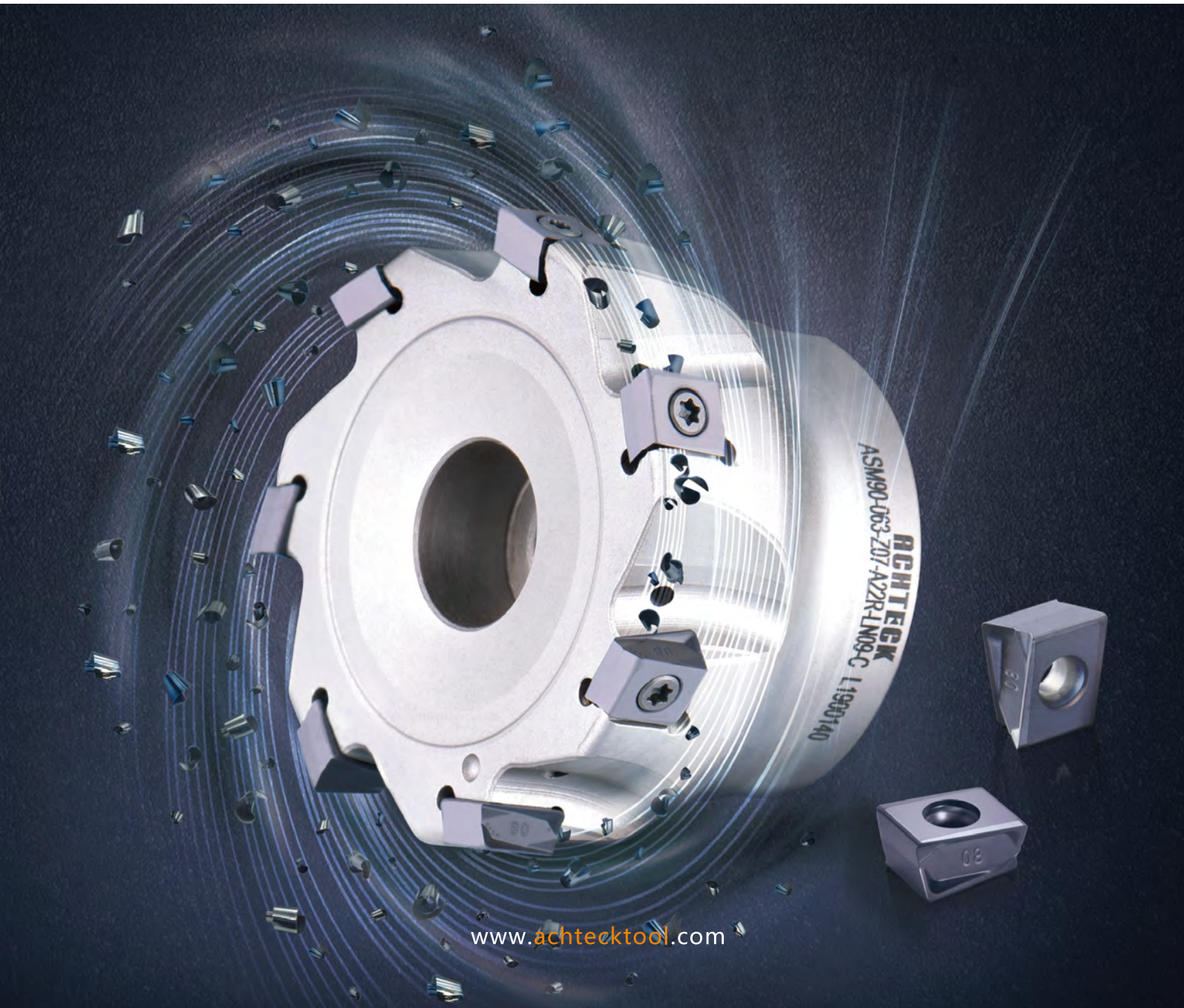
ACHTECK

NEW
PRODUCT!

