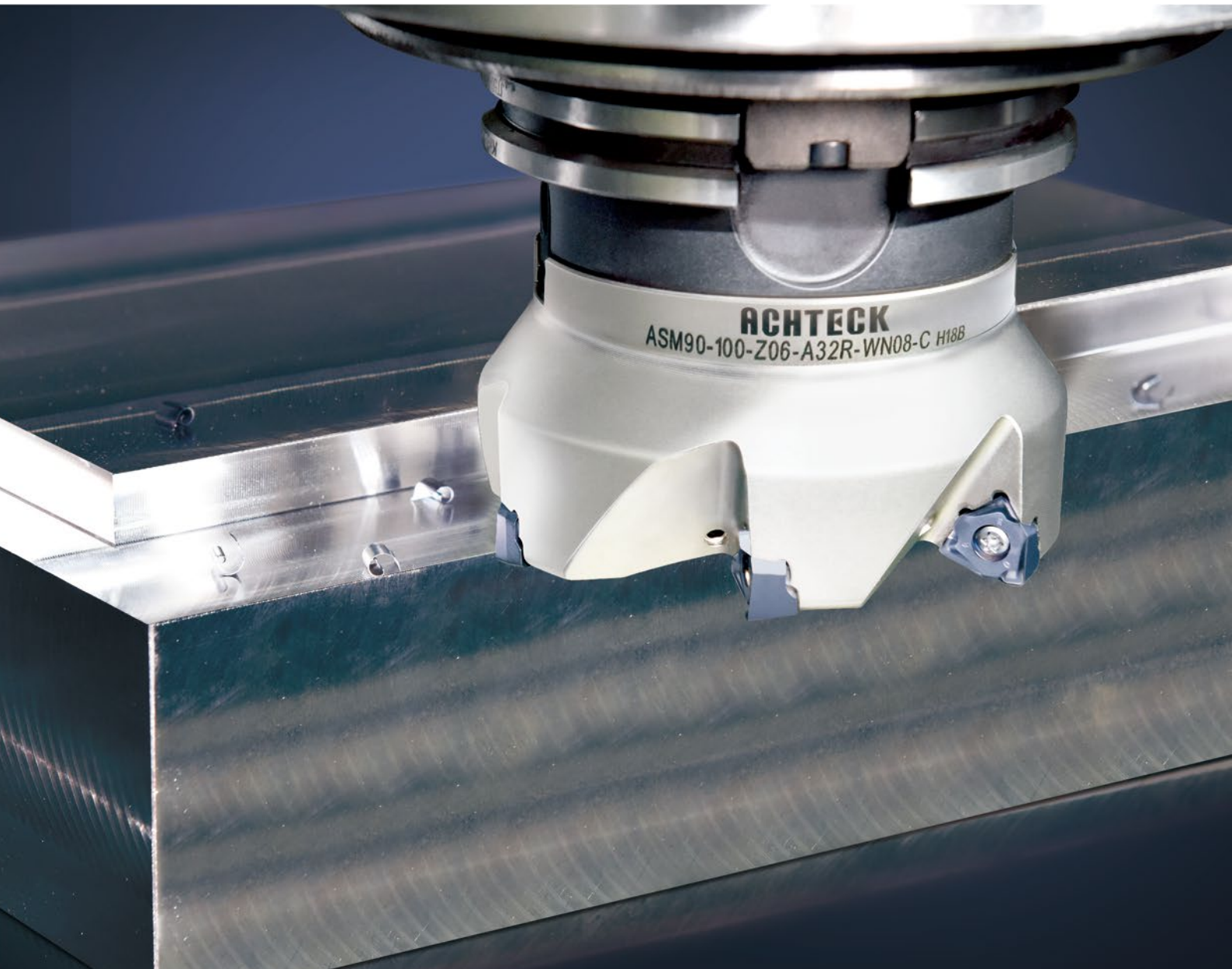


**NEW
PRODUCT!**

ASM90-WN08

Shoulder Milling Cutter

With 6 cutting edges insert



Achteck is launching a 90 degree shoulder milling cutter ,mounted with a triangular double sided, six cutting edges insert, providing a very good shoulder milling solution. Six cutting edges insert provides an economical solution to reduce machining cost.




This new cutter with 90 degree kappa angle is ideal choice for shoulder milling. Three geometry MM3、 MM4 and MR2 combined with Achteck's CVD and PVD coating technology provides exceptional performance. ASM90-WN08 can achieve excellent performance, tool life, surface quality and minimal mismatch. Suitable to machining steel, stainless steel, cast iron,super alloy and other materials.

The insert WN08..W has a long wiper geometry provides a good surface finish and high productivity.

