



**Multi  
Functional  
Tool**

# Alpha Mill Series

**New  
Line-up!**

## Features

- New Line-up alpha mill series makes high feed and deep depth of cutting possible with various sizes of inserts.
- The smaller inserts with 1.5 times more edges accomplish high feed.
- The bigger inserts achieve better hardness and deep depth of cutting making 1.3 times better MRR.
- The edges of 3 dimensional curved surface and uneven chip breaker have lower cutting resistance and better chip control.
- The combination of new materials with better chipping resistance assures better durability and longer tool life.
- The series can be used for various workpiece such as alloy steel, cast iron, stainless steel.



Facing



Shouldering



Slotting



Ramping



Helical Ramping



Copying



Through Coolant System

# Alpha Mill Series

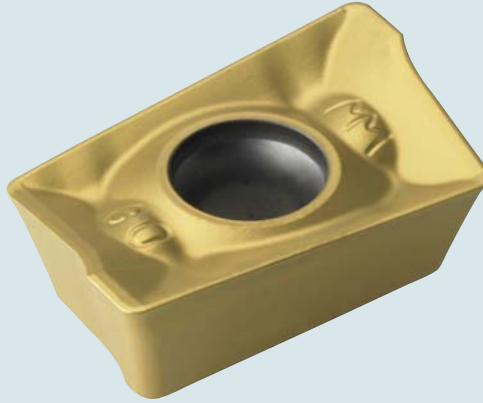
The features of insert | The features of cutter | Through coolant system



## The features of insert

- **Chip breaker**
  - High angle of inclination better hardness and enlarged chip pocket with the convex and concave shape

- **The side**
  - All positive shaped sides minimum interference



- **Concave shape**
  - Minimum interference better chip control

- **Main cutting edge**
  - High rake angle cutting edge
  - Decreasing cutting resistance
  - Sharp cutting edge

## The features of cutter

APMT06



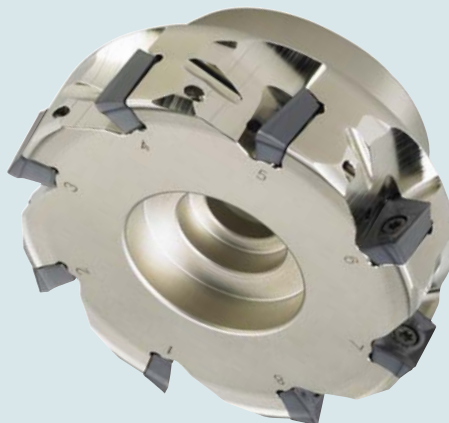
APMT09



APMT18



- Through coolant system => Better chip evacuation
- Longer tool life with less heat



- Wider chip pocket
- Screw on system for better chip control

- Usable with both socket and mounting bolt (bigger than  $\varnothing 80$ )
- Lighter cutter due to bigger inside diameter => More convenient

## Through coolant system

The same direction of spraying the coolant as the one of cutting insert makes better chip control.

# Alpha Mill Series

Applicable inserts | Recommended grades and chip breakers by workpiece

## Applicable inserts



Designation	Use	Applicable cutter	Applicable inserts											Dimensions(mm)					
			NCM325	PC230	PC240	PC3525	PC3535	NCM335	PC3545	PC3500	PC8520	PC9530	PC215K	PC6510	H01	l	d	t	r
APXT11T3PDR-MA	Aluminum	AMS2000S AMCM2000S AMCM2000SE AMCM2000M												●	11.3	6.594	3.6	0.5	2.85
APXT11T318R-MA	Aluminum														11.3	6.594	3.45	1.8	2.85
APXT11T3PDSR-MF	Light		●			○	●	●		○	●	●	●	●	11.3	6.594	3.6	0.5	2.85
APXT11T3PDSR-MM	General		●	●	●	○	●	●	●	○		●		●	11.3	6.594	3.6	0.5	2.85
APXT11T312R-MM	General		●	●		○	●	●							11.2	6.594	3.5	1.2	2.85
APXT11T316R-MM	General					○	●	●							11.1	6.594	3.467	1.6	2.85
APXT11T318R-MM	General					○									11.1	6.594	3.447	1.8	2.85
APXT11T324R-MM	General							●			●				11.1	6.594	3.387	2.4	2.85
APXT11T3PDSR-MR	Medium		●	●											11.3	6.594	3.6	0.5	2.85
APXT11T308PDR-MR	Medium														11.3	6.594	3.6	0.8	2.85
APXT1604PDSR-MF	Light	AMS3000S AMCM3000S AMCM3000SE	●		○	●	●	●	○	●			●	16.5	9.56	5.76	0.8	4.5	
APXT1604PDSR-MM	General		●	●	●	○	●	●	●	○	●		●	●	16.5	9.56	5.76	0.8	4.5
APXT160416R-MM	General		●	●		○	●	●				●			16.4	9.56	5.67	1.6	4.5
APXT160432R-MM	General		●			○						●			16.3	9.56	5.55	3.2	4.5
APKT1604PDR-MA	Aluminum	AMS3000S-K AMCM3000S-K											●	16.5	9.525	4.76	0.2	4.4	
APXT1604PDSR-MF	Light		●			○				○					16.5	9.525	5	0.8	4.4
APXT1604PDSR-MM	General		●	●		○	●	●	●	○		●		●	16.4	9.5	5.2	0.8	4.4
APMT0602PDSR-MM	General	AMS1000S AMCM1000S AMM1000				●			○						6.0	4.24	2.6	0.4	2
APMT 0903PDSR-MM	General	AMS1500S AMCM1500S AMM1500				●			○						9.4	6.21	3.6	0.4	2.8
APMT1806PDSR-MM	General	AMS4000S AMCM4000S				●			○						17.4	10.98	6.35	0.8	4.5

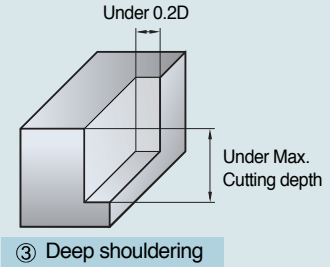
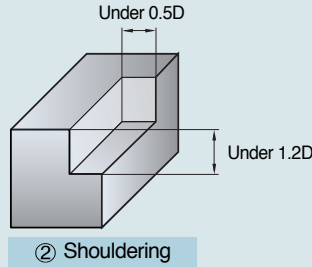
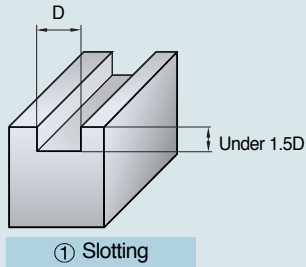
● Stock item, ○ Under preparing for stock

