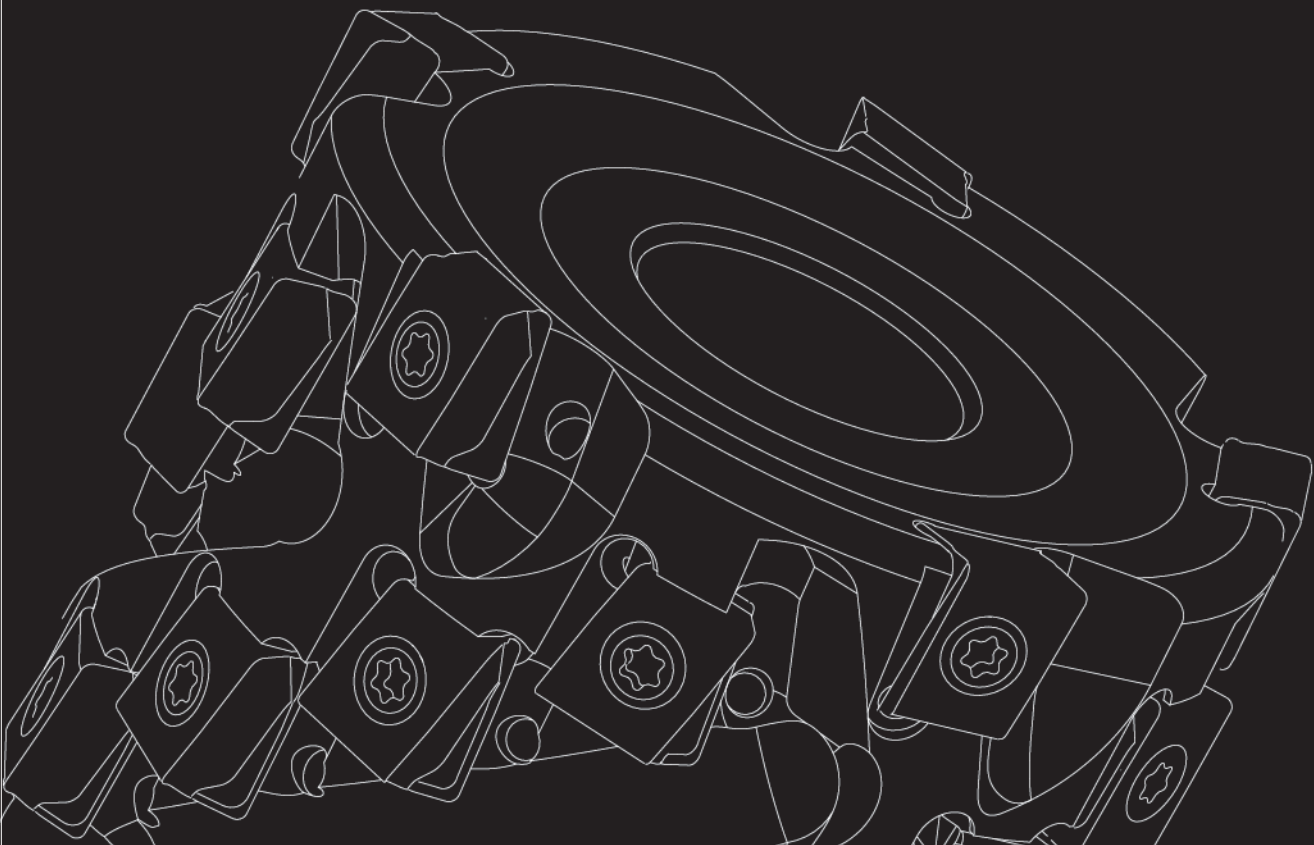


CUTTING TOOL CATALOGUE



Profile Milling

APM00-RO

Product Features and Applications

- Main applications in blade and aircraft component profile milling
- Inserts are with anti-rotation design
- New AP403S and AP403M grade can cover stainless steel and super alloy machining
- Cutter diameter range: $\Phi 25\text{mm}$ - $\Phi 160\text{mm}$
- MM3 geometry, precision ground flank and optimized cutting edge treatment, offer longer insert tool life
- Multiple coupling types: screw clamping, cylindrical shank and arbor cutter



Product Features and Applications

- AFF40-LN12/LN15 series cutters are mainly used in cast iron engine cylinder block, cylinder head and other kinds of valve housing type milling
- The cutter used 40°approaching angel, close pitch design guaranteed high productivity
- Stable wedge clamping for main cutting inserts, easy to handle
- Wiper inserts are easy to be adjusted and reliable, can achieve good surface finish
- 16 cutting edges of each insert, offer constant performance and high cost efficiency.
- Cutter surface is blackened, with high precision insert pockets, and good wear resistance



AFF40-LN12/LN15

Cast Iron Finishing Milling Cutter



Product Features and Applications

LN09 insert series can be used not only in square shoulder milling cutter, but also in porcupine cutter

- Accurate 90° square shoulder milling cutter provides excellent verticality
- Tangential mounted insert design offers strong insert toughness with better cutter rigidity.
- Positive axial angle design makes the cutting smoothly. H-class insert tolerance offers high repeatability of insert positioning
- Double-sided 4-edge insert, more cost efficient choice, while each insert is with wiper edge which can obtain good surface finish
- Full tooth type of porcupine milling cutter, with high metal removal rate, large cutting depth, high efficiency, known as the "powerful tool for rough machining"

LN09

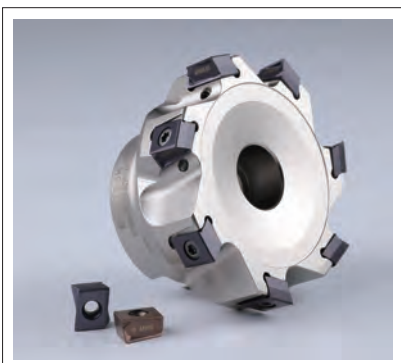
Shoulder Milling



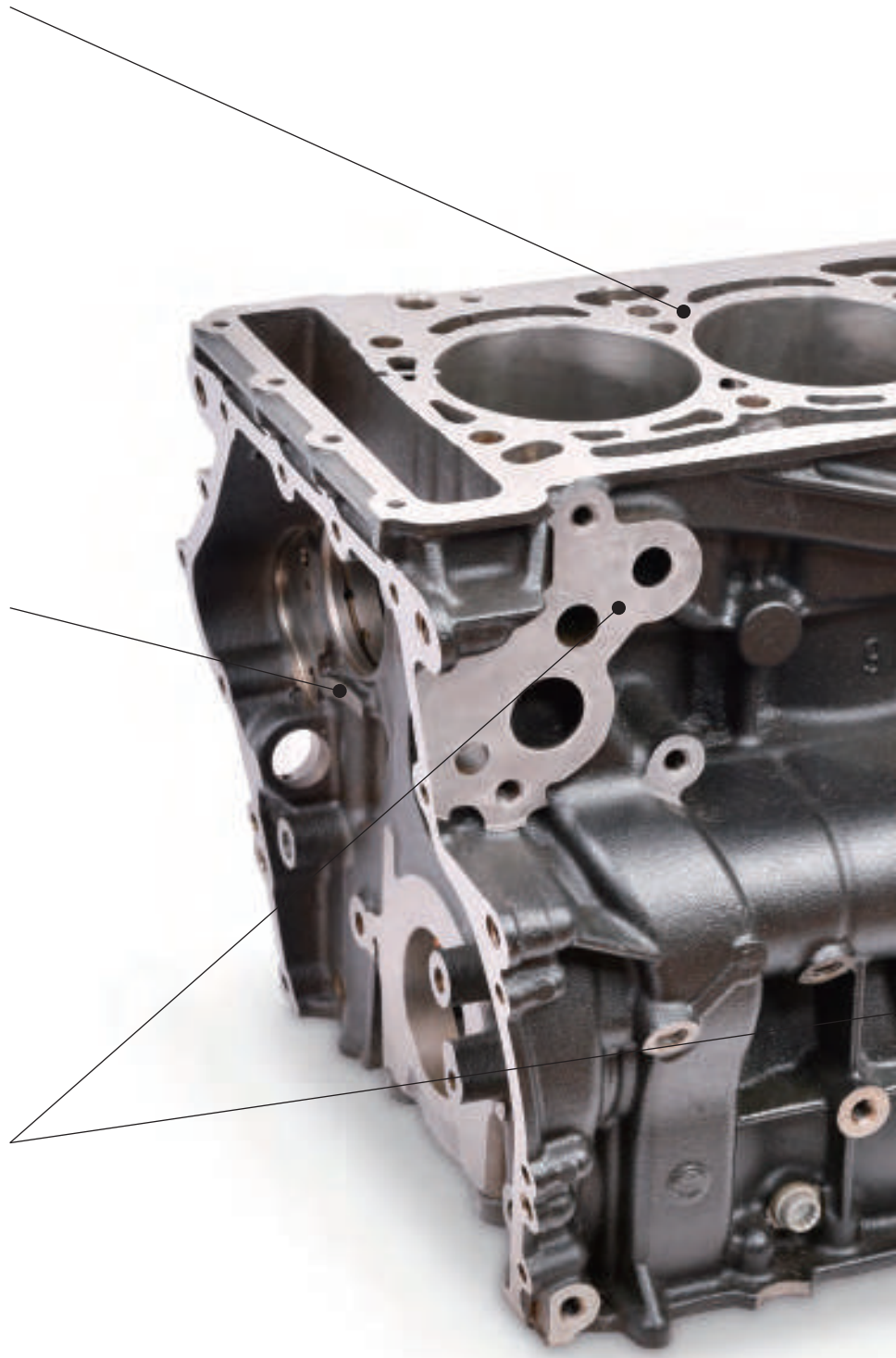
AFM45-XN09-W milling cutter with heptagon inserts, extra close pitch with wedge clamping, combined with heat resistant CVD coated inserts. The ideal choice of cast iron rough milling.

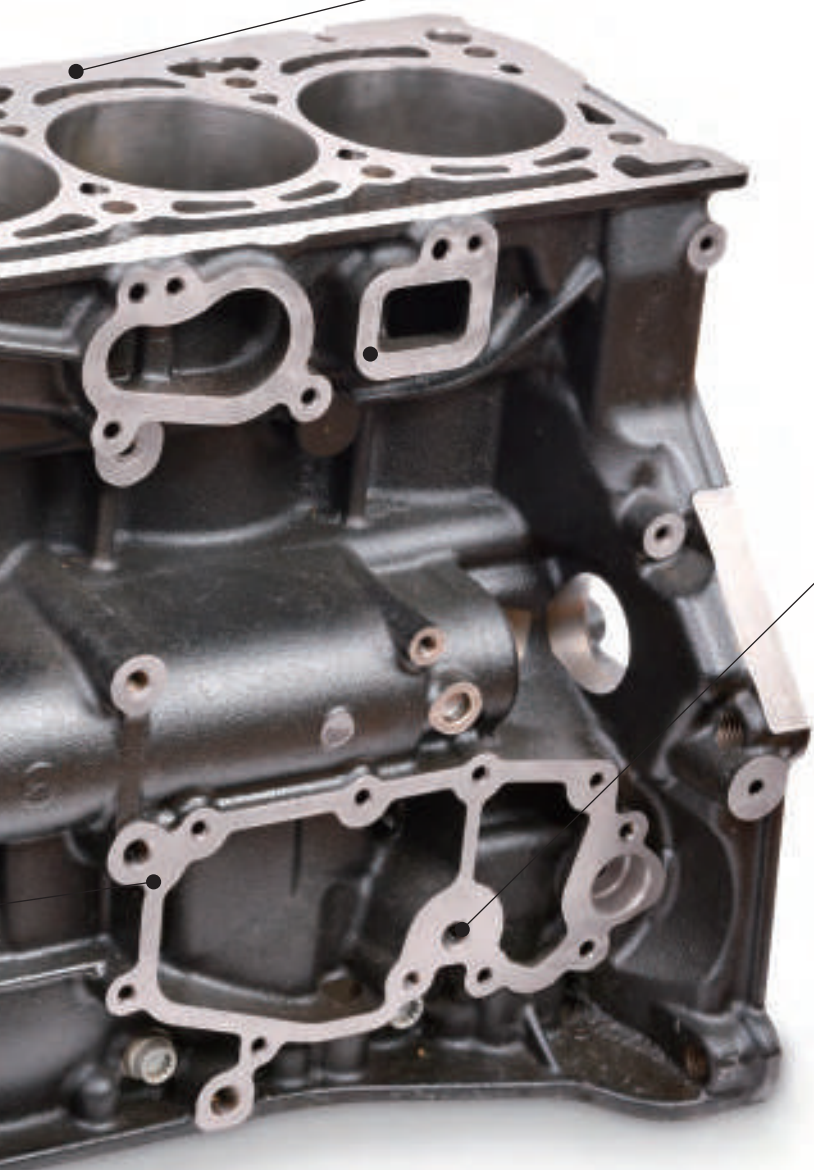


APE90-LN09/LN13 porcupine milling cutter uses tangential insert with helical edge profile. The high strength insert have 4 cutting edges, offering high productivity, machining reliability and cost efficiency.



ASM90-LN09/LN13 square shoulder milling cutter with 4 cutting edge tangential inserts with helical edge profile. The reliable cutting edge can adopt increased fz by 30%, and also bring on higher metal removal rate and productivity.





AFF0-LN15 cast iron finish milling cutter, combined with octagon main cutting inserts and wiper inserts. It's cost efficient and easy to handle. The good wear resistant grade and high precision cutting edge guaranteed excellent surface finishing and longer tool life.



D106 drill series, the substrate has both hardness and toughness, combined with high wear resistant PVD coating. It can reach higher tool life in cast iron machining. The unique drill tip geometry can reduce the edge chipping.

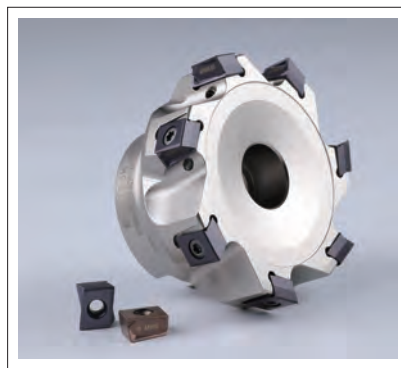
ACHTECK
www.achtecktool.com

Machining Solutions for Engine Block

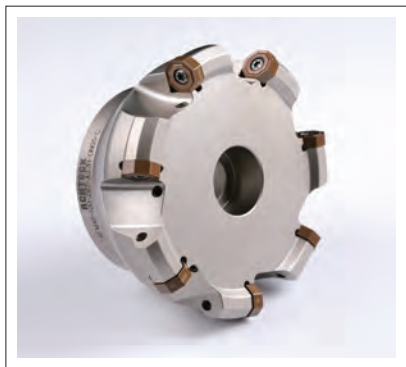
Turbocharger Housing Application Case



Special side face milling cutter used in machining the back face of flange.



ASM90-LN13 square shoulder milling cutter with tangential mounted inserts. The insert has 4 cutting edges, can be used to machine the boss surface on the turbocharger.



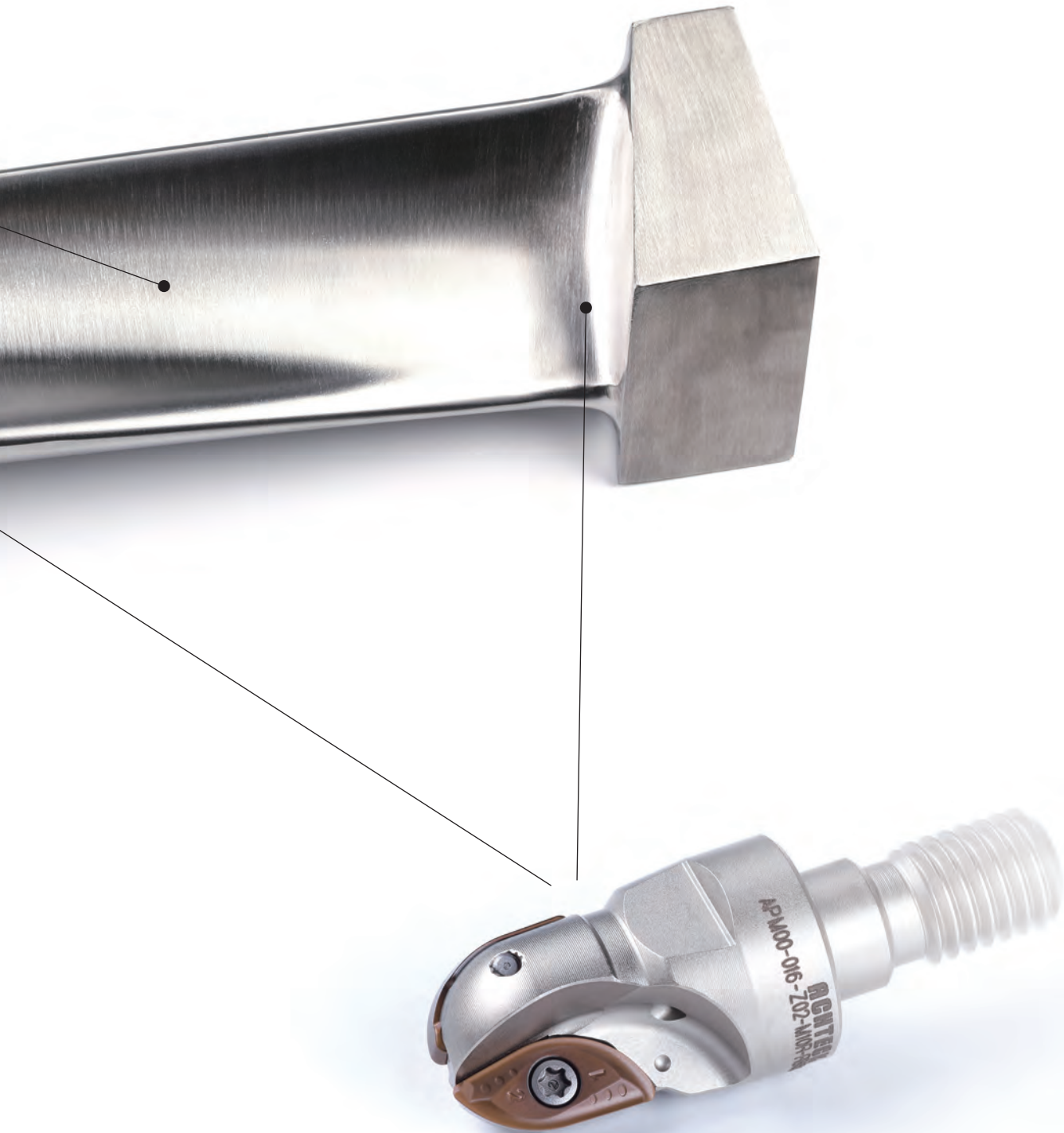
AFM40-ON05-C-45, with 45 degree approach angle, using 16 cutting edge insert with wiper edge. Used in finish milling the flange face of turbocharger casing



AFM45-XN07 face milling cutter with heptagon inserts, 14 cutting edges, with nanostructured PVD coating. Used in rough milling the flange face, with a high performance/cost ratio.



