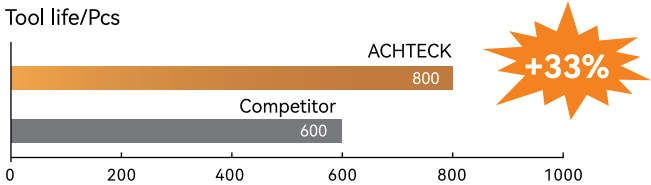


Insert

- Negative insert
- 14 indexes, economic choice
- Available in direct pressed and ground inserts
- Insert geometries: MM3, MM4, MR6
- Insert grades: AP251U, AP351U, AP251K, AC301K, AC301P

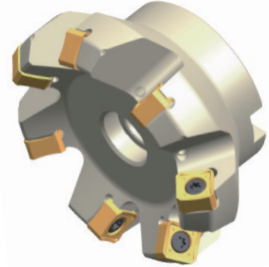
Case Stories

Workpiece: Cylinder head
Material: Grey Cast Iron
Cutter: AFM45-06000-Z20-A1500R-XN09-W
Insert: XNMU 090612-MR6 AC301K
Cutting parameters:
Vc = 741 ft/min
fz = 0.01 in/tooth
ap = 0.12 in
Coolant: Dry



Comparison result: ACHTECK insert's tool life is 33% higher than the competitor

AFM45/75/88-SN12 Face Milling Cutter



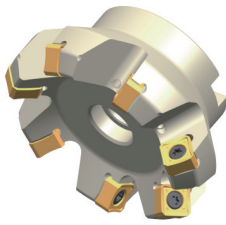
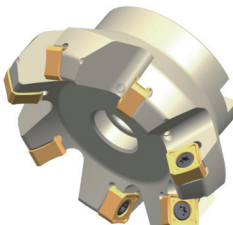
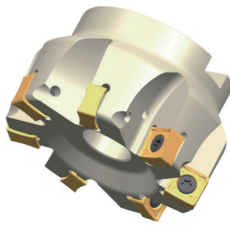
Cutter

- Approach angle (Kr): 45°, 75°, 88°
- Diameter range (Dc): Ø 2 in - Ø 6 in
- Available in coarse and close pitch cutters
- Tool body connection type: Arbor connection
- Diameters up to and including 5 inch have internal coolant supply
- Tool body surface coated with nickel plating treatment

Insert

- Negative insert
- 8 indexes, economic choice
- Available in direct pressed and ground inserts
- Insert geometries: MM3, MM4, MR6, RR2, FM2
- Insert grades: AP301U, AP351U, AP351K, AC301K, AC301P, AW100K

--General, Economic, Efficient

<p>AFM45 Approach angle: 45°</p>  <p>Max. cutting depth 0.256 in</p>	<p>AFM75 Approach angle: 75°</p>  <p>Max. cutting depth 0.315 in</p>	<p>AFM88 Approach angle: 88°</p>  <p>Max. cutting depth 0.394 in</p>
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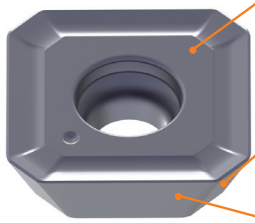
Application

- Can be used for steel, stainless steel, cast iron, and hard materials
- Used for face milling

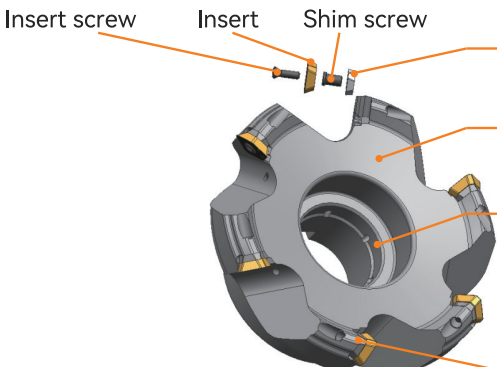
AFM45-SE12 Face Milling Cutter

Achteck launches AFM45-SE12, the face milling series for smooth cutting. The inserts are designed with diverse geometries and grades, with wiper. We offer the cutters with a wide range of diameters and a variety of mounting types, such as Arbor, Cylindrical and Weldon. AFM45-SE12 provides excellent performance in roughing, semi-finishing and finishing of various materials.

Product Features



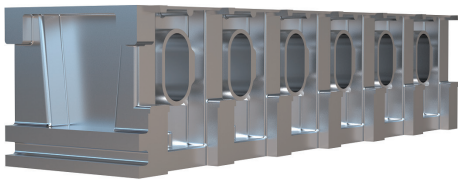
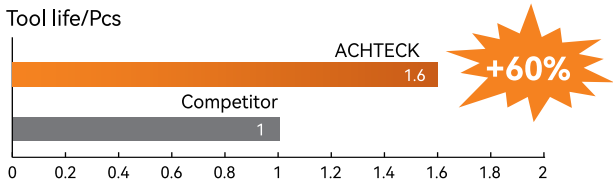
- 9 different grades, 4 different geometries.
- Suitable for different working conditions and covers the full range of application materials - P, M, K, N, S, H.
- 29° wiper clearance angle
- Short wiper to ensure high surface quality
- 20° cutting edge clearance angle
- Smooth cutting, lower cutting forces.