## Recommended grades and chip breakers by workpiece

Chip breaker	Cutting edge shape		Recommended C/B and grades by workpiece (●: 1st choice)									
			Low carbon steel soft steel		High carbon steel Alloy steel		Stainless steel		Cast iron		Aluminum alloy	
			C/B	Grade	C/B	Grade	C/B	Grade	C/B	Grade	C/B	Grade
MF		Sharp cutting edge	●	○NCM325 ●NCM335 ○PC3525 ○PC3535 ○PC3500	-	●NCM325 ○NCM335 ○PC3535 ○PC3525 ○PC3500	●	○NCM325 ●NCM335 ○PC3535 ○PC3525 ○PC3500	●	○PC215K	-	-
MM		Strong cutting edge	-	○NCM325 ○NCM335 ●PC3535 ○PC3525 ○PC3500	●	○NCM325 ○NCM335 ●PC3535 ○PC3525 ○PC3500	●	○NCM325 ○NCM335 ●PC3535 ○PC3525 ○PC3500	●	○NCM325 ○NCM335 ●PC3535 ○PC3525 ○PC3500	-	-

# Alpha Mill Series

Recommended cutting condition



## Recommended cutting condition(multi edge type)

Workpiece	Inserts	Machining type	Tool diameter							
			Ø20, 25		Ø32, 40		Ø50, 63		Ø80, 100	
			vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)
Mild steel, Low carbon steel	NCM325,PC3535 PC3525,PC3500	①	80~100	0.05~0.08	100~120	0.05~0.08	100~120	0.05~0.08	100~120	0.05~0.08
		②	100~120	0.08~0.1	120~140	0.08~0.1	120~140	0.08~0.1	120~140	0.08~0.1
		③	100~120	0.1~0.15	120~140	0.1~0.15	120~140	0.1~0.15	130~150	0.1~0.15
High carbon steel, Alloy steel	NCM325,PC3535 PC3525,PC3500	①	60~80	0.05	80~100	0.05	80~100	0.05	80~100	0.05
		②	80~100	0.05~0.08	100~120	0.08~0.1	100~120	0.08~0.1	100~120	0.08~0.1
		③	80~100	0.1~0.15	110~130	0.1~0.15	100~120	0.1~0.15	110~130	0.1~0.15
Alloy tool steel	NCM325,PC3535 PC3525,PC3500	①	50~70	0.05	70~90	0.05	70~90	0.05	70~90	0.05
		②	60~80	0.05~0.08	90~120	0.05~0.08	100~120	0.05~0.08	100~120	0.05~0.08
		③	90~110	0.12~0.18	100~130	0.1~0.15	100~120	0.1~0.15	110~130	0.1~0.15
Stainless steel	NCM325,PC9530 PC3525,PC3500	①	50~70	0.054	70~90	0.05	70~90	0.05	70~90	0.05
		②	60~80	0.05~0.08	90~120	0.05~0.08	100~120	0.05~0.08	100~120	0.05~0.08
		③	90~110	0.1~0.15	100~130	0.1~0.15	110~130	0.1~0.15	110~130	0.1~0.15
Cast iron	PC215K PC3525,PC3500	①	70~90	0.1~0.12	70~90	0.1~0.12	90~120	0.1~0.12	90~120	0.1~0.12
		②	80~100	0.12	90~120	0.12	100~140	0.12	100~140	0.12
		③	80~100	0.15~0.2	100~130	0.15~0.2	120~150	0.15~0.2	120~150	0.15~0.2
Aluminum alloy	H01	①	200~800	0.1~0.2	300~900	0.1~0.2	400~1,000	0.1~0.2	400~1,000	0.1~0.2
		②	250~900	0.15~0.3	300~950	0.15~0.3	400~1,000	0.1~0.4	400~1,000	0.1~0.4
		③	250~900	0.15~0.3	300~950	0.15~0.3	400~1,000	0.1~0.4	400~1,000	0.1~0.4
Hardened steel	NCM325,PC3535 PC3525,PC3500	①	50~70	0.03	60~90	0.03	60~90	0.03	60~90	0.03
		②	60~80	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08
		③	80~100	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08

## Recommended cutting condition(single edge type)

Workpiece	Inserts	Machining type	Tool diameter							
			Ø20, 25		Ø32, 40		Ø50, 63		Ø80, 100	
			vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)
Mild steel, Low carbon steel	NCM325,PC3535 PC3525,PC3500	①	60~80	0.05~0.08	80~120	0.05~0.08	120~200	0.05~0.08	150~200	0.05~0.08
		②	80~120	0.08~0.1	120~180	0.08~0.1	180~250	0.08~0.1	200~250	0.08~0.1
		③	80~120	0.1~0.15	120~180	0.1~0.15	180~250	0.1~0.15	200~250	0.1~0.15
High carbon steel, Alloy steel	NCM325,PC3535 PC3525,PC3500	①	50~80	0.05	80~110	0.05	100~150	0.05	100~150	0.05
		②	80~100	0.05~0.08	110~150	0.05~0.1	150~200	0.05~0.1	150~200	0.05~0.1
		③	80~100	0.1~0.15	120~150	0.1~0.15	180~200	0.1~0.15	180~200	0.1~0.15
Alloy tool steel	NCM325,PC3535 PC3525,PC3500	①	50~70	0.05	80~100	0.05	100~130	0.05	100~130	0.05
		②	70~100	0.05~0.08	100~130	0.05~0.1	130~180	0.05~0.1	130~180	0.05~0.1
		③	70~100	0.1~0.15	100~150	0.1~0.15	130~180	0.1~0.15	130~180	0.1~0.15
Stainless steel	NCM325,PC9530 PC3525,PC3500	①	50~70	0.05	80~100	0.05	100~130	0.05	100~130	0.05
		②	70~100	0.05~0.08	100~130	0.05~0.1	130~180	0.05~0.1	130~180	0.05~0.1
		③	70~100	0.1~0.15	100~150	0.1~0.15	130~180	0.1~0.15	130~180	0.1~0.15
Cast iron	PC215K PC3525,PC3500	①	80~100	0.08~0.12	80~100	0.15	120~150	0.15	120~150	0.15
		②	100~120	0.12~0.15	100~130	0.15~0.18	150~200	0.15~0.18	150~200	0.15~0.18
		③	100~120	0.15~0.2	100~130	0.15~0.2	150~200	0.15~0.2	150~200	0.15~0.2
Aluminum alloy	H01	①	250~800	0.15~0.2	300~900	0.15~0.2	400~1,000	0.1~0.2	400~1,000	0.1~0.2
		②	250~900	0.2~0.25	350~950	0.2~0.25	400~1,000	0.2~0.3	400~1,000	0.2~0.3
		③	250~900	0.25~0.3	350~950	0.25~0.3	400~1,000	0.3~0.1	400~1,000	0.3~0.4
Hardened steel	NCM325,PC3535 PC3525,PC3500	①	50~70	0.03	60~90	0.03	60~90	0.03	60~90	0.03
		②	60~80	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08
		③	80~100	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08	80~100	0.05~0.08