Steam Turbine and Aerospace Blade Solutions



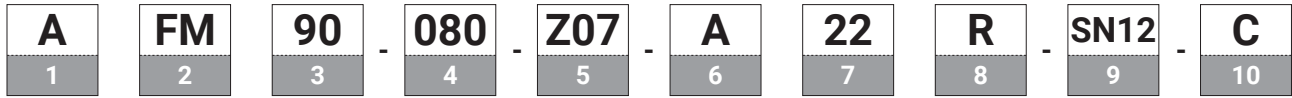
APM00-RBM08-20 is used in rough milling the transition area between blade airfoil and root

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Milling Cutter Denomination System



1. A--ACHTECK

2. Machining method	
Face milling	FM
Shoulder milling	SM
Profile milling	PM
High feed milling	HM
Side & face 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. Coupling Size
22--Connection diameter 22mm

8. Direction of tool	
R	Right
L	Left
N	Neutral

9. Insert info
SN12--SN12 series insert

10. Others	
C	Internal coolant
No mark	No coolant

Porcupine Cutter Denomination

A	PE	90	063	Z04	A	27	R	L13	L56	F	C
1	2	3	4	5	6	7	8	9	10	11	12

1. A--ACHTECK

2. Cutting method

Porcupine cutter	PE
Shoulder milling cutter	SM
Profile milling cutter	PM
High feed milling cutter	HM
Side and face Milling cutter	DM
Thread milling cutter	TM
Chamfer milling cutter	CM
Face milling cutter	FM

3. Approach angle (Kr)

Figure	Angle
90	90°
88	88°
75	75°
60	60°
45	45°
42	42°
•	•
•	•
•	•

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. Coupling

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

7. Coupling size

27---Connection diameter 27mm

8. Direction of tool

R	Right
L	Left
N	Neutral

9. Insert information

LN13---LN13 series insert

10. Max. cutting depth

L30	30MM
L45	45MM
L56	56MM










11. Tool type

F	Full teeth
H	Half teeth

10. Others










C	With internal coolant
No indication	Without internal coolant

Overview of Milling Products

Product family			AFM42-OD04	AFM42-OD06	AFM40-ON05	AFM45-SD09	AFM75-SD09
Page			P148	P150	P152	P154	P156
Approach angle			42°	42°	40°	45°	75°
Max.ap (mm)			3.5	4.5	3	5	6
Diameter range (mm)			φ 32- φ 125	φ 50- φ 160	φ 50- φ 160	φ 16- φ 125	φ 25- φ 100
Insert type			OD..0404..	OD..0605..	ON..0504..	SD..09T3..	SD..09T3..
Application	Face milling		●	●	●	●	●
	Shoulder milling						
	Slot milling						
	Ramping		●	●		●	●
	Helical interpolate milling		●	●			
	Plunging						
	Profile milling						
	Chamfer milling		●	●		●	
	Pocket milling		●	●			

Remark: ● Recommended application










Overview of Milling Products

Product family			AFM90-SD09	AFM45-SD12	AFM75-SD12	AFM90-SD12	AFM45-SN12
Page			P158	P160	P162	P164	P166
Approach angle			90°	45°	75°	90°	45°
Max.ap (mm)			6	7	8	9	6.5
Diameter range (mm)			φ 25- φ 100	φ 50- φ 125	φ 50- φ 125	φ 50- φ 125	φ 50- φ 250
Insert type			SD..09T3..	SD..1204..	SD..1204..	SD..1204..	SN..1206..
Application	Face milling		●	●	●	●	●
	Shoulder milling						
	Slot milling						
	Ramping		●	●	●	●	
	Helical interpolate milling						
	Plunging						
	Profile milling						
	Chamfer milling			●			
	Pocket milling						

Remark: ● Recommended application

Milling cutters

Overview of Milling Products

Product family			AFM45-SN19	AFM75-SN12	AFM88-SN12	AFM45-XN07	AFM45-XN09(C)
Page			P166	P168	P170	P172	P174
Approach angle			45°	75°	88°	45°	45°
Max.ap (mm)			11	8	10	4	6
Diameter range (mm)			φ 160- φ 250	φ 50- φ 250	φ 50- φ 200	φ 40- φ 160	φ 63- φ 200
Insert type			SN..1909..	SN..1206..	SN..1206..	XN..0705..	XN..0906..
Application	Face milling		●	●	●	●	●
	Shoulder milling						
	Slot milling						
	Ramping						
	Helical interpolate milling						
	Plunging						
	Profile milling						
	Chamfer milling						
	Pocket milling						

Remark: ● Recommended application

Overview of Milling Products

Product family		AFM45-XN09(W)	AFF40-LN12	AFF40-LN15	ASM90-LN09	ASM90-LN13
Page		P174	P176	P176	P178	P180
Approach angle		45°	40°	40°	90°	90°
Max.ap (mm)		6	0.5	0.5	8	12
Diameter range (mm)		φ 80- φ 200	φ 80- φ 250	φ 80- φ 250	φ 20- φ 80	φ 40- φ 160
Insert type		XN..0906..	ON..0504.. LN..1204..	ON..0504.. LN..1506..	LNHU 0904..	LNHU 1306..
Application	Face milling		●	●	●	●
	Shoulder milling				●	●
	Slot milling				●	●
	Ramping					
	Helical interpolate milling					
	Plunging					
	Profile milling					
	Chamfer milling					
	Pocket milling					

Remark: ● Recommended application










Milling cutters

Overview of Milling Products

Product family		ASM90-LN16	ASM90-WN08	ASM90-AP10	ASM90-AP17	APE90-LN09	
Page		P182	P184	P186	P188	P190	
Approach angle		90°	90°	90°	90°	90°	
Max.ap (mm)		15	7	8	16	48	
Diameter range (mm)		φ 63- φ 160	φ 40- φ 160	φ 16- φ 63	φ 25- φ 63	φ 25- φ 50	
Insert type		LNHU 1607..	WN..0806..	APKT 1003..	APKT 1705..	LNHU 0904..	
Application	Face milling		●	●	●	●	●
	Shoulder milling		●	●	●	●	●
	Slot milling		●	●	●	●	
	Ramping				●	●	
	Helical interpolate milling				●	●	
	Plunging				●	●	
	Profile milling						
	Chamfer milling						
	Pocket milling				●	●	

Remark: ● Recommended application

Overview of Milling Products

Product family		APE90-LN13	APM00-RP	APM00-RO08	APM00-RO10	APM00-RO12
Page		P192	P194	P196	P198	P200
Approach angle		90°	-	-	-	-
Max.ap (mm)		56	-	4	5	6
Diameter range (mm)		φ 40- φ 80	φ 16- φ 20	φ 16- φ 25	φ 25- φ 50	φ 32- φ 80
Insert type		LNHU 1306..	RPM 080/100..	RO.. 0803..	RO..10T3..	RO..1204..
Application	Face milling		●		●	●
	Shoulder milling		●			
	Slot milling					
	Ramping			●	●	●
	Helical interpolate milling				●	●
	Plunging					
	Profile milling			●	●	●
	Chamfer milling					
	Pocket milling			●	●	●

Remark: ● Recommended application

Milling cutters

Overview of Milling Products

Product family		APM00-RO16	APM00-RO20	AHM20-LN06	AHM15-XD09	AHM15-XD12
Page		P202	P204	P206-207	P208	P210
Approach angle		-	-	20°	15°	15°
Max.ap (mm)		8	10	1.0	1.5	2.5
Diameter range (mm)		φ 63- φ 100	φ 100- φ 160	φ 16- φ 63	φ 25- φ 50	φ 32- φ 125
Insert type		RO..1605..	RO..2006..	LN..0604..	XD..0904..	XD..1205..
Application	Face milling		●	●	●	●
	Shoulder milling					
	Slot milling				●	●
	Ramping		●	●	●	●
	Helical interpolate milling		●	●	●	●
	Plunging				●	●
	Profile milling		●	●		
	Chamfer milling					
	Pocket milling		●	●	●	●

Remark: ● Recommended application

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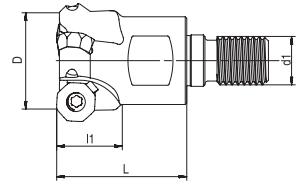
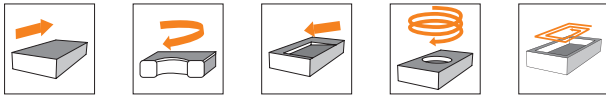
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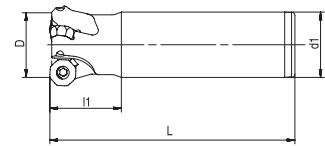
Milling cutters

AFM42-OD04

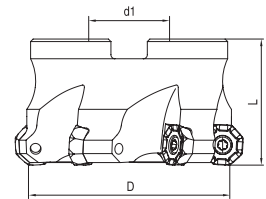
42 ° Approaching angle face milling cutter



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



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



Product code	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
φ 32-125			3.5Nm
	SP040112	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
ODET 0404APFN-FM2	-	1.2							●
ODHT 0404APEN-MM3	-	1.2	●	●		●	●	●	
ODEW 0404APSR-HR2	-	1.2	●				●	●	
ODMW 040408EN-HR2	0.8	-					●		
ODMT 040408EN-MM3	0.8	-		●		●	●		

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed								
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	OD..0404								
				ap	Geometry							
					HR2		MM3		FM2			
					fz							
(mm)												
min		max		min		max		min		max		
P	Unalloyed steel	<600	<180	0.20	3.50	0.15	0.35	0.12	0.32	-	-	
		<950	<280									
	Alloyed steel	700-950	200-280			0.12	0.30	0.10	0.28	-	-	
		950-1200	280-355									
	1200-1400	355-415										
M	Duplex stainless steel	778	230									
	Austenitic stainless steel	675	200			-	-	0.08	0.25	-	-	
	Precipitation-hardening stainless steel	1013	300									
K	Grey cast iron	700	220									
	Nodular cast iron	880	260			0.15	0.35	0.12	0.32	-	-	
	Malleable cast iron	800	250									
S	Fe-based alloy	943	280									
	Co-based alloy	1076	320									
	Ni-based alloy	1177	350	-	-	-	-	-	-			
	Ti-alloy	1262	370									
N	Aluminum	260	75									
	Aluminum alloy	447	130	-	-	-	-	0.10	0.32			
H	Hardened steel	-	50-60HRC									
	Chilled cast iron	-	55HRC	0.08	0.20	-	-	-	-			

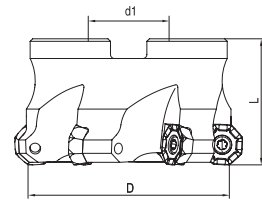
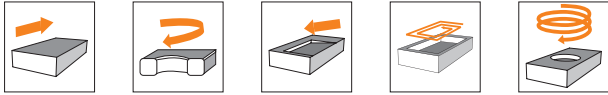
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



Milling cutters

AFM42-OD06

42 ° Approaching angle face milling cutter



Product code	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		
	Screw	Wrench	Torque
φ 50-160			5.0Nm
	SP04512043	DT-TP20	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	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 0605APSN-HR2	-	1.6					●	●	
ODMW 060512EN-HR2	1.2	-					●	●	

Marked : ● Stock available ○ Non-stocked standard

Milling cutters

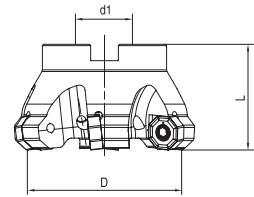
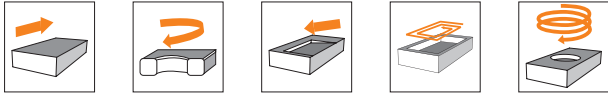
Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	OD..0605							
				ap	Geometry			fz			
					HR2	MM3	FM2				
					(mm)						
min	max	min	max	min	max	min	max				
P	Unalloyed steel	<600	<180	0.20	4.50	0.15	0.40	0.12	0.35	-	-
		<950	<280								
	Alloyed steel	700-950	200-280			0.12	0.35	0.10	0.30	-	-
		950-1200	280-355								
	1200-1400	355-415									
M	Duplex stainless steel	778	230								
	Austenitic stainless steel	675	200			-	-	0.08	0.28	-	-
	Precipitation-hardening stainless steel	1013	300								
K	Grey cast iron	700	220								
	Nodular cast iron	880	260			0.15	0.40	0.12	0.35	-	-
	Malleable cast iron	800	250								
S	Fe-based alloy	943	280								
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350	-	-	-	-	-	-		
	Ti-alloy	1262	370								
N	Aluminum	260	75								
	Aluminum alloy	447	130	-	-	-	-	0.10	0.35		
H	Hardened steel	-	50-60HRC								
	Chilled cast iron	-	55HRC	0.10	0.25	-	-	-	-		

*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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



AFM40-ON05

40° Approaching angle face milling cutter



Product code	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM40-050-Z04-A22R-ON05-N-C	50	22	40	3.5		4	ON..0504
AFM40-050-Z06-A22R-ON05-N-C	50	22	40	3.5		6	
AFM40-063-Z05-A22R-ON05-N-C	63	22	40	3.5		5	
AFM40-063-Z06-A22R-ON05-N-C	63	22	40	3.5		6	
AFM40-063-Z08-A22R-ON05-N-C	63	22	40	3.5		8	
AFM40-080-Z06-A27R-ON05-N-C	80	27	50	3.5		6	
AFM40-080-Z08-A27R-ON05-N-C	80	27	50	3.5		8	
AFM40-080-Z09-A27R-ON05-N-C	80	27	50	3.5		9	
AFM40-100-Z07-A32R-ON05-N-C	100	32	50	3.5		7	
AFM40-100-Z09-A32R-ON05-N-C	100	32	50	3.5		9	
AFM40-100-Z11-A32R-ON05-N-C	100	32	50	3.5		11	
AFM40-125-Z07-A40R-ON05-N-C	125	40	63	3.5		7	
AFM40-125-Z09-A40R-ON05-N-C	125	40	63	3.5		9	
AFM40-125-Z14-A40R-ON05-N-C	125	40	63	3.5		14	
AFM40-160-Z10-A40R-ON05-N	160	40	63	3.5		10	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 50-160			4.0Nm
	SP040090	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
ONHU 050408-MM3	0.8	-	●						
ONMU 050408-MM4	0.8	-	●	●		●	●	●	
ONHU 050408AEN-MM3	0.8	0.7	●	●				●	
ONHU 050408AEN-MM4	0.8	0.7		●				●	
ONHU 0504ZNR-MM3	0.8	1.4	●						

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed					
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	ON..0504					
				ap	Geometry				
					MM3		MM4		
					fz				
(mm)									
min	max	min	max	min	max				
P	Unalloyed steel	<600	<180	0.20	3.50	0.10	0.25	0.15	0.35
		<950	<280						
	Alloyed steel	700-950	200-280						
		950-1200	280-355						
M	Duplex stainless steel	778	230			0.08	0.20	0.10	0.25
	Austenitic stainless steel	675	200						
	Precipitation-hardening stainless steel	1013	300						
K	Grey cast iron	700	220			0.10	0.25	0.15	0.35
	Nodular cast iron	880	260						
	Malleable cast iron	800	250						
S	Fe-based alloy	943	280			-	-	-	-
	Co-based alloy	1076	320						
	Ni-based alloy	1177	350						
	Ti-alloy	1262	370						
N	Aluminum	260	75	-	-	-	-		
	Aluminum alloy	447	130						
H	Hardened steel	-	50-60HRC	-	-	-	-		
	Chilled cast iron	-	55HRC						

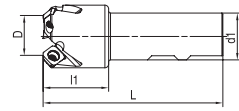
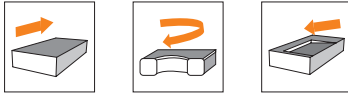
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



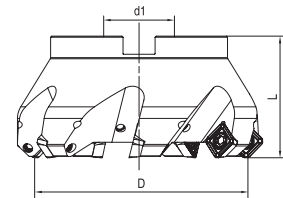
Milling cutters

AFM45-SD09

45° Approaching angle face milling cutter



Product code	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	



Product code	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		
	Screw	Wrench	Torque
φ 16-32			3.5Nm
	ST040075	DT-T15	
φ 40-125	SP040090	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	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 ○ Non-stocked standard

Milling cutters

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..09T3..									
				ap	Geometry								
					HR2		MM3						
					fz								
(mm)													
min	max	min	max	min	max								
P	Unalloyed steel	<600	<180	0.20	5.00	0.10	0.35	0.08	0.30				
		<950	<280										
	Alloyed steel	700-950	200-280							0.08	0.30	0.05	0.28
		950-1200	280-355										
M	Duplex stainless steel	778	230			-	-	0.05	0.25				
	Austenitic stainless steel	675	200										
	Precipitation-hardening stainless steel	1013	300										
K	Grey cast iron	700	220			0.10	0.35	0.08	0.30				
	Nodular cast iron	880	260										
	Malleable cast iron	800	250										
S	Fe-based alloy	943	280	-	-	-	-						
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350										
	Ti-alloy	1262	370										
N	Aluminum	260	75	-	-	-	-						
	Aluminum alloy	447	130										
H	Hardened steel	-	50-60HRC	0.06	0.20	-	-						
	Chilled cast iron	-	55HRC										

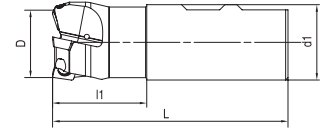
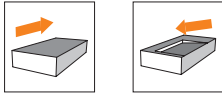
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



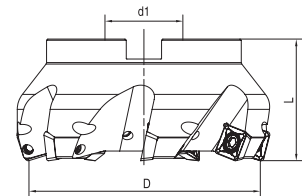
P248

AFM75-SD09

75° Approach angle milling face cutter



Product code	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	



Product code	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		
	Screw	Wrench	Torque
φ 25-32			3.5Nm
	ST040075	DT-T15	
φ 40-100	SP040090	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
SDMT 09T304EN-MM3	0.4	-	●	●	●		●		
SDMT 09T308EN-MM3	0.8	-	●	●	●		●		
SDMW 09T308EN-HR2	0.8	-	●				●		

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..09T3..							
				ap	Geometry						
					HR2		MM3				
					fz						
(mm)											
min	max	min	max	min	max						
P	Unalloyed steel	<600	<180	0.20	6.00	0.10	0.35	0.08	0.30		
		<950	<280								
	Alloyed steel	700-950	200-280			0.08	0.30	0.05	0.28		
		950-1200	280-355								
		1200-1400	355-415								
M	Duplex stainless steel	778	230								
	Austenitic stainless steel	675	200			-	-	0.05	0.25		
	Precipitation-hardening stainless steel	1013	300								
K	Grey cast iron	700	220								
	Nodular cast iron	880	260			0.10	0.35	0.08	0.30		
	Malleable cast iron	800	250								
S	Fe-based alloy	943	280								
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350	-	-	-	-				
	Ti-alloy	1262	370								
N	Aluminum	260	75								
	Aluminum alloy	447	130								
H	Hardened steel	-	50-60HRC								
	Chilled cast iron	-	55HRC	0.06	0.20	-	-				

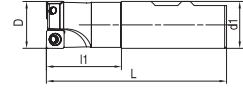
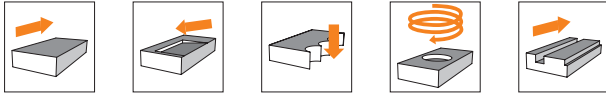
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



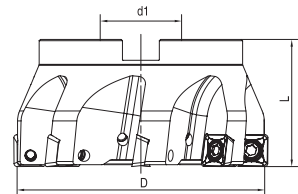
Milling cutters

AFM90-SD09

90° Approach angle face milling cutter



Product code	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	



Product code	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		
	Screw	Wrench	Torque
φ 25-32			3.5Nm
	ST040075	DT-T15	
φ 40-100	SP040090	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	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 ○ Non-stocked standard

Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..09T3..							
				ap	Geometry						
					HR2		MM3				
				fz							
(mm)											
min	max	min	max	min	max	min	max				
P	Unalloyed steel	<600	<180	0.20	6.00	0.10	0.35	0.08	0.30		
		<950	<280								
	Alloyed steel	700-950	200-280			0.08	0.30	0.05	0.28		
		950-1200	280-355								
	1200-1400	355-415									
M	Duplex stainless steel	778	230								
	Austenitic stainless steel	675	200			-	-	0.05	0.25		
	Precipitation-hardening stainless steel	1013	300								
K	Grey cast iron	700	220								
	Nodular cast iron	880	260			0.10	0.35	0.08	0.30		
	Malleable cast iron	800	250								
S	Fe-based alloy	943	280								
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350								
	Ti-alloy	1262	370								
N	Aluminum	260	75								
	Aluminum alloy	447	130								
H	Hardened steel	-	50-60HRC								
	Chilled cast iron	-	55HRC	0.06	0.20	-	-				

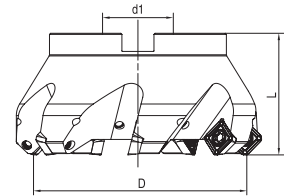
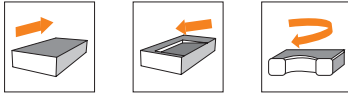
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



Milling cutters

AFM45-SD12

45° Approach angle face milling cutter



Product code	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
φ 50-125			5.0Nm
	SP04511555	DT-TP20	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
SDMT 120408EN-MM4	0.8	-	●	●			●	●	
SDMT 120412EN-MM3	1.2	-	●	●	●		●		
SDKT 1204AEEN-MR2	-	1.5	●	●	●		●	●	
SDHT 1204AEEN-MR6	-	1.5	●	●			●	●	
SDMW 120412EN-HR2	1.2	-	●				●	●	
SDHW 1204AESN-HR2	-	2	●				●	●	

