

ACHTECK

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CUTTING TOOL CATALOGUE

Milling cutters

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Milling inserts

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Milling Cutter Designation System

A	FM	90	080	Z07	A	22	R	SN12	C
1	2	3	4	5	6	7	8	9	10

1. A--ACHTECK

2. Cutting method

Face milling	FM
Shoulder milling	SM
Profile milling	PM
High feed milling	HM
Three-sided edge milling	DM
Thread milling	TM
Chamfer milling	CM

3. Approach angle (Kr)

Figure	Angle
90	90
88	88
75	75
60	60
45	45
42	42
•	•
•	•
•	•
15	15
00	Round insert

4. Cutter dia.

025	25mm
080	80mm
•	•
•	•
250	250mm

5. Number of teeth

Z02	2 teeth
•	•
Z05	5 teeth
•	•
Z30	30 teeth

6. Connection

A	Arbor
W	Weldon shank
C	Cylinder shank
N	Whistle notch shank
M	Screw clamped with modular head

7. Connection Size

22—Connection diameter 22mm

8. Hand of tool

R	Right
L	Left
N	Neutral

9. Insert

SN12—SN12 series insert

10. Others

C	Example: C-internal coolant
No mark	No mark no coolant

Overview of Milling Cutters

Series			ASM90-LN13	AFM42-OD04	AFM42-OD06	AFM40-ON05	APM00-RD12
Approach angle			90°	42°	42°	40°	-
Max. depth of cut(mm)			12	3.5	4.5	3	6
Diameter range(mm)			φ40-φ160	φ32-φ125	φ50-φ160	φ50-φ160	φ52-φ80
Insert designation			LN..1306..	OD..0404..	OD..0605..	ON..0504..	RD..12T3..
Application	Face milling		●	●	●	●	●
	Shoulder Milling		●				
	Slot and groove milling		●				
	Ramping			●	●		●
	Helical ramping			●	●		●
	Plunging						
	Profile milling						●
	Chamfer milling			●	●		
	Cavity milling			●	●		

Marked: ● Best choice

Overview of Milling Cutters

Series			APM00-RD16	AFM45-SD09	AFM75-SD09	AFM90-SD09	AFM45-SD12
Approach angle			-	45°	75°	90°	45°
Max. depth of cut(mm)			8	5	6	6	7
Diameter range(mm)			φ52-φ100	φ32-φ125	φ40-φ100	φ40-φ100	φ50-φ125
Insert designation			RD..1606..	SD..09T3..	SD..09T3..	SD..09T3..	SD..1204..
Application	Face milling		●	●	●	●	●
	Shoulder Milling						
	Slot and groove milling					●	
	Ramping		●	●	●	●	●
	Helical ramping		●			●	
	Plunging					●	
	Profile milling		●				
	Chamfer milling			●			●
	Cavity milling						

Marked: ● Best choice

Overview of Milling Cutters

Series			AFM75-SD12	AFM90-SD12	AFM45-SN12	AFM45-SN19	AFM75-SN12
Approach angle			75°	90°	45°	45°	75°
Max. depth of cut(mm)			8	9	6.5	11	8
Diameter range(mm)			φ50-φ125	φ50-φ125	φ50-φ250	φ160-φ250	φ50-φ250
Insert designation			SD..1204..	SD..1204..	SN..1206..	SN..1909..	SN..1206..
Application	Face milling		●	●	●	●	●
	Shoulder Milling						
	Slot and groove milling			●			
	Ramping		●	●			
	Helical ramping			●			
	Plunging			●			
	Profile milling						
	Chamfer milling						
	Cavity milling						

Marked: ● Best choice

Overview of Milling Cutters

Series			AFM88-SN12	ASM90-WN08	AHM15-XD09	AHM15-XD12	AFM45-XN07
Approach angle			88°	90°	15°	15°	45°
Max. depth of cut(mm)			10	7	1.5	2.5	4
Diameter range(mm)			φ50-φ200	φ50-φ160	φ40-φ50	φ52-φ125	φ40-φ160
Insert designation			SN..1206..	WN..0806..	XD..0904..	XD..1205..	XN..0705..
Application	Face milling		●	●	●	●	●
	Shoulder Milling			●			
	Slot and groove milling			●	●	●	
	Ramping				●	●	
	Helical ramping				●	●	
	Plunging			●	●	●	
	Profile milling						
	Chamfer milling						
	Cavity milling						

Marked: ● Best choice

Overview of Milling Cutters

Series			AFM45-XN09(C)	AFM45-XN09(W)	AFM45-XN07	AFM45-XN07	
Approach angle			45°	45°	45°	45°	
Max. depth of cut(mm)			6	6	4	4	
Diameter range(mm)			φ63-φ200	φ80-φ200	φ40	φ40	
Insert designation			XN..0906..	XN..0906..	XN..0705..	XN..0705..	
Application	Face milling		●	●	●	●	
	Shoulder Milling						
	Slot and groove milling						
	Ramping						
	Helical ramping						
	Plunging						
	Profile milling						
	Chamfer milling						
	Cavity milling						

Marked: ● Best choice

Overview of Milling Cutters

Series			ASM90-LN13	AFM42-OD04	AFM42-OD04	APM00-RD07	APM00-RD10
Approach angle			90°	42°	42°	-	-
Max. depth of cut(mm)			12	3.5	3.5	3.5	5
Diameter range(mm)			φ40	φ32	φ32	φ16-φ20	φ20-φ25
Insert designation			LN..1306..	OD..0404..	OD..0404..	RD..0702..	RD..1003..
Application	Face milling		●	●	●	●	●
	Shoulder Milling		●				
	Slot and groove milling		●				
	Ramping			●	●	●	●
	Helical ramping			●	●	●	●
	Plunging						
	Profile milling					●	●
	Chamfer milling			●	●		
	Cavity milling			●	●		

Marked: ● Best choice

Overview of Milling Cutters

Series			APM00-RD12	APM00-RD16	AFM45-SD09	AFM75-SD09	AFM90-SD09
Approach angle			-	-	45°	75°	90°
Max. depth of cut(mm)			6	8	5	6	6
Diameter range(mm)			φ25-φ32	φ32	φ16-φ32	φ25-φ32	φ25-φ32
Insert designation			RD..12T3..	RD..1606..	SD..09T3..	SD..09T3..	SD..09T3..
Application	Face milling		●	●	●	●	●
	Shoulder Milling						
	Slot and groove milling						●
	Ramping		●	●	●	●	●
	Helical ramping		●	●			●
	Plunging						●
	Profile milling		●	●			
	Chamfer milling				●		
	Cavity milling						

Marked: ● Best choice

Overview of Milling Cutters

Series			AFM75-SD12	ASM90-WN08	AHM15-XD09	AHM15-XD09	AHM15-XD12
Approach angle			75°	90°	15°	15°	15°
Max. depth of cut(mm)			8	7	1.5	1.5	2.5
Diameter range(mm)			φ32-φ40	φ40	φ25-φ32	φ25-φ32	φ32
Insert designation			SD..1204..	WN..0806..	XD..0904..	XD..0904..	XD..1205..
Application	Face milling		●	●	●	●	●
	Shoulder Milling			●			
	Slot and groove milling			●	●	●	●
	Ramping		●		●	●	●
	Helical ramping				●	●	●
	Plunging			●	●	●	●
	Profile milling						
	Chamfer milling						
	Cavity milling						

Marked: ● Best choice

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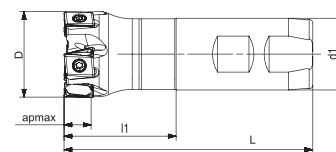
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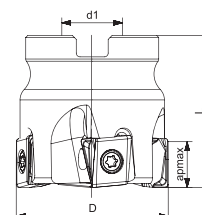
Milling cutters

ASM90-LN13-C

90° square shoulder milling cutter



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-040-Z5-W32R-LN13-C	40	32	120	50	12		5	LNHU 1306



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-040-Z04-A16R-LN13-C	40	16	40	-	12		4	LNHU 1306
ASM90-040-Z05-A16R-LN13-C	40	16	40	-	12		5	
ASM90-050-Z05-A22R-LN13-C	50	22	40	-	12		5	
ASM90-050-Z06-A22R-LN13-C	50	22	40	-	12		6	
ASM90-063-Z06-A22R-LN13-C	63	22	40	-	12		6	
ASM90-063-Z08-A22R-LN13-C	63	22	40	-	12		8	
ASM90-080-Z07-A27R-LN13-C	80	27	50	-	12		7	
ASM90-080-Z10-A27R-LN13-C	80	27	50	-	12		10	
ASM90-100-Z09-A32R-LN13-C	100	32	50	-	12		9	
ASM90-100-Z13-A32R-LN13-C	100	32	50	-	12		13	
ASM90-125-Z11-A40R-LN13-C	125	40	63	-	12		11	
ASM90-125-Z16-A40R-LN13-C	125	40	63	-	12		16	
ASM90-160-Z13-A40R-LN13	160	40	63	-	12		13	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ40-160			3.5Nm
	AST4112-60	ADT-T15	

Note: With internal coolant
 Without internal coolant


Milling cutters
Milling cutters
Milling cutters
Milling cutters

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NEW
PRODUCT!

APE90-LN13

Porcupine Milling Cutter



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◆ Porcupine Milling Cutter Naming System

A₁ PE₂ 90₃ - 063₄ - Z04₅ - A₆ 27₇ R₈ - LN13₉ - L56₁₀ - F₁₁ - C₁₂

1-Achteck

2-Machining type	
PE	Porcupine milling
SM	Square shoulder milling
PM	Profile milling
HM	High feed milling
DM	Side and face milling

3-Approach angle (Kr)	
Figure	Angle
90	90°
88	88°
60	60°
45	45°

4-Cutter dia.	
025	25mm
063	63mm
080	80mm
.	.
250	250mm

5-Number of teeth	
Z02	2 teeth
Z04	4 teeth
Z05	5 teeth
.	.
Z30	30 teeth

6-Connection	
A	Arbor
W	Weldon shank
C	Cylinder shank
N	Whistle noich shank
M	Screw modular