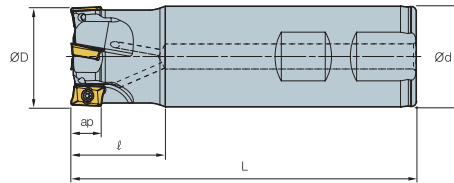


# Alpha Mill Series

AMS1000S / 1500S

## AMS1000S / 1500S

**New**



Designation	Stock	ØD	Ød	ℓ	L	⊙	ap	kg
AMS 1010HS	○	10	10	20	80	2	5.6	0.04
1011HS	○	11	10	20	80	2	5.6	0.04
1012HS-2	○	12	12	25	80	2	5.6	0.06
1012HS-3	○	12	12	25	80	3	5.6	0.06
1014HS-2	○	14	16	25	90	2	5.6	0.11
1014HS-3	○	14	16	25	90	3	5.6	0.11
1015HS	○	15	16	25	90	3	5.6	0.11
1016HS-3	○	16	16	25	90	3	5.6	0.12
1016HS-4	○	16	16	25	90	4	5.6	0.12
1017HS	○	17	16	25	90	4	5.6	0.12
1018HS	○	18	16	25	90	4	5.6	0.12
1020HS-4	○	20	20	30	110	4	5.6	0.23
1020HS-5	○	20	20	30	110	5	5.6	0.23
1021HS	○	21	20	30	110	5	5.6	0.24
1022HS	○	22	20	30	110	5	5.6	0.27
1025HS	○	25	25	30	120	7	5.6	0.39
1026HS	○	26	25	30	120	7	5.6	0.39
1032HS	○	32	32	35	120	8	5.6	0.65
1033HS	○	33	32	35	120	8	5.6	0.65
AMS 15010HS	○	10	10	25	80	1	9	0.04
15012HS	○	12	12	25	80	1	9	0.1
15013HS	○	13	12	25	80	1	9	0.1
15014HS	○	14	16	25	80	2	9	0.1
15016HS	○	16	16	30	90	2	9	0.11
15017HS	○	17	16	30	90	2	9	0.12
15018HS	○	18	16	30	90	2	9	0.14
15019HS	○	19	16	30	90	2	9	0.16
15020HS	○	20	20	30	90	2	9	0.18
15021HS	○	21	20	30	90	2	9	0.2
15022HS	○	22	20	30	110	3	9	0.23
15024HS	○	24	20	30	110	3	9	0.3
15025HS	○	25	25	30	110	3	9	0.35
15028HS	○	28	25	30	110	4	9	0.36
15030HS	○	30	25	30	110	4	9	0.38
15032HS	○	32	32	30	110	4	9	0.6
15035HS	○	35	32	30	110	5	9	0.7
15040HS-S32	○	40	32	35	130	5	9	0.8
15040HS-S40	○	40	40	35	130	5	9	1.13
15040HS-S42	○	40	42	35	130	5	9	1.23

• AR° : Axial rake angle    RR° : Radial rake angle

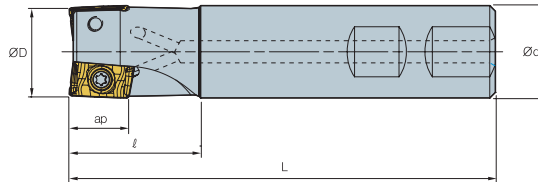
● Stock item, ○ Under preparing for stock

# Alpha Mill Series

AMS2000S / 3000S



## AMS2000S / 3000S



Designation	Stock	ØD	Ød	φ	L	⊙	ap	kg
<b>AMS</b> 2010HS	●	10	10	20	85	1	11	0.04
2012HS	●	12	16	25	85	1	11	0.1
2014HS	●	14	16	25	90	1	11	0.12
2016HS	●	16	16	25	90	2	11	0.12
2018HS	●	18	16	25	90	2	11	0.12
2020HS	●	20	20	30	100	2	11	0.21
2022HS	●	22	20	35	115	3	11	0.25
2025HS	●	25	25	35	115	3	11	0.4
2032HS	●	32	32	40	125	4	11	0.7
2040HS	●	40	32	42	130	5	11	0.84
<b>NEW</b> 2040HS-S40		40	40	42	130	5	11	1.15
<b>NEW</b> 2040HS-S42		40	42	42	130	5	11	2.0
2050HS	●	50	32	45	135	6	11	1.06
<b>NEW</b> 2050HS-S40		50	40	45	135	6	11	1.38
<b>NEW</b> 2050HS-S42		50	42	45	135	6	11	1.5
2063HS	●	63	32	45	135	8	11	1.31
<b>NEW</b> 2063HS-S40		63	40	45	135	8	11	1.62
<b>NEW</b> 2063HS-S42		63	42	45	135	8	11	1.7
<b>AMS</b> 3025HS	●	25	25	35	115	2	16	0.4
3032HS	●	32	32	40	125	3	16	0.69
3040HS	●	40	32	42	130	4	16	0.8
<b>NEW</b> 3040HS-S40		40	40	42	130	4	16	1.1
<b>NEW</b> 3040HS-S42		40	42	42	130	4	16	1.2
3050HS	●	50	32	45	135	5	16	1.0
<b>NEW</b> 3050HS-S40		50	40	45	135	5	16	1.3
<b>NEW</b> 3050HS-S42		50	42	45	135	5	16	1.4
3063HS	●	63	32	45	135	6	16	1.25
<b>NEW</b> 3063HS-S40		63	40	45	135	6	16	1.5
<b>NEW</b> 3063HS-S42		63	42	45	135	6	16	1.54