- Shim is standard accessory
- To protect the cutter, much safer
- Surface blackening treatment
- Good corrosion resistance, high precision
- 3 mounting types
- Suitable for different machine tools and cutting conditions
- 45° approach angle, 20° rake angle
- Lower cutting resistance, smooth chip removal

Case Stories

Workpiece: Cylinder block
Material: 70-50-05
Insert: SEMT 12T3AEEN-MM4 AC151K
Cutter: AFM45-315-Z20-A60R-SE12-S
Machining: Face milling (roughing)
Parameter: Vc=650 ft/min, ap=0.079in,fz=0.010in/tooth
Coolant: Dry

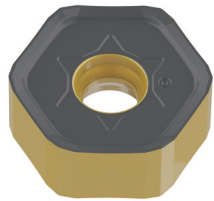


AFM45-HN09 Negative Hexagon Face Milling Cutter

Achteck's new negative hexagon face milling insert HNGX 0906ANN has a wiper edge design and geometry for higher cutting edge strength, and better machining result. The insert's substrate and coating are suitable for milling steel, cast iron and other materials.

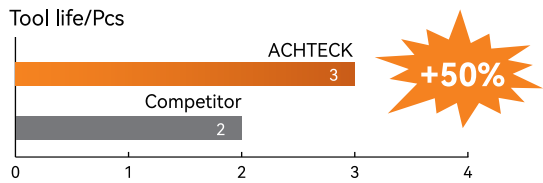
Product Features

apmax =0.197in
Double sided insert with 12 cutting edges, very economical
Wiper edge for better surface finish
Ground insert for high precision



Case Stories

Workpiece: Marine engine
Material: GG25
Insert: HNGX 0906ANN-MR6 AC151K
Cutter: AFM45-100-Z08-A32R-HN09-C
Machining: Face milling
Parameter: Vc=980 ft/min, ap=0.098in,fz=0.013in/tooth
Coolant: Dry

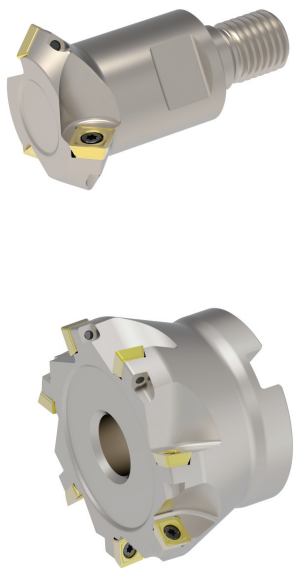


AFM89/AHM15/ACM45-SD09/12 Milling Cutter

Multi-purpose milling insert SD09/12 series, the inserts have a positive geometry for lower cutting forces and 4 cutting edges. The pressed insert is very cost effective. There are different coupling types, including arbor, screw head, cylindrical shank and Weldon shank. It can be used in face milling, high feed milling and chamfer milling. Multiple grades can be used in steel, stainless steel, cast iron and heat resistant alloy milling.

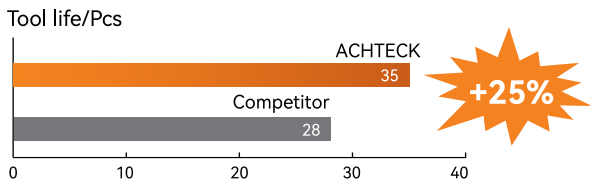
● Product Features

- Geometry: MM4 (general purpose), MR2 (reinforced)
- Positive insert with 4 cutting edges, low cutting forces
- Pressed insert are highly economical
- Insert size: 09 and 12
- Various corner radius: R0.031in, R0.079in, R0.098in
- Various Grades: AP251U, AP403M, AP351M, AP251K, AC151K, AP403S
- Cutter Type: AFM89 (face milling), AHM15 (high feed milling), ACM45 (chamfer milling)
- Cutter Coupling: arbor, screw head, cylindrical shank, weldon shank
- Approach angle (Kr): face milling 89.5°, high feed milling 15°, chamfer milling 45°
- All cutters have external coolant design, more economical
- Wide product range covers various machining conditions
 - Face milling cutter diameter: Ø 1 in- Ø 5.0 in
 - High feed cutter diameter : Ø 1 in- Ø 5.0 in
 - Chamfer milling cutter diameter : Ø0.5 in- Ø 1.25 in



● Case Stories

Workpiece: Turbo charger housing
Material: 1.4848
Cutter: AFM89-01250-Z03-W1250R-SD09
Insert: SDMT 09T308N-MR2 AP403M
Operation: Plunging
Parameter: Vc=330ft/min, ap=0.079in,fz=0.005in/tooth
Coolant: Wet



Company Profile

Ganzhou Achteck Tool Technology Co., Ltd. is a wholly-owned subsidiary of Chongyi Zhangyuan Tungsten Co., Ltd. (Listed Company with stock code 002378). The registered capital of Achteck is 260 million USD with 600 employees. The main products include: Coated Carbide Inserts, Carbide Rod and supporting tool holders. Achteck is known for its outstanding R&D competence, production & testing equipment and its coated carbide insert production technology. Achteck produces inserts for Turning, Grooving, Milling and Drilling that are widely applied in automotive, energy, die & mold, general machinery, aerospace and other industries.

Achteck Tool is technology oriented, owns a strong research team that keeps on innovating. Having “Benefits from Resources, Reliance on Technologies, Devotion to Humanity and Top with Trust” as the operating philosophy and “Safety, Harmony, Efficiency and Innovation” as the target, Achteck aims to become a well-known brand in the world and a first-class cemented carbide manufacturer in China.