Marked : ● Stock available ○ Non-stocked standard

Milling cutters

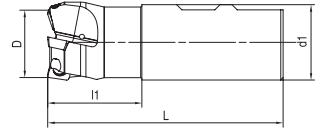
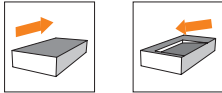
Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..1204..									
				ap	Geometry				fz				
					HR2	MR2	MR6	MM3	(mm)				
				min	max	min	max	min	max	min	max	min	max
P	Unalloyed steel	<600	<180	0.20	7.00	0.20	0.40	0.15	0.30	0.15	0.35	0.12	0.28
		<950	<280			0.20	0.35	0.15	0.25	0.15	0.30	0.10	0.25
	Alloyed steel	700-950	200-280			-	-	0.12	0.25	-	-	0.08	0.20
		950-1200	280-355			0.15	0.30	0.10	0.22	0.15	0.30	0.12	0.28
M	Duplex stainless steel	778	230			-	-	-	-	-	-	0.08	0.20
	Austenitic stainless steel	675	200			-	-	-	-	-	-	-	-
	Precipitation-hardening stainless steel	1013	300			-	-	-	-	-	-	-	-
K	Grey cast iron	700	220			0.08	0.25	-	-	-	-	-	-
	Nodular cast iron	880	260			-	-	-	-	-	-	-	-
	Malleable cast iron	800	250			-	-	-	-	-	-	-	-
S	Fe-based alloy	943	280			-	-	-	-	-	-	0.08	0.20
	Co-based alloy	1076	320			-	-	-	-	-	-	-	-
	Ni-based alloy	1177	350	-	-	-	-	-	-	-	-		
	Ti-alloy	1262	370	-	-	-	-	-	-	-	-		
N	Aluminum	260	75	-	-	-	-	-	-	-	-		
	Aluminum alloy	447	130	-	-	-	-	-	-	-	-		
H	Hardened steel	-	50-60HRC	0.08	0.25	-	-	-	-	-	-		
	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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)

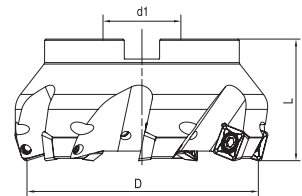


AFM75-SD12

75° Approach angle face milling cutter



Product code	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	



Product code	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		
	Screw	Wrench	Torque
φ 32-125			5.0Nm
	SP04511555	DT-TP20	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
SDMT 120408EN-MM4	0.8	-	●	●			●	●	
SDMT 120412EN-MM3	1.2	-	●	●	●		●		
SDMW 120412EN-HR2	1.2	-	●				●	●	

Marked : ● Stock available ○ Non-stocked standard

Milling cutters

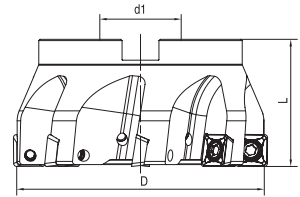
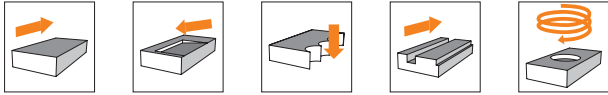
Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..1204..							
				ap	Geometry						
					HR2		MM3				
				fz							
(mm)											
min	max	min	max	min	max	min	max				
P	Unalloyed steel	<600	<180	0.20	8.00	0.15	0.35	0.12	0.30		
		<950	<280								
	Alloyed steel	700-950	200-280			0.12	0.30	0.10	0.25		
		950-1200	280-355								
	1200-1400	355-415									
M	Duplex stainless steel	778	230								
	Austenitic stainless steel	675	200			-	-	0.10	0.22		
	Precipitation-hardening stainless steel	1013	300								
K	Grey cast iron	700	220					0.15	0.35	0.12	0.30
	Nodular cast iron	880	260								
	Malleable cast iron	800	250								
S	Fe-based alloy	943	280					0.10	0.20		
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350								
	Ti-alloy	1262	370								
N	Aluminum	260	75								
	Aluminum alloy	447	130								
H	Hardened steel	-	50-60HRC			0.08	0.25	-	-		
	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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



AFM90-SD12

90° Approach angle face milling cutter



Product code	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		
	Screw	Wrench	Torque
φ 50-125			5.0Nm
	SP04511555	DT-TP20	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
SDMT 120408EN-MM4	0.8	-	●	●			●	●	
SDMT 120412EN-MM3	1.2	-	●	●	●		●		
SDGT 1204PDER-MR6	0.8	1.6	●	●			●	●	
SDMW 120412EN-HR2	1.2	-	●				●	●	

Marked : ● Stock available ○ Non-stocked standard

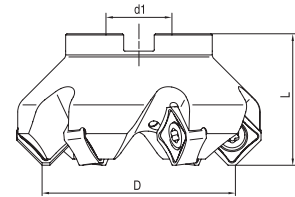
Materials				Cutting depth and feed							
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SD..1204..							
				ap	Geometry						
					HR2		MM3				
				fz							
(mm)											
min	max	min	max	min	max						
P	Unalloyed steel	<600	<180	0.20	9.00	0.15	0.35	0.12	0.30		
		<950	<280								
	Alloyed steel	700-950	200-280			0.12	0.30	0.10	0.25		
		950-1200	280-355								
	1200-1400	355-415									
M	Duplex stainless steel	778	230								
	Austenitic stainless steel	675	200			-	-	0.10	0.22		
	Precipitation-hardening stainless steel	1013	300								
K	Grey cast iron	700	220					0.15	0.35	0.12	0.30
	Nodular cast iron	880	260								
	Malleable cast iron	800	250								
S	Fe-based alloy	943	280					0.10	0.20		
	Co-based alloy	1076	320								
	Ni-based alloy	1177	350								
	Ti-alloy	1262	370								
N	Aluminum	260	75								
	Aluminum alloy	447	130								
H	Hardened steel	-	50-60HRC			0.08	0.25	-	-		
	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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



Milling cutters

AFM45-SN12/SN19
45° Approach angle face milling cutter



Product code	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM45-050-Z04-A22R-SN12-N-C	50	22	40	6.5		4	SN □ X 1206ANN SN □ X1206..
AFM45-050-Z06-A22R-SN12-N-C	50	22	40	6.5		6	
AFM45-063-Z04-A22R-SN12-N-C	63	22	40	6.5		4	
AFM45-063-Z06-A22R-SN12-N-C	63	22	40	6.5		6	
AFM45-063-Z08-A22R-SN12-N-C	63	22	40	6.5		8	
AFM45-080-Z04-A27R-SN12-N-C	80	27	50	6.5		4	
AFM45-080-Z05-A27R-SN12-N-C	80	27	50	6.5		5	
AFM45-080-Z07-A27R-SN12-N-C	80	27	50	6.5		7	
AFM45-100-Z06-A32R-SN12-N-C	100	32	50	6.5		6	
AFM45-100-Z08-A32R-SN12-N-C	100	32	50	6.5		8	
AFM45-125-Z07-A40R-SN12-N-C	125	40	63	6.5		7	
AFM45-125-Z08-A40R-SN12-N-C	125	40	63	6.5		8	
AFM45-125-Z10-A40R-SN12-N-C	125	40	63	6.5		10	
AFM45-160-Z10-A40R-SN12-N	160	40	63	6.5		10	
AFM45-200-Z14-A60R-SN12-N	200	60	63	6.5		14	
AFM45-250-Z16-A60R-SN12-N	250	60	63	6.5		16	
AFM45-160-Z08-A40R-SN19	160	40	63	11		8	SN □ X1909ANN
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
φ 50-250(SN..1206ANN)			
	SP050120	DT-TP20	3.5Nm
φ 160-250(SN..1909ANN)	SP06018070	DT-TP25	5.0Nm

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	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 1206ANN-MM3	-	1.8	●	●	●		●	●	
SNMX 1206ANN-MM4	-	1.8	●	●	●		●	●	
SNMX 1206ANN-MR6	-	1.8	●	●	●		●	●	
SNMX 120608-MM4	0.8	-	●	●	●		●	●	
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 ○ Non-stocked standard

Milling cutters

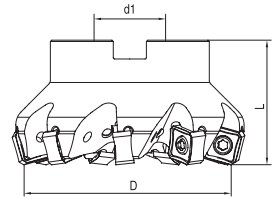
Materials				Cutting depth and feed												
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SNGX 1206..												
				ap	Geometry					fz						
					MM3		MM4		MR6		RR2		FM2			
					(mm)											
min		max		min		max		min		max						
P	Unalloyed steel	<600	<180	0.20	6.50	0.15	0.35	0.18	0.38	0.18	0.40	0.18	0.45	-	-	
		<950	<280													
	Alloyed steel	700-950	200-280			0.12	0.32	0.15	0.35	0.15	0.38	0.15	0.38	-	-	
		950-1200	280-355													
	1200-1400	355-415														
M	Duplex stainless steel	778	230													
	Austenitic stainless steel	675	200			0.12	0.30	0.12	0.32	-	-	-	-	-	-	
	Precipitation-hardening stainless steel	1013	300													
K	Grey cast iron	700	220													
	Nodular cast iron	880	260			0.15	0.35	0.18	0.38	0.18	0.40	0.18	0.45	-	-	
	Malleable cast iron	800	250													
S	Fe-based alloy	943	280													
	Co-based alloy	1076	320	0.10	0.25	0.12	0.28	-	-	-	-	-	-			
	Ni-based alloy	1177	350													
	Ti-alloy	1262	370													
N	Aluminum	260	75										0.15	0.35		
	Aluminum alloy	447	130													
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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



AFM75-SN12

75° Approach angle face milling cutter



Product code	D	d1	L	apmax	Internal coolant	Z	Inserts
AFM75-050-Z04-A22R-SN12-N-C	50	22	40	8.0		4	SNGX1206ENN SN □ X1206..
AFM75-063-Z06-A22R-SN12-N-C	63	22	40	8.0		6	
AFM75-080-Z07-A27R-SN12-N-C	80	27	50	8.0		7	
AFM75-100-Z08-A32R-SN12-N-C	100	32	50	8.0		8	
AFM75-125-Z08-A40R-SN12-N-C	125	40	63	8.0		8	
AFM75-125-Z10-A40R-SN12-N-C	125	40	63	8.0		10	
AFM75-160-Z10-A40R-SN12-N	160	40	63	8.0		10	
AFM75-200-Z14-A60R-SN12-N	200	60	63	8.0		16	
AFM75-250-Z16-A60R-SN12-N	250	60	63	8.0		16	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 50-250			3.5Nm
	SP050120	DT-TP20	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	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 1206ENN-MM4	-	1.2			●				
SNMX 120608-MM4	0.8	-	●	●	●		●	●	
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 ○ Non-stocked standard

Materials				Cutting depth and feed										
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SNGX 1206..										
				ap	Geometry				fz					
					MM3		MM4		MR6		RR2			
					(mm)									
min	max	min	max	min	max	min	max	min	max					
P	Unalloyed steel	<600	<180	0.20	8.00	0.12	0.32	0.19	0.35	0.15	0.38	0.18	0.40	
		<950	<280											
	Alloyed steel	700-950	200-280			0.10	0.30	0.12	0.32	0.10	0.35	0.15	0.35	
		950-1200	280-355											
	1200-1400	355-415												
M	Duplex stainless steel	778	230											
	Austenitic stainless steel	675	200			0.10	0.28	0.10	0.30	-	-	-	-	
	Precipitation-hardening stainless steel	1013	300											
K	Grey cast iron	700	220											
	Nodular cast iron	880	260			0.12	0.32	0.15	0.35	0.12	0.35	0.18	0.40	
	Malleable cast iron	800	250											
S	Fe-based alloy	943	280											
	Co-based alloy	1076	320											
	Ni-based alloy	1177	350	0.10	0.22	0.10	0.25	-	-	-	-			
	Ti-alloy	1262	370											
N	Aluminum	260	75											
	Aluminum alloy	447	130	-	-	-	-	-	-	-	-			
H	Hardened steel	-	50-60HRC											
	Chilled cast iron	-	55HRC	-	-	-	-	-	-	-	-			

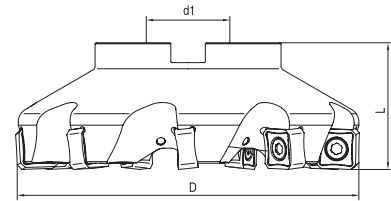
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



Milling cutters

AFM88-SN12

88° Approach angle face milling cutter



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

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 50-200			3.5Nm
	SP050120	DT-TP20	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	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 120608-MM4	0.8	-	●	●	●		●	●	
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 ○ Non-stocked standard

Materials				Cutting depth and feed												
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	SNGX 1206..												
				ap	Geometry										fz	
					MM3		MM4		MR6		RR2		FM2			
					min	max	min	max	min	max	min	max	min	max		
P	Unalloyed steel	<600	<180	0.20	10.00	0.12	0.32	0.19	0.35	0.15	0.38	0.18	0.40	-	-	
		<950	<280													
	Alloyed steel	700-950	200-280			0.10	0.30	0.12	0.32	0.10	0.35	0.15	0.35	-	-	
		950-1200	280-355													
	1200-1400	355-415														
M	Duplex stainless steel	778	230													
	Austenitic stainless steel	675	200			0.10	0.28	0.10	0.30	-	-	-	-	-	-	
	Precipitation-hardening stainless steel	1013	300													
K	Grey cast iron	700	220													
	Nodular cast iron	880	260			0.12	0.32	0.15	0.35	0.12	0.35	0.18	0.40	-	-	
	Malleable cast iron	800	250													
S	Fe-based alloy	943	280													
	Co-based alloy	1076	320													
	Ni-based alloy	1177	350	0.10	0.22	0.10	0.25	-	-	-	-	-	-			
	Ti-alloy	1262	370													
N	Aluminum	260	75													
	Aluminum alloy	447	130	-	-	-	-	-	-	-	-	0.12	0.32			
H	Hardened steel	-	50-60HRC													
	Chilled cast iron	-	55HRC	-	-	-	-	-	-	-	-	-	-			

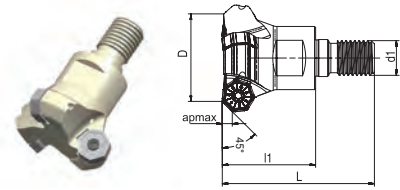
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



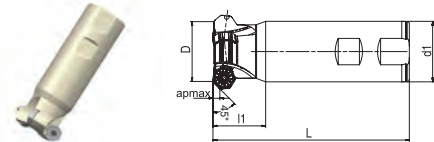
Milling cutters

AFM45-XN07

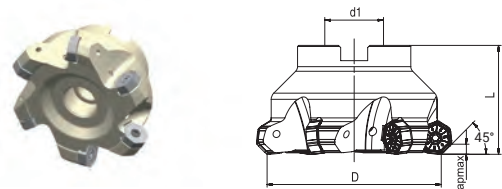
45° Approach angle face milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-040-Z03-M16R-XN07-C	40	16	70	43	4.4		3	XN..U 0705



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-040-Z03-W40R-XN07-C	40	40	130	35	4.4		3	XN..U 0705



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-040-Z03-A16R-XN07-C	40	16	40	-	4.4		3	XN..U 0705
AFM45-050-Z04-A22R-XN07-C	50	22	40	-	4.4		4	
AFM45-050-Z05-A22R-XN07-C	50	22	40	-	4.4		5	
AFM45-063-Z05-A22R-XN07-C	63	22	40	-	4.4		5	
AFM45-063-Z06-A22R-XN07-C	63	22	40	-	4.4		6	
AFM45-080-Z06-A27R-XN07-C	80	27	50	-	4.4		6	
AFM45-080-Z07-A27R-XN07-C	80	27	50	-	4.4		7	
AFM45-100-Z07-A32R-XN07-C	100	32	50	-	4.4		7	
AFM45-100-Z08-A32R-XN07-C	100	32	50	-	4.4		8	
AFM45-125-Z08-A40R-XN07-C	125	40	63	-	4.4		8	
AFM45-125-Z10-A40R-XN07-C	125	40	63	-	4.4		10	
AFM45-160-Z09-A40R-XN07	160	40	63	-	4.4		9	
AFM45-160-Z12-A40R-XN07	160	40	63	-	4.4		12	

Dimension(mm)	Spare parts		
	Screw	Wrench	Torque
φ 40-160			3.5Nm
	SP035120H	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
XNGU 0705ANN-MM3	0.8	1.1	●	●		●	●		
XNGU 0705ANN-MM4	0.8	1.1	●				●		
XNMU 0705ANN-MM4	0.8	1.1	●	●	●	●	●	●	
XNMU 0705ANN-MR6	0.8	1.1	●	●		●	●	●	
XNMU 070508-MM4	0.8	-		●		●	●	●	
XNGX 0705ANN-W	1.0	6	●				●		

Marked : ● Stock available ○ Non-stocked standard

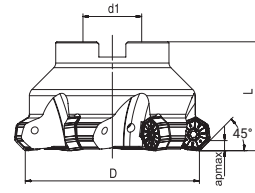
Materials				Cutting depth and feed								
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	XN.. 0705..								
				ap	Geometry							
					MM3		MM4		MR6			
					fz							
(mm)												
min		max		min		max		min		max		
P	Unalloyed steel	<600	<180	0.20	4.40	0.15	0.35	0.18	0.38	0.18	0.40	
		<950	<280									
	Alloyed steel	700-950	200-280			0.12	0.32	0.15	0.35	0.15	0.38	
		950-1200	280-355									
1200-1400	355-415											
M	Duplex stainless steel	778	230									
	Austenitic stainless steel	675	200			0.12	0.30	0.12	0.32	-	-	
	Precipitation-hardening stainless steel	1013	300									
K	Grey cast iron	700	220									
	Nodular cast iron	880	260			0.15	0.35	0.18	0.38	0.18	0.40	
	Malleable cast iron	800	250									
S	Fe-based alloy	943	280									
	Co-based alloy	1076	320									
	Ni-based alloy	1177	350	0.10	0.25	0.12	0.28	-	-			
	Ti-alloy	1262	370									
N	Aluminum	260	75									
	Aluminum alloy	447	130	-	-	-	-	-	-			
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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



Milling cutters

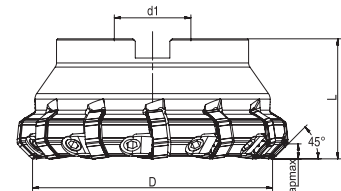
AFM45-XN09
45° Approach angle face milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-063-Z05-A22R-XN09-C	63	22	40	-	6.0		5	XN..U 0906
AFM45-080-Z06-A27R-XN09-C	80	27	50	-	6.0		6	
AFM45-100-Z07-A32R-XN09-C	100	32	50	-	6.0		7	
AFM45-100-Z08-A32R-XN09-C	100	32	50	-	6.0		8	
AFM45-125-Z08-A40R-XN09-C	125	40	63	-	6.0		8	
AFM45-125-Z10-A40R-XN09-C	125	40	63	-	6.0		10	
AFM45-160-Z09-A40R-XN09	160	40	63	-	6.0		9	
AFM45-160-Z11-A40R-XN09	200	60	63	-	6.0		11	
AFM45-200-Z12-A60R-XN09	200	60	63	-	6.0		12	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 63-200			5.0Nm
	SP050130	DT-TP20	

AFM45-XN09-W
45° Approach angle face milling cutter with wedge clamping



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AFM45-080-Z09-A27R-XN09-W	80	27	50	-	6.0		9	XN..U 0906
AFM45-100-Z12-A32R-XN09-W	100	32	50	-	6.0		12	
AFM45-125-Z16-A40R-XN09-W	125	40	63	-	6.0		16	
AFM45-125-Z16-A40L-XN09-W	125	40	63	-	6.0		16	
AFM45-160-Z20-A40R-XN09-W	160	40	63	-	6.0		20	
AFM45-160-Z20-A40L-XN09-W	160	40	63	-	6.0		20	
AFM45-200-Z26-A60R-XN09-W	200	60	63	-	6.0		26	
AFM45-200-Z26-A60L-XN09-W	200	60	63	-	6.0		26	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 80-200			7.0Nm
	AWG-8H	AWS830F	