ASM90-LN09

Shoulder Milling Cutter



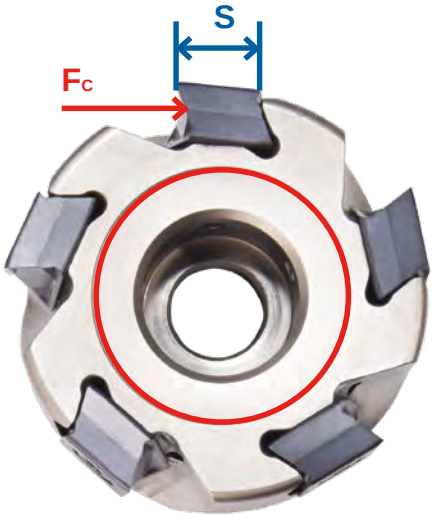
www.achtecktool.com

Achteck is launching a new set of 90° shoulder milling cutter with inserts of LN09 and max ap 8mm.Tangential mounted double-sided inserts with 4 cutting edges, 90 ° approach angle is an very good choice for shoulder milling. The insert geometries, FM2 (uncoated), MR2 and MM3 are developed with Achteck's latest CVD and PVD coating technologies, which achieve better performance and surface quality, suitable for steels, stainless steels, cast iron and high temperature alloy.

ASM90-LN09 Shoulder Milling Cutter

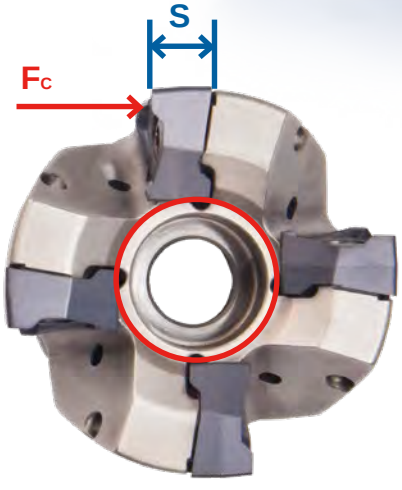
- 90° shoulder milling cutter, cutter dia.: Φ25-Φ63MM
- Different pitch design, coarse pitch applied for sloting and shoulder milling, and close pitch for shoulder milling
- General geometry MR2, with a wiper design and wildly application, to get better surface roughness
- Geometry MM3 suitable for stable condition and light cutting
- Geometry FM2 designed for N-Material application
- Double-side insert with 4 cutting edges, strong cutting edges to achieve high productivity. Various cutter connector: arbor type, cylinder type, weldon type.
- Positive rake angle for smooth and light cutting
- Corner radius: R0.4/0.8/1.2/1.6/2.0
- High precision axial and radial run-out.





LN09 insert tangential mounted

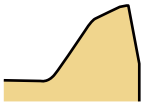
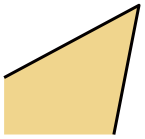
VS



Other insert radial mounted

- Advantages of tangential-mounted insert cutters：
  - Arbor area greatly increased, the rigidity of cutter body is strengthened;
  - In the direction of force bearing, insert with large thickness resist bigger cutting force.

Chip breaker Features

Chip breaker name	Edge Preparation	Feature
MR2		• General; • For most materials; • For medium machining;
MM3		• Easy-to-cut; • For good machining condition; • For semi-finishing and finishing;
FM2		• Sharp; • For aluminum machining; • Sharp cutting edge with low cutting force;

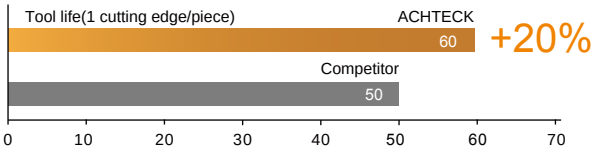
Grade application

Grade	Coating	Material					
		P	M	K	S	N	H
AP301U	PVD	●	◐		○		
AP351U	PVD	●	◐		○		
AP401M	PVD		●		◐		
AC301K	CVD			●			◐
AP351K	PVD			●			
AW100K	Uncoated					●	