7-Connection size	
27	Connection diameter 27mm

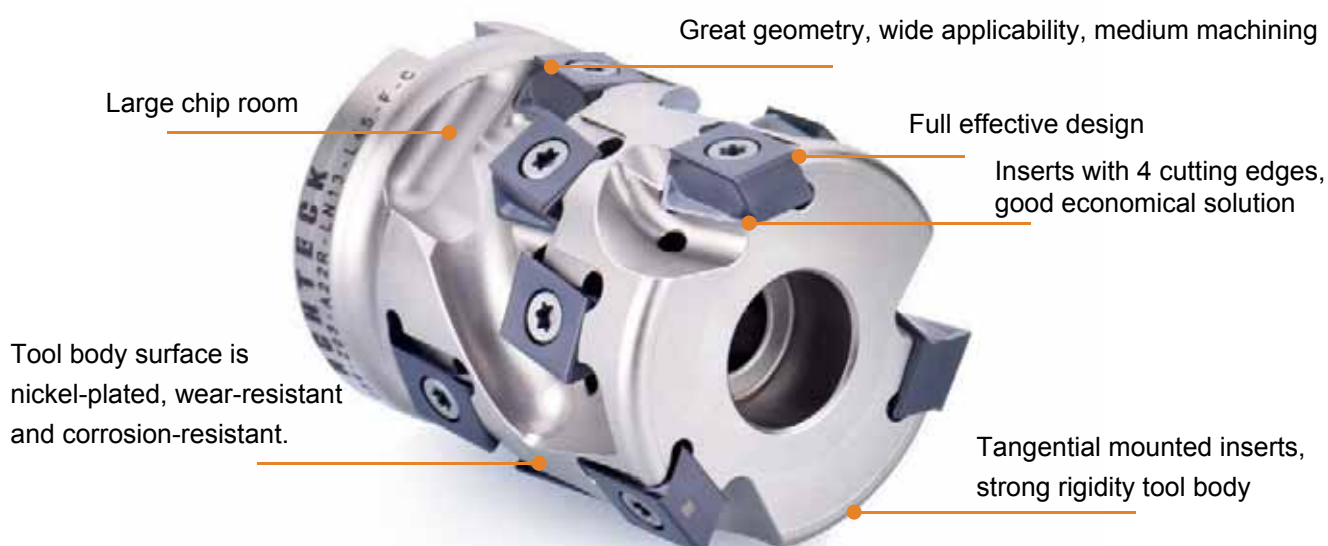
8-Hand of tool	
R	Right
L	Left
N	Neutral

9-Insert	
LN13	LN13 series insert

10-Valid cutting edge length Max	
L30	30mm
L45	45mm
L56	56mm

11-Cutter type	
F	Full teeth
H	Half teeth

12-Other	
-C	With internal coolant
No mark	Without internal coolant



◆ APE90-LN13 Porcupine Milling Cutter

- Porcupine cutter with tangential mounted standard LN13 double-sided inserts with 4 cutting edges. Efficient, economic and strong application solution problem solver.
- Suitable for 2D-profiling, square shoulder milling with big ap. Even for face milling in combination with wiper insert.
- Accurate through coolant holes for each insert.
- Two sorts of interfaces. Weldon type and shell mill (Arbor).
- Weldon interface with diameter 40mm
- Shell mill (Arbor) interface with diameter 40-80mm apmax
- Weldon interface: apmax = 45mm
- Shell mill (Arbor) interface: apmax = 56mm
- All Corner radius inserts can be mounted in the first-row, without modify the cutter body.
- Corner radius inserts: R0.8/1.2/1.6/2.0/2.4/3.1



◆ Chip breaker Features

Chip breaker name	Edge Preparation	Feature
MR2		● 35°rake angle; ● Can used for most of materials; ● For medium machining conditions;

◆ Grade application

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

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

Case stories

Work piece: Base

Material: HT300

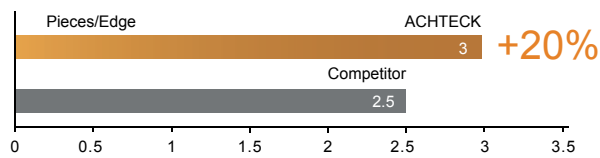
Insert: LNHU 130608ER-MR2 AC301K

Cutter description: APE90-040-Z02-W40R-LN13-L34-F-C

Machining type: Rough milling track surface

Cutting parameters: $V_c=150\text{m/min}$, $a_p=15\text{mm}$, $f_z=0.14$

Dry cutting



20% increase in spanlife of porcupine cutter



Work piece: Punch

Material: QT600

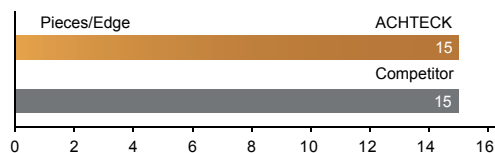
Insert: LNHU 130608ER-MR2 AC301K

Cutter description: APE90-063-Z04-A27R-LN13-L56-F-C

Machining type: Rough milling rectangular surface

Cutting parameters: $V_c=158\text{m/min}$, $a_p=35\text{mm}$, $a_e=5\text{mm}$, $f_z=0.15$

Wet cutting

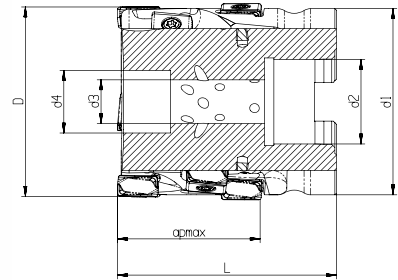


20% cost reduction per unit



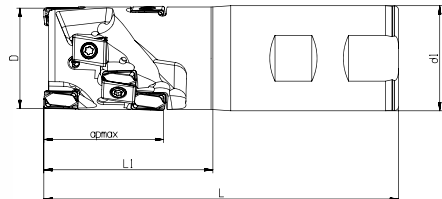
Cutter stock item

APE90-LN13-C Arbor cutter



Designation	Dimension							Coolant	Z	Segment	Total Inserts	Insert
	D	d1	L	d2	d3	d4	apmax					
APE90-040-Z02-A16R-LN13-L34-F-C	40	39	55	16	9	15	34		2	3	6	LNHU 1306
APE90-040-Z02-A16R-LN13-L45-F-C	40	39	65	16	9	15	45		2	4	8	
APE90-050-Z03-A22R-LN13-L34-F-C	50	47.5	55	22	11	18	34		3	3	9	
APE90-050-Z03-A22R-LN13-L45-F-C	50	47.5	65	22	11	18	45		3	4	12	
APE90-063-Z04-A27R-LN13-L56-F-C	63	59.5	80	27	14	20	56		4	5	20	
APE90-063-Z04-A27R-LN13-L45-F-C	63	59.5	70	27	14	20	45		4	4	16	
APE90-080-Z05-A32R-LN13-L56-F-C	80	75.6	85	32	18	26	56		5	5	25	

APE90-LN13-C Weldon shank



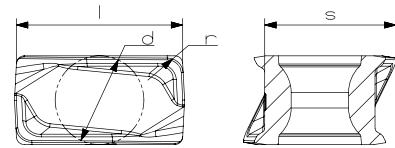
Designation	Dimension					Coolant	Z	Segment	Total Inserts	Insert
	D	d1	L1	L	apmax					
APE90-040-Z02-W40R-LN13-L34-F-C	40	40	54	120	34		2	3	6	LNHU 1306
APE90-040-Z02-W40R-LN13-L45-F-C	40	40	64	135	45		2	4	8	

Dimension	Cutter spare parts			
Cutter diameter	Screw	Wrench		Torque
Φ40-Φ80	AST4112-60	ADT-T15		3.5Nm
		ADT-G16	BIT-T15	
				
Application				
Facing		Shouldering		
				

Remark: represent for coolant
 represent for no coolant

Insert stock item

LNHU 1306



Insert	Designation	Dimensions				Grades						
						CVD coated		PVD coated				Uncoated
		l	d	s	r	AC301P	AC301K	AP301U	AP351U	AP401M	AP351K	AW100K
	LNHU 130608R-FM2	13.02	6.8	10.11	0.8							●
	LNHU 130608R-MM3	13.02	6.8	10.19	0.8					●		
	LNHU 130608R-MR2	13.02	6.8	10.15	0.8	●	●	●	●	●	●	
	LNHU 130612R-MR2	13.02	6.8	10.09	1.2		●		●	●		
	LNHU 130616R-MR2	13.02	6.8	10.03	1.6		●		●	●		
	LNHU 130620R-MR2	13.02	6.8	9.99	2.0				●	●		
	LNHU 130624R-MR2	13.02	6.8	9.92	2.4				●	●		
	LNHU 130631R-MR2	13.02	6.8	9.83	3.1		●		●	●		

Remarked: • represent for standard stock

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	APE90-LN13														
				CVD	PVD	PVD	PVD	PVD	-															
				-	-	P15-35	P30-45	P25-35	-															
				-	-	M15-35	M25-35	M30-45	-															
				K10-40	K15-40	-	-	-	-															
				-	-	S30-45	S30-45	S30-45	-															
				Feed (mm/z)										MM3			MR2							
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	-	0.20	0.10	-	0.22			
		<950	<280				320	240	200	200	180	160	320	240	200	0.10	-	0.16	0.10	-	0.18			
		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			
M	Alloyed steel	1200-1400	355-415				210	170	110	140	105	70	210	170	110	0.10	-	0.14	0.10	-	0.16			
		778	230				165	150	130	270	215	155	150	115	85	0.10	-	0.16	0.10	-	0.18			
		675	200				270	185	90	260	180	90	185	140	105	0.10	-	0.14	0.10	-	0.14			
		1013	300				300	225	165	170	150	110	125	95	70	0.10	-	0.14	0.10	-	0.14			
K	Precipitation-hardening stainless steel	700	220	480	310	140	390	280	130	290	220	150							0.12	-	0.22			
		880	260	450	295	140	350	250	120	180	130	70							0.12	-	0.20			
		800	250	336	220	100	270	200	100	390	300	190							0.12	-	0.18			
		943	280																					
S	Fe based alloy	1076	320																0.08	-	0.12	0.10	-	0.14
		1177	350																0.08	-	0.12	0.10	-	0.14
		1262	370																0.08	-	0.12	0.10	-	0.14
																			0.08	-	0.12	0.10	-	0.14
N	Aluminum	260	75																					
		447	130																					
H	Hardened steel	-	48-55HRC																					
		-	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 cooants. Average chip thickness(hm = fz x Sin KappaR)

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NEW
PRODUCT!

ASM90-LN09

Shoulder Milling Cutter

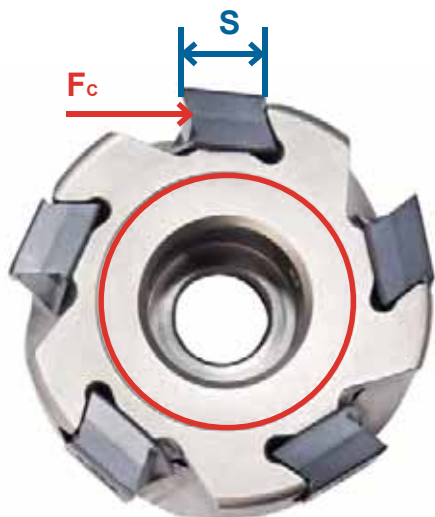


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Achteck is launching a new set of 90° shoulder milling cutter with inserts of LN09 and max ap 8mm. Tangential mounted double-sided inserts with 4 cutting edges, 90° approach angle is an very good choice for shoulder milling. The insert geometries, 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.