◆ Product Features

- Six cutting edges negative inserts,good economy, strong large rake angle geometry, thickness 7.88.
- Three kinds of geometry,MM3、 MM4、 MR2, all with short wiper cutting edge, will obtain better surface roughness;
- Mounted with long wiper insert, it can obtain good surface roughness and maching efficiency.
- Corner radius of insert are R0.4/0.8/1.2/1.6;
- Positive rake angle insert, reduce cutting force.
- 6 differnent grades which cover a wide application area. AP301U,AP351U,AP351K,AP401U,AC301P,AC301K;
- Precise 90 degree shoulder milling cutter, cutter body diameter range: Ø 40-Ø160 mm;
- Three kinds of pitch design, coarse design are mainly used for slot milling and shoulder milling,close tooth design are mainly used for shoulder milling, extra close tooth design is mainly used for short chip materials and finishing machining.
- Light cutting behavior, benefits from the positive rake angle design;
- High-precision axial and radial run-out;
- The cutter design has a variety of interface forms: screw modular type, cylindrical type, weldon type and shell mill (Arbor).
- Shining Nickel-plated cutter has good corrosion resistance and wear resistance.

• Chip breaker Features

Chip breaker name	Edge Preparation	Feature
MR2 Stable type		<ul style="list-style-type: none"> • Suitable for unstable cutting conditions • Best cutting edge stability; • High feedrate.
MM4 General type		<ul style="list-style-type: none"> • First choice • Medium cutting conditions • General machining
MM3 Sharp type		<ul style="list-style-type: none"> • Fine cutting conditions and finish operation; • Low cutting force (used for small power machine)

• Grade application

Grade	Coating	Material					
		P	M	K	S	N	H
AP301U	PVD	●	◐		○		
AP351U	PVD	●	◐		○		
AP401U	PVD		●		◐		
AC301P	CVD	●	◐	○			
AC301K	CVD			●			◐
AP351K	PVD			●			

● Marked : 1st Choice ◐ Marked : 2nd Choice ○ Marked : Supplementary application

Case stories

Work piece: Bearing housing

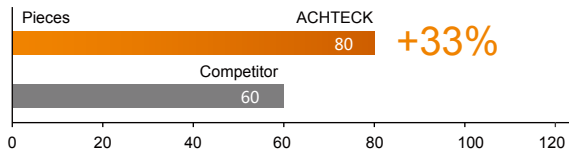
Material: Gray cast iron

Hardness: HB220

Insert: WNGU080608-MM4 AC301K

Cutter description: ASM90-063-Z07-A22R-WN08-C

Cutting parameters: $V_c=260\text{m/min}$, $f_z=0.12\text{mm/z}$
 $a_p=2.0\text{mm}$, Dry cutting



Tool life increase from 60pcs to 80pcs, 33% increase.

Work piece: Plate

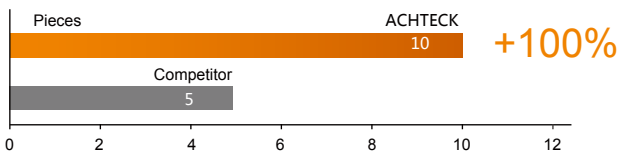
Material: HB400 wear resistance steel

Hardness: > 380HB

Insert: WNGU 080608R-MM4 AC301P

Cutter description: ASM90-080-Z07-A27R-WN08-C

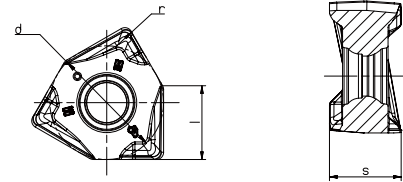
Cutting parameters: $V_c=97\text{m/min}$, $f_z=0.10\text{mm/z}$
 $a_p=5.0\text{mm}$, Dry cutting



The tool life was increased from 5 to 10 pcs , 100% raise .

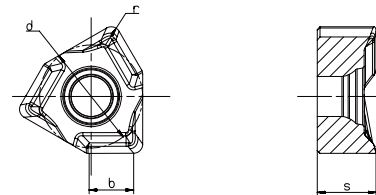
● **Insert stock item**

WNGU 08



Insert	Designation	Dimensions				Grades					
		l	d	s	r	CVD coating		PVD coating			
						AC301P	AC301K	AP301U	AP351U	AP401U	AP351K
	WNGU 080604R-MM3	8	12.5	7.88	0.4				●	●	
	WNGU 080608R-MM3	8	12.5	7.88	0.8			●	●	●	
	WNGU 080604R-MM4	8	12.5	7.88	0.4			●	●	●	●
	WNGU 080608R-MM4	8	12.5	7.88	0.8	●	●	●	●	●	●
	WNGU 080612R-MM4	8	12.5	7.88	1.2			●	●	●	
	WNGU 080616R-MM4	8	12.5	7.88	1.6			●	●	●	
	WNGU 080608R-MR2	8	12.5	7.88	0.8		●	●			●
	WNGU 080612R-MR2	8	12.5	7.88	1.2			●			●
	WNGU 080616R-MR2	8	12.5	7.88	1.6			●			●