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

Case stories

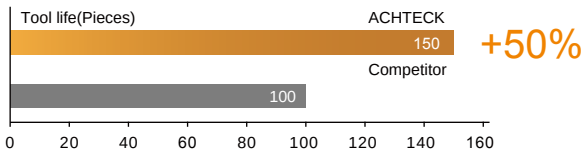
Work piece: Turbine housing
Material: 1.4837
Insert: LNHU 090408ER-MR2 AP351U
Cutter description: ASM90-032-Z04-W32R-LN09-C
Machining type: Boss mounting surface
Cutting parameters: Vc=100m/min,ap=3mm,ae=20mm,fz=0.11
Dry cutting





Result comparison: ACHTECK's tool life extends 20% than competitors'

Work piece: Engine block
Material: HT250
Insert: LNHU 090408ER-MR2 AP351K
Cutter description: ASM90-032-Z04-W32R-LN09-C
Machining type: Boss on side of the block
Cutting parameters: Vc=171m/min,ap=7.5mm,ae=16mm,fz=0.13
Wet cutting

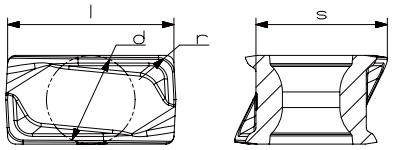




Result comparison: ACHTECK's tool life extends 50% than competitors'

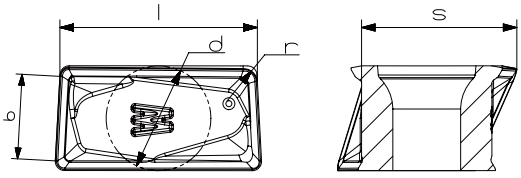
Insert stock item

LNHU 0904



Insert	Designation	Dimensions				Grades						
						CVD coated		PVD coated				Uncoated
		l	d	s	r	AC301P	AC301K	AP301U	AP351U	AP401M	AP351K	AW100K
	LNHU 090404ER-FM2	9	4.5	7.50	0.4							●
	LNHU 090404ER-MM3	9	4.5	7.50	0.4						●	
	LNHU 090404ER-MR2	9	4.5	7.50	0.4		●	●	●	●	●	
	LNHU 090408ER-MR2	9	4.5	7.45	0.8		●	●	●	●	●	
	LNHU 090412ER-MR2	9	4.5	7.40	1.2		●	●		●		
	LNHU 090416ER-MR2	9	4.5	7.35	1.6		●	●		●		
	LNHU 090420ER-MR2	9	4.5	7.31	2.0		●	●		●		

Wiper Insert



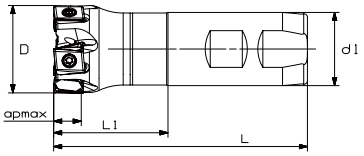
Insert	Designation	Dimensions					Grades						
							CVD coated		PVD coated				Uncoated
		b	l	d	s	r	AC301P	AC301K	AP301U	AP351U	AP401M	AP351K	AW100K
	LNHU 090404ER-W	3.6	9.24	4.5	7.40	0.4		●	●				

Remarked: ● Represent for standard stock

Cutter stock item

ASM90-LN09 Weldon shank

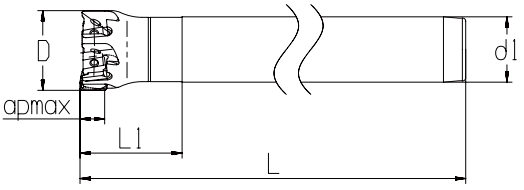




Designation	Dimension					Coolant	Z	Insert
	D	d1	L	L1	apmax			
ASM90-025-Z03-W25R-LN09-C	25	25	100	45	8.0		3	LNHU 0904
ASM90-025-Z04-W25R-LN09-C	25	25	100	45	8.0		4	
ASM90-032-Z04-W32R-LN09-C	32	32	110	50	8.0		4	
ASM90-032-Z05-W32R-LN09-C	32	32	110	50	8.0		5	
ASM90-040-Z04-W32R-LN09-C	40	32	110	25	8.0		4	
ASM90-040-Z06-W32R-LN09-C	40	32	110	25	8.0		6	