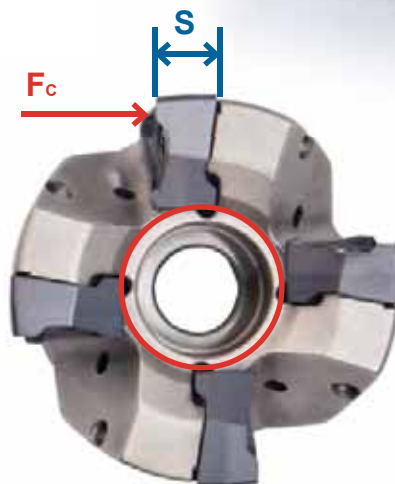
◆ ASM90-LN09 Shoulder Milling Cutter

- 90° shoulder milling cutter, cutter dia.: $\Phi 25$ - $\Phi 63$ MM
- Different pitch design, coarse pitch applied for slotting and shoulder milling, and close pitch for shoulder milling
- General geometry MR2, with a wiper design and widely 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

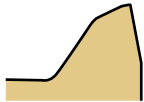
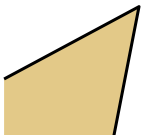
VS



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

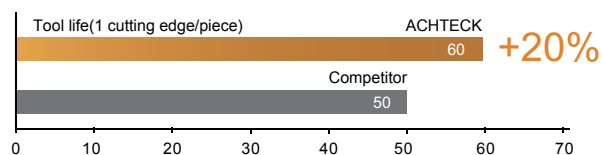
Insert: LNHU 090408ER-MR2 AP351U

Cutter description: ASM90-032-Z04-W32R-LN09-C

Machining type: Boss mounting surface

Cutting parameters: $V_c=100\text{m/min}$, $a_p=3\text{mm}$, $a_e=20\text{mm}$, $f_z=0.11$

Dry cutting



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

Work piece: Engine block

Material: HT250

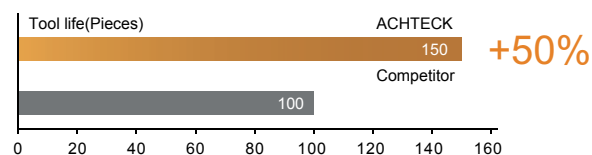
Insert: LNHU 090408ER-MR2 AP351K

Cutter description: ASM90-032-Z04-W32R-LN09-C

Machining type: Boss on side of the block

Cutting parameters: $V_c=171\text{m/min}$, $a_p=7.5\text{mm}$, $a_e=16\text{mm}$, $f_z=0.13$

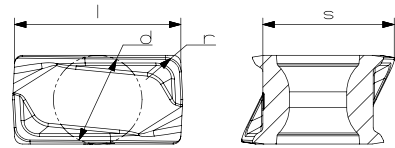
Wet cutting



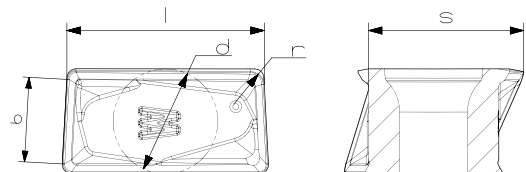
Result comparison: ACHTECK's tool life extends 50% than competitors'

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		●	●		●		



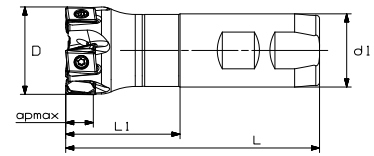
Wiper Insert

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

Remarked: • Represent for standard stock

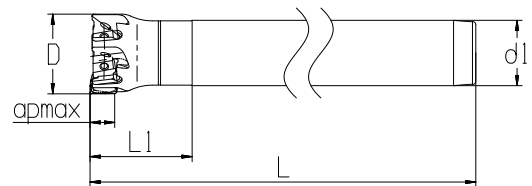
◆ Cutter stock item

ASM90-LN09 Weldon shank



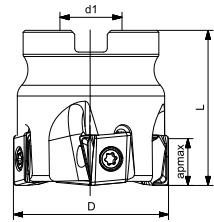
Designation	Dimension					Coolant	Z	Insert
	D	d1	L	L1	apmax			
ASM90-025-Z03-W25R-LN09-C	25	25	100	45	8.0		3	LNHU 0904
ASM90-025-Z04-W25R-LN09-C	25	25	100	45	8.0		4	
ASM90-032-Z04-W32R-LN09-C	32	32	110	50	8.0		4	
ASM90-032-Z05-W32R-LN09-C	32	32	110	50	8.0		5	
ASM90-040-Z04-W32R-LN09-C	40	32	110	25	8.0		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
Φ25-Φ63	AST3083-60	ADT-T09		1.8Nm
		ADT-G16	BIT-T09	
				

Application		
Facing	Shoulder milling	Groove milling

Remark: represent for coolant
 represent for no coolant

Recommended cutting speed by materials

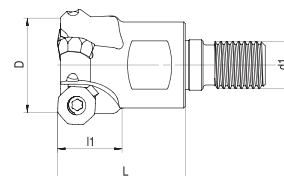
Machined Materials				Achteck Milling Grades Application Ranges												Cutting depth and feed																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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* 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. Average chip thickness(hm = fz x Sin KappaR)

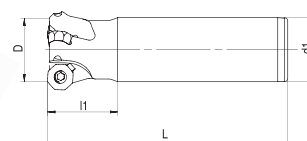
* When slotting , ap=1/2apmax

AFM42-OD04

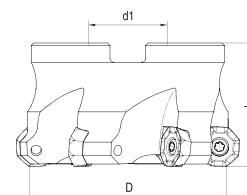
42 ° Approaching angle milling cutter for face milling



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM42-032-Z03-M16R-OD04-C	32	M16	43	3.5		3	OD..0404



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM42-032-Z03-W32R-OD04-C	32	32	120	3.5		3	OD..0404



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM42-040-Z04-A16R-OD04-C	40	16	40	3.5		4	OD..0404
AFM42-050-Z05-A16R-OD04-C	50	16	40	3.5		5	
AFM42-063-Z05-A22R-OD04-C	63	22	40	3.5		5	
AFM42-063-Z06-A22R-OD04-C	63	22	40	3.5		6	
AFM42-080-Z06-A27R-OD04-C	80	27	50	3.5		6	
AFM42-080-Z08-A27R-OD04-C	80	27	50	3.5		8	
AFM42-100-Z07-A32R-OD04-C	100	32	50	3.5		7	
AFM42-100-Z08-A32R-OD04-C	100	32	50	3.5		8	
AFM42-125-Z08-A40R-OD04-C	125	40	63	3.5		8	
AFM42-125-Z10-A40R-OD04-C	125	40	63	3.5		10	

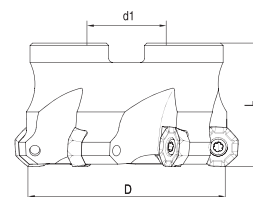
Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ32-125			3.5Nm
	AST4112-60	ADT-T15	

Note: With internal coolant
 Without internal coolant

Milling cutters
Milling cutters
Milling cutters
Milling cutters

AFM42-OD06

42 ° Approaching angle milling cutter for face milling



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM42-050-Z04-A16R-OD06-C	50	16	40	4.5		4	OD..0605
AFM42-063-Z05-A22R-OD06-C	63	22	40	4.5		5	
AFM42-080-Z05-A27R-OD06-C	80	27	50	4.5		5	
AFM42-080-Z06-A27R-OD06-C	80	27	50	4.5		6	
AFM42-100-Z06-A32R-OD06-C	100	32	50	4.5		6	
AFM42-100-Z07-A32R-OD06-C	100	32	50	4.5		7	
AFM42-125-Z07-A40R-OD06-C	125	40	63	4.5		7	
AFM42-125-Z08-A40R-OD06-C	125	40	63	4.5		8	
AFM42-160-Z10-A40R-OD06	160	40	63	4.5		10	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-160			5.0Nm
	AST4512-43	ADT-T20	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades						
	Insert corner radius	Wiper length	CVD coated		PVD coated				Uncoated
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
ODET 0605APFN-FM2	-	1.6							●
ODMT 060508EN-MM3	0.8	-	●	●	●	●	●	●	
ODMT 060512EN-MM3	1.2	-			●				
ODHT 0605APEN-MM3	-	1.6		●	●	●	●		
ODEW 0605APSR-HR2	-	1.6		●				●	
ODEW 0605APSRN-HR2	-	1.6		●				●	
ODMW 060512EN-HR2	1.2	-		●				●	

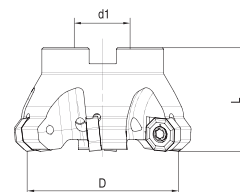
Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm²)	Hardness (HB)	OD..0605							
				ap		Geometry					
						HR2		MM3		FM2	
						fz					
min	max	min	max	min	max	min	max				
	Non-alloyed steel	<600	<180	0.20	4.50	0.30	0.70	0.20	0.35	0.08	0.15
		<950	<280								
	Alloyed steel	700-950	200-280			0.27	0.50	0.20	0.35	0.08	0.15
		950-1200	280-355								
	1200-1400	355-415									
	Duplex stainless steel	778	230			0.27	0.40	0.15	0.25	0.05	0.15
	Austenitic stainless steel	675	200			0.15	0.30	0.10	0.20	0.05	0.10
	Precipitation-hardening stainless steel	1013	300								
	Grey cast iron	700	220			0.30	0.45	0.15	0.30	-	
	Nodular cast iron	880	260								
	Malleable cast iron	800	250								
	Fe-based alloy	943	280			0.17	0.25	0.10	0.20	0.05	0.10
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350								
	Ti-alloy	1262	370								
	Aluminum	260	75			-		-		0.05	0.35
	Aluminum alloy	447	130								
	Hardened steel	-	50-60HRC	0.20	1.50	0.06	0.12	-		-	
	Chilled cast iron	-	55HRC								

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

AFM40-ON05

40 ° Approaching angle milling cutter for face milling



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM40-050-Z06-A22R-ON05-C	50	22	40	3.5		6	ON..0504
AFM40-063-Z06-A22R-ON05-C	63	22	40	3.5		6	
AFM40-063-Z08-A22R-ON05-C	63	22	40	3.5		8	
AFM40-080-Z06-A27R-ON05-C	80	27	50	3.5		6	
AFM40-080-Z08-A27R-ON05-C	80	27	50	3.5		8	
AFM40-080-Z09-A27R-ON05-C	80	27	50	3.5		9	
AFM40-100-Z07-A32R-ON05-C	100	32	50	3.5		7	
AFM40-100-Z09-A32R-ON05-C	100	32	50	3.5		9	
AFM40-100-Z11-A32R-ON05-C	100	32	50	3.5		11	
AFM40-125-Z07-A32R-ON05-C	125	40	63	3.5		7	
AFM40-125-Z09-A40R-ON05-C	125	40	63	3.5		9	
AFM40-125-Z14-A40R-ON05-C	125	40	63	3.5		14	
AFM40-160-Z10-A40R-ON05	160	40	63	3.5		10	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-160			4.0Nm
	AST409-60	ADT-T15	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades						
	Insert corner radius	Wiper length	CVD coated		PVD coated				Uncoated
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
ONHU 050408-MM3	0.8	-			●				
ONMU 050408-MM4	0.8	-			●	●		●	
ONHU 050408AEN-MM3	0.8	1.6			●	●		●	
ONHU 050408AEN-MM4	0.8	1.6				●		●	
ONHU 0504ZNR-MM3	0.8	1.4			●				

Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed					
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	ON..0504					
				ap		Geometry			
						MM3		MM4	
						fz			
min	max	min	max	min	max	min	max		
	Non-alloyed steel	<600	<180	0.50	3.50	0.10	0.25	0.18	0.35
		<950	<280						
	Alloyed steel	700-950	200-280						
		950-1200	280-355						
	Duplex stainless steel	778	230			0.10	0.20	0.18	0.25
	Austenitic stainless steel	675	200						
	Precipitation-hardening stainless steel	1013	300						
	Grey cast iron	700	220			-		0.18	0.35
	Nodular cast iron	880	260						
	Malleable cast iron	800	250						
	Fe-based alloy	943	280			0.10	0.15	0.15	0.25
	Co-based alloy	1076	320						
	Ni-based alloy	1177	350						
	Ti-alloy	1262	370						
	Aluminum	260	75			-		-	
	Aluminum alloy	447	130						
	Hardened steel	-	50-60HRC	-		-		-	
	Chilled cast iron	-	55HRC						

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

NEW
PRODUCT!