Note: With internal coolant
 Without internal coolant

Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
XNGU 0906ANN-MM3	0.8	1.4	●	●	●		●		
XNGU 0906ANN-MM4	0.8	1.4	●	●	●		●		
XNMU 0906ANN-MR6	0.8	1.4	●				●	●	
XNMU 090612-MM4	1.2	-	●	●		●	●	●	
XNGX 0906ANN-W	1.0	7.5	●				●		

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	XN..0906..									
				ap	Geometry								
					MM3		MM4		MR6				
					fz								
(mm)													
min		max		min		max		min		max			
P	Unalloyed steel	<600	<180	0.20	6.00	0.15	0.35	0.18	0.38	0.18	0.40		
		<950	<280										
	Alloyed steel	700-950	200-280			0.12	0.32	0.15	0.35	0.15	0.38		
		950-1200	280-355										
	1200-1400	355-415											
M	Duplex stainless steel	778	230					0.12	0.30	0.12	0.32	-	-
	Austenitic stainless steel	675	200										
	Precipitation-hardening stainless steel	1013	300										
K	Grey cast iron	700	220					0.15	0.35	0.18	0.38	0.18	0.40
	Nodular cast iron	880	260										
	Malleable cast iron	800	250										
S	Fe-based alloy	943	280					0.10	0.25	0.12	0.28	-	-
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350										
	Ti-alloy	1262	370										
N	Aluminum	260	75			-	-	-	-	-	-		
	Aluminum alloy	447	130										
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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)

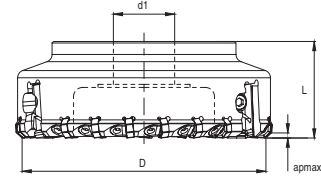


P248

Milling cutters

AFF40-LN12/LN15

Cast iron finishing milling cutter



Product code	D	d1	L	apmax	Internal coolant	*Z	Cutting edge for finishing machining	Inserts
AFF40-080-Z08-A27R-LN12	80	27	50	0.5		8+2	2	ONHF 050408-MM3 LNHQ 120408FN-W
AFF40-100-Z10-A32R-LN12	100	32	50	0.5		10+2	2	
AFF40-125-Z15-A40R-LN15	125	40	63	0.5		15+3	3	
AFF40-160-Z18-A40R-LN15	160	40	63	0.5		18+3	3	
AFF40-200-Z24-A60R-LN15	200	60	63	0.5		24+3	3	ONHF 050408-MM3 LNHQ 150416FN-W
AFF40-250-Z30-A60R-LN15	250	60	63	0.5		30+3	3	

Dimension	Spare parts				
Cutter diameter	wedge type	wedge locking screw	wiper insert locking screw	wiper insert adjusting screw	wiper cartridge locking screw
φ 80-250					
	AWG-6H-13B	WD060200	SP040085H	AH050100F	SH060250

Dimension	Spare parts				
Cutter diameter	wedge screw wrench	wiper insert screw wrench	wiper insert adjusting screw wrench	wiper insert cartridge locking screw wrench	wiper cartridge
φ 80-250					
	LT-H3	DT-TP10	LT-H2.5	LT-H5	D80-100 D125-250
					C-LN1235-2545 C-LN1535-2545

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades
	Insert corner radius mm	Wiper length mm	APT151H
ONHF 050408-MM3	0.8	-	●
LNHQ 120408FN-W	0.8	-	●
LNHQ 150416FN-W	1.6	-	●

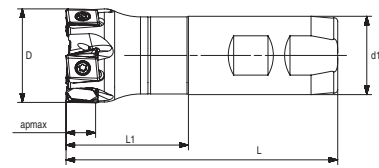
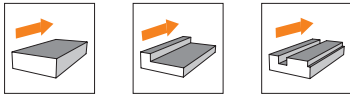
Marked : ● Stock available ○ Non-stocked standard

Milling cutters

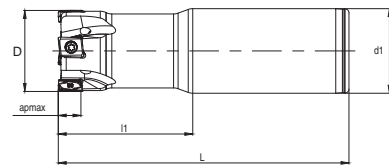
Materials				Cutting depth and feed			
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	ONHF..05 + LNHQ..12			
				ap		Geometry	
				MM3 + W		fz	
				(mm)			
				min	max	min	max
	Grey cast iron	700	220	0.20	0.50	0.08	0.25
	Nodular cast iron	880	260				
	Malleable cast iron	800	250				

*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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)

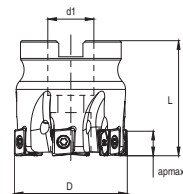
ASM90-LN09-C
90° Shoulder milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-025-Z03-W25R-LN09-C	25	25	100	45	8		3	LNHU 0904
ASM90-025-Z04-W25R-LN09-C	25	25	100	45	8		4	
ASM90-032-Z04-W32R-LN09-C	32	32	110	50	8		4	
ASM90-032-Z05-W32R-LN09-C	32	32	110	50	8		5	
ASM90-040-Z04-W32R-LN09-C	40	32	110	25	8		4	
ASM90-040-Z06-W32R-LN09-C	40	32	110	25	8		6	




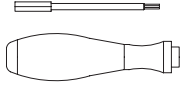
Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-020-Z02-C20R-LN09-L110	20	20	110	31	8		2	LNHU 0904
ASM90-020-Z03-C20R-LN09-L110	20	20	110	31	8		3	
ASM90-025-Z03-C25R-LN09-L200-C	25	25	200	40	8		3	
ASM90-025-Z04-C25R-LN09-L200-C	25	25	200	40	8		4	
ASM90-032-Z04-C32R-LN09-L250-C	32	32	250	50	8		4	
ASM90-032-Z05-C32R-LN09-L250-C	32	32	250	50	8		5	



Product code	D	d1	L	ISO	apmax	Internal coolant	Z	Inserts
ASM90-040-Z04-A16R-LN09-C	40	16	40	A	8		4	LNHU 0904
ASM90-040-Z06-A16R-LN09-C	40	16	40	A	8		6	
ASM90-050-Z05-A22R-LN09-C	50	22	40	A	8		5	
ASM90-050-Z07-A22R-LN09-C	50	22	40	A	8		7	
ASM90-063-Z07-A22R-LN09-C	63	22	40	A	8		7	
ASM90-063-Z10-A22R-LN09-C	63	22	40	A	8		10	
ASM90-080-Z09-A27R-LN09-C	80	27	50	A	8		9	
ASM90-080-Z13-A27R-LN09-C	80	27	50	A	8		13	

Note: With internal coolant
 Without internal coolant



Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 20-80			1.8Nm
	SP030083	DT-TP09	

Product code	Dimension(mm)		Grade						
	Insert corner radius mm	Wiper length mm	AP301U	AC301P	AP351U	AP403M	AC301K	AP351K	AW100K
LNHU 090404ER-FM2	0.4	1.85							●
LNHU 090404ER-MM3	0.4	1.85			●	●			
LNHU 090404ER-MR2	0.4	1.85	●		●	●	●	●	
LNHU 090408ER-MR2	0.8	1.3	●		●	●	●	●	
LNHU 090412ER-MR2	1.2	1.0	●			●	●		
LNHU 090416ER-MR2	1.6	0.65	●			●	●		
LNHU 090420ER-MR2	2.0	0.65	●			●	●		
LNHU 0904PDER-W	0.4	3.6	●				●		

Marked : ● Stock available ○ Non-stocked standard

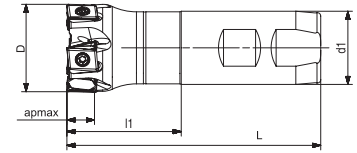
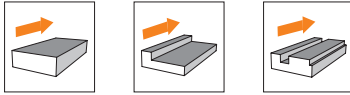
Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	LNHU 0904..									
				ap	Geometry						fz		
					MR2		MM3		FM2				
					(mm)								
min	max	min	max	min	max	min	max						
P	Unalloyed steel	<600	<180	0.20	8.00	0.08	0.28	0.08	0.25	-	-		
		<950	<280										
	Alloyed steel	700-950	200-280			0.06	0.22	0.06	0.20	-	-		
		950-1200	280-355										
M	Duplex stainless steel	778	230										
	Austenitic stainless steel	675	200			0.06	0.22	0.06	0.20	-	-		
	Precipitation-hardening stainless steel	1013	300										
K	Grey cast iron	700	220					0.08	0.30	0.08	0.28	-	-
	Nodular cast iron	880	260										
	Malleable cast iron	800	250										
S	Fe-based alloy	943	280					0.08	0.15	-	-		
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350										
	Ti-alloy	1262	370										
N	Aluminum	260	75							0.06	0.25		
	Aluminum alloy	447	130										
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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)

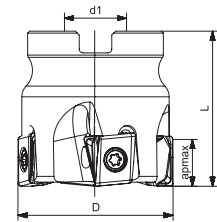


Milling cutters

ASM90-LN13-C
90° Shoulder milling cutter



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



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-040-Z04-A16R-LN13-C	40	16	40	-	12.0		4	LNHU 1306
ASM90-040-Z05-A16R-LN13-C	40	16	40	-	12.0		5	
ASM90-050-Z05-A22R-LN13-C	50	22	40	-	12.0		5	
ASM90-050-Z06-A22R-LN13-C	50	22	40	-	12.0		6	
ASM90-063-Z04-A22R-LN13-C	63	22	40	-	12.0		4	
ASM90-063-Z06-A22R-LN13-C	63	22	40	-	12.0		6	
ASM90-063-Z08-A22R-LN13-C	63	22	40	-	12.0		8	
ASM90-080-Z05-A27R-LN13-C	80	27	50	-	12.0		5	
ASM90-080-Z07-A27R-LN13-C	80	27	50	-	12.0		7	
ASM90-080-Z10-A27R-LN13-C	80	27	50	-	12.0		10	
ASM90-100-Z07-A32R-LN13-C	100	32	50	-	12.0		7	
ASM90-100-Z09-A32R-LN13-C	100	32	50	-	12.0		9	
ASM90-100-Z13-A32R-LN13-C	100	32	50	-	12.0		13	
ASM90-125-Z09-A40R-LN13-C	125	40	63	-	12.0		9	
ASM90-125-Z11-A40R-LN13-C	125	40	63	-	12.0		11	
ASM90-125-Z16-A40R-LN13-C	125	40	63	-	12.0		16	
ASM90-160-Z09-A40R-LN13	160	40	63	-	12.0		9	
ASM90-160-Z13-A40R-LN13	160	40	63	-	12.0		13	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 40-160			3.5Nm
	SP040115	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grade						
	Insert corner radius mm	Wiper length mm	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AW100K
LNHU 130608ER-FM2	0.8	2.7							●
LNHU 130608ER-MM3	0.8	2.7				●			
LNHU 130608ER-MR2	0.8	2.7	●	●	●	●	●	●	
LNHU 130612ER-MR2	1.2	2.3			●	●	●		
LNHU 130616ER-MR2	1.6	1.9			●	●	●		
LNHU 130620ER-MR2	2.0	1.5			●	●			
LNHU 130624ER-MR2	2.4	1.0			●	●			
LNHU 130631ER-MR2	3.1	0.4			●	●	●		
LNHU 1306PDER-W	0.8	5.6	●				●		

Marked : ● Stock available ○ Non-stocked standard

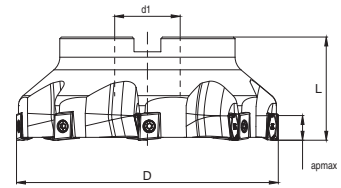
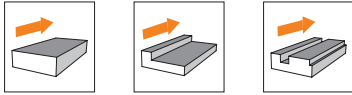
Milling cutters

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	LNHU..1306..									
				ap	Geometry								
					MM3		MR2						
					fz								
(mm)						min	max	min	max	min	max		
P	Unalloyed steel	<600	<180	0.20	12.00	0.10	0.30	0.12	0.35				
		<950	<280										
	Alloyed steel	700-950	200-280			0.08	0.25	0.10	0.30				
		950-1200	280-355										
1200-1400	355-415												
M	Duplex stainless steel	778	230					0.06	0.20	0.08	0.25		
	Austenitic stainless steel	675	200										
	Precipitation-hardening stainless steel	1013	300										
K	Grey cast iron	700	220					-	-	0.12	0.35		
	Nodular cast iron	880	260										
	Malleable cast iron	800	250										
S	Fe-based alloy	943	280			0.06	0.18	0.08	0.22				
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350										
	Ti-alloy	1262	370										
N	Aluminum	260	75			-	-	-	-				
	Aluminum alloy	447	130										
H	Hardened steel	-	50-60HRC			-	-	0.08	0.20				
	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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



ASM90-LN16-C
90° Shoulder milling cutter



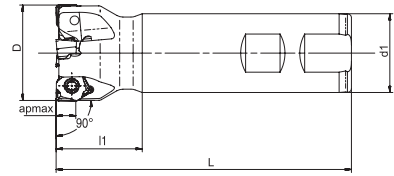
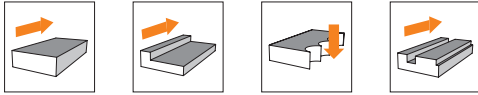
Product code	D	d1	L	ISO	apmax	Internal coolant	Z	Inserts
ASM90-063-Z04-A22R-LN16-C	63	22	40	A	15		4	LNHU 1607
ASM90-080-Z05-A27R-LN16-C	80	27	50	A	15		5	
ASM90-125-Z07-A40R-LN16-C	125	40	63	A	15		7	
ASM90-160-Z08-A40R-LN16	160	40	63	A	15		8	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 63-160			5Nm
	SP05013063	DT-TP20	

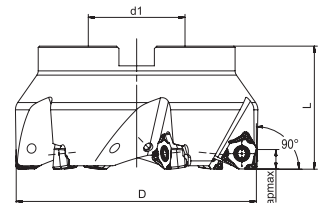
Note: With internal coolant
 Without internal coolant



ASM90-WN08-C
90° Shoulder milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-040-Z03-W32R-WN08-C	40	32	120	35	7.0		3	WN.U 0806
ASM90-040-Z04-W32R-WN08-C	40	32	120	35	7.0		4	



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-050-Z04-A22R-WN08-C	50	22	40	-	7		4	WN.U 0806
ASM90-050-Z05-A22R-WN08-C	50	22	40	-	7		5	
ASM90-063-Z04-A22R-WN08-C	63	22	40	-	7		4	
ASM90-063-Z06-A22R-WN08-C	63	22	40	-	7		6	
ASM90-063-Z07-A22R-WN08-C	63	22	40	-	7		7	
ASM90-080-Z05-A27R-WN08-C	80	27	50	-	7		5	
ASM90-080-Z07-A27R-WN08-C	80	27	50	-	7		7	
ASM90-080-Z09-A27R-WN08-C	80	27	50	-	7		9	
ASM90-100-Z06-A32R-WN08-C	100	32	50	-	7		6	
ASM90-100-Z08-A32R-WN08-C	100	32	50	-	7		8	
ASM90-100-Z11-A32R-WN08-C	100	32	50	-	7		11	
ASM90-125-Z07-A40R-WN08-C	125	40	63	-	7		7	
ASM90-125-Z11-A40R-WN08-C	125	40	63	-	7		11	
ASM90-125-Z13-A40R-WN08-C	125	40	63	-	7		13	
ASM90-160-Z08-A40R-WN08	160	40	63	-	7		8	
ASM90-160-Z12-A40R-WN08	160	40	63	-	7		12	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 40-160			3.5Nm
	ST040085H	DT-TP10	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grade						
	Insert corner radius mm	Wiper length mm	AP301U	AC301P	AP351U	AP401U	AC301K	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 ○ Non-stocked standard

Milling cutters

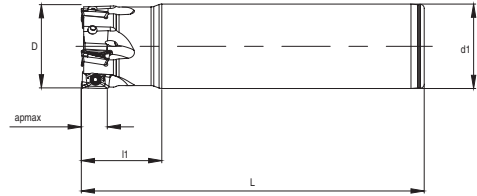
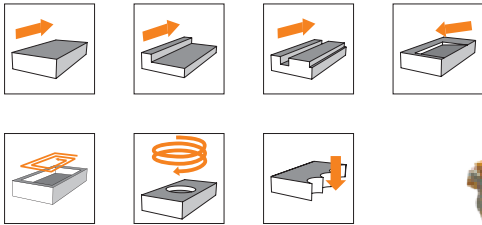
Materials				Cutting depth and feed													
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	WNGU..0806..													
				ap	Geometry				fz								
					FM2	MM3	MM4	MR2									
					(mm)												
min	max	min	max	min	max	min	max	min	max								
P	Unalloyed steel	<600	<180	0.20	7.00	-	-	0.12	0.25	0.12	0.28	0.12	0.30				
		<950	<280														
	Alloyed steel	700-950	200-280					0.10	0.20	0.10	0.25	0.10	0.28				
		950-1200	280-355														
1200-1400	355-415																
M	Duplex stainless steel	778	230														
	Austenitic stainless steel	675	200									0.08	0.18	0.08	0.18	-	-
	Precipitation-hardening stainless steel	1013	300														
K	Grey cast iron	700	220														
	Nodular cast iron	880	260									0.12	0.20	0.10	0.28	0.15	0.30
	Malleable cast iron	800	250														
S	Fe-based alloy	943	280														
	Co-based alloy	1076	320														
	Ni-based alloy	1177	350					0.12	0.13	0.10	0.15	-	-				
	Ti-alloy	1262	370														
N	Aluminum	260	75			0.10	0.24	-	-	-	-	-	-				
	Aluminum alloy	447	130														
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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)

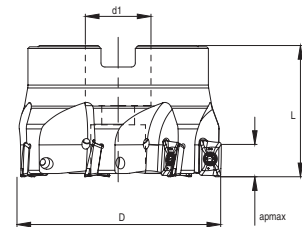


P248

ASM90-AP10-C
90° Shoulder milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-016-Z02-C16R-AP10-L90-C	16	16	90	26	8		2	APKT 1003
ASM90-020-Z03-C20R-AP10-L110-C	20	20	110	28	8		3	
ASM90-025-Z04-C25R-AP10-L120-C	25	25	120	30	8		4	
ASM90-032-Z05-C32R-AP10-L130-C	32	32	130	26	8		5	



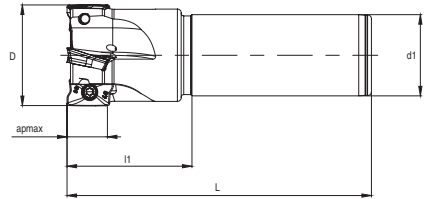
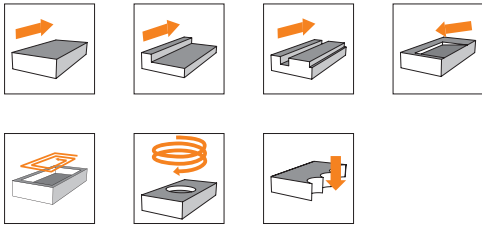
Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-063-Z07-A22R-AP10-C	63	22	40	A	8		7	APKT 1003

Dimension(mm)	Spare parts		
	Screw	Wrench	Torque
φ 16-63			1.0Nm
	SP02506450H	DT-TP08	

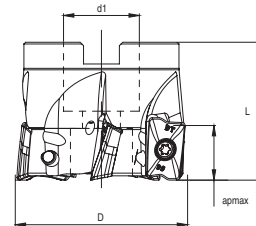
Note: With internal coolant
 Without internal coolant



ASM90-AP17-C
90° Shoulder milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-025-Z02-C25R-AP17-L100-C	25	25	100	39	16		2	APKT 1705
ASM90-032-Z03-C32R-AP17-L110-C	32	32	110	40	16		3	
ASM90-040-Z04-C32R-AP17-L120-C	40	32	120	45	16		4	



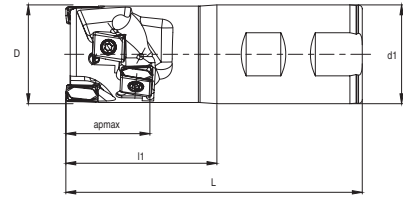
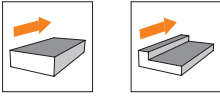
Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
ASM90-050-Z05-A22R-AP17-C	50	22	40	-	16		5	APKT 1705
ASM90-063-Z06-A22R-AP17-C	63	22	40	-	16		6	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
\varnothing 25 \varnothing 32-63	 SP040084 SP040093	 DT-TP15	4.0Nm