ASM90-LN09 Cylinder shank holder

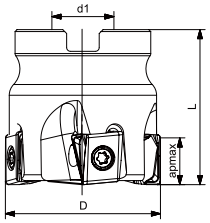




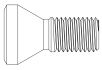
Designation	Dimension					Coolant	Z	Insert
	D	d1	L	L1	apmax			
ASM90-025-Z03-C25R-LN09-L200-C	25	25	200	40	8.0		3	LNHU 0904
ASM90-025-Z04-C25R-LN09-L200-C	25	25	200	40	8.0		4	
ASM90-032-Z04-C32R-LN09-L250-C	32	32	250	50	8.0		4	
ASM90-032-Z05-C32R-LN09-L250-C	32	32	250	50	8.0		5	

ASM90-LN09 Arbor cutter





Designation	Dimension					Coolant	Z	Insert
	D	d1	L	ISO	apmax			
ASM90-040-Z04-A16R-LN09-C	40	16	40	A	8.0		4	LNHU 0904
ASM90-040-Z06-A16R-LN09-C	40	16	40	A	8.0		6	
ASM90-050-Z05-A22R-LN09-C	50	22	40	A	8.0		5	
ASM90-050-Z07-A22R-LN09-C	50	22	40	A	8.0		7	
ASM90-063-Z07-A22R-LN09-C	63	22	40	A	8.0		7	
ASM90-063-Z10-A22R-LN09-C	63	22	40	A	8.0		10	

Dimension	Cutter spare parts			
Cutter diameter	Screw	Wrench		Torque
	AST3083-60	ADT-T09		1.8Nm
		ADT-G16	BIT-T09	
Φ25-Φ63				

Application		
Facing	Shoulder milling	Groove milling
		

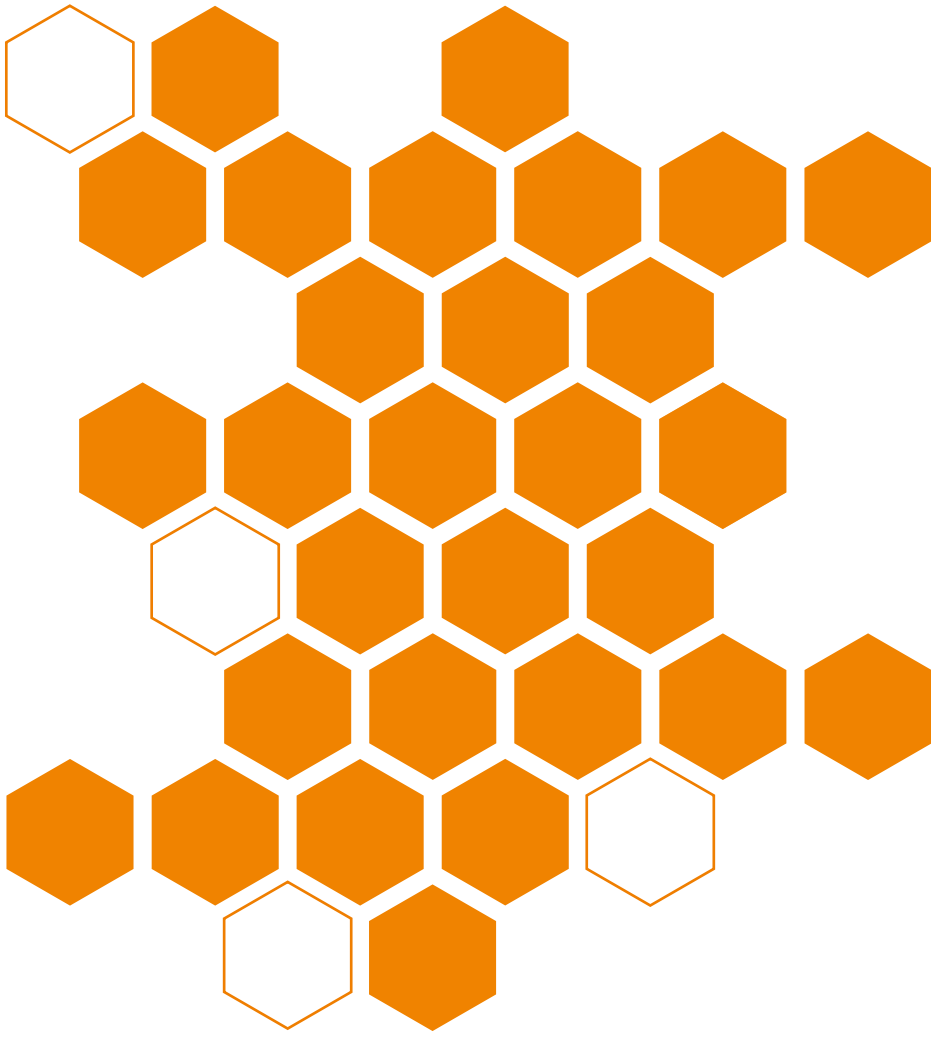
Remark: represent for coolant
represent for no coolant