APM00-RO

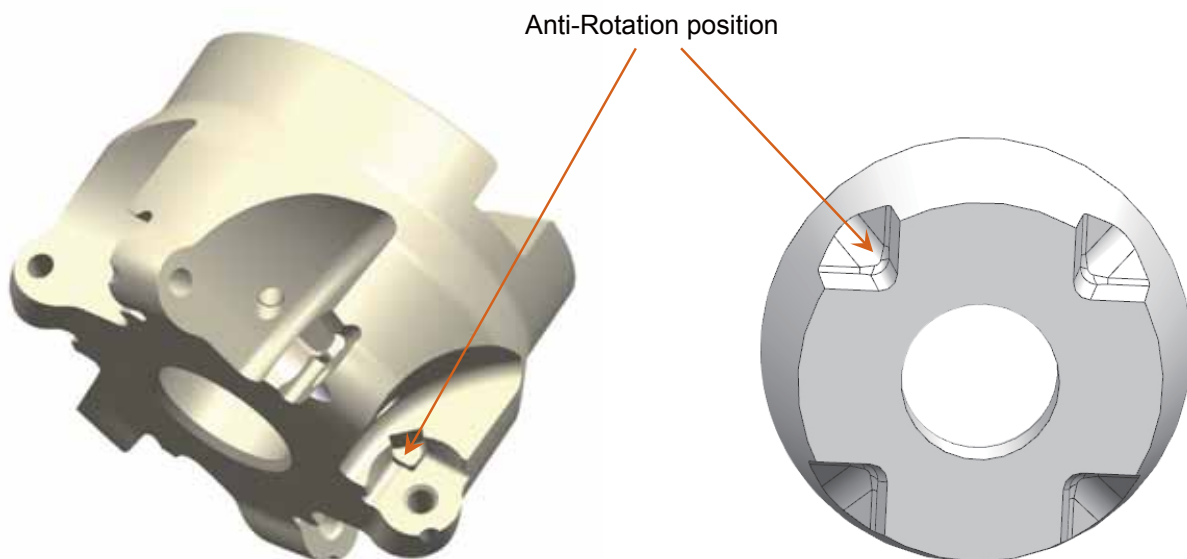
Profiling Mills



ACHTECK launched its latest RO series profiling milling line, they are focused on Aerospace and Energy industry profiling cutting, such as Nickel base alloy, Titanium alloy and difficult to machine stainless steel. The latest proprietary patented PVD coating technology combined with 2 types geometry of MM3 and MR6, has outstanding performance and wide applicability

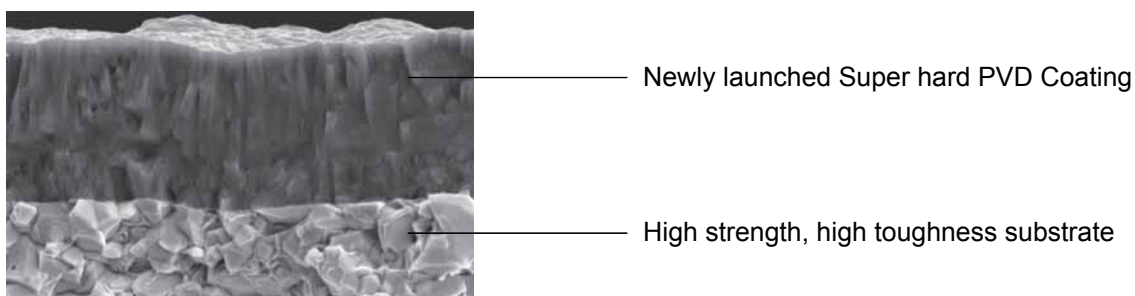
◆ Product Features

- Cutter diameter range from $\Phi 25\text{mm}$ to $\Phi 160\text{mm}$
- Multiple Chuck connection types: Screw connection interface, Cylinder shank and Arbor cutter
- Inserts has Anti-Rotation positioning function
- With MM3 geometry, fine ground flank and optimized cutting edge treatment, all these enable the cutter to have longer tool life
- New AP403S grade can fully cover Stainless Steel and Super Alloy machining



◆ AP403S grade introduction

AP403S is the preferred grade for Nickel base super Alloy milling, and also suitable for Titanium alloy and Stainless Steel milling.



- Adopt material with high toughness and excellent high temperature resistant performance new substrate
- The usage of new generation PVD superhard coating, have super smooth surface, low friction coefficient features
- It still maintains good impact resistance and high cutting tool life even under complex and harsh working conditions such as strong impact and serious oxidation workpiece

◆ Grades introduction and application range recommendation

Grade	Coating	Material					
		P	M	K	S	N	H
AP403S	PVD		●		●		

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

◆ Geometry Introduction

Geometry	Cutting Edge Shapes	Application conditions recommended
MM3		• Sharp • Relatively good working condition • Low cutting force (suitable for low power machine condition) • Medium feed rate
MR6		• Strong • For poor operating conditions • Highest machining stability • Higher feed rate

Case Study

Workpiece: Turbine blade

Materials: X12CrNiMoV12-2

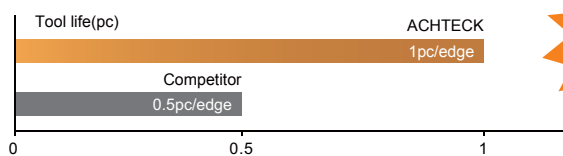
Inserts: ROMT 1204M6E-MR6 AP403S

Cutter: APM00-040-Z04-A16R-RO12-C

Machining process name: Airfoil roughing

Cutting parameters: $V_c=198\text{m/min}$, $f_z=0.25\text{mm/z}$, $a_p=1.5\text{mm}$

Coolant supply: yes



Workpiece: Aircraft landing gear

Materials: Ti5553

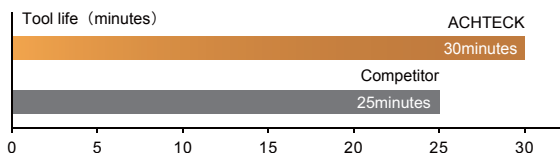
Insert: ROHT 1204M4E-MM3 AP403S

Cutter: APM00-063-Z06-A22R-RO12-C

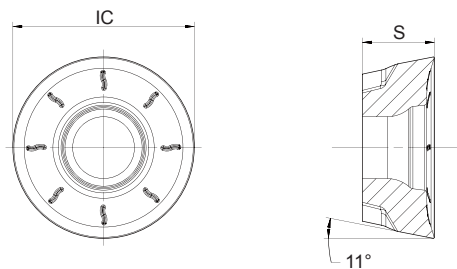
Machining process: Face Milling

Cutting parameters: $V_c=30\text{m/min}$, $f_z=0.3\text{mm/z}$, $a_p=1.5\text{mm}$

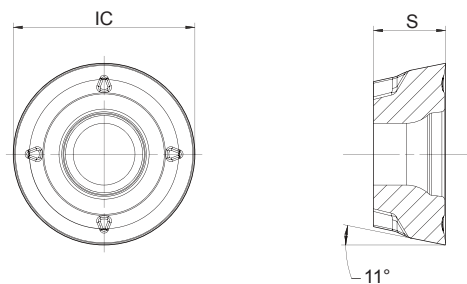
Coolant supply: yes



Inserts Stock Status



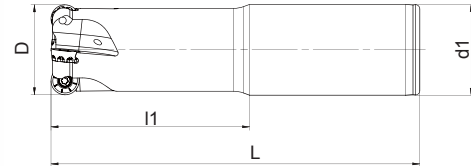
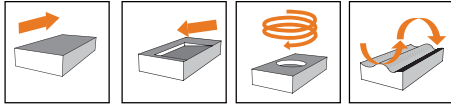
Inserts	Model	Size		Grades						
				CVD coated		PVD coated			Uncoated	
		IC	S	AC301P	AC301K	AP301U	AP351U	AP401M	AP403S	AW100K
	ROHT 0803M0E-MM3	08	3.18						●	
	ROHT 10T3M8E-MM3	10	3.97						●	
	ROHT 1204M4E-MM3	12	4.76						●	
	ROHT 1204M6E-MM3	12	4.76						●	
	ROHT 1605M8E-MM3	16	5.56						●	
	ROHT 2006M8E-MM3	20	6.35						●	



Inserts	Model	Size		Grades						
				CVD coated		PVD coated			Uncoated	
		IC	S	AC301P	AC301K	AP301U	AP351U	AP401M	AP403S	AW100K
	ROMT 10T3M4E-MR6	10	3.97						●	
	ROMT 1204M6E-MR6	12	4.76						●	
	ROMT 1605M6E-MR6	16	5.56						●	
	ROMT 2006M8E-MR6	20	6.35						●	

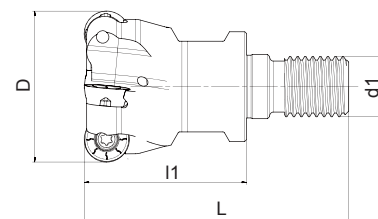
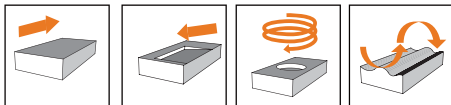
● 代表常规库存