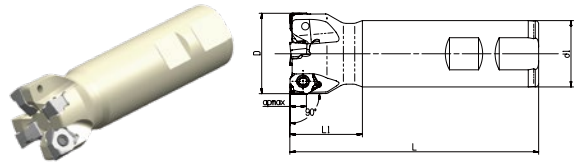
WNHX 08



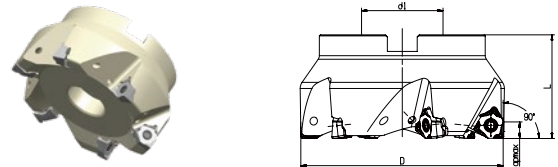
Insert	Designation	Dimensions				Grades					
		d	b	s	r	CVD coating		PVD coating			
						AC301P	AC301K	AP301U	AP351U	AP401U	AP351K
	WNHX 0806ZZR-W	11.3	4.8	6.47	1.0		●	●			

Remark: ● Represent for standard stock

◆ **Cutter stock item**
ASM90-WN08-C



Designation	Dimension					Coolant	Z	Insert
	D	d1	L	l1	apmax			
ASM90-040-Z03-W32R-WN08-C	40	32	120	35	8.0		3	WNGU 0806
ASM90-040-Z04-W32R-WN08-C	40	32	120	35	8.0		4	



Designation	Dimension				Coolant	Z	Insert
	D	d1	L	apmax			
ASM90-050-Z04-A22R-WN08-C	50	22	40	8.0		4	WNGU 0806
ASM90-050-Z05-A22R-WN08-C	50	22	40	8.0		5	
ASM90-063-Z04-A22R-WN08-C	63	22	40	8.0		4	
ASM90-063-Z06-A22R-WN08-C	63	22	40	8.0		6	
ASM90-063-Z07-A22R-WN08-C	63	22	40	8.0		7	
ASM90-080-Z05-A27R-WN08-C	80	27	50	8.0		5	
ASM90-080-Z07-A27R-WN08-C	80	27	50	8.0		7	
ASM90-080-Z09-A27R-WN08-C	80	27	50	8.0		9	
ASM90-100-Z06-A32R-WN08-C	100	32	50	8.0		8	
ASM90-100-Z08-A32R-WN08-C	100	32	50	8.0		8	
ASM90-100-Z11-A32R-WN08-C	100	32	50	8.0		11	
ASM90-125-Z07-A40R-WN08-C	125	40	63	8.0		7	
ASM90-125-Z11-A40R-WN08-C	125	40	63	8.0		11	
ASM90-125-Z13-A40R-WN08-C	125	40	63	8.0		13	
ASM90-160-Z08-A40R-WN08	160	40	63	8.0		8	
ASM90-160-Z12-A40R-WN08	160	40	63	8.0		12	

Dimensions	Cutter spare parts			Torque
	Screw	Wrench		
φ40-φ80	AST4085-60	AWT-T15		3.5Nm
φ100-φ160	AST4085-60	ADT-T15		
		ADT-G16	BIT-T15	

Application			
Facing	Shouldering	Slotting	Plunging

Remark: represent for coolant
 represent for no coolant

Recommended cutting speed by materials

ISO	Machined Materials	Achteck Milling Grades Application Ranges												Cutting speed and feed rate														
		AC301K		AP351K		AP301U		AC301P		AP351U		AP401U		WN08														
		CVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	PVD	PVD	PVD	槽型															
Material classification	Tensile strength (N/mm ²)	Hardness (HB)	Feed rate (mm/z)												ap(mm)													
			Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Max	Min	Max										
			Cutting speed (m/min)												Feed rate(mm/z)													
			Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Max									
P	Non-alloyed steel	<600				450	340	290	430	230	120	230	205	170				0.12	-	0.22	0.10	-	0.28	0.15	-	0.30		
		<950				320	240	200	380	220	120	200	180	160				0.12	-	0.22	0.10	-	0.26	0.15	-	0.30		
	Alloyed steel	700-950				290	210	185	340	240	120	200	155	110				0.12	-	0.22	0.10	-	0.26	0.15	-	0.30		
		950-1200				280	210	200	260	150	80	180	130	90				0.12	-	0.18	0.10	-	0.20	0.15	-	0.26		
M	Duplex stainless steel	1200-1400				210	170	110	145	105	65	140	105	70				0.12	-	0.18	0.10	-	0.20	0.15	-	0.22		
		778				165	150	130	225	180	125	270	215	155	115	85			0.12	-	0.18	0.10	-	0.20	0.15	-	0.24	
	Austenitic stainless steel	675				270	185	90	210	145	75	260	180	90	185	140	105			0.12	-	0.16	0.10	-	0.18	0.15	-	0.20
		1013				300	225	165	140	130	90	170	150	110	125	95	70			0.12	-	0.12	0.10	-	0.13			
K	Grey cast iron	700				480	310	140	390	280	130	370	280	130	310	210	90	290	220	150								
		880				450	295	140	350	250	120	370	260	130	290	190	100	180	130	70								
	Malleable cast iron	800				336	220	100	270	200	100	410	320	210	310	240	150	390	300	190								
		943										50	40	30				45	40	30								
S	Co based alloy	1076									45	38	30				45	40	30									
		1177										45	38	30			45	40	30									
	Ti-alloy	1262									100	75	30				100	70	45									
		260																										
N	Aluminum alloy	447																										
		130																										
H	Hardened steel	50-60HRC																										
		55HRC																										

* The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, work piece clamping and coolants.

* When slotting , ap≤1/2apmax