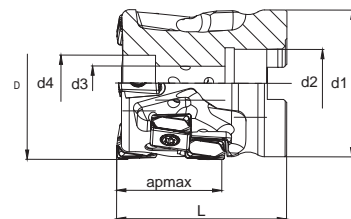
Note: With internal coolant
 Without internal coolant



APE90-LN09
90° Procupine milling cutter

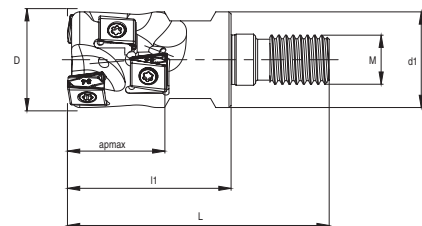


Product code	D	d1	L	L1	d2	d3	d4	apmax	Internal coolant	clamping screw	Z	row	Insert number	Inserts
APE90-025-Z02-W25R-LN09-L32-F-C	25	25	100	43	-	-	-	32		-	2	4	8	LNHU 0904
APE90-032-Z02-W32R-LN09-L32-F-C	32	32	105	44	-	-	-	32		-	2	4	8	
APE90-032-Z02-W32R-LN09-L40-F-C	32	32	110	50	-	-	-	40		-	2	5	10	
APE90-040-Z03-W40R-LN09-L40-F-C	40	40	125	55	-	-	-	40		-	3	5	15	
APE90-040-Z03-W40R-LN09-L48-F-C	40	40	130	59	-	-	-	48		-	3	6	18	



Product code	D	d1	L	L1	d2	d3	d4	apmax	Internal coolant	clamping screw	Z	row	Insert number	Inserts
APE90-040-Z03-A16R-LN09-L32-F-C	40	38	55	-	16	9	15	32		SH080400	3	4	12	LNHU 0904
APE90-040-Z03-A16R-LN09-L40-F-C	40	38	65	-	16	9	15	40		SH080500	3	5	15	
APE90-050-Z04-A22R-LN09-L48-F-C	50	47.5	75	-	22	11	18	48		SH100550	4	6	24	

clamping screw	Designation	screw type	clamping torque
	SH080400	M8*40	41Nm
	SH080500	M8*50	41Nm
	SH100550	M10*55	81Nm



Product code	D	d1	L	L1	d2	d3	d4	apmax	Internal coolant	clamping screw	Z	row	Insert number	Inserts
APE90-025-Z02-M12R-LN09-L24-F-C	25	23.4	64	40	12	-	-	24		-	2	3	6	LNHU 0904
APE90-032-Z02-M16R-LN09-L24-F-C	32	30	67	40	16	-	-	24		-	2	3	6	
APE90-032-Z02-M16R-LN09-L32-F-C	32	30	77	50	16	-	-	32		-	2	4	8	

Dimension(mm)	Spare parts			
Cutter diameter	Screw	Wrench	wrench	Torque
φ 25-50				1.8Nm
	SP030083	DT-TP09	AFW-15/24	



Note: With internal coolant
 Without internal coolant

Product code	Dimension(mm)		Grade						
	Insert corner radius mm	Wiper length mm	AP301U	AC301P	AP351U	AP403M	AC301K	AP351K	AW100K
LNHU 090404ER-FM2	0.4	1.85							●
LNHU 090404ER-MM3	0.4	1.85			●	●			
LNHU 090404ER-MR2	0.4	1.85	●		●	●	●	●	
LNHU 090408ER-MR2	0.8	1.3	●		●	●	●	●	
LNHU 090412ER-MR2	1.2	1.0	●			●	●		
LNHU 090416ER-MR2	1.6	0.65	●			●	●		
LNHU 090420ER-MR2	2.0	0.65	●			●	●		
LNHU 0904PDER-W	0.4	3.6	●				●		

Marked : ● Stock available ○ Non-stocked standard

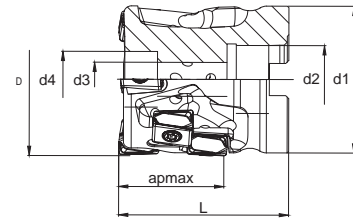
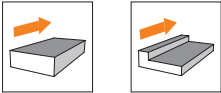
Milling cutters

Materials				Cutting depth and feed									
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	LNHU..0904..									
				ap	Geometry								
					MM3		MR2		FM2				
					fz								
(mm)													
min		max		min		max		min		max			
P	Unalloyed steel	<600	<180	0.20	48.00	0.06	0.22	0.08	0.25	-	-		
		<950	<280										
	Alloyed steel	700-950	200-280			0.05	0.18	0.06	0.20	-	-		
		950-1200	280-355										
M	Duplex stainless steel	778	230										
	Austenitic stainless steel	675	200			0.05	0.18	0.06	0.18	-	-		
	Precipitation-hardening stainless steel	1013	300										
K	Grey cast iron	700	220					0.05	0.22	0.08	0.25	-	-
	Nodular cast iron	880	260										
	Malleable cast iron	800	250										
S	Fe-based alloy	943	280			0.05	0.15	-	-	-	-		
	Co-based alloy	1076	320										
	Ni-based alloy	1177	350										
	Ti-alloy	1262	370										
N	Aluminum	260	75			-	-	-	-	0.06	0.25		
	Aluminum alloy	447	130										
H	Hardened steel	-	50-60HRC			-	-	0.05	0.12	-	-		
	Chilled cast iron	-	55HRC										

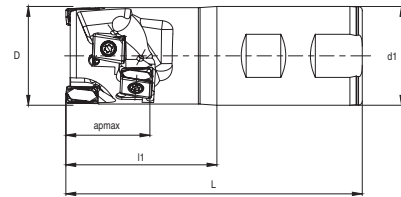
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



APE90-LN13
90° Porcupine milling cutter



Product code	D	d1	L	L1	d2	d3	d4	apmax	Internal coolant	Z	Row	Insert number	Inserts
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	



Product code	D	d1	L	L1	d2	d3	d4	apmax	Internal coolant	Z	Row	Insert number	Inserts
APE90-040-Z02-W40R-LN13-L34-F-C	40	40	120	54	-	-	-	34		2	3	6	LNHU 1306
APE90-040-Z02-W40R-LN13-L45-F-C	40	40	135	64	-	-	-	45		2	4	8	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 40-80			3.5Nm
	SP040115	DT-TP15	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grade						
	Insert corner radius mm	Wiper length mm	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AW100K
LNHU 130608ER-FM2	0.8	2.7							●
LNHU 130608ER-MM3	0.8	2.7				●			
LNHU 130608ER-MR2	0.8	2.7	●	●	●	●	●	●	
LNHU 130612ER-MR2	1.2	2.3			●	●	●		
LNHU 130616ER-MR2	1.6	1.9			●	●	●		
LNHU 130620ER-MR2	2.0	1.5			●	●			
LNHU 130624ER-MR2	2.4	1.0			●	●			
LNHU 130631ER-MR2	3.1	0.4			●	●	●		
LNHU 1306PDER-W	0.8	5.6	●				●		

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed								
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	LNHU..1306..								
				ap	Geometry						fz	
					MM3		MR2		FM2			
				(mm)								
min	max	min	max	min	max	min	max	min	max			
P	Unalloyed steel	<600	<180	0.20	56	0.10	0.28	0.10	0.30	-	-	
		<950	<280									
	Alloyed steel	700-950	200-280			0.08	0.25	0.08	0.28	-	-	
		950-1200	280-355									
M	Duplex stainless steel	778	230									
	Austenitic stainless steel	675	200			0.08	0.22	0.08	0.25	-	-	
	Precipitation-hardening stainless steel	1013	300									
K	Grey cast iron	700	220					0.10	0.32	-	-	
	Nodular cast iron	880	260									
	Malleable cast iron	800	250									
S	Fe-based alloy	943	280									
	Co-based alloy	1076	320									
	Ni-based alloy	1177	350	0.08	0.2	-	-	-	-			
	Ti-alloy	1262	370									
N	Aluminum	260	75					0.08	0.30			
	Aluminum alloy	447	130									
H	Hardened steel	-	50-60HRC									
	Chilled cast iron	-	55HRC			0.06	0.15	-	-			

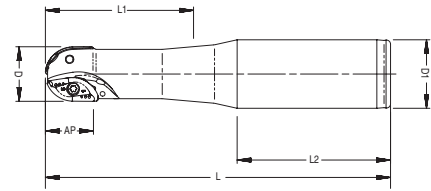
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



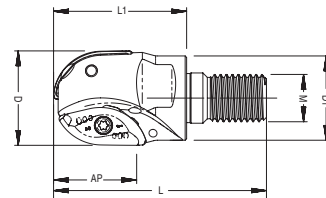
Milling cutters

APM00-RP

Ballnose milling cutter



Product code	D	d1	L	l1	l2	apmax	M	Internal coolant	Z	Inserts
APM00-016-Z02-C20R-RP080-L120-C	16	20	120	50	70	14	-		2	RPM 080ER-MM4
APM00-020-Z02-C25R-RP100-L126-C	20	25	126	62	64	18	-		2	RPM 100ER-MM4
APM00-020-Z02-C25R-RP100-L176-C	20	25	176	70	106	18	-		2	



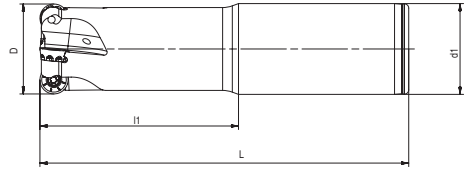
Product code	D	d1	L	l1	l2	apmax	M	Internal coolant	Z	Inserts
APM00-016-Z02-M10R-RP080-C	16	18	49	28	-	14	M10		2	RPM 080ER-MM4
APM00-020-Z02-M10R-RP100-C	20	18	51	30	-	18	M10		2	RPM 100ER-MM4

Dimension(mm)	Spare parts			
	Screw	Wrench	wrench	Torque
				1.8Nm
φ 16	SP02506450H	DT-TP08	AFW-15	
φ 20	SP030072H	DT-TP09	AFW-15	

Note: With internal coolant
 Without internal coolant



APM00-RO08
Profile milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-016-Z02-W16R-RO08-L100	16	16	100	76	4		2	RO 0803
APM00-025-Z04-C25R-RO08-L116-C	25	25	116	60	4		4	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 16-25			2.0Nm
	SP030062	DT-TP09	

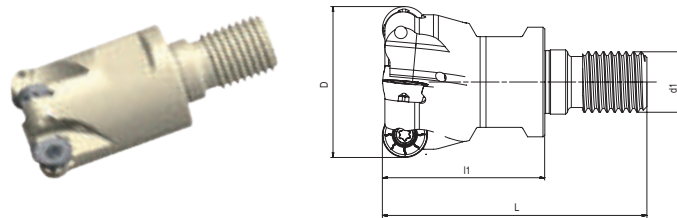
Note: With internal coolant
 Without internal coolant



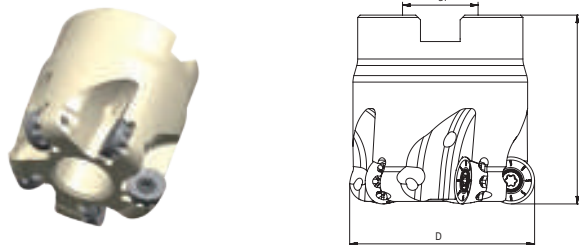
APM00-RO10
Profile milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-025-Z03-C25R-RO10-L225-C	25	25	225	60	5		3	RO 10T3
APM00-032-Z04-C32R-RO10-L130-C	32	32	130	70	5		4	



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-025-Z03-M12R-RO10-C	25	M12	59	35	5		3	RO 10T3
APM00-032-Z04-M16R-RO10-C	32	M16	70	43	5		4	



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-040-Z05-A16R-RO10-C	40	16	40	-	5		5	RO 10T3
APM00-050-Z06-A22R-RO10-C	50	22	40	-	5		6	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 25-50			2.0Nm
	SP030072H	DT-TP09	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grade						
	IC	S	AP301U	AC301P	AP351U	AP401U	AP403M	AP351K	AP403S
ROHT 10T3M8E-MM3	10	3.97					●		●
ROMT 10T3M4E-MR6	10	3.97					●		●

Marked : ● Stock available ○ Non-stocked standard

Milling cutters

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	RO..10T3..											
				ap	Geometry								MR6		
					MM3				MR6				fz		
					0.1 < ap ≤ 1.2		1.2 < ap ≤ 5		0.1 < ap ≤ 1.2		1.2 < ap ≤ 5				
					(mm)										
min	max	min	max	min	max	min	max	min	max	min	max				
P	Unalloyed steel	<600	<180	0.20	5.00	0.15	0.55	0.10	0.30	0.15	0.60	0.10	0.32		
		<950	<280												
	Alloyed steel	700-950	200-280			0.12	0.50	0.08	0.28	0.12	0.55	0.08	0.30		
		950-1200	280-355												
	1200-1400	355-415													
M	Duplex stainless steel	778	230												
	Austenitic stainless steel	675	200			0.10	0.45	0.08	0.25	0.10	0.50	0.08	0.28		
	Precipitation-hardening stainless steel	1013	300												
K	Grey cast iron	700	220					-	-	-	-	-	-	-	-
	Nodular cast iron	880	260												
	Malleable cast iron	800	250												
S	Fe-based alloy	943	280												
	Co-based alloy	1076	320	0.10	0.40	0.08	0.25	-	-	-	-				
	Ni-based alloy	1177	350												
	Ti-alloy	1262	370												
N	Aluminum	260	75			-	-	-	-	-	-	-	-		
	Aluminum alloy	447	130												
H	Hardened steel	-	50-60HRC			-	-	-	-	-	-	-	-		
	Chilled cast iron	-	55HRC												

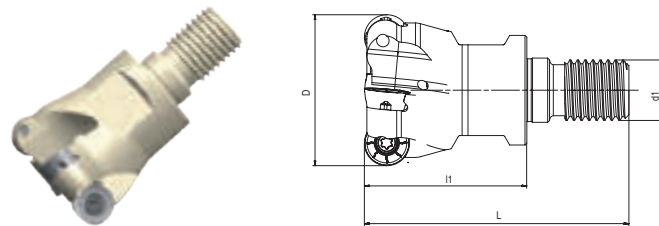
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



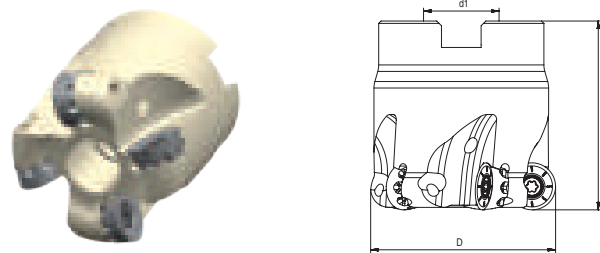
APM00-RO12
Profile milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-032-Z03-C32R-RO12-L120-C	32	32	120	40	6		3	RO 1204



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-040-Z04-M16R-RO12-C	40	M16	70	43	6		4	RO 1204



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-040-Z04-A16R-RO12-C	40	16	40	-	6		4	RO 1204
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	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 32-80			4.0Nm
	SP040085H	DT-TP10	

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grade						
	IC	S	AP301U	AC301P	AP351U	AP401U	AP403M	AP351K	AP403S
ROHT 1204M4E-MM3	12	4.76					●		●
ROHT 1204M6E-MM3	12	4.76					●		●
ROMT 1204M6E-MR6	12	4.76					●		●

Marked : ● Stock available ○ Non-stocked standard

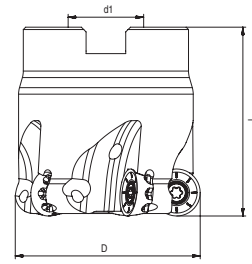
Milling cutters

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	RO..1204..											
				ap	Geometry										
					MM3				MR6						
					fz										
					0.1 < ap ≤ 1.5		1.5 < ap ≤ 6		0.1 < ap ≤ 1.5		1.5 < ap ≤ 6				
(mm)															
min		max		min		max		min		max					
P	Unalloyed steel	<600	<180	0.20	6.00	0.18	0.60	0.12	0.32	0.18	0.65	0.12	0.35		
		<950	<280												
	Alloyed steel	700-950	200-280			0.15	0.55	0.10	0.30	0.15	0.60	0.10	0.32		
		950-1200	280-355												
		1200-1400	355-415												
M	Duplex stainless steel	778	230					0.12	0.50	0.10	0.28	0.12	0.55	0.10	0.30
	Austenitic stainless steel	675	200												
	Precipitation-hardening stainless steel	1013	300												
K	Grey cast iron	700	220					-	-	-	-	-	-	-	-
	Nodular cast iron	880	260												
	Malleable cast iron	800	250												
S	Fe-based alloy	943	280												
	Co-based alloy	1076	320			0.12	0.45	0.10	0.28	-	-	-	-		
	Ni-based alloy	1177	350												
	Ti-alloy	1262	370												
N	Aluminum	260	75			-	-	-	-	-	-	-	-		
	Aluminum alloy	447	130												
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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



APM00-RO16
Profile milling cutter



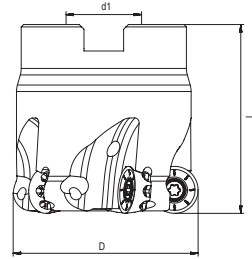
Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-063-Z05-A22R-RO16-C	63	22	40	-	8		5	RO 1605
APM00-080-Z06-A27R-RO16-C	80	27	50	-	8		6	
APM00-100-Z07-A32R-RO16-C	100	32	50	-	8		7	

Dimension(mm)	Spare parts		
	Screw	Wrench	Torque
φ 63-100			5.0Nm
	SP050120	DT-TP20	

Note: With internal coolant
 Without internal coolant



APM00-RO20
Profile milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-100-Z06-A32R-RO20-C	100	32	50	-	10		6	RO 2006
APM00-125-Z07-A40R-RO20-C	125	40	63	-	10		7	
APM00-160-Z08-A40R-RO20	160	40	6	-	10		8	

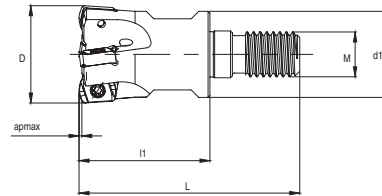
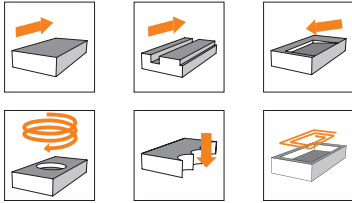
Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 100-160			7.0Nm
	SP060121	DT-TP25	

Note: With internal coolant
 Without internal coolant

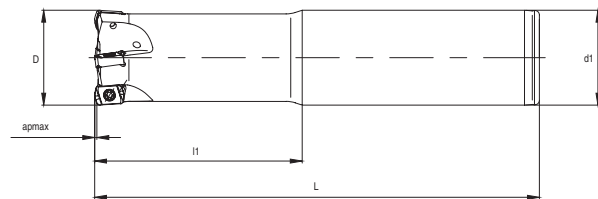


AHM20-LN06

20° Approach angle high feed milling cutter



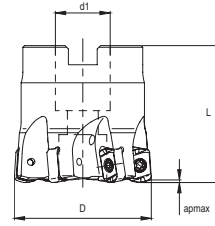
Product code	D	d1	L	L1	M	apmax	Internal coolant	Z	Inserts
AHM20-016-Z02-M08R-LN06-C	16	14.5	42	25	M8	0.8		2	LN..0604
AHM20-017-Z02-M08R-LN06-C	17	14.5	42	25	M8	0.8		2	
AHM20-020-Z03-M10R-LN06-C	20	18	51	30	M10	0.8		3	
AHM20-021-Z03-M10R-LN06-C	21	18	51	30	M10	0.8		3	
AHM20-025-Z04-M12R-LN06-C	25	23	59	35	M12	0.8		4	
AHM20-026-Z03-M12R-LN06-C	26	23	59	35	M12	0.8		3	
AHM20-026-Z04-M12R-LN06-C	26	23	59	35	M12	0.8		4	
AHM20-032-Z04-M16R-LN06-C	32	29	70	43	M16	0.8		4	
AHM20-032-Z05-M16R-LN06-C	32	29	70	43	M16	0.8		5	
AHM20-033-Z05-M16R-LN06-C	33	29	70	43	M16	0.8		5	
AHM20-035-Z05-M16R-LN06-C	35	29	70	43	M16	0.8		5	
AHM20-040-Z06-M16R-LN06-C	40	29	70	43	M16	0.8		6	