APM00-RO Cylinder shank holder



Designation	Dimension					Coolant	Z	Insert
	D	d1	L	l1	apmax			
APM00-025-Z04-C25R-RO08-L116-C	25	25	116	60	4		4	RO 08
APM00-025-Z03-C25R-RO10-L225-C	25	25	225	60	5		3	RO 10
APM00-032-Z04-C32R-RO10-L130-C	32	32	130	70	5		4	
APM00-032-Z03-C32R-RO12-L120-C	32	32	120	40	6		3	RO 12

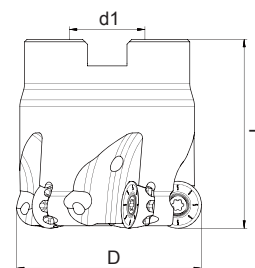
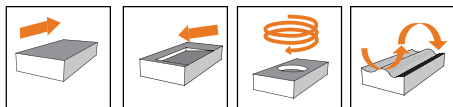
APM00-RO Screw type holder



Designation	Dimension					Coolant	Z	Insert
	D	d1	L	l1	apmax			
APM00-025-Z03-M12R-RO10-C	25	M12	59	35	5		3	RO 10
APM00-032-Z04-M16R-RO10-C	32	M16	70	43	5		4	
APM00-040-Z04-M16R-RO12-C	40	M16	70	43	6		4	RO 12

Remark: represent for coolant
 represent for no coolant

APM00-R020 Arbor type cutter



Designation	Dimension					Coolant	Z	Insert
	D	d1	L	l1	apmax			
APM00-040-Z05-A16R-RO10-C	40	16	40	-	5		5	RO 10
APM00-050-Z06-A22R-RO10-C	50	22	40	-	5		6	
APM00-040-Z04-A16R-RO12-C	40	16	40	-	6		4	RO 12
APM00-050-Z05-A22R-RO12-C	50	22	40	-	6		5	
APM00-063-Z06-A22R-RO12-C	63	22	40	-	6		6	
APM00-080-Z07-A27R-RO12-C	80	27	50	-	6		7	RO 16
APM00-063-Z05-A22R-RO16-C	63	22	40	-	8		5	
APM00-080-Z06-A27R-RO16-C	80	27	50	-	8		6	
APM00-100-Z07-A32R-RO16-C	100	32	50	-	8		7	RO 20
APM00-100-Z06-A32R-RO20-C	100	32	50	-	10		6	
APM00-125-Z07-A40R-RO20-C	125	40	63	-	10		7	
APM00-160-Z08-A40R-RO20	160	40	63	-	10		8	

Remark: represent for coolant
 represent for no coolant

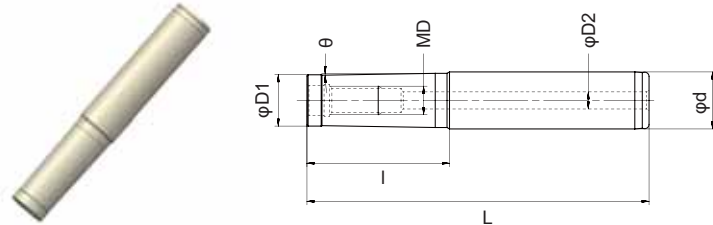
• Spare parts Accessories

Spare Parts	Inserts Model	RO.T 0803	RO.T 10T3	RO.T 1204	RO.T 1605	RO.T 2006
	Tightening Screw	SP030062	SP030072H	SP040085H	SP050120	SP060121
	Tightening torque	2.0Nm	2.0Nm	4.0Nm	5.0Nm	7.0Nm

Appendices	Inserts Model	RO.T 0803		RO.T 10T3		RO.T 1204		RO.T 1605	RO.T 2006
	Screw Wrench	DT-TP09		DT-TP09		DT-TP15		DT-TP20	DT-TP25
	Cutter head installation wrench	φ20	AFW-15	φ25	AFW-19	φ40	AFW-24		
				φ32	AFW-24				

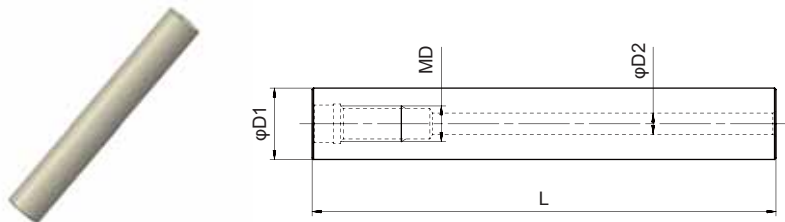
Shank Stock models(for Screw types cutter)

1-Head taper structure



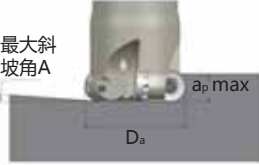
Designation	Dimension						materials
	MD	φd	φD1	φD2	L	l	
AMS-M10-030-100-20T	M10	20	18	6	100	30	Steel
AMS-M10-050-120-20T	M10	20	18	6	120	50	Steel
AMC-M10-090-150-20T	M10	20	18	6	150	90	Carbide
AMC-M10-140-200-20T	M10	20	18	6	200	140	Carbide
AMS-M12-030-110-25T	M12	25	22.5	6	110	30	Steel
AMS-M12-050-130-25T	M12	25	22.5	6	130	50	Steel
AMC-M12-120-180-25T	M12	25	22.5	6	180	120	Carbide
AMC-M12-140-250-25T	M12	25	22.5	6	250	140	Carbide
AMS-M16-035-125-32T	M16	32	28.5	8	125	35	Steel
AMS-M16-055-145-32T	M16	32	28.5	8	145	55	Steel
AMC-M16-120-200-32T	M16	32	28.5	8	200	120	Carbide
AMC-M16-180-260-32T	M16	32	28.5	8	260	180	Carbide

2-Straight Shank

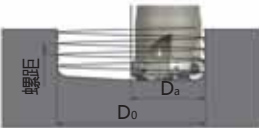


Designation	Dimension				materials
	MD	φD1	φD2	L	
AMC-M10-130-20S	M10	20	6	130	Carbide
AMC-M10-250-20S	M10	20	6	250	Carbide
AMC-M12-145-25S	M12	25	6	145	Carbide
AMC-M12-285-25S	M12	25	6	285	Carbide
AMC-M16-157-32S	M16	32	8	157	Carbide
AMC-M16-287-32S	M16	32	8	287	Carbide

◆ Ramping Milling parameters

Ramping		Maximum angle A (°)				
 最大斜 坡角A	Da (mm)	Indexible inserts diameter d (mm)				
		d8	d10	d12	d16	d20
	25	3.2	6.5			
	32		3.0	4.2		
	40		1.4	3.0		
	50		2.0	2.1		
	63			1.5	2.6	
	80			1.4	1.4	
	100				1.0	1.3
	125					0.9
	160					0.7
	ap max(mm)	6.6	8.8	10.7	14	17.2

◆ Helical Ramping Milling parameters

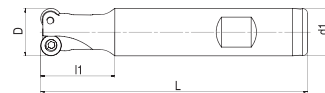
Actual Helical Ramping data on workpiece		Diameter range of the hole that can be milled by one pass (mm)									
	Da (mm)	Indexible inserts diameter d (mm)									
		d8		d10		d12		d16		d20	
		DO min (mm)	DO max (mm)	DO min (mm)	DO max (mm)	DO min (mm)	DO max (mm)	DO min (mm)	DO max (mm)	DO min (mm)	DO max (mm)
	25	36.5	50	32	50						
	32			46	64	42.5	64				
	40			62	80	59	80				
	50			82	100	78.5	100	97.5	126		
	63					104.5	126	131.5	160		
	80					138	160	171.5	200		
	100									165.5	200
	125									215.5	250
	160									285.5	320

Cutting data Recommended

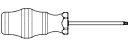
Machined Materials				Achteck Milling Application Ranges				Cutting depth and feed															
ISO	Machined Materials	Tensile strength (N/mm²)	Hardness (HB)	AP403S		PVD		-		M30-40		-		S30-40		-		-					
				APM00-RO08		APM00-RO10		APM00-RO12		APM00-RO16		APM00-RO20											
				Cutter diameter		Cutter diameter		Cutter diameter		Cutter diameter		Cutter diameter		Cutter diameter		Cutter diameter		Cutter diameter					
				apmax		apmax		apmax		apmax		apmax		apmax		apmax		apmax					
				4		5		6		8		10											
				MM3		MM6		MM3		MM6		MM3		MM6		MM3		MM6					
				1/10	1/5	1/1	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			
				Cutting speed(m/min)				Feed(mm/z)															
P	Non-alloyed steel	<600	<180	0.05	0.30	0.05	0.30	0.10	0.30	0.05	0.45	0.10	0.50	0.10	0.45	0.10	0.50	0.10	0.45	0.10	0.50		
		<950	<280	0.05	0.28	0.05	0.28	0.10	0.28	0.10	0.42	0.10	0.48	0.10	0.42	0.10	0.48	0.10	0.42	0.10	0.48		
		700-950	200-280	0.05	0.28	0.05	0.28	0.10	0.28	0.10	0.42	0.10	0.48	0.10	0.42	0.10	0.48	0.10	0.42	0.10	0.48		
		950-1200	280-355	0.05	0.26	0.05	0.26	0.10	0.26	0.10	0.40	0.10	0.46	0.10	0.40	0.10	0.46	0.10	0.40	0.10	0.46		
		1200-1400	355-415	0.05	0.26	0.05	0.26	0.10	0.26	0.10	0.40	0.10	0.46	0.10	0.40	0.10	0.46	0.10	0.40	0.10	0.46		
M	Duplex stainless steel	778	230	0.05	0.28	0.05	0.28	0.10	0.28	0.10	0.40	0.10	0.46	0.10	0.40	0.10	0.46	0.10	0.40	0.10	0.46		
	Austenitic stainless steel	675	200	0.05	0.26	0.05	0.26	0.10	0.26	0.10	0.40	0.10	0.44	0.10	0.40	0.10	0.44	0.10	0.40	0.10	0.44		
	Precipitation-hardening stainless steel	1013	300	0.05	0.26	0.05	0.26	0.10	0.26	0.10	0.40	0.10	0.44	0.10	0.40	0.10	0.44	0.10	0.40	0.10	0.44		
	Grey cast iron	700	220																				
K	Nodular cast iron	880	260																				
	Malleable cast iron	800	250																				
	Fe based alloy	943	280																				
S	Co based alloy	1076	320	0.04	0.24	0.04	0.24	0.10	0.24	0.10	0.36	0.10	0.40	0.10	0.36	0.10	0.40	0.10	0.36	0.10	0.40		
	Ni based alloy	1177	350	0.04	0.24	0.04	0.24	0.10	0.24	0.10	0.36	0.10	0.40	0.10	0.36	0.10	0.40	0.10	0.36	0.10	0.40		
	Ti-alloy	1262	370	0.04	0.24	0.04	0.24	0.10	0.24	0.10	0.36	0.10	0.40	0.10	0.36	0.10	0.40	0.10	0.36	0.10	0.40		
	Aluminum	260	75																				
N	Aluminum alloy	447	130																				
	Hardened steel	-	48-55HRC																				
H	Chilled cast iron	-	55HRC																				