● Stock item, ○ Under preparing for stock

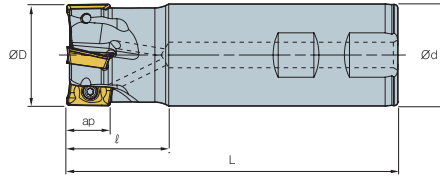
# Alpha Mill Series

AMS3000S-K / 4000S | AMS2000MH / 3000MH



## AMS3000S-K / 4000S

**New**



Designation	Stock	ØD	Ød	l	L		ap	kg
<b>AMS</b> 3025HS-K	○	25	25	35	115	2	16	0.40
3032HS-K	○	32	32	40	125	3	16	0.69
3040HS-K	○	40	32	42	130	4	16	0.80
3040HS-K-40	○	40	40	42	130	4	16	1.10
3040HS-K-42	○	40	42	42	130	4	16	1.20
3050HS-K	○	50	32	45	135	5	16	1.00
3050HS-K-40	○	50	40	45	135	5	16	1.30
3050HS-K-42	○	50	42	45	135	5	16	1.40
3063HS-K	○	63	32	45	135	6	16	1.25
3063HS-K-40	○	63	40	45	135	6	16	1.50
3063HS-K-42	○	63	42	45	135	6	16	1.54
<b>AMS</b> 4020HS	○	20	20	30	90	1	17	0.18
4021HS	○	21	20	30	90	1	17	0.19
4025HS	○	25	25	40	110	2	17	0.35
4026HS	○	26	25	40	110	2	17	0.37
4032HS	○	32	32	40	125	3	17	0.65
4033HS	○	33	32	40	125	3	17	0.68
4040HS-S32	○	40	32	40	130	4	17	0.76
4040HS-S40	○		40				17	1.10
4040HS-S42	○		42				17	1.20
4050HS-S32	○	50	32	40	135	5	17	0.95
4050HS-S40	○		40				17	1.30
4050HS-S42	○		42				17	1.40
4063HS-S32	○	63	32	40	135	9	17	1.25
4063HS-S40	○		40				17	1.60
4063HS-S42	○		42				17	1.70

● Stock item, ○ Under preparing for stock

## AMS2000MH / 3000MH

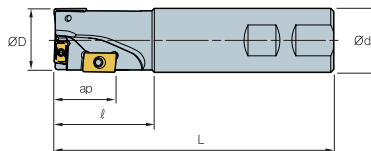


Fig. 1

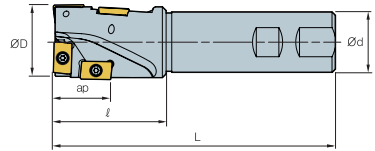


Fig. 2

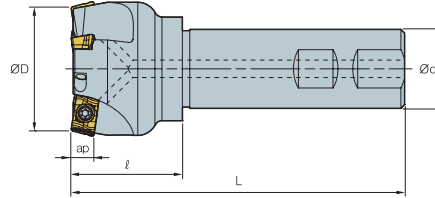
Designation	Stock	ØD	Ød	l	L		ap	kg	APXT11T3~	APXT1604~	Fig.
<b>AMS</b> 2025MH	●	25	25	40	130	3	20	0.45	3	-	1
2032MH	●	32	32	50	140	3	30	0.75	1	2	1
3040MH	●	40	32	60	150	4	40	0.90	-	4	2

# Alpha Mill Series

AMS2000SE / 3000SE | AMS2000M



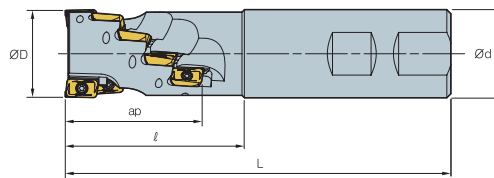
## AMS2000SE / 3000SE



Designation	Stock	ØD	Ød	ℓ	L	⊙	ap	kg
AMS 2025HSE	●	25	25	30	115	2	4	0.4
2032HSE	●	32	32	40	125	3	4	0.72
2040HSE	●	40	32	40	130	3	4	0.86
2040HSE-S40		40	40	40	130	3	4	1.2
2040HSE-S42		40	42	40	130	3	4	1.3
2050HSE	●	50	32	40	135	4	4	0.98
2050HSE-S40		50	40	40	135	4	4	1.3
2050HSE-S42		50	42	40	135	4	4	1.4
2063HSE	●	63	32	40	135	5	4	1.24
2063HSE-S40		63	40	40	135	5	4	1.57
2063HSE-S42		63	42	40	135	5	4	1.62
AMS 3050HSE	●	50	32	45	135	3	6	1.0
3050HSE-S40		50	40	45	135	3	6	1.3
3050HSE-S42		50	42	45	135	3	6	1.4
3063HSE	●	63	32	45	135	4	6	1.3
3063HSE-S40		63	40	45	135	4	6	1.6
3063HSE-S42		63	42	45	135	4	6	1.7

● Stock item, ○ Under preparing for stock

## AMS2000M



Designation	Stock	ØD	Ød	ℓ	L	⊙	ap	kg
AMS 2020M	●	20	20	45	120	3	29.4	0.32
2025M	●	25	25	55	130	8	38.9	0.40
2032M	●	32	32	65	140	10	48.5	0.65
2040M	●	40	42	75	150	14	58.0	0.75

● Stock item, ○ Under preparing for stock

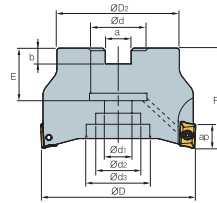
# Alpha Mill Series

AMCM1000S / 1500S / 2000S | AMCM3000S / 3000S-K / 4000S



## AMCM1000S / 1500S / 2000S

**New**

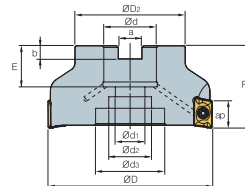


Designation	Stock	ØD	ØD <sub>2</sub>	Ød	F	a	b	Ød <sub>1</sub>	Ød <sub>2</sub>	Ød <sub>3</sub>	E		ap	kg	Applicable arbor
AMCM 1032HS	○	32	30	16	40	8.4	5.6	9	14	-	19	8	5.6	0.15	BT <input type="checkbox"/> FMC16- <input type="checkbox"/>
1040HS-16	○	40	34	16	40	8.4	5.6	9	14	-	19	10	5.6	0.24	BT <input type="checkbox"/> FMC16- <input type="checkbox"/>
<b>New</b> 1040HS-22	○	40	34	22	40	10.4	6.3	11	18	-	21	10	5.6	0.24	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
1050HS	○	50	42	22	40	10.4	6.3	11	18	-	21	12	5.6	0.36	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
1063HS	○	63	49	22	40	10.4	6.3	11	18	-	21	14	5.6	0.61	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
AMCM 15040HS	○	40	34	16	40	8.4	5.6	9	14	-	19	5	9	0.22	BT <input type="checkbox"/> FMC16- <input type="checkbox"/>
15050HS	○	50	42	22	40	10.4	6.3	11	18	-	21	6	9	0.34	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
<b>New</b> 15063HS	○	63	49	22	40	10.4	6.3	11	18	-	21	8	9	0.57	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
15080HS	○	80	57	27	50	12.4	7.0	14	25	35	23	10	9	1.1	BT <input type="checkbox"/> FMC27- <input type="checkbox"/>
15100HS	○	100	67	32	63	14.4	8.0	18	26	42	26	12	9	2.1	BT <input type="checkbox"/> FMC32- <input type="checkbox"/>
AMCM 2040HS	●	40	-	16	40	8.4	5.6	9	14	-	18	5	11	0.2	BT <input type="checkbox"/> FMC16- <input type="checkbox"/>
2050HS	●	50	-	22	40	10.4	6.3	11	18	-	20	6	11	0.32	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
2063HS	●	63	-	22	40	10.4	6.3	11	18	-	20	8	11	0.6	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
2080HS	●	80	-	27	50	12.4	7.0	14	20	-	22	10	11	1.2	BT <input type="checkbox"/> FMC27- <input type="checkbox"/>
2100HS	●	100	-	32	63	14.4	8.0	18	26	-	28	12	11	2.5	BT <input type="checkbox"/> FMC32- <input type="checkbox"/>