Product code	D	d1	L	L1	d2	apmax	Internal coolant	Z	Inserts
AHM20-016-Z02-C16R-LN06-L100-C	16	16	100	30	-	0.8		2	LN..0604
AHM20-017-Z02-C16R-LN06-L150-C	17	16	150	25	-	0.8		2	
AHM20-020-Z03-C20R-LN06-L130-C	20	20	130	50	-	0.8		3	
AHM20-021-Z03-C20R-LN06-L160-C	21	20	160	30	-	0.8		3	
AHM20-025-Z03-C25R-LN06-L140-C	25	25	140	60	-	0.8		3	
AHM20-026-Z03-C25R-LN06-L180-C	26	25	180	35	-	0.8		3	
AHM20-032-Z04-C32R-LN06-L150-C	32	32	150	70	-	0.8		4	
AHM20-033-Z04-C32R-LN06-L200-C	33	32	200	35	-	0.8		4	
AHM20-035-Z05-C32R-LN06-L200-C	35	32	200	35	-	0.8		5	

Note: With internal coolant
 Without internal coolant





Product code	D	d1	L	L1	d2	apmax	Internal coolant	Z	Inserts
AHM20-040-Z06-A16R-LN06-C	40	16	40	-	-	0.8		6	LN..0604
AHM20-050-Z07-A22R-LN06-C	50	22	40	-	-	0.8		7	
AHM20-052-Z07-A22R-LN06-C	52	22	40	-	-	0.8		7	
AHM20-063-Z08-A22R-LN06-C	63	22	40	-	-	0.8		8	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 16-63			1.0Nm
	SP02506450H	DT-TP08	

Product code	Dimension(mm)		Grades									
	Insert corner radius mm	Wiper length mm	AC301P	AP301U	AP351U	AP401U	AP403M	AC301K	AP351K	AW100K	AP403S	AP151H
LNMX 060410R-MM3	1.0	-		●	●		●				●	
LNMX 060410R-MM4	1.0	-		●	●		●				●	●

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	LNMX..0604..											
				High feed Milling			Plunging Milling								
				ap		fz		ae		fz					
				(mm)											
min		max		min		max		min		max					
P	Unalloyed steel	<600	<180	0.30	0.8	0.30	1.00	0.50	4	0.08	0.15				
		<950	<280												
	Alloyed steel	700-950	200-280									0.30	1.00	0.06	0.12
		950-1200	280-355												
M	Duplex stainless steel	778	230			0.25	0.80			0.06	0.12				
	Austenitic stainless steel	675	200												
	Precipitation-hardening stainless steel	1013	300												
K	Grey cast iron	700	220			0.30	1.00			0.08	0.15				
	Nodular cast iron	880	260												
	Malleable cast iron	800	250												
S	Fe-based alloy	943	280	0.25	0.60	0.06	0.10								
	Co-based alloy	1076	320												
	Ni-based alloy	1177	350												
	Ti-alloy	1262	370												
N	Aluminum	260	75	-	-	-	-								
	Aluminum alloy	447	130												
H	Hardened steel	-	50-60HRC	0.25	0.60	0.06	0.10								
	Chilled cast iron	-	55HRC												

Note: Please refer to P330 for programming information of high feed milling cutter

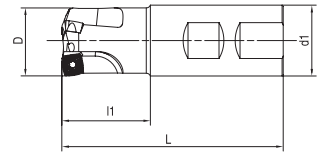
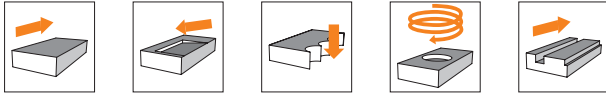
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)

$$f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$$

Milling cutters

AHM15-XD09

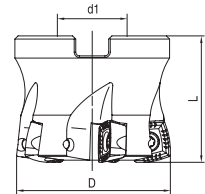
15° Approach angle high feed milling cutter



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AHM15-025-Z02-W25R-XD09-C	25	25	96	40	1.5		2	XD..0904
AHM15-032-Z03-W32R-XD09-C	32	32	100	40	1.5		3	



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AHM15-025-Z02-C25R-XD09-C	25	25	200	50	1.5		2	XD..0904
AHM15-026-Z02-C25R-XD09-L180-C	26	25	180	30	1.5		2	
AHM15-032-Z03-C32R-XD09-C	32	32	250	70	1.5		3	



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AHM15-040-Z03-A16R-XD09-C	40	16	32	-	1.5		3	XD..0904
AHM15-040-Z04-A16R-XD09-C	40	16	32	-	1.5		4	
AHM15-040-Z05-A16R-XD09-C	40	16	32	-	1.5		5	
AHM15-050-Z05-A22R-XD09-C	50	22	40	-	1.5		5	
AHM15-050-Z06-A22R-XD09-C	50	22	40	-	1.5		6	

Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 25-50			3.0Nm
	SP035084	DT-TP10	

Note: Please refer to P330 for programming information of high feed milling cutter

Note: With internal coolant
 Without internal coolant



Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AC301P	AP301U	AP351U	AP401U	AC301K	AP351K	AW100K
XDLT 090408ER-MM3	0.8	1.3		●					
XDMW 090408ER-HR2	0.8	1.3					●		

Marked : ● Stock available ○ Non-stocked standard

Milling cutters

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	XD..0904..											
				High feed Milling				Plunging Milling							
				ap		fz		ae		fz					
				(mm)											
				min	max	min	max	min	max	min	max				
P	Unalloyed steel	<600	<180	0.20	1.50	0.30	1.50	0.00	7	0.05	0.15				
		<950	<280												
	Alloyed steel	700-950	200-280									0.30	1.50	0.05	0.12
		950-1200	280-355												
M	Duplex stainless steel	778	230									0.20	0.80	0.05	0.10
	Austenitic stainless steel	675	200												
	Precipitation-hardening stainless steel	1013	300												
K	Grey cast iron	700	220												
	Nodular cast iron	880	260												
	Malleable cast iron	800	250												
S	Fe-based alloy	943	280									0.10	0.50	0.05	0.10
	Co-based alloy	1076	320												
	Ni-based alloy	1177	350												
	Ti-alloy	1262	370												
N	Aluminum	260	75	-	-	-	-								
	Aluminum alloy	447	130												
H	Hardened steel	-	50-60HRC	0.30	1.00	0.05	0.10								
	Chilled cast iron	-	55HRC												

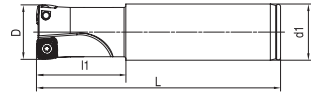
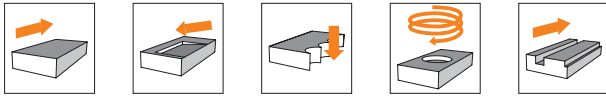
*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolants. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



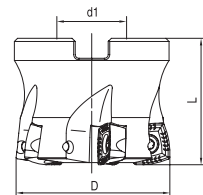
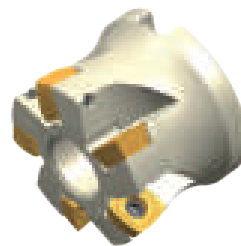
P248

AHM15-XD12

15° Approach angle high feed milling cutter




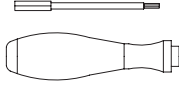
Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
AHM15-032-Z02-C32R-XD12-C	32	32	250	70	2.5		2	XD..1205



Product code	D	d1	L	l1	apmax	Internal coolant	Z	Inserts
APM00-063-Z05-A22R-RO16-C	52	22	40	-	2.5		3	XD..1205
APM00-080-Z06-A27R-RO16-C	52	22	40	-	2.5		4	
APM00-080-Z06-A27R-RO16-C	52	22	40	-	2.5		5	
APM00-063-Z05-A22R-RO16-C	63	22	40	-	2.5		4	
APM00-080-Z06-A27R-RO16-C	63	22	40	-	2.5		5	
APM00-080-Z06-A27R-RO16-C	63	22	40	-	2.5		4	
APM00-063-Z05-A22R-RO16-C	63	22	40	-	2.5		5	
APM00-080-Z06-A27R-RO16-C	66	27	45	-	2.5		4	
APM00-080-Z06-A27R-RO16-C	66	27	45	-	2.5		5	
APM00-063-Z05-A22R-RO16-C	66	27	45	-	2.5		4	
APM00-080-Z06-A27R-RO16-C	66	27	45	-	2.5		5	
APM00-080-Z06-A27R-RO16-C	80	27	50	-	2.5		5	
APM00-063-Z05-A22R-RO16-C	80	27	50	-	2.5		8	
APM00-080-Z06-A27R-RO16-C	80	27	50	-	2.5		5	
APM00-080-Z06-A27R-RO16-C	80	27	50	-	2.5		8	
APM00-063-Z05-A22R-RO16-C	100	32	50	-	2.5		6	
APM00-080-Z06-A27R-RO16-C	100	32	50	-	2.5		9	
APM00-080-Z06-A27R-RO16-C	100	32	50	-	2.5		6	
APM00-063-Z05-A22R-RO16-C	100	32	50	-	2.5		9	
APM00-080-Z06-A27R-RO16-C	125	40	63	-	2.5		8	
APM00-100-Z07-A32R-RO16-C	125	40	63	-	2.5		11	
APM00-080-Z06-A27R-RO16-C	125	40	63	-	2.5		8	
APM00-100-Z07-A32R-RO16-C	125	40	63	-	2.5		11	

Note: With internal coolant
 Without internal coolant



Dimension(mm)	Spare parts		
Cutter diameter	Screw	Wrench	Torque
φ 32-125			3.5Nm
	SP040112	DT-TP15	

Note: Please refer to P330 for programming information of high feed milling cutter

Product code	Dimension(mm)		Grades						
	Insert corner radius mm	Wiper length mm	AC301P	AP301U	AP351U	AP401U	AC301K	AP351K	AW100K
XDLT 120508ER-MM3	0.8	2.2	●	●	●		●	●	
XDLT 120512ER-MM3	1.2	2.2	●	●	●		●	●	
XDMW 120508ER-HR2	0.8	2.2		●			●		

Marked : ● Stock available ○ Non-stocked standard

Materials				Cutting depth and feed											
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	XD..1205..											
				High feed Milling				Plunging Milling							
				ap		fz		ae		fz					
				(mm)											
min		max		min		max		min		max					
P	Unalloyed steel	<600	<180	0.50	2.50	0.30	2.00	0.00	10	0.06	0.18				
		<950	<280									0.30	2.00	0.06	0.15
	Alloyed steel	700-950	200-280												
		950-1200	280-355									0.10	0.60	0.05	0.10
M	Duplex stainless steel	778	230			0.30	2.00			0.06	0.12				
	Austenitic stainless steel	675	200									0.10	0.60	0.05	0.10
	Precipitation-hardening stainless steel	1013	300												
K	Grey cast iron	700	220			0.30	2.00			0.06	0.18				
	Nodular cast iron	880	260												
	Malleable cast iron	800	250												
S	Fe-based alloy	943	280			0.30	2.00			0.05	0.12				
	Co-based alloy	1076	320												
	Ni-based alloy	1177	350												
	Ti-alloy	1262	370												
N	Aluminum	260	75	-	-	-	-								
	Aluminum alloy	447	130												
H	Hardened steel	-	50-60HRC	0.30	1.00	0.05	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. $f_z = \frac{h_m}{\sqrt{\frac{a_e}{D_c}}}$, (calculate for $\frac{a_e}{D_c} < 30\%$)



P248

Milling cutters

Milling Insert Denomination System

A
1

P
2

1- Shape/code

A	H	M	O	R
 85°	 120°	 86°	 135°	 360°
S	T	Z	X	
 90°	 60°	 86°		Special

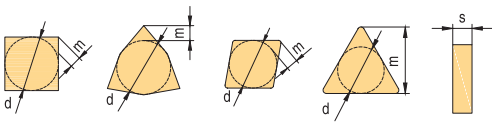
F
3

W
4

2- Clearance angle

C	D	E	F
 7°	 15°	 20°	 25°
G	N	P	O
 30°	 0°	 11°	Other clearance angle

3- Tolerance



Class	Unit	In. Circle dimension d	Nose height m	Thickness s
A	mm	± 0,025	± 0,005	± 0,025
C	mm	± 0,025	± 0,013	± 0,025
E	mm	± 0,025	± 0,025	± 0,025
F	mm	± 0,013	± 0,005	± 0,025
G	mm	± 0,025	± 0,025	± 0,13
H	mm	± 0,013	± 0,013	± 0,025
J	mm	*	± 0,005	± 0,025
K	mm	*	± 0,013	± 0,025
L	mm	*	± 0,025	± 0,025
M	mm	*	*	± 0,127
U	mm	*	*	± 0,127
N	mm	*	*	± 0,025

* For details refer to right and below tables

IC	Shape: C, E, H, M, O, P, S, T, R, W			
	d		m	
	J, K, L, M, N	U	M, N	U
4.76	± 0,05	± 0,08	± 0,08	± 0,13
5.56	± 0,05	± 0,08	± 0,08	± 0,13
6	± 0,05	± 0,08	± 0,08	± 0,13
6.35	± 0,05	± 0,08	± 0,08	± 0,13
7.94	± 0,05	± 0,08	± 0,08	± 0,13
8	± 0,05	± 0,08	± 0,08	± 0,13
9.525	± 0,05	± 0,08	± 0,08	± 0,13
10	± 0,05	± 0,08	± 0,08	± 0,13
12	± 0,08	± 0,13	± 0,13	± 0,2
12.7	± 0,08	± 0,13	± 0,13	± 0,2
15.875	± 0,1	± 0,18	± 0,15	± 0,27
16	± 0,1	± 0,18	± 0,15	± 0,27
19.05	± 0,1	± 0,18	± 0,15	± 0,27
20	± 0,1	± 0,18	± 0,15	± 0,27
25	± 0,13	± 0,25	± 0,18	± 0,38
25.4	± 0,13	± 0,25	± 0,18	± 0,38
31.75	± 0,15	± 0,25	± 0,2	± 0,38
32	± 0,15	± 0,25	± 0,2	± 0,38

M&N shape	D shape		V shape	
IC	d	m	d	m
5.56	± 0,05	± 0,11		
6.35	± 0,05	± 0,11	± 0,05	± 0,16
7.94	± 0,05	± 0,11	± 0,05	± 0,16
9.525	± 0,05	± 0,11	± 0,05	± 0,16
12.7	± 0,08	± 0,15	± 0,08	± 0,2
15.875	± 0,10	± 0,18	± 0,10	± 0,27
19.05	± 0,10	± 0,18	± 0,10	± 0,27

4- Clamping type

A	B	C	F	G
	 70°-90°	 70°-90°		
H	J	M	N	Q
 70°-90°	 70°-90°			 40°-60°
R	T	U	W	X
	 40°-60°	 40°-60°	 40°-60°	Special

16	04	PD					
5	6	7					
5- Cutting edge length							
In. Circle dimension (mm)	H	M	O	R	S	T	Z
3.180						05	
3.970						06	
5.000			05				
5.560						09	
6.000			06				
6.350						11	
7.940						13	
8.000			08				
9.525			09	09	16		
10.000			10				
12.000			12				
12.700		04	12	12	22		
15.875			15	15	27		
16.000		06	16				
19.050			19	19	33		
20.000			20				
25.000			25	25			
25.400			25				
31.750			31				
32.000			32				

7-Corner radius and wiper edge																	
	<table border="0"> <tr> <td>00 = sharp</td> <td>24 = 2.4</td> </tr> <tr> <td>01 = 0.1</td> <td>28 = 2.8</td> </tr> <tr> <td>02 = 0.2</td> <td>32 = 3.2</td> </tr> <tr> <td>04 = 0.4</td> <td>40 = 4.0</td> </tr> <tr> <td>08 = 0.8</td> <td>48 = 4.8</td> </tr> <tr> <td>12 = 1.2</td> <td>56 = 5.6</td> </tr> <tr> <td>16 = 1.6</td> <td>64 = 6.4</td> </tr> <tr> <td>20 = 2.0</td> <td>X = others</td> </tr> </table>	00 = sharp	24 = 2.4	01 = 0.1	28 = 2.8	02 = 0.2	32 = 3.2	04 = 0.4	40 = 4.0	08 = 0.8	48 = 4.8	12 = 1.2	56 = 5.6	16 = 1.6	64 = 6.4	20 = 2.0	X = others
00 = sharp	24 = 2.4																
01 = 0.1	28 = 2.8																
02 = 0.2	32 = 3.2																
04 = 0.4	40 = 4.0																
08 = 0.8	48 = 4.8																
12 = 1.2	56 = 5.6																
16 = 1.6	64 = 6.4																
20 = 2.0	X = others																
	Round insert:MO refers to metric dia. size																
 1 Approach angle(Entering angle) (kr) A = 45° D = 60° E = 75° F = 85° P = 90° Z = Others	 2 Clearance angle of wiper edge (n) A = 3° B = 5° C = 7° D = 15° E = 20° F = 25° G = 30° N = 0° P = 11° Z = Others																

S	R	-	FM2
8	9	-	10
6- Insert thickness			
			01=1.59mm
			T1=1.98mm
			02=2.38mm
			T2=2.78mm
			03=3.18mm
			T3=3.97mm
			04=4.76mm
			05=5.56mm
			06=6.35mm
			07=7.94mm
			09=9.52mm

8- Edge preparation		
F 	E 	T
Sharp cutting edge	Honed cutting edge	Negative land
K 	S 	P
Double negative land	Negative land +honed	Double negative land +honed

9-Hand of tool		
R 	L 	N
Right hand	Left hand	Neutral
10-Chip breakers refers to page P258		

Marked: if it has corner radius, the information needs to put between thickness and wipers.
 Example: APET 160408PDFR-FM2

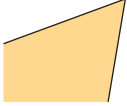








Milling inserts

Geometry Application Guide

Materials				Milling geometry application table						
				FM2	MM3	MM4	MR2	MR6	RR2	HR2
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	Suitable for machining aluminium alloy	Light cutting machining	General purpose	Medium machining	Roughing machining	Heavy roughing machining	Roughing machining
P	Unalloyed steel	<600	<180	-	●	●	●	●	-	-
		<950	<280	-	●	●	●	●	-	-
	Alloyed steel	700-950	200-280	-	●	●	●	●	-	-
		950-1200	280-355	-	●	●	●	●	-	-
		1200-1400	355-415	-	●	●	●	●	-	-
M	Duplex stainless steel	778	230	-	●	●	●	-	-	-
	Austenitic stainless steel	675	200	-	●	●	●	-	-	-
	Precipitation-hardening stainless steel	1013	300	-	●	●	●	-	-	-
K	Grey cast iron	700	220	-	-	●	●	●	●	●
	Nodular cast iron	880	260	-	-	●	●	●	●	●
	Malleable cast iron	800	250	-	-	●	●	●	●	●
S	Fe-based alloy	943	280	-	●	●	●	-	-	-
	Co-based alloy	1076	320	-	●	●	●	-	-	-
	Ni-based alloy	1177	350	-	●	●	●	-	-	-
	Ti-alloy	1262	370	-	●	●	●	-	-	-
N	Aluminum	260	75	●	-	-	-	-	-	-
	Aluminum alloy	447	130	●	-	-	-	-	-	-
H	Hardened steel	-	50-60HRC	-	-	●	●	-	-	-
	Chilled cast iron	-	55HRC	-	-	●	●	-	-	-

- Best choice
- ◐ 2nd choice
- Inapplicable

Milling Geometry Introduction

Insert geometry	Edge shape	Application
FM2		<ul style="list-style-type: none"> ▪ Low cutting force, for weak machining condition ▪ Sharp geometry ▪ For aluminium material machining
MM3		<ul style="list-style-type: none"> ▪ Low cutting force, for weak machining condition ▪ Sharp geometry ▪ For steel, stainless-steel and heat resistant alloy machining.
MM4		<ul style="list-style-type: none"> ▪ For medium machining condition ▪ Universal geometry ▪ For machining most materials
MR2		<ul style="list-style-type: none"> ▪ For medium or better machining condition ▪ Universal geometry ▪ For machining most materials
MR6		<ul style="list-style-type: none"> ▪ For stable machining condition ▪ Roughing geometry ▪ For machining most materials
HR2		<ul style="list-style-type: none"> ▪ For stable machining condition ▪ Roughing geometry ▪ Mainly for cast iron machining
RR2		<ul style="list-style-type: none"> ▪ For stable machining condition ▪ Heavy roughing geometry ▪ Mainly for cast iron and steel machining
IT		<ul style="list-style-type: none"> ▪ Sharp geometry, for specified product
DT		<ul style="list-style-type: none"> ▪ Universal geometry, for specified product