Recommended cutting speed by materials

Machined Materials				Achteck Milling Grades Application Ranges																	Cutting depth and feed					
ISO	Material classification	Tensile strength (N/mm²)	Hardness (HB)	AC301K			AP351K			AP301U			AP351U			AP401M			AW100K			ASM90-LN09					
				CVD			PVD			PVD			PVD			PVD			-								
				-			-			P15-35			P30-45			P20-35			-								
				-			-			M15-35			M25-35			M30-45			-			Cutter diameter					
				K10-40			K15-40			-			-			-			-			Φ25-63					
				-			-			S30-45			S30-45			S30-45			-			apmax					
				-			-			-			-			-			N05-15			0.3-8					
				-			-			-			-			-			-			Geometry					
				Feed(mm/z)																			MM3			MR2		
				Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	Med	Max	Min	-	Max	Min	-	Max
				Cutting speed(m/min)																			Feed(mm/z)					
P	Non-alloyed steel	<600	<180							450	340	290	230	205	170	450	340	290				0.10	-	0.18	0.10	-	0.20
		<950	<280							320	240	200	200	180	160	320	240	200				0.10	-	0.16	0.10	-	0.18
	Alloyed steel	700-950	200-280							290	210	185	200	155	110	290	210	185				0.10	-	0.16	0.10	-	0.18
		950-1200	280-355							280	210	200	180	130	90	280	210	200				0.10	-	0.14	0.10	-	0.16
		1200-1400	355-415							210	170	110	140	105	70	210	170	110				0.10	-	0.14	0.10	-	0.16
M	Duplex stainless steel	778	230							165	150	130	270	215	155	150	115	85				0.08	-	0.16	0.10	-	0.18
	Austenitic stainless steel	675	200							270	185	90	260	180	90	185	140	105				0.08	-	0.14	0.10	-	0.14
	Precipitation-hardening stainless steel	1013	300							300	225	165	170	150	110	125	95	70				0.08	-	0.14	0.10	-	0.14
K	Grey cast iron	700	220	480	310	140	390	280	130	290	220	150													0.10	-	0.20
	Nodular cast iron	880	260	450	295	140	350	250	120	180	130	70													0.10	-	0.20
	Malleable cast iron	800	250	500	365	230	270	200	100	390	300	190													0.10	-	0.18
S	Fe based alloy	943	280							50	40	30	45	40	30	50	40	30				0.07	-	0.12	0.08	-	0.12
	Co based alloy	1076	320							45	38	30	45	40	30	45	38	30				0.07	-	0.12	0.08	-	0.12
	Ni based alloy	1177	350							45	38	30	45	40	30	45	38	30				0.07	-	0.12	0.08	-	0.12
	Ti-alloy	1262	370							100	75	30	100	70	45	100	75	30				0.07	-	0.12	0.08	-	0.12
N	Aluminum	260	75																50	40	30						
	Aluminum alloy	447	130																45	38	30						
H	Hardened steel	-	48-55HRC							70	50	40													0.08	-	0.12
	Chilled cast iron	-	55HRC							65	50	40													0.10	-	0.12

* 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 cooants. Average chip thinckness(hm = fz x Sin KappaR)

* When slotting , ap=1/2apmax



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