●Stock item, ○Under preparing for stock

## AMCM3000S / 3000S-K / 4000S

**New**



Designation	Stock	ØD	ØD <sub>2</sub>	Ød	F	a	b	Ød <sub>1</sub>	Ød <sub>2</sub>	Ød <sub>3</sub>	E		ap	kg	Applicable arbor
AMCM 3040HS	●	40	34	16	40	8.4	5.6	9	14	-	18	4	16	0.2	BT <input type="checkbox"/> FMC16- <input type="checkbox"/>
3050HS	●	50	42	22	40	10.4	6.3	11	18	-	20	5	16	0.3	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
3063HS	●	63	49	22	40	10.4	6.3	11	18	-	20	6	16	0.5	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
3080HS	●	80	57	27	50	12.4	7.0	14	20	-	22	7	16	1.2	BT <input type="checkbox"/> FMA27- <input type="checkbox"/>
3100HS	●	100	67	32	63	14.4	8.0	18	26	-	28	8	16	2.5	BT <input type="checkbox"/> FMA32- <input type="checkbox"/>
AMCM 3040HS-K	○	40	34	16	40	8.4	5.6	9	14	-	18	4	16	0.2	BT <input type="checkbox"/> FMC16- <input type="checkbox"/>
3050HS-K	○	50	42	22	40	10.4	6.3	11	18	-	20	5	16	0.3	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
<b>New</b> 3063HS-K	○	63	49	22	40	10.4	6.3	11	18	-	20	6	16	0.5	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
3080HS-K	○	80	57	27	50	12.4	7.0	14	20	-	22	7	16	1.2	BT <input type="checkbox"/> FMC27- <input type="checkbox"/>
3100HS-K	○	100	67	32	63	14.4	8.0	18	26	-	28	8	16	2.5	BT <input type="checkbox"/> FMC32- <input type="checkbox"/>
AMCM 4050HS	○	50	42	22	40	10.4	6.3	11	18	-	21	5	17	0.28	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
4063HS	○	63	49	22	40	10.4	6.3	11	18	-	21	6	17	0.5	BT <input type="checkbox"/> FMC22- <input type="checkbox"/>
<b>New</b> 4080HS	○	80	57	27	50	12.4	7.0	14	20	35	28	7	17	1.0	BT <input type="checkbox"/> FMC27- <input type="checkbox"/>
4100HS	○	100	67	32	50	14.4	8.0	18	26	42	26	8	17	1.7	BT <input type="checkbox"/> FMC32- <input type="checkbox"/>
4125HS	○	125	87	40	63	16.4	9.0	22	32	52	29	9	17	3.3	BT <input type="checkbox"/> FMC40- <input type="checkbox"/>

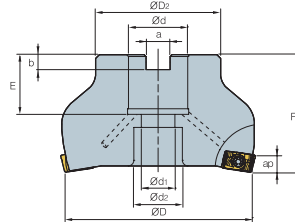
●Stock item, ○Under preparing for stock

# Alpha Mill Series

AMCM2000SE / 3000SE | AMCM2000M | Available bolts



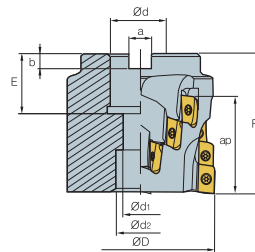
## AMCM2000SE / 3000SE



Designation	Stock	ØD	ØD <sub>2</sub>	Ød	F	a	b	Ød <sub>1</sub>	Ød <sub>2</sub>	E	AR	RR		ap	kg	Applicable arbor
AMCM 2080HSE	●	80	57	27	50	12.4	7.0	14	20	22	4.5°	0°	5	4	1.20	BT <input type="checkbox"/> + FMC27- <input type="checkbox"/>
2100HSE	●	100	67	32	63	14.4	8.0	18	26	28	4.5°	0°	6	4	2.33	BT <input type="checkbox"/> + FMC32- <input type="checkbox"/>
AMCM 3080HSE	●	80	57	27	50	12.4	7.0	14	20	22	4.5°	0°	4	6	1.30	BT <input type="checkbox"/> + FMC27- <input type="checkbox"/>
3100HSE	●	100	67	32	63	14.4	8.0	18	26	28	4.5°	0°	5	6	2.30	BT <input type="checkbox"/> + FMC32- <input type="checkbox"/>

● Stock item, ○ Under preparing for stock

## AMCM2000M



Designation	Stock	ØD	ØD <sub>2</sub>	Ød	F	a	b	Ød <sub>1</sub>	Ød <sub>2</sub>		ap	kg	Applicable arbor
AMCM 2050M	●	50	40	22	58	10.4	6.3	11	18	16	39	0.70	BT <input type="checkbox"/> + FMC22- <input type="checkbox"/>
2063M	●	63	50	27	58	12.4	7.0	13.5	20	16	39	0.80	BT <input type="checkbox"/> + FMC27- <input type="checkbox"/>
2080M	●	80	60	32	63	14.4	8.0	-	45	20	39	0.96	BT <input type="checkbox"/> + FMC32- <input type="checkbox"/>
2100M	●	100	80	40	63	16.4	9.0	-	56	24	39	1.20	BT <input type="checkbox"/> + FMC40- <input type="checkbox"/>

● Stock item, ○ Under preparing for stock

## Available bolts

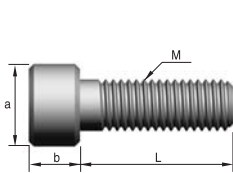


Fig.1

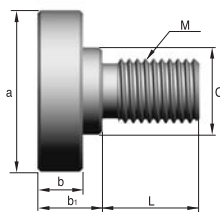


Fig.2

Designation	Dimensions(mm)						Fig.
	a	b	b <sub>1</sub>	c	L	Pitch	
SB0825	13	8	-	-	25	1.25	1
SB1025	16	10	-	-	25	1.5	1
SB1230	18	12	-	-	30	1.75	1
SB1630	24	16	-	-	30	2.0	1
SB2040	30	20	-	-	40	2.5	1
MBA-M12	33	10	12	23	18	1.75	2
MBA-M16	40	17	16	23	24	2.0	2
MBA-M20	50	14	20	27	30	2.5	2