Grade Application Guide

Milling grade ISO group															
Material Group	Materials	ISO	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	PVD	PVD	Uncoated AW100K	ISO	
			AP301U	AP351U	AP351M	AP401U	AP403S	AP403M	AC301P	AC301K	AP351K	AP151H			
P	Unalloyed steels / Alloyed steels	P01												P01	
		P05													P05
		P10													P10
		P15													P15
		P20													P20
		P25	AP301U												P25
		P30													P30
		P35		AP351U	AP351M					AC301P					P35
		P40				AP401U									P40
		P45		AP351U	AP351M			AP403M							P45
P50													P50		
M	Stainless steels	M01												M01	
		M05												M05	
		M10												M10	
		M15												M15	
		M20												M20	
		M25	AP301U											M25	
		M30								AC301P				M30	
		M35		AP351U	AP351M									M35	
		M40				AP401U								M40	
		M45					AP403S	AP403M						M45	
M50												M50			
K	Cast iron	K01												K01	
		K05												K05	
		K10												K10	
		K15										AP151H		K15	
		K20								AC301K				K20	
		K25									AP351K			K25	
		K30												K30	
		K35												K35	
		K40												K40	
		K45												K45	
K50												K50			
S	Heat resistant alloys	S01												S01	
		S05												S05	
		S10												S10	
		S15												S15	
		S20												S20	
		S25												S25	
		S30												S30	
		S35		AP351U	AP351M										S35
		S40				AP401U		AP403S	AP403M						S40
		S45													S45
S50													S50		
N	Aluminum/ Aluminum alloys	N01												N01	
		N05												N05	
		N10												N10	
		N15											AW100K	N15	
		N20												N20	
		N25												N25	
N30												N30			
H	Hardened steels/ Chilled cast iron	H01												H01	
		H05												H05	
		H10												H10	
		H15										AP151H		H15	
		H20												H20	
		H25												H25	
		H30												H30	

Grade Application Guide

Materials				Milling grade application											
				PVD coated						CVD coated		PVD coated		Uncoated	
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	AP301U	AP351U	AP351M	AP401U	AP403S	AP403M	AC301P	AC301K	AP351K	AP151H	AW100K	
P	Unalloyed steel	<600	<180	●	●	●	●	●	●	●	●	-	-	-	
		<950	<280	●	●	●	●	●	●	●	●	-	-	-	
	Alloyed steel	700-950	200-280	●	●	●	●	●	●	●	●	●	-	-	-
		950-1200	280-355	●	●	●	●	●	●	●	●	●	-	-	-
		1200-1400	355-415	●	●	●	●	●	●	●	●	●	-	-	-
M	Duplex stainless steel	778	230	○	●	●	●	●	●	○	-	-	-	-	
	Austenitic stainless steel	675	200	○	●	●	●	●	●	○	-	-	-	-	
	Precipitation-hardening stainless steel	1013	300	○	●	●	●	●	●	○	-	-	-	-	
K	Grey cast iron	700	220	-	-	-	-	-	-	-	●	●	●	-	
	Nodular cast iron	880	260	-	-	-	-	-	-	-	●	●	●	-	
	Malleable cast iron	800	250	-	-	-	-	-	-	-	●	●	●	-	
S	Fe-based alloy	943	280	-	○	●	-	●	●	-	-	-	-	-	
	Co-based alloy	1076	320	-	○	●	-	●	●	-	-	-	-	-	
	Ni-based alloy	1177	350	-	○	●	-	●	●	-	-	-	-	-	
	Ti-alloy	1262	370	-	○	●	-	●	●	-	-	-	-	○	
N	Aluminum	260	75	-	-	-	-	-	-	-	-	-	-	●	
	Aluminum alloy	447	130	-	-	-	-	-	-	-	-	-	-	●	
H	Hardened steel	-	50-60HRC	-	-	-	-	-	-	-	-	-	●	-	
	Chilled cast iron	-	55HRC	-	-	-	-	-	-	-	-	-	●	-	

- Best choice
- 2nd choice
- Inapplicable

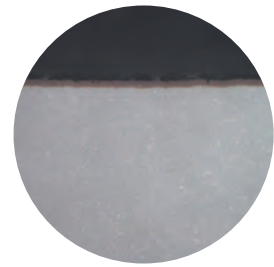
Milling inserts

Milling Grade Description

AP301U

Coating: PVD coating

Suitable for steel, stainless steel and high-temp alloy milling. High strength and wear resistance. Ultra fine carbide substrate with nanostructured PVD coating in controllable layer, high coating adhesion, wear-resistance and strength.



Application range												
ISO Classification	01	05	10	15	20	25	30	35	40	45	50	
P				AP301U								
M				AP301U								
K												
S												
N												
H												

Remark: Best choice
 2nd choice

AP351U

Coating: PVD coating

Suitable for steel, stainless steel and high-temp alloy semi-finishing and roughing milling. High strength carbide substrate with nanostructured PVD coating in controllable layer, high coating adhesion, wear-resistance and strength.



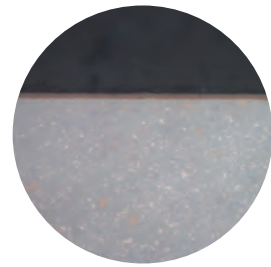
Application range												
ISO Classification	01	05	10	15	20	25	30	35	40	45	50	
P							AP351U					
M							AP351U					
K												
S							AP351U					
N												
H												

Remark: Best choice
 2nd choice

AP401U

Coating: PVD coating

Suitable for steel, stainless steel and high-temp alloy rough milling. Ultra high strength carbide substrate with nanostructured PVD coating in controllable layer, high coating adhesion, wear-resistance and strength.



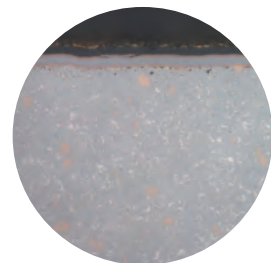
Application range												
ISO Classification	01	05	10	15	20	25	30	35	40	45	50	
P							AP401U					
M							AP401U					
K												
S							AP401U					
N												
H												

Remark: Best choice
 2nd choice

AC301P

Coating: CVD coating

Suitable for steel and stainless steel semi-finish milling. High strength carbide substrate with multi-layer CVD coating, high coating adhesion, wear resistance and surface finish quality.



Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P						AC301P					
M						AC301P					
K											
S											
N											
H											

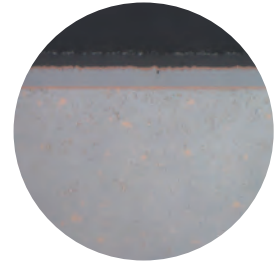
Remark: Best choice
 2nd choice

Milling inserts

AC301K

Coating: CVD coating

Suitable for gray and nodular cast iron finish, semi-finish and rough milling. High strength and wear resistance carbide substrate with multi-layer CVD coating, controllable coating layer structure and high adhesive strength.



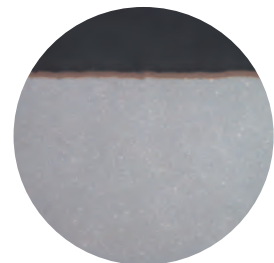
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K			AC301K								
S											
N											
H											

Remark: Best choice

AP351K

Coating: PVD coating

Suitable for nodular cast iron, finish, semi-finish and rough milling. High strength and wear resistance carbide substrate with nanostructured PVD coating in controllable layer, high coating adhesion, wear resistance and oxidation resistance.



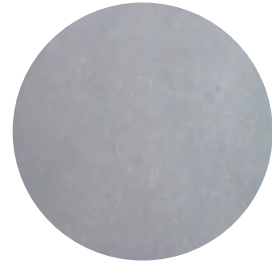
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K			AP351K								
S											
N											
H											

Remark: Best choice

AW100K

Coating: Uncoated

Uncoated fine grain carbide substrate with special treated cutting edge. Suitable for nonferrous metal milling under various cutting conditions.



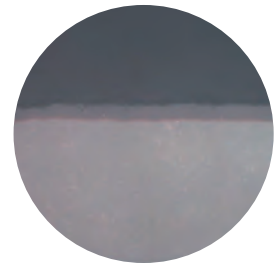
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K											
S											
N			AW100K								
H											

Remark: Best choice

AP351M

Coating: PVD Coating

Suitable for steel, stainless-steel and heat resistant alloy milling, with excellent thermal-stability and wear-resistant, good thermal-crack resistance and high coating adhesion.



Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P						AP351M					
M						AP351M					
K											
S						AP351M					
N											
H											

Remark: Best choice

Milling inserts

AP403M

Coating: PVD Coating

Suitable for steel, stainless-steel and heat resistant alloy milling, with good wear-resistance, heat-resistance and high coating adhesion, very smooth coating surface.



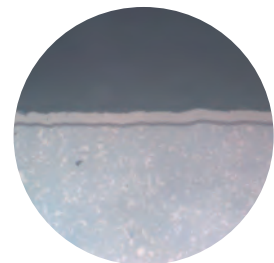
Application range												
ISO Classification	01	05	10	15	20	25	30	35	40	45	50	
P								AP403M				
M								AP403M				
K												
S								AP403M				
N												
H												

Remark: Best choice

AP403S

Coating: PVD Coating

Suitable for stainless-steel and heat resistant alloy milling, with new substrate and coating combination, new substrate with high toughness, excellent hot hardness. New generation of PVD coating, with high hardness, high wear-resistance, good performance on heat-conductivity, thermal-stability, smooth surface good for reducing built-up edge.



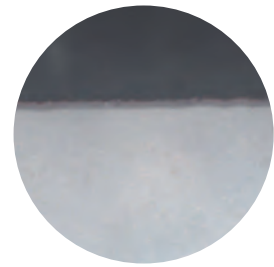
Application range												
ISO Classification	01	05	10	15	20	25	30	35	40	45	50	
P												
M								AP403S				
K												
S								AP403S				
N												
H												

Remark: Best choice

AP151H

Coating: PVD Coating

Suitable for hardened steel milling and cast iron finish milling. Ultra fine carbide substrate with high hardness and wear-resistance. Extremely hard PVD coating with good oxidation resistance, wear resistance, and thermal crack resistance.



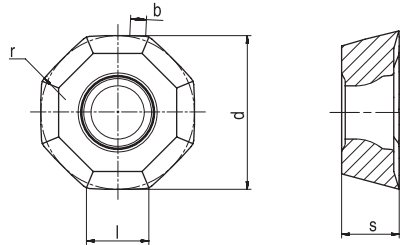
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K											
S											
N											
H			AP151H								

Remark: Best choice

Milling inserts

OD..04/06

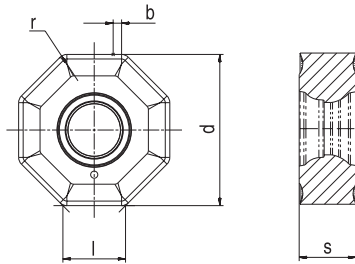
Positive octagonal milling inserts



Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	ODET 0404APFN-FM2	4	12.7	4.76	-	1.2							●
	ODET 0605APFN-FM2	6	16	5.56	-	1.6							●
	ODHT 0404APEN-MM3	4	12.7	4.76	-	1.2	●	●		●	●		
	ODMT 040408EN-MM3	4	12.7	4.76	0.8	-		●		●	●		
	ODMT 060508EN-MM3	6	16	5.56	0.8	-	●	●	●	●	●	●	
	ODMT 060512EN-MM3	6	16	5.56	1.2	-	●						
	ODHT 0605APEN-MM3	6	16	5.56	-	1.6	●	●		●	●		
	ODEW 0404APSR-HR2	4	12.7	4.76	-	1.2	●				●	●	
	ODEW 0605APSR-HR2	6	16	5.56	-	1.6					●	●	
	ODEW 0605APSN-HR2	6	16	5.56	-	1.6					●	●	
	ODMW 040408EN-HR2	4	12.7	4.76	0.8	-					●	●	
	ODMW 060512EN-HR2	6	16	5.56	1.2	-					●	●	

Marked : ● Stock available ○ Non-stocked standard

ON..05
Negative octagonal milling inserts



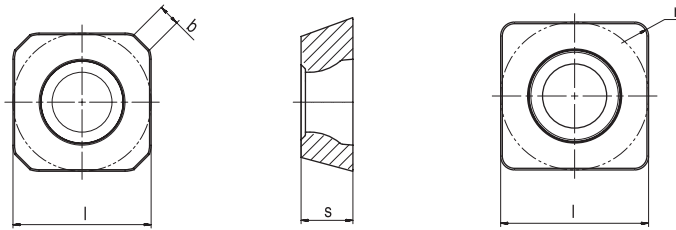
Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	ONHU 050408-MM3	4.00	12.70	4.76	0.8	-	●						
	ONMU 050408-MM4	4.00	12.70	4.76	0.8	-	●	●		●	●	●	
	ONHU 050408AEN-MM3	4.00	12.70	4.76	0.8	0.7	●	●				●	
	ONHU 050408AEN-MM4	4.00	12.70	4.76	0.8	0.7		●				●	
	ONHU 0504ZNR-MM3	4.00	12.70	4.76	0.8	1.4	●						

Marked : ● Stock available ○ Non-stocked standard

Milling inserts

SC..09/12

Positive square milling inserts

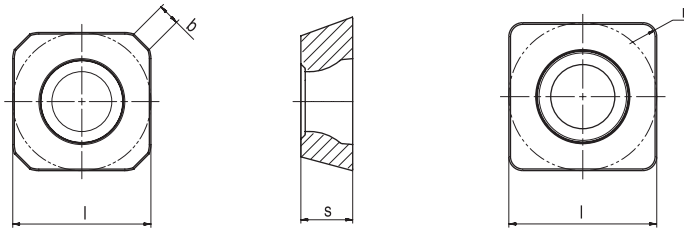



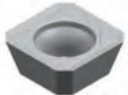

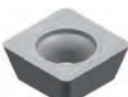
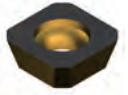
Inserts	Product code	Dimension(mm)				Grades						
		l	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SCMT 09T304EN-MM3	9.525	3.97	0.4	-	●	●		●			
	SCMT 120412EN-MM3	12.7	4.76	1.2	-		●		●			
	SCMT 12M512EN-MM3	12.7	5	1.2	-		●		●			
	SCHT 1204ACEN-MR6	12.7	4.76	-	1.5				●		●	
	SCHT 12M5ACEN-MR6	12.7	5	-	1.5				●		●	
	SCMW 12M512EN-HR2	12.7	5	1.2	-		●				●	

Marked : ● Stock available ○ Non-stocked standard

SD..09/12

Positive square milling inserts



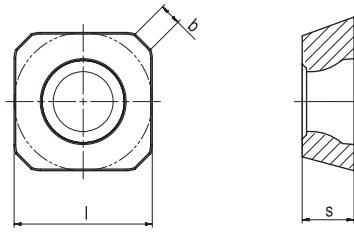
Inserts	Product code	Dimension(mm)				Grades						
		l	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SDMT 09T304EN-MM3	9.525	3.97	0.4	-	●	●	●		●		
	SDMT 09T308EN-MM3	9.525	3.97	0.8	-	●	●	●		●		
	SDMT 09T320-MM4	9.525	3.97	2.0	-				●			
	SDMT 120408EN-MM4	12.7	4.76	0.8	-	●	●			●	●	
	SDMT 120412EN-MM3	12.7	4.76	1.2	-	●	●	●		●		
	SDGT 09T3AEEN-MM4	9.525	3.97	-	1.5	●	●			●	●	
	SDKT 1204AEEN-MR2	12.7	4.76	-	2.0	●	●	●		●	●	
	SDGT 09T3PDER-MR6	9.525	3.97	0.8	1.2	●	●			●	●	
	SDGT 1204PDER-MR6	12.7	4.76	0.8	1.6	●	●			●	●	
	SDHT 1204AEEN-MR6	12.7	4.76	0.8	2.0	●	●			●	●	
	SDMW 09T308EN-HR2	9.525	3.97	0.8	-	●				●		
	SDHW 09T3AESN-HR2	9.525	3.97	-	1.5	●				●	●	
	SDMW 120412EN-HR2	12.7	4.76	1.2	-	●				●	●	
	SDHW 1204AESN-HR2	12.7	4.76	-	2.0	●				●	●	

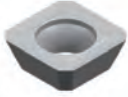
Marked : ● Stock available ○ Non-stocked standard

Milling inserts

SE..12

Positive square milling inserts

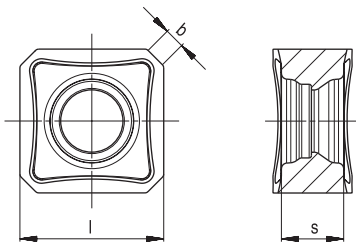


Inserts	Product code	Dimension(mm)				Grades						
		l	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SEKT 1204AFER-MR2	12.7	4.91	1.2	1.8	●	●	●		●	●	

Marked : ● Stock available ○ Non-stocked standard

SNGX12/19

Negative short wiper milling inserts(applicable to AFM45-SN12 milling cutter)

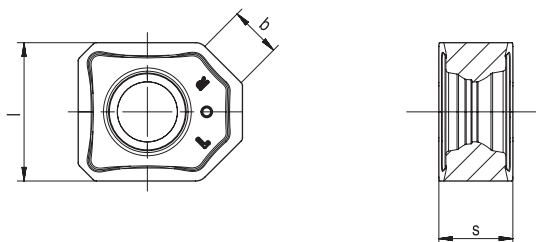


Inserts	Product code	Dimension(mm)			Grades						
		l	s	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SNHX 1206ANN-FM2	12.7	6.98	1.8							●
	SNGX 1206ANN-MM3	12.7	6.98	1.8	●	●	●		●	●	
	SNGX 1206ANN-MM4	12.7	6.98	1.8	●	●	●		●	●	
	SNGX 1206ANN-MR6	12.7	6.98	1.8	●	●	●		●	●	
	SNGX 1206ANN-RR2	12.7	6.98	1.8	●	●	●		●	●	
	SNGX 1909ANN-MM3	19.05	9.52	2.9	●	●					
	SNGX 1909ANN-MR6	19.05	9.52	2.9		●					

Milling inserts

SNHX12

Negative long wiper milling inserts(applicable to AFM45-SN12 milling cutter)



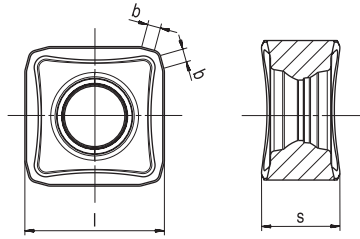
Inserts	Product code	Dimension(mm)			Grades						
		l	s	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SNHX 1206ANN-W	12.7	6.98	6.7	●				●		


Marked : ● Stock available ○ Non-stocked standard



SNGX12

Negative short wiper milling inserts(applicable to AFM75-SN12 milling cutter)

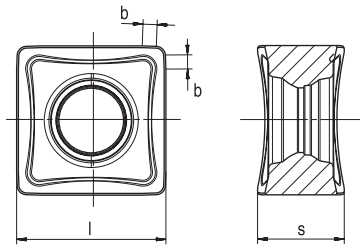


Inserts	Product code	Dimension(mm)			Grades						
		l	s	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SNGX 1206ENN-MM3	12.7	6.98	1.2	●	●	●		●	●	
	SNGX 1206ENN-MM4	12.7	6.98	1.2	●	●	●		●	●	
	SNGX 1206ENN-MR6	12.7	6.98	1.2	●	●	●		●	●	

Marked : ● Stock available ○ Non-stocked standard

SNGX12

Negative short wiper milling inserts(applicable to AFM88-SN12 milling cutter)