APM00-RD07

Profile milling cutter



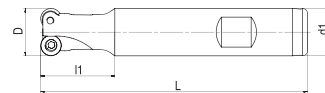
Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-016-Z02-W16R-RD07-C	16	16	90	25	3.5		2	RD..0702
APM00-020-Z03-W20R-RD07-C	20	20	110	30	3.5		3	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ16-20			1.0Nm
	AST25060-60S	ADT-T08	

Note:  With internal coolant
 Without internal coolant


Milling cutters
Milling cutters
Milling cutters
Milling cutters

APM00-RD10
Profile milling cutter



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-020-Z02-W20R-RD10-C	20	20	110	30	5		2	RD..1003
APM00-025-Z02-W25R-RD10-C	25	25	120	30	5		2	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ20-25			4.0Nm
	AST409-60	ADT-T15	

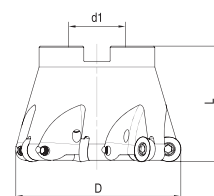
Note: With internal coolant
 Without internal coolant


Milling cutters
Milling cutters
Milling cutters
Milling cutters

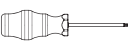
APM00-RD12 Profile milling cutter



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-025-Z02-W25R-RD12T3-C	25	25	120	30	6		2	RD..12T3
APM00-032-Z03-W32R-RD12T3-C	32	32	120	40	6		3	



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-052-Z05-A22R-RD12T3-C	52	22	40	-	6		5	RD..12T3
APM00-066-Z06-A27R-RD12T3-C	66	27	50	-	6		6	
APM00-080-Z07-A27R-RD12T3-C	80	27	50	-	6		7	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ25-80			4.0Nm
	AST409-60	ADT-T15	

Note:  With internal coolant
 Without internal coolant

Designation	Dimension(mm)	Grades						
	Insert corner radius	CVD coated		PVD coated				Uncoated
		AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
RDHW 12T3MOS-HR2	6	●	●	●	●		●	
RDMW 12T3MOS-HR2	6		●					
RDMT 12T3MOE-MM3	6	●	●	●				
RDHT 12T3MOE-MM3	6	●	●	●	●		●	

Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm²)	Hardness (HB)	RD..12T3..											
				Roughing				Medium machining				Finishing			
				ap		fz		ap		fz		ap		fz	
				(mm)											
				min	max	min	max	min	max	min	max	min	max	min	max
	Non-alloyed steel	<600	<180	3.00	6.00	0.25	0.40	0.80	3.00	0.22	0.32	0.10	0.18		
		<950	<280												
	Alloyed steel	700-950	200-280	3.00	6.00	0.22	0.35			0.20	0.30			0.10	0.16
		950-1200	280-355												
	1200-1400	355-415													
	Duplex stainless steel	778	230	-	-	-	-			0.08	0.16			0.08	0.12
	Austenitic stainless steel	675	200												
	Precipitation-hardening stainless steel	1013	300												
	Grey cast iron	700	220	3.00	6.00	0.22	0.35			0.20	0.30			0.10	0.80
	Nodular cast iron	880	260												
	Malleable cast iron	800	250												
	Fe-based alloy	943	280	-	-	-	-			0.06	0.12			0.08	0.12
	Co-based alloy	1076	320												
	Ni-based alloy	1177	350												
	Ti-alloy	1262	370												
	Aluminum	260	75	3.00	6.00	0.06	0.12	0.05	0.14	0.06	0.12				
	Aluminum alloy	447	130												
	Hardened steel	-	50-60HRC	-	-	-	-	0.50	1.00	0.05	0.08	0.10	0.50	0.03	0.05
	Chilled cast iron	-	55HRC												

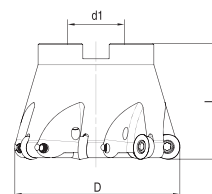
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants.

APM00-RD16

Profile milling cutter



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-032-Z02-W32R-RD16-C	32	32	120	40	8		2	RD..1606



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-052-Z04-A22R-RD16-C	52	22	40	-	8		4	RD..1606
APM00-066-Z05-A27R-RD16-C	66	27	50	-	8		5	
APM00-080-Z06-A27R-RD16-C	80	27	50	-	8		6	
APM00-100-Z07-A32R-RD16-C	100	32	50	-	8		7	

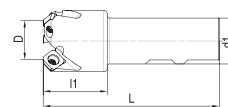
Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ32-100			5.0Nm
	AST5126-60	ADT-T20	

Note: With internal coolant
 Without internal coolant

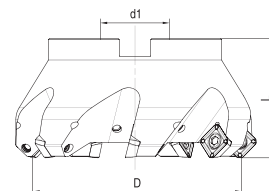

Milling cutters
Milling cutters
Milling cutters
Milling cutters

AFM45-SD09

45 ° Approaching angle milling cutter for face milling



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-016-Z02-W16R-SD09-C	16	16	90	25	5		2	SD..09T3
AFM45-020-Z02-W20R-SD09-C	20	20	110	30	5		2	
AFM45-025-Z03-W25R-SD09-C	25	25	120	30	5		3	
AFM45-032-Z03-W32R-SD09-C	32	32	120	35	5		3	



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-032-Z04-A16R-SD09-C	32	16	40	-	5		4	SD..09T3
AFM45-040-Z05-A16R-SD09-C	40	16	40	-	5		5	
AFM45-050-Z05-A22R-SD09-C	50	22	40	-	5		5	
AFM45-050-Z06-A22R-SD09-C	50	22	40	-	5		6	
AFM45-063-Z05-A22R-SD09-C	63	22	40	-	5		5	
AFM45-063-Z07-A22R-SD09-C	63	22	40	-	5		7	
AFM45-080-Z06-A27R-SD09-C	80	27	50	-	5		6	
AFM45-080-Z09-A27R-SD09-C	80	27	50	-	5		9	
AFM45-100-Z07-A32R-SD09-C	100	32	50	-	5		7	
AFM45-100-Z11-A32R-SD09-C	100	32	50	-	5		11	
AFM45-125-Z08-A40R-SD09-C	125	40	63	-	5		8	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ16-32			3.5Nm
	AST4075-60	ADT-T15	
φ40-125	AST409-60	ADT-T15	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades						
	Insert corner radius	Wiper length	CVD coated		PVD coated			Uncoated	
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
SDMT 09T304EN-MM3	0.4	-	●	●	●	●			
SDMT 09T308EN-MM3	0.8	-	●	●	●	●			
SDGT 09T3AEEN-MM4	-	1.4		●	●	●		●	
SDMW 09T308EN-HR2	0.8	-		●	●				
SDHW 09T3AESN-HR2	-	1.5		●	●			●	

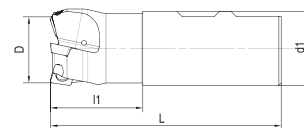
Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..09T3..							
				HR2				MM3			
				ap		fz		ap		fz	
				(mm)							
				min	max	min	max	min	max	min	max
	Non-alloyed steel	<600	<180	3.00	5.00	0.12	0.30	0.20	2.50	0.05	0.30
		<950	<280								
	Alloyed steel	700-950	200-280			0.12	0.25			0.05	0.30
		950-1200	280-355								
	1200-1400	355-415									
	Duplex stainless steel	778	230			0.12	0.22			0.05	0.22
	Austenitic stainless steel	675	200								
	Precipitation-hardening stainless steel	1013	300								
	Grey cast iron	700	220			0.12	0.25			0.05	0.25
	Nodular cast iron	880	260								
	Malleable cast iron	800	250								
	Fe-based alloy	943	280			-	-				
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350								
	Ti-alloy	1262	370								
	Aluminum	260	75			-	-				
	Aluminum alloy	447	130								
	Hardened steel	-	50-60HRC			-	-				
	Chilled cast iron	-	55HRC								

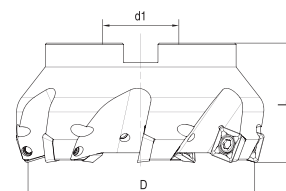
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants.

AFM75-SD09

75° Approach angle milling cutter for face milling



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM75-025-Z02-W25R-SD09-C	25	25	96	40	6		2	SD..09T3
AFM75-032-Z03-W32R-SD09-C	32	32	100	40	6		3	



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM75-040-Z04-A16R-SD09-C	40	16	32	-	6		4	SD..09T3
AFM75-050-Z05-A22R-SD09-C	50	22	40	-	6		5	
AFM75-063-Z06-A22R-SD09-C	63	22	40	-	6		6	
AFM75-080-Z08-A27R-SD09-C	80	27	50	-	6		8	
AFM75-100-Z10-A32R-SD09-C	100	32	50	-	6		10	

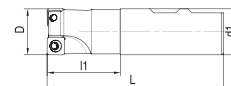
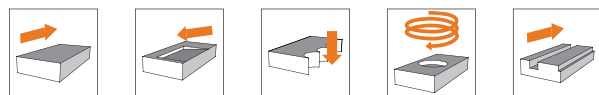
Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ25-32			3.5Nm
	AST4075-60	ADT-T15	
φ40-100	AST409-60	ADT-T15	

Note: With internal coolant
 Without internal coolant

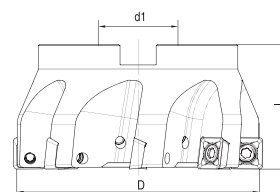

Milling cutters
Milling cutters
Milling cutters
Milling cutters

AFM90-SD09

90° Approach angle milling cutter for face milling



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM90-025-Z02-W25R-SD09-C	25	25	120	30	6		2	SD..09T3
AFM90-032-Z03-W32R-SD09-C	32	32	120	35	6		3	



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM90-040-Z04-A16R-SD09-C	40	16	40	-	6		4	SD..09T3
AFM90-050-Z05-A22R-SD09-C	50	22	40	-	6		5	
AFM90-063-Z06-A22R-SD09-C	63	22	40	-	6		6	
AFM90-080-Z08-A27R-SD09-C	80	27	50	-	6		8	
AFM90-100-Z10-A32R-SD09-C	100	32	50	-	6		10	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ25-32			3.5Nm
	AST4075-60	ADT-T15	
φ40-100	AST409-60	ADT-T15	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades					
	Insert corner radius	Wiper length	CVD coated		PVD coated			Uncoated
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K AW100K
SDMT 09T304EN-MM3	0.4	-	●	●	●	●		
SDMT 09T308EN-MM3	0.8	-	●	●	●	●		
SDGT 09T3PDER-MR6	0.8	1.2		●	●	●		●
SDMW 09T308EN-HR2	0.8	-		●	●			