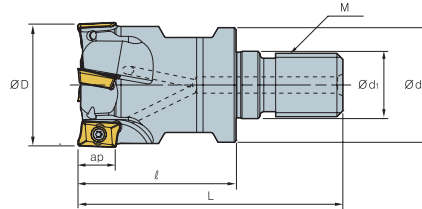


# Alpha Mill Series

AMM1000 / 1500 / 2000 | Parts

## AMM1000 / 1500 / 2000

**New**



Designation	Stock	ØD	Ød	Ød <sub>1</sub>	ℓ	L	M		ap	kg
<b>AMM 1012HR-M06</b>	○	12	11	6.5	25	40	M06	3	5.6	0.02
<b>1016HR-M08</b>	○	16	14.5	8.5	25	42	M08	4	5.6	0.03
<b>1020HR-M10</b>	○	20	18	10.5	30	51	M10	5	5.6	0.07
<b>1025HR-M12</b>	○	25	23	12.5	35	59	M12	7	5.6	0.12
<b>1032HR-M16</b>	○	32	29	17	40	67	M16	8	5.6	0.23
<b>AMM 15010HR-M06</b>	○	10	9.5	6.5	25	40	M06	1	9	0.01
<b>15012HR-M06</b>	○	12	11	6.5	25	40	M06	1	9	0.02
<b>15016HR-M08</b>	○	16	14.5	8.5	25	42	M08	2	9	0.03
<b>15020HR-M10</b>	○	20	18	10.5	30	51	M10	2	9	0.06
<b>15025HR-M12</b>	○	25	23	12.5	35	59	M12	3	9	0.12
<b>15032HR-M16</b>	○	32	29	17	40	67	M16	4	9	0.22
<b>AMM 2016HR-M08</b>	○	16	14.5	8.5	25	42	M08	2	11	0.04
<b>2020HR-M10</b>	○	20	18	10.5	30	51	M10	2	11	0.07
<b>2025HR-M12</b>	○	25	23	12.5	35	59	M12	3	11	0.11
<b>2032HR-M16</b>	○	32	29	17	40	67	M16	4	11	0.23
<b>2040HR-M16</b>	○	40	29	17	40	67	M16	4	11	0.25

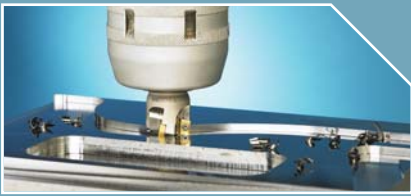
●Stock item, ○Under preparing for stock

## Parts

Alpha mill	Insert	Screw	Wrench
AMS 1000 type	APMT0602PDSR-MM	FTKA01842	TW06S-A
AMS 1500 type	APMT0903PDSR-MM	FTKA02555 / FTKA02565S	TW07S / TW08S
AMS 2000 type	APXT11T3PDR-MA APXT11T3PDSR-MF APXT11T3PDSR-MM APXT11T3PDSR-MR	FTKA02565S	TW08S
AMS 3000 type	APKT1604PDR-MA APX(K)T1604PDSR-MF APX(K)T1604PDSR-MM	FTKA0408 / FTKA0410	TW15S
AMS 4000 type	APMT1806PDSR-MM	FTKA0410	TW15S

# Alpha Mill Series

Modular adaptor



## Modular adaptor

### Steel

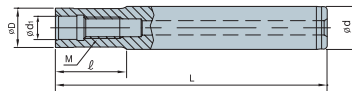


Fig 1. Straight Neck adaptor

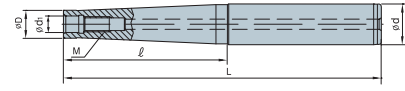


Fig 2. Taper Neck adaptor

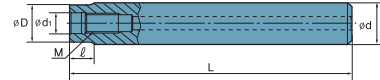
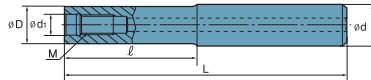
Designation	Stock	Fig.	Dimensions(mm)					
			M	øD	ød	ød <sub>1</sub>	l	L
MAT-M06-020-S10S	●	1	M06	9.5	10	6.5	20	70
MAT-M06-040-S12T	●	2	M06	9.5	12	6.5	40	96
MAT-M06-065-S16T	●	2	M06	9.5	16	6.5	65	125
MAT-M6B-020-S12S	●	1	M06	11	12	6.5	20	76
MAT-M6B-040-S12S	●	1	M06	11	12	6.5	40	96
MAT-M6B-065-S16T	●	2	M06	11	16	6.5	65	125
MAT-M6B-080-S16T	●	2	M06	11	16	6.5	80	140
MAT-M08-020-S16S	●	1	M08	14.5	16	8.5	20	80
MAT-M08-040-S16T	●	2	M08	14.5	16	8.5	40	100
MAT-M08-065-S16T	●	2	M08	14.5	16	8.5	65	125
MAT-M08-080-S20T	●	2	M08	14.5	20	8.5	80	150
MAT-M08-110-S25T	●	2	M08	14.5	25	8.5	110	190
MAT-M10-030-S20S	●	1	M10	18	20	10.5	30	100
MAT-M10-050-S20T	●	2	M10	18	20	10.5	50	120
MAT-M10-070-S20T	●	2	M10	18	20	10.5	70	140
MAT-M10-090-S25T	●	2	M10	18	25	10.5	90	170
MAT-M10-110-S25T	●	2	M10	18	25	10.5	110	190
MAT-M10-130-S32T	●	2	M10	18	32	10.5	130	220
MAT-M12-030-S25S	●	1	M12	22.5	25	12.5	30	110
MAT-M12-050-S25T	●	2	M12	22.5	25	12.5	50	130
MAT-M12-070-S25T	●	2	M12	22.5	25	12.5	70	150
MAT-M12-090-S25T	●	2	M12	22.5	25	12.5	90	170
MAT-M12-110-S32T	●	2	M12	22.5	32	12.5	110	200
MAT-M12-175-S40T	●	2	M12	22.5	40	12.5	175	300
MAT-M16-035-S32S	●	1	M16	28.5	32	17	35	125
MAT-M16-055-S32T	●	2	M16	28.5	32	17	55	145
MAT-M16-080-S32T	●	2	M16	28.5	32	17	80	170
MAT-M16-120-S32T	●	2	M16	28.5	32	17	120	210
MAT-M16-175-S40T	●	2	M16	28.5	40	17	175	300

● Available to use (FMRM, LBE, PAM, AMM, RM4PM, HRMM, PAXM)