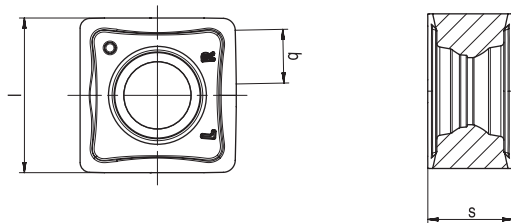


Inserts	Product code	Dimension(mm)			Grades						
		l	s	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SNHX 1206ZNN-FM2	12.7	7.63	0.8							●
	SNGX 1206ZNN-MM4	12.7	6.98	1.2	●	●	●		●	●	
	SNGX 1206ZNN-MR6	12.7	6.98	1.2	●	●	●		●	●	
	SNGX 1206ZNN-MM3	12.7	6.98	1.2	●	●	●		●	●	

Milling inserts

SNHX12

Negative long wiper milling inserts(applicable to AFM88-SN12 milling cutter)



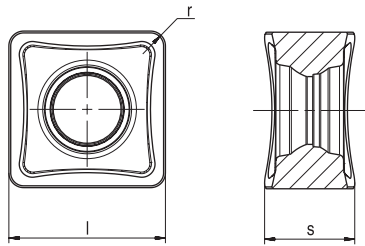
Inserts	Product code	Dimension(mm)			Grades						
		l	s	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SNHX 1206ZNN-W	12.7	6.98	4.4	●				●		

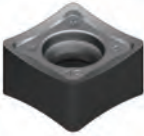
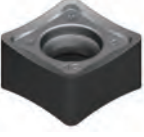
Marked : ● Stock available ○ Non-stocked standard



SN.X12

Negative square milling inserts with corner radius

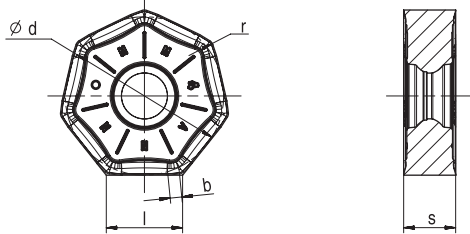








Inserts	Product code	Dimension(mm)				Grades						
		l	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	SNGX 120608-MM4	12.7	6.98	0.8	-	●	●	●		●	●	
	SNGX 120612-MM4	12.7	6.98	1.2	-	●						
	SNMX 120608-MM4	12.7	6.98	0.8	-	●	●	●		●	●	
	SNMX 120612-MM3	12.7	6.98	1.2	-	●	●	●		●	●	
	SNMX 120612-MM4	12.7	6.98	1.2	-	●	●	●		●	●	
	SNMX 120612-MR6	12.7	6.98	1.2	-	●	●	●		●	●	
	SNMX 120612-RR2	12.7	6.98	1.2	-	●	●	●		●	●	
	SNMX 120620-MM4	12.7	6.98	2.0	-	●	●	●		●	●	
	SNMX 120620-RR2	12.7	6.98	2.0	-	●	●	●		●	●	
	SNMX 1206ANN-MM3	12.7	6.98	0.4	1.8	●	●	●		●	●	
	SNMX 1206ANN-MM4	12.7	6.98	0.4	1.8	●	●	●		●	●	
	SNMX 1206ANN-MR6	12.7	6.98	0.4	1.8	●	●	●		●	●	
SNMX 1206ENN-MM4	12.7	6.98	0.8	1.2			●					

Marked : ● Stock available ○ Non-stocked standard

XN.U07/09ANN

Negative heptagonal milling inserts with short wiper



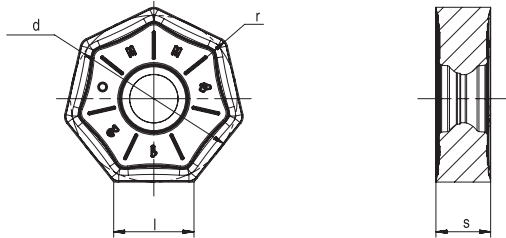
Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K
	XNGU 0705ANN-MM3	7.0	14.5	5.4	0.8	1.1	●	●			●		
	XNGU 0705ANN-MM4	7.0	14.5	5.4	0.8	1.1	●				●		
	XNMU 0705ANN-MM4	7.0	14.5	5.4	0.8	1.1	●	●	●		●	●	
	XNMU 0705ANN-MR6	7.0	14.5	5.4	0.8	1.1	●	●			●	●	
	XNGU 0906ANN-MM3	9.2	19.0	6.25	0.8	1.4	●	●	●		●		
	XNGU 0906ANN-MM4	9.2	19.0	6.25	0.8	1.4	●	●	●		●		
	XNMU 0906ANN-MR6	9.2	19.0	6.25	0.8	1.4	●				●	●	


Marked : ● Stock available ○ Non-stocked standard

Milling inserts

XN.U 07/09

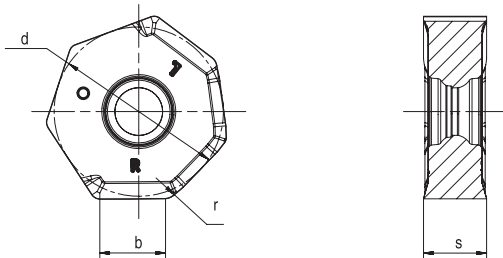
Negative heptagonal milling inserts with corner radius




Inserts	Product code	Dimension(mm)					Grades							
		l	d	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K	
	XNMU 070508-MM4	7.0	14.5	5.40	0.8	-		●			●	●	●	
	XNMU 090612-MM4	9.2	19.0	6.25	1.2	-	●	●			●	●	●	

XNGX 07/09ANN-W

Negative milling inserts with long wiper



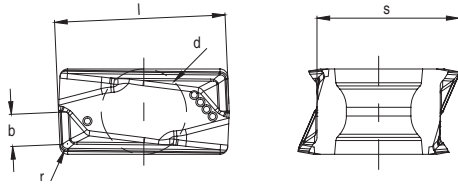
Inserts	Product code	Dimension(mm)					Grades							
		l	d	s	r	b	AP301U	AP351U	AC301P	AP401U	AC301K	AP351K	AW100K	
	XNGX 0705ANN-W	-	15	5.4	1.0	6	●					●		
	XNGX 0906ANN-W	-	19.05	6.2	1.0	7.5	●					●		

Marked : ● Stock available ○ Non-stocked standard



LNHU 0904

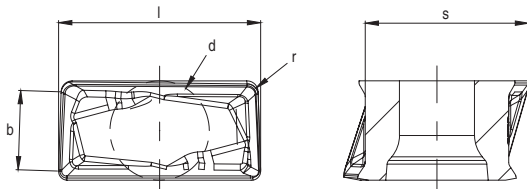
Negative shoulder milling insert



Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP403M	AC301K	AP351K	AW100K
	LNHU 090404ER-FM2	9	4.5	7.5	0.4	-							●
	LNHU 090404ER-MM3	9	4.5	7.5	0.4	-			●	●			
	LNHU 090404ER-MR2	9	4.5	7.5	0.4	-	●		●	●	●	●	
	LNHU 090408ER-MR2	9	4.5	7.45	0.8	-	●		●	●	●	●	
	LNHU 090412ER-MR2	9	4.5	7.4	1.2	-	●			●	●		
	LNHU 090416ER-MR2	9	4.5	7.35	1.6	-	●			●	●		
	LNHU 090420ER-MR2	9	4.5	7.31	2	-	●			●	●		

Milling inserts

Wiper insert type

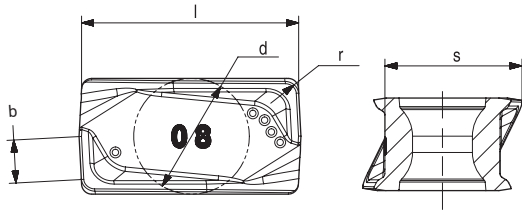


Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP403M	AC301K	AP351K	AW100K
	LNHU0904PDER-W	9.24	4.5	7.4	0.4	3.6	●					●	

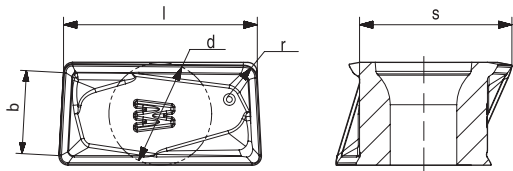
Marked : ● Stock available ○ Non-stocked standard



LNHU 1306...
Negative shoulder milling insert



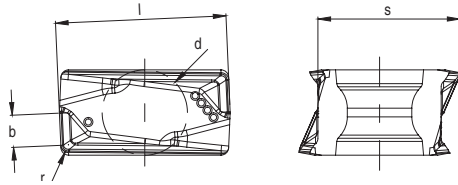
Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AW100K
	LNHU 130608ER-FM2	13.02	6.8	10.11	0.8	-							●
	LNHU 130608ER-MM3	13.02	6.8	10.19	0.8	-				●			
	LNHU 130608ER-MR2	13.02	6.8	10.15	0.8	-	●	●	●	●	●	●	
	LNHU 130612ER-MR2	13.02	6.8	10.09	1.2	-			●	●	●		
	LNHU 130616ER-MR2	13.02	6.8	10.03	1.6	-			●	●	●		
	LNHU 130620ER-MR2	13.02	6.8	9.99	2.0	-			●	●			
	LNHU 130624ER-MR2	13.02	6.8	9.92	2.4	-			●	●			
	LNHU 130631ER-MR2	13.02	6.8	9.83	3.1	-			●	●	●		

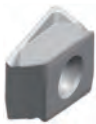


Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AW100K
	LNHU 1306PDER-W	13.39	6.8	10.02	0.8	5.6	●					●	

Marked : ● Stock available ○ Non-stocked standard

LNHU 1607..
Negative shoulder milling insert

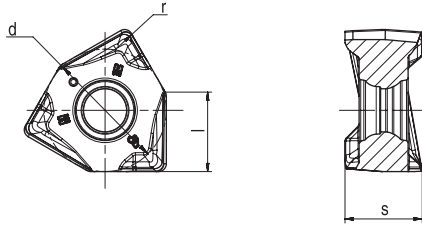


Inserts	Product code	Dimension(mm)				Grades						
		l	d	s	r	AP301U	AC301P	AP351U	AP403M	AC301K	AP351K	AW100K
	LNHU 160708ER-MR2	16	7.2	13	0.8	●		●		●	●	
	LNHU 160716ER-MR2	16	7.2	13	1.6	●				●		

Marked : ● Stock available ○ Non-stocked standard

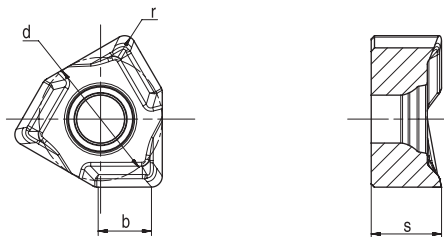
Milling inserts

WN..08
Negative milling insert



Inserts	Product code	Dimension(mm)				Grades						
		l	d	s	r	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AW100K
	WNHU 080608R-FM2	8	12.5	7.88	0.8							●
	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	●					●	

WNGU 08
Negative wiper milling insert

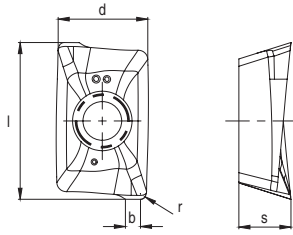



Inserts	Product code	Dimension(mm)				Grades						
		b	d	s	r	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AW100K
	WNHX 0806ZZR-W	11.3	4.8	6.47	1	●				●		

Marked : ● Stock available ○ Non-stocked standard



APKT 1003PDER-IT..
Positive shoulder milling insert

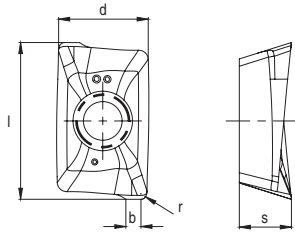



Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AP403S
	APKT 1003PDER-IT	11.35	6.66	3.77	0.8	1.08	●		●	●			●

Marked : ● Stock available ○ Non-stocked standard

Milling inserts

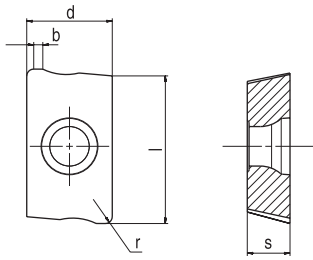
APKT 1705...-DT..
Positive shoulder milling insert





Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AP403S
	APKT 1705PER-DT	18.04	10.76	5.56	0.8	2.16		●	●	●		●	●

Marked : ● Stock available ○ Non-stocked standard

APMT..
Positive shoulder milling inserta

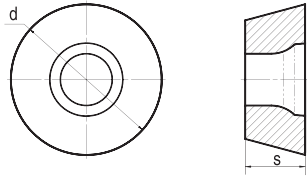


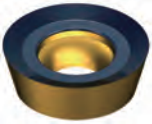
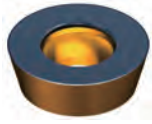
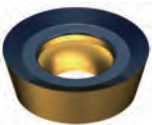
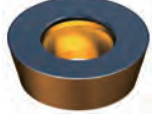


Inserts	Product code	Dimension(mm)					Grades						
		l	d	s	r	b	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AP403S
	APMT 1135PDER	11.31	6.26	3.5	0.8	1.25	●		●				●
	APMT 1604PDER	17.32	9.37	5.17	0.8	1.54	●		●				

Marked : ● Stock available ○ Non-stocked standard

Milling inserts

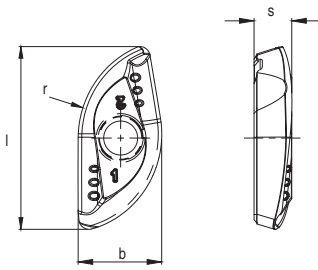
RD/RP
Round inserts




Inserts	Product code	Dimension(mm)		Grades						
		d	s	AP301U	AC301P	AP351U	AP401U	AC301K	AP351K	AP151H
	RDHT 0702MOE-MM3	7	2.38	●						
	RDHT 1003MOE-MM3	10	3.18	●						
	RDHT 12T3MOE-MM3	12	3.97	●	●	●				
	RDHT 1606MOE-MM3	16	6.35	●	●	●				
	RDHT 1604MOE-MM3	16	4.76	●		●				
	RDHW 0702MOS-HR2	7	2.38	●	●	●		●	●	
	RDHW 1003MOS-HR2	10	3.18	●	●	●		●	●	
	RDHW 12T3MOS-HR2	12	3.97	●	●	●		●	●	
	RDHW 1606MOS-HR2	16	6.35	●					●	
	RDMT 0702MOE-MM3	7	2.38	●	●					
	RDMT 1003MOE-MM3	10	3.18	●	●	●				
	RDMT 12T3MOE-MM3	12	3.97	●	●					
	RDMT 1606MOE-MM3	16	6.35	●	●					
	RDMT 1604MOE-MM3	16	4.76		●					
	RDMW 1204MOE-HR2	12	4.76	●		●				
	RDMW 1606MOE-HR2	16	6.35					●		
	RPMW 1003MOE-HR2	10	3.18	●		●				●
	RPMW 10T3MOE-HR2	10	3.97	●		●				●
	RPMT 1204MOE	12	4.76	●		●				●

Marked : ● Stock available ○ Non-stocked standard

RPM ...MM4
Copy milling insert

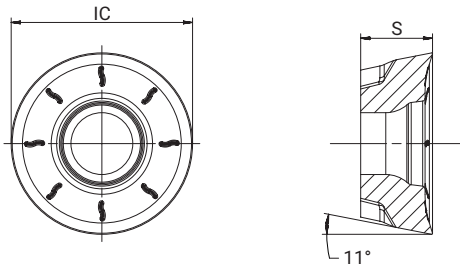


Inserts	Product code	Dimension(mm)				Grades							
		l	b	s	r	AP301U	AC301P	AP351U	AP401U	AP351M	AC301K	AP351K	AP403S
	RPM 080ER-MM4	14.76	6.89	3.21	8				●	●			●
	RPM 100ER-MM4	18.85	8.62	3.89	10				●	●			●

Marked : ● Stock available ○ Non-stocked standard

Milling inserts

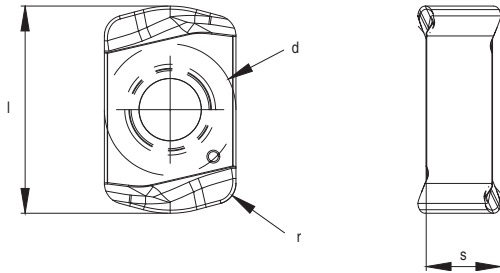
RO..T
Round inserts





Inserts	Product code	Dimension(mm)		Grades						
		IC	S	AP301U	AC301P	AP351U	AP403M	AC301K	AP351K	AP403S
	ROHT 0803M0E-MM3	8	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				●			●
	ROMT 10T3M4E-MR6	10	3.97				●			●
	ROMT 1204M6E-MR6	12	4.76				●			●
	ROMT 1605M6E-MR6	16	5.56				●			●
	ROMT 2006M8E-MR6	20	6.35				●			●

Marked : ● Stock available ○ Non-stocked standard

LN..06
High feed milling inserts



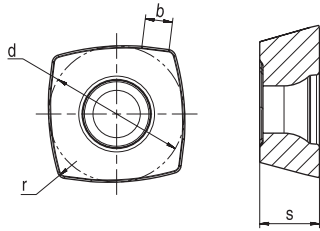
Inserts	Product code	Dimension(mm)				Grades									
		l	d	s	r	AC301P	AP301U	AP351U	AP401U	AP403M	AC301K	AP351K	AW100K	AP403S	AP151H
	LNMX 060410R-MM3	10	6.35	3.6	1.0		●	●		●				●	
	LNMX 060410R-MM4N	10	6.35	3.6	1.0		●	●		●				●	●


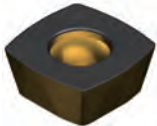
Marked : ● Stock available ○ Non-stocked standard

Milling inserts

XD..09/12

High feed milling inserts

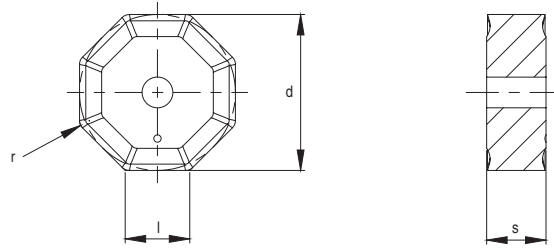



Inserts	Product code	Dimension(mm)				Grades						
		d	s	r	b	AC301P	AP301U	AP351U	AP401U	AC301K	AP351K	AW100K
	XDLT 090408ER-MM3	9.525	4.76	0.8	1.3		●					
	XDLT 120508ER-MM3	12.7	5.56	0.8	2.2	●	●	●		●	●	
	XDLT 120512ER-MM3	12.7	5.56	1.2	2.2	●	●	●		●	●	
	XDMW 090408ER-HR2	9.525	4.76	0.8	1.3					●		
	XDMW 120508ER-HR2	12.7	5.56	0.8	2.2		●			●		

Marked : ● Stock available ○ Non-stocked standard

ON05/LN12/LN15

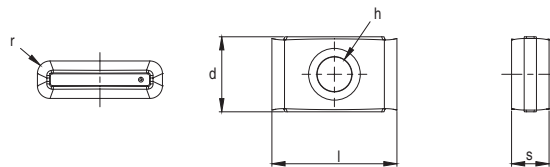
Cast iron finishing machining inserts




Inserts	Product code	Dimension(mm)				Grades
		l	d	s	r	AP151H
	ONHF 050408-MM3	5.3	12.7	4.8	0.8	●

LN12

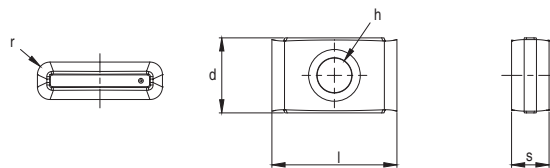
Cast iron finishing wiper insert




Inserts	Product code	Dimension(mm)					Grades
		l	d	s	r	H	AP151H
	LNHQ 120408FN-W	12.7	9.525	4.76	0.8	4.2	●

LN15

Cast iron finishing wiper insert



Inserts	Product code	Dimension(mm)					Grades
		l	d	s	r	H	AP151H
	LNHQ 150416FN-W	15.875	9.525	4.76	1.6	4.2	●

Marked : ● Stock available ○ Non-stocked standard



Milling inserts