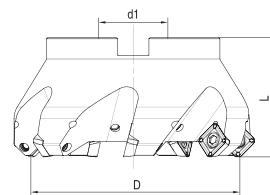
Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm²)	Hardness (HB)	SD..09T3..									
				HR2				MM3					
				ap		fz		ap		fz			
				(mm)									
				min	max	min	max	min	max	min	max		
	Non-alloyed steel	<600	<180	3.00	8.00	0.10	0.24	0.20	2.50	0.05	0.30		
		<950	<280									0.10	0.20
	Alloyed steel	700-950	200-280			0.10	0.18			0.05	0.22		
		950-1200	280-355									-	-
1200-1400	355-415												
	Duplex stainless steel	778	230			0.10	0.20			0.20	2.50	0.05	0.25
	Austenitic stainless steel	675	200										
	Precipitation-hardening stainless steel	1013	300										
	Grey cast iron	700	220			0.10	0.20			0.20	2.50	0.05	0.25
	Nodular cast iron	880	260										
	Malleable cast iron	800	250										
	Fe-based alloy	943	280			-	-			-	-	-	-
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350										
	Ti-alloy	1262	370										
	Aluminum	260	75			-	-			-	-	-	-
	Aluminum alloy	447	130										
	Hardened steel	-	50-60HRC			-	-			-	-	-	-
	Chilled cast iron	-	55HRC										

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

AFM45-SD12

45° Approach angle milling cutter for face milling



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-050-Z04-A22R-SD12-C	50	22	40	-	7		4	SD..1204
AFM45-063-Z05-A22R-SD12-C	63	22	40	-	7		5	
AFM45-080-Z06-A27R-SD12-C	80	27	50	-	7		6	
AFM45-100-Z07-A32R-SD12-C	100	32	50	-	7		7	
AFM45-125-Z08-A40R-SD12-C	125	40	63	-	7		8	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-125			5.0Nm
	AST45115-55	ADT-T20	

Note: With internal coolant
 Without internal coolant


Milling cutters

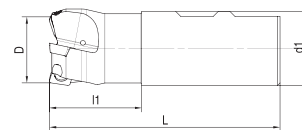
Marked: ● Stock available ○ Produced by order


Milling cutters

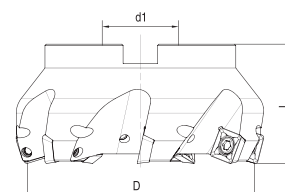
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants.

AFM75-SD12

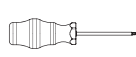
75° Approach angle milling cutter for face milling



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM75-032-Z02-W32R-SD12-C	32	32	114	49	8		2	SD..1204
AFM75-040-Z03-W32R-SD12-C	40	32	114	49	8		3	



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM75-050-Z04-A22R-SD12-C	50	22	40	-	8		4	SD..1204
AFM75-063-Z05-A22R-SD12-C	63	22	40	-	8		5	
AFM75-080-Z06-A27R-SD12-C	80	27	50	-	8		6	
AFM75-100-Z07-A32R-SD12-C	100	32	50	-	8		7	
AFM75-125-Z08-A40R-SD12-C	125	40	63	-	8		8	

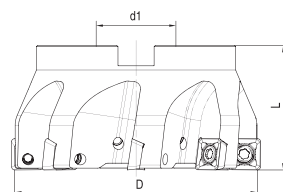
Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ32-125			5.0Nm
	AST45115-55	ADT-T20	

Note:  With internal coolant
 Without internal coolant

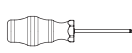

Milling cutters
Milling cutters
Milling cutters
Milling cutters

AFM90-SD12

90° Approach angle milling cutter for face milling



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM90-050-Z04-A22R-SD12-C	50	22	40	-	9		4	SD..1204
AFM90-063-Z05-A22R-SD12-C	63	22	40	-	9		5	
AFM90-080-Z06-A27R-SD12-C	80	27	50	-	9		6	
AFM90-100-Z08-A32R-SD12-C	100	32	50	-	9		8	
AFM90-125-Z10-A40R-SD12-C	125	40	63	-	9		10	

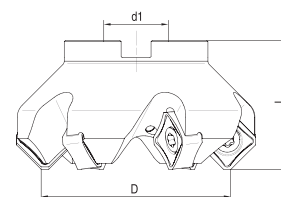
Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-125			5.0Nm
	AST45115-55	ADT-T20	

Note:  With internal coolant
 Without internal coolant


Milling cutters
Milling cutters
Milling cutters
Milling cutters

AFM45-SN12/SN19

45° Approach angle milling cutter for face milling



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM45-050-Z04-A22R-SN12-C	50	22	40	6.5		4	SNGX 1206ANN SN □ X1206..
AFM45-050-Z06-A22R-SN12-C	50	22	40	6.5		6	
AFM45-063-Z06-A22R-SN12-C	63	22	40	6.5		6	
AFM45-063-Z08-A22R-SN12-C	63	22	40	6.5		8	
AFM45-080-Z05-A27R-SN12-C	80	27	50	6.5		5	
AFM45-080-Z07-A27R-SN12-C	80	27	50	6.5		7	
AFM45-100-Z06-A32R-SN12-C	100	32	50	6.5		6	
AFM45-100-Z08-A32R-SN12-C	100	32	50	6.5		8	
AFM45-125-Z08-A40R-SN12-C	125	40	63	6.5		8	
AFM45-125-Z10-A40R-SN12-C	125	40	63	6.5		10	
AFM45-160-Z10-A40R-SN12	160	40	63	6.5		10	
AFM45-160-Z12-A40R-SN12	160	40	63	6.5		12	
AFM45-200-Z14-A60R-SN12	200	60	63	6.5		14	
AFM45-250-Z16-A60R-SN12	250	60	63	6.5		16	
AFM45-160-Z08-A40R-SN19	160	40	63	11		8	SNGX1909ANN
AFM45-200-Z10-A60R-SN19	200	60	63	11		10	
AFM45-250-Z12-A60R-SN19	250	60	63	11		12	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-250(SN..1206ANN)			
	AST411-60W-M	ADT-T15	3.5Nm
φ160-250(SN..1909ANN)	AST618-70	ADT-T25	5.0Nm

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades						
	Insert corner radius	Wiper length	CVD coated		PVD coated			Uncoated	
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
SNGX 1206ANN-MM3	-	1.8	●	●	●	●		●	
SNGX 1206ANN-MM4	-	1.8	●	●	●	●		●	
SNGX 1206ANN-MR6	-	1.8	●	●	●	●		●	
SNGX 1206ANN-RR2	-	1.8	●	●	●	●		●	
SNGX 1909ANN-MM3	-	2.9			●	●			
SNGX 1909ANN-MR6	-	2.9				●			
SNGX 120608-MM4	0.8	-	●	●	●	●		●	
SNGX 120612-MM4	1.2	-			●				
SNMX 120612-MM3	1.2	-	●	●	●	●		●	
SNMX 120612-MM4	1.2	-	●	●	●	●		●	
SNMX 120612-MR6	1.2	-	●	●	●	●		●	
SNMX 120612-RR2	1.2	-	●	●	●	●		●	
SNMX 120620-MM4	2.0	-	●	●	●	●		●	
SNMX 120620-RR2	2.0	-	●	●	●	●		●	
SNHX 1206ANN-FM2	-	1.8							●
SNHX 1206ANN-W	-	6.7		●	●				

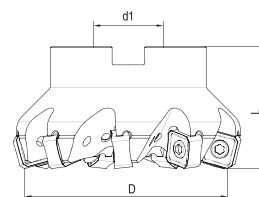
Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed																	
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SNGX 1206..																	
				ap		MM3		MM4		MR6		RR2		FM2							
						fz		fz		fz		fz		fz							
				min	max	min	max	min	max	min	max	min	max	min	max						
	Non-alloyed steel	<600	<180	0.60	6-7	0.12	0.40	0.18	0.45	-		-		-							
		<950	<280							0.22	0.50	0.27	0.55	-							
	Alloyed steel	700-950	200-280							0.20	0.45	0.25	0.50	-							
		950-1200	280-355							0.18	0.40	0.22	0.45	-							
		1200-1400	355-415							-		0.12	0.25	0.15	0.30	0.18	0.35	-			
	Duplex stainless steel	778	230			0.15	0.40	0.22	0.35	-		-		-							
	Austenitic stainless steel	675	200							0.20	0.40	0.24	0.45	-							
	Precipitation-hardening stainless steel	1013	300							0.12	0.25	0.15	0.30	-		-					
	Grey cast iron	700	220							0.15	0.40	0.18	0.50	0.22	0.60	0.26	0.70	-			
	Nodular cast iron	880	260															0.22	0.50	0.26	0.60
	Malleable cast iron	800	250	0.18	0.40	0.22	0.50	0.26	0.60									-			
	Fe-based alloy	943	280	0.10	0.25	0.12	0.30	0.15	0.35									0.18	0.35	-	
	Co-based alloy	1076	320																	-	
	Ni-based alloy	1177	350							-		-									
	Ti-alloy	1262	370							-		-									
	Aluminum	260	75							-		-		-		-				0.1	0.3
	Aluminum alloy	447	130	-		-		-		-		0.1	0.24								
	Hardened steel	-	50-60HRC	0.06	0.15	0.10	0.20	0.12	0.25	0.15	0.30	-									
	Chilled cast iron	-	55HRC									-									

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

AFM75-SN12

75° Approach angle milling cutter for face milling



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM75-050-Z04-A22R-SN12-C	50	22	40	8.0		4	SNGX1206ENN SN □ X1206..
AFM75-063-Z06-A22R-SN12-C	63	22	40	8.0		6	
AFM75-080-Z05-A27R-SN12-C	80	27	50	8.0		5	
AFM75-080-Z07-A27R-SN12-C	80	27	50	8.0		7	
AFM75-100-Z06-A32R-SN12-C	100	32	50	8.0		6	
AFM75-100-Z08-A32R-SN12-C	100	32	50	8.0		8	
AFM75-125-Z08-A40R-SN12-C	125	40	63	8.0		8	
AFM75-125-Z10-A40R-SN12-C	125	40	63	8.0		10	
AFM75-160-Z10-A40R-SN12	160	40	63	8.0		10	
AFM75-160-Z12-A40R-SN12	160	40	63	8.0		12	
AFM75-200-Z16-A60R-SN12	200	60	63	8.0		16	
AFM75-250-Z16-A60R-SN12	250	60	63	8.0		16	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-250			3.5Nm
	AST411-60W-M	ADT-T15	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades						
	Insert corner radius	Wiper length	CVD coated		PVD coated			Uncoated	
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
SNGX 1206ENN-MM3	-	1.2	●	●	●	●		●	
SNGX 1206ENN-MM4	-	1.2	●	●	●	●		●	
SNGX 1206ENN-MR6	-	1.2	●	●	●	●		●	
SNGX 120608-MM4	0.8	-	●	●	●	●		●	
SNGX 120612-MM4	1.2	-			●				
SNMX 120612-MM3	1.2	-	●	●	●	●		●	
SNMX 120612-MM4	1.2	-	●	●	●	●		●	
SNMX 120612-MR6	1.2	-	●	●	●	●		●	
SNMX 120612-RR2	1.2	-	●	●	●	●		●	
SNMX 120620-MM4	2.0	-	●	●	●	●		●	
SNMX 120620-RR2	2.0	-	●	●	●	●		●	