● S : Straight type ● T : Taper type

● Stock item, ○ Under preparing for stock

### Carbide



Designation	Stock	Dimensions(mm)					
		M	øD	ød	ød <sub>1</sub>	l	L
MAT-M08-080-S16S-C	●	M08	14.5	16	8.5	80	150
MAT-M08-110-S16S-C	●	M08	14.5	16	8.5	110	180
MAT-M08-150-S16S-C	●	M08	14.5	16	8.5	150	250
MAT-M10-090-S20S-C	●	M10	18	20	10.5	90	170
MAT-M10-110-S20S-C	●	M10	18	20	10.5	110	200
MAT-M10-175-S20S-C	●	M10	18	20	10.5	175	300
MAT-M12-090-S25S-C	●	M12	22.5	25	12.5	90	170
MAT-M12-110-S25S-C	●	M12	22.5	25	12.5	110	200
MAT-M12-175-S25S-C	●	M12	22.5	25	12.5	175	300
MAT-M16-090-S32S-C	●	M16	28.5	32	17	90	180
MAT-M16-120-S32S-C	●	M16	28.5	32	17	120	210
MAT-M16-175-S32S-C	●	M16	28.5	32	17	175	300
MAT-M08-010-S16S-C-150	●	M08	14.5	8.5	16	10	150
MAT-M08-010-S16S-C-180	●	M08	14.5	8.5	16	10	180
MAT-M08-010-S16S-C-250	●	M08	14.5	8.5	16	10	250
MAT-M10-010-S20S-C-170	●	M10	18	10.5	20	10	170
MAT-M10-010-S20S-C-200	●	M10	18	10.5	20	10	200
MAT-M10-010-S20S-C-300	●	M10	18	10.5	20	10	300
MAT-M12-015-S25S-C-170	●	M12	22.5	12.5	25	15	170
MAT-M12-015-S25S-C-200	●	M12	22.5	12.5	25	15	200
MAT-M12-015-S25S-C-300	●	M12	22.5	12.5	25	15	300
MAT-M16-020-S32S-C-180	●	M16	28.5	17	32	20	180
MAT-M16-020-S32S-C-210	●	M16	28.5	17	32	20	210
MAT-M16-020-S32S-C-300	●	M16	28.5	17	32	20	300

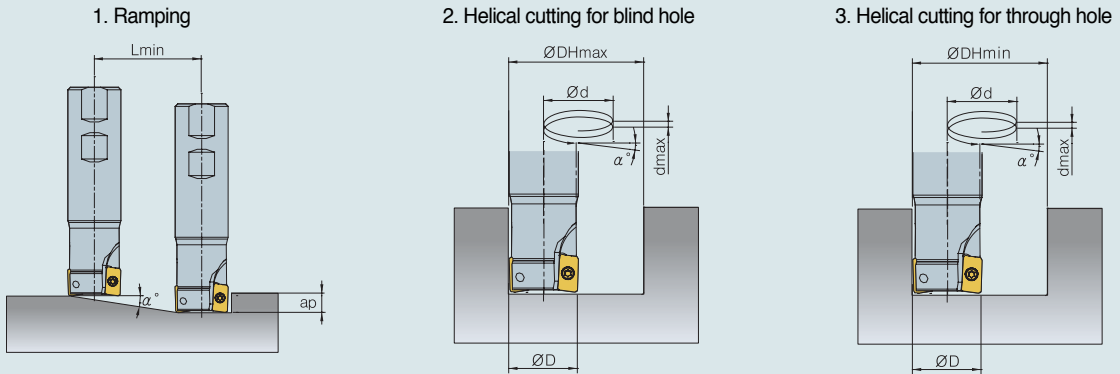
● Available to use (FMRM, LBE, PAM, AMM, RM4PM, HRMM, PAXM)

● Stock item, ○ Under preparing for stock

# Alpha Mill Series

Ramping / Helical ramping

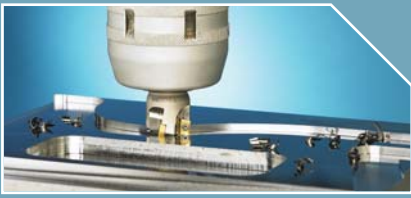
## Ramping / Helical ramping



Designation	Tool dia ØD(mm)	Ramping			Helical cutting for blind hole				Helical cutting for through hole	
		ap	Max. angle α°	Lmin(mm)	Max. Dia ØDHmax(mm)	Max. pitch dmax(mm)	Min. hole ØDHmin(mm)	Max. pitch dmax(mm)	Min. hole ØDHmin(mm)	Max. pitch dmax(mm)
AMS1010HS	10	5	6.5	44	18.8	2.1	17.6	2.0	13	1.5
AMS1011HS	11		5.6	51	20.8	2.0	19.6	1.9	15	1.5
AMS1012HS	12		4.9	58	22.8	2.0	21.6	1.9	17	1.5
AMS1014HS	14		3.9	73	26.8	1.8	25.6	1.8	21	1.4
AMS1015HS	15		3.6	80	28.8	1.8	27.6	1.7	23	1.4
AMS1016HS	16		3.3	87	30.8	1.8	29.6	1.7	25	1.4
AMS1017HS	17		3.0	94	32.8	1.7	31.6	1.7	27	1.4
AMS1018HS	18		2.8	101	34.8	1.7	33.6	1.7	29	1.4
AMS1020HS	20		2.5	115	38.8	1.7	37.6	1.6	33	1.4
AMS1021HS	21		2.3	123	40.8	1.7	39.6	1.6	35	1.4
AMS1022HS	22		2.2	130	42.8	1.6	41.6	1.6	37	1.4
AMS1025HS	25		1.9	151	48.8	1.6	47.6	1.6	43	1.4
AMS1026HS	26		1.8	158	50.8	1.6	49.6	1.6	45	1.4
AMS1032HS	32		1.4	201	62.8	1.6	61.6	1.5	57	1.4
AMS1033HS	33		1.4	208	64.8	1.6	63.6	1.5	59	1.4
AMC1032HS	32		1.4	201	62.8	1.6	61.6	1.5	57	1.4
AMC1040HS	40		1.1	258	78.8	1.5	77.6	1.5	73	1.4
AMC1050HS	50		0.9	330	98.8	1.5	97.6	1.5	93	1.4
AMC1063HS	63		0.7	423	124.8	1.5	123.6	1.5	119	1.4
AMS1510HS	10		9	7.5	68	18.8	2.5	17.4	2.3	11
AMS1512HS	12	6.5		79	22.8	2.6	21.4	2.4	15	1.7
AMS1513HS	13	5.7		90	24.8	2.5	23.4	2.3	17	1.7
AMS1514HS	14	6.3		82	26.8	2.9	25.4	2.8	19	2.1
AMS1516HS	16	5.0		102	30.8	2.7	29.4	2.6	23	2.0
AMS1517HS	17	4.6		112	32.8	2.6	31.4	2.5	25	2.0
AMS1518HS	18	4.2		122	34.8	2.6	33.4	2.5	27	2.0
AMS1519HS	19	3.9		132	36.8	2.5	35.4	2.4	29	2.0
AMS1520HS	20	3.6		142	38.8	2.5	37.4	2.4	31	2.0
AMS1521HS	21	3.4		152	40.8	2.4	39.4	2.3	33	2.0
AMS1522HS	22	3.2		162	42.8	2.4	41.4	2.3	35	1.9
AMS1524HS	24	2.8		182	46.8	2.3	45.4	2.2	39	1.9
AMS1525HS	25	2.7		192	48.8	2.3	47.4	2.2	41	1.9
AMS1528HS	28	2.3		222	54.8	2.2	53.4	2.2	47	1.9
AMS1530HS	30	2.1		242	58.8	2.2	57.4	2.1	51	1.9
AMS1532HS	32	2.0		262	62.8	2.2	61.4	2.1	55	1.9
AMS1535HS	35	1.8		292	68.8	2.1	67.4	2.1	61	1.9
AMS1540HS	40	1.5		342	78.8	2.1	77.4	2.0	71	1.9
AMC15040HS	40	1.5		342	78.8	2.1	77.4	2.0	71	1.9
AMC15050HS	50	1.2		442	98.8	2.0	97.4	2.0	91	1.9
AMC15063HS	63	0.9	572	124.8	2.0	123.4	1.9	117	1.8	
AMC15080HS	80	0.7	742	158.8	1.9	157.4	1.9	151	1.8	
AMC15100HS	100	0.5	942	198.8	1.9	197.4	1.9	191	1.8	

# Alpha Mill Series

Ramping / Helical ramping



## Ramping / Helical ramping

Designation	Tool dia ØD(mm)	Ramping			Helical cutting for blind hole				Helical cutting for through hole	
		ap	Max. angle $\alpha$ (°)	Lmin(mm)	Max. Dia ØDHmax(mm)	Max. pitch dmax(mm)	Min. hole ØDHmin(mm)	Max. pitch dmax(mm)	Min. hole ØDHmin(mm)	Max. pitch dmax(mm)
AMS2010HS	10	10	16.82	33	18	5.4	16.4	5.0	11	3.3
AMS2012HS	12		11.69	48	22	4.6	20.4	4.2	15	3.1
AMS2014HS	14		7.55	75	26	3.4	24.4	3.2	19	2.5
AMS2016HS	16		10.30	55	30	5.5	28	5.1	23	4.2
AMS2018HS	18		8.23	69	34	4.9	32	4.6	27	3.9
AMS2020HS	20		5.60	102	38	3.7	36	3.5	31	3.0
AMS2022HS	22		5.15	111	42	3.8	40	3.6	35	3.2
AMS2025HS	25		3.92	146	48	3.3	46	3.2	41	2.8
AMS2032HS	32		2.70	212	62	2.9	60	2.8	55	2.6
AMS2040HS	40		1.98	289	78	2.7	76	2.6	71	2.5
AMS2050HS	50		1.48	386	98	2.5	96	2.5	91	2.4
AMS2063HS	63		1.11	514	124	2.4	122	2.4	117	2.3
AMC2050HS	50		0.36	1576	98	0.6	96	0.6	91	0.6
AMC2063HS	63		0.27	2104	124	0.6	122	0.6	117	0.6
AMC2080HS	80		0.21	2784	158	0.6	156	0.6	151	0.5
AMC2100HS	100		0.16	3584	198	0.6	196	0.5	191	0.5
AMS3025HS	25		10	4.72	121	48	4.0	46	3.8	36
AMS3032HS	32	3.00		191	62	3.2	60	3.1	50	2.6
AMS3040HS	40	2.29		250	78	3.1	76	3.0	66	2.6
AMS3050HS	50	1.64		350	98	2.8	96	2.7	86	2.5
AMS3063HS	63	1.22		470	124	2.6	122	2.6	112	2.4
AMC3040HS	40	1.99		288	78	2.7	76	2.6	66	2.3
AMC3050HS	50	1.67		343	98	2.9	96	2.8	86	2.5
AMC3063HS	63	1.22		470	124	2.6	122	2.6	112	2.4
AMC3080HS	80	0.90		636	158	2.5	156	2.5	146	2.3
AMC3100HS	100	0.69		830	198	2.4	196	2.4	186	2.2
AMS2025MH	25	10	1.50	764	48	1.3	46	1.2	-	-
AMS2032MH	32		1.50	1146	62	1.6	60	1.6	-	-
AMS3040MH	40	16	1.50	1528	78	2.0	76	2.0	-	-
AMS4020HS	20	16	9.5	98	38.8	6.5	37.4	6.2	31	5.2
AMS4021HS	21		5.2	179	40.8	3.7	39.4	3.6	33	3.0
AMS4025HS	25		7.6	122	48.8	6.5	47.4	6.3	41	5.5
AMS4026HS	26		7.1	130	50.8	6.4	49.4	6.2	43	5.4
AMS4032HS	32		3.4	276	62.8	3.7	61.4	3.6	55	3.3
AMS4033HS	33		3.2	288	64.8	3.7	63.4	3.6	57	3.2
AMS4040HS	40		2.5	376	78.8	3.4	77.4	3.4	71	3.1
AMS4050HS	50		1.9	502	98.8	3.2	97.4	3.2	91	3.0
AMS4063HS	63		1.4	665	124.8	3.1	123.4	3.0	117	2.9
AMC4050HS	50		1.9	502	98.8	3.2	97.4	3.2	91	3.0
AMC4063HS	63		1.4	665	124.8	3.1	123.4	3.0	117	2.9
AMC4080HS	80		1.1	878	158.8	2.9	157.4	2.9	151	2.8
AMC4100HS	100		0.8	1128	198.8	2.9	197.4	2.9	191	2.8
AMC4125HS	125		0.6	1442	248.8	2.8	247.4	2.8	241	2.7



# Alpha Mill Series

Perpendicularity | Machining examples

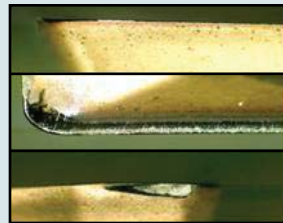
## Perpendicularity

Designation	ap	A Type	B Type	C Type	D Type
APMT0602	5.6	0.02	0.02	0.02	0.02
APMT0903	9	0.02	0.02	0.02	0.02
APXT11T3	11	0.02	0.02	0.02	0.02
APXT1604	16	0.04	0.04	0.04	0.04
APMT1806	17	0.04	0.03	0.05	0.04

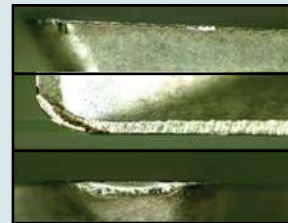
## Machining examples

### ※Cutting condition