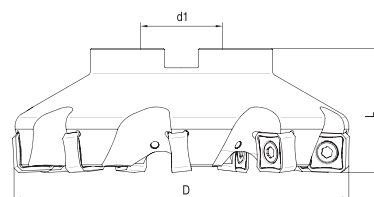
Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SNGX 1206..									
				ap		MM3		MM4		MR6		RR2	
				min	max	min	max	min	max	min	max	min	max
P	Non-alloyed steel	<600	<180	0.80	8-9.5	0.09	0.29	0.13	0.33	-	-	-	-
		<950	<280			0.07	0.26	0.11	0.29	0.15	0.33	0.18	0.37
	Alloyed steel	700-950	200-280			0.07	0.18	0.11	0.26	0.13	0.29	0.16	0.33
		950-1200	280-355			-	-	0.09	0.18	0.11	0.22	0.13	0.26
		1200-1400	355-415			0.11	0.29	0.16	0.26	-	-	-	-
M	Duplex stainless steel	778	230			0.09	0.26	0.13	0.26	0.15	0.29	0.18	0.33
	Austenitic stainless steel	675	200			0.09	0.18	0.11	0.22	-	-	-	-
	Precipitation-hardening stainless steel	1013	300			0.11	0.29	0.13	0.37	0.16	0.44	0.19	0.51
K	Grey cast iron	700	220			0.11	0.26	0.13	0.33	0.16	0.37	0.19	0.44
	Nodular cast iron	880	260			0.13	0.29	0.16	0.37	0.19	0.44	0.22	0.44
	Malleable cast iron	800	250			0.07	0.18	0.09	0.22	0.11	0.26	0.13	0.26
S	Fe-based alloy	943	280			-	-	0.03	0.10	0.03	0.11	-	-
	Co-based alloy	1076	320			0.03	0.11	0.05	0.15	0.09	0.16	-	-
	Ni-based alloy	1177	350			0.04	0.15	0.07	0.18	-	-	-	-
	Ti-alloy	1262	370			-	-	-	-	-	-	-	-
N	Aluminum	260	75			-	-	-	-	-	-	-	-
	Aluminum alloy	447	130			-	-	-	-	-	-	-	-
H	Hardened steel	-	50-60HRC			0.06	0.11	0.07	0.15	0.09	0.18	0.11	0.22
	Chilled cast iron	-	55HRC										

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

AFM88-SN12

88° Approach angle milling cutter for face milling



Designation	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM88-050-Z04-A22R-SN12-C	50	22	40	10.0		4	SNGX1206ZNN SN □ X1206..
AFM88-063-Z06-A22R-SN12-C	63	22	40	10.0		6	
AFM88-063-Z08-A22R-SN12-C	63	22	40	10.0		8	
AFM88-080-Z07-A27R-SN12-C	80	27	50	10.0		7	
AFM88-080-Z09-A27R-SN12-C	80	27	50	10.0		9	
AFM88-100-Z08-A32R-SN12-C	100	32	50	10.0		8	
AFM88-100-Z11-A32R-SN12-C	100	32	50	10.0		11	
AFM88-125-Z10-A40R-SN12-C	125	40	63	10.0		10	
AFM88-125-Z13-A40R-SN12-C	125	40	63	10.0		13	
AFM88-160-Z12-A40R-SN12	160	40	63	10.0		12	
AFM88-160-Z16-A40R-SN12	160	40	63	10.0		16	
AFM88-200-Z14-A60R-SN12	200	60	63	10.0		14	
AFM88-200-Z20-A60R-SN12	200	60	63	10.0		20	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ50-200			3.5Nm
	AST411-60W-M	ADT-T15	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades						
	Insert corner radius	Wiper length	CVD coated		PVD coated			Uncoated	
			AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
SNGX 1206ZNN-MM3	-	1.2	●	●	●	●		●	
SNGX 1206ZNN-MM4	-	1.2	●	●	●	●		●	
SNGX 1206ZNN-MR6	-	1.2	●	●	●	●		●	
SNGX 120608-MM4	0.8	-	●	●	●	●		●	
SNGX 120612-MM4	1.2	-			●				
SNMX 120612-MM3	1.2	-	●	●	●	●		●	
SNMX 120612-MM4	1.2	-	●	●	●	●		●	
SNMX 120612-MR6	1.2	-	●	●	●	●		●	
SNMX 120612-RR2	1.2	-	●	●	●	●		●	
SNMX 120620-MM4	2.0	-	●	●	●	●		●	
SNMX 120620-RR2	2.0	-	●	●	●	●		●	
SNHX 1206ZNN-FM2	-	1.2							●
SNHX 1206ZNN-W	1.0	4.4		●	●				

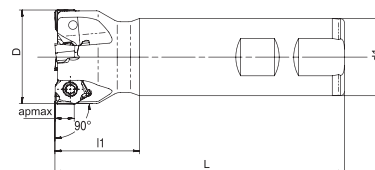
Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SNGX 1206..											
				ap		MM3		MM4		MR6		RR2		FM2	
				min	max	fz		fz		fz		fz		fz	
						min	max	min	max	min	max	min	max	min	max
P	Non-alloyed steel	<600	<180	0.8	8.5-10	0.08	0.28	0.13	0.32	-		-		-	
		<950	<280							0.16	0.35	0.19	0.39	-	
	Alloyed steel	700-950	200-280			0.07	0.25	0.11	0.28	0.14	0.45	0.18	0.35	-	
		950-1200	280-355			0.07	0.18	0.11	0.25	0.13	0.40	0.16	0.32	-	
M	Duplex stainless steel	1200-1400	355-415			-	-	0.08	0.18	0.11	0.30	0.13	0.25	-	
														-	
	Austenitic stainless steel	778	230			0.11	0.28	0.16	0.25	-		-		-	
	Precipitation-hardening stainless steel	675	200			0.08	0.25	0.13	0.25	0.14	0.40	0.17	0.32	-	
K	Grey cast iron	1013	300			0.08	0.18	0.11	0.21	-		-		-	
	Nodular cast iron													-	
	Malleable cast iron	700	220			0.11	0.28	0.13	0.35	0.16	0.60	0.18	0.49	-	
		880	260			0.11	0.25	0.13	0.32	0.16	0.50	0.18	0.42	-	
S	Fe-based alloy	800	250			0.13	0.28	0.16	0.35	0.18	0.60	0.21	0.42	-	
	Co-based alloy													-	
	Ni-based alloy	943	280			0.07	0.18	0.08	0.21	0.11	0.35	0.13	0.25	-	
	Ti-alloy	1076	320			-	-	0.03	0.09	0.03	0.15	-		-	
N	Aluminum	1177	350			0.03	0.11	0.05	0.14	0.08	0.22	-		0.1	0.25
	Aluminum alloy	1262	370			0.04	0.14	0.07	0.18	-		-		0.1	0.2
						-	-	-	-	-		-		-	
						-	-	-	-	-		-		-	
H	Hardened steel	-	50-60HRC			0.04	0.11	0.07	0.14	0.08	0.25	0.11	0.21	-	
	Chilled cast iron	-	55HRC											-	

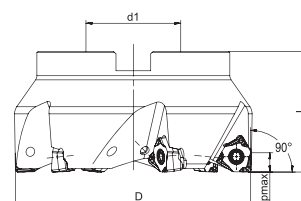
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants.

ASM90-WN08-C

90° square shoulder milling cutter



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-040-Z03-W32R-WN08-C	40	32	120	35	8.0		3	WN.U 0806
ASM90-040-Z04-W32R-WN08-C	40	32	120	35	8.0		4	



Designation	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-050-Z04-A22R-WN08-C	50	22	40	-	8.0		4	WN.U 0806
ASM90-050-Z05-A22R-WN08-C	50	22	40	-	8.0		5	
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-Z07-A27R-WN08-C	80	27	50	-	8.0		7	
ASM90-080-Z09-A27R-WN08-C	80	27	50	-	8.0		9	
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-Z11-A40R-WN08-C	125	40	63	-	8.0		11	
ASM90-125-Z13-A40R-WN08-C	125	40	63	-	8.0		13	
ASM90-160-Z12-A40R-WN08	160	40	63	-	8.0		12	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ40-160			3.5Nm
	AST4085-60	ADT-T15	

Note: With internal coolant
 Without internal coolant

Designation	Dimension(mm)		Grades					
	Insert corner radius	Wiper length	CVD coated		PVD coated		Uncoated	
			AC301P	AC301K	AP301U	AP351U	AP351K	AW100K
WNHU 080608R-FM2	0.8	2.0						●
WNGU 080604R-MM3	0.4	2.2	●	●		●		
WNGU 080608R-MM3	0.8	2.0				●		
WNGU 080604R-MM4	0.4	2.2	●			●	●	
WNGU 080608R-MM4	0.8	2.0	●	●		●		
WNGU 080612R-MM4	1.2	1.6		●		●		
WNGU 080616R-MM4	1.6	1.2		●		●		
WNGU 080608R-MR2	0.8	2.0	●	●	●	●	●	
WNGU 080612R-MR2	1.2	1.6		●		●		
WNGU 080616R-MR2	1.6	1.2		●		●		
WNHX 0806ZZR-W	1.0	4.8		●	●			

Marked: ● Stock available ○ Produced by order

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	WNGU0806									
				ap		FM2		MM3		MM4		MR2	
				min	max	min	max	min	max	min	max	min	max
P	Non-alloyed steel	<600	<180	0.6	8			0.12	0.22	0.10	0.28	0.15	0.30
		<950	<280							0.10	0.26		
	Alloyed steel	700-950	200-280					0.12	0.18	0.10	0.20	0.15	0.26
		950-1200	280-355									0.15	0.22
		1200-1400	355-415										
M	Duplex stainless steel	778	230					0.12	0.18	0.10	0.20	0.15	0.24
	Austenitic stainless steel	675	200					0.12	0.16	0.10	0.18	0.15	0.20
	Precipitation-hardening stainless steel	1013	300					0.12	0.12	0.10	0.13		
K	Grey cast iron	700	220					0.12-	0.20	0.10	0.28	0.15	0.30
	Nodular cast iron	880	260										
	Malleable cast iron	800	250					0.12	0.18	0.10	0.24	0.15	0.26
S	Fe-based alloy	943	280					0.12	0.13	0.10	0.15		
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350					0.12	0.12	0.10	0.13		
	Ti-alloy	1262	370					0.12	0.13	0.10	0.15		
N	Aluminum	260	75			0.10	0.24						
	Aluminum alloy	447	130			0.10	0.24						
H	Hardened steel	-	50-60HRC										
	Chilled cast iron	-	55HRC										

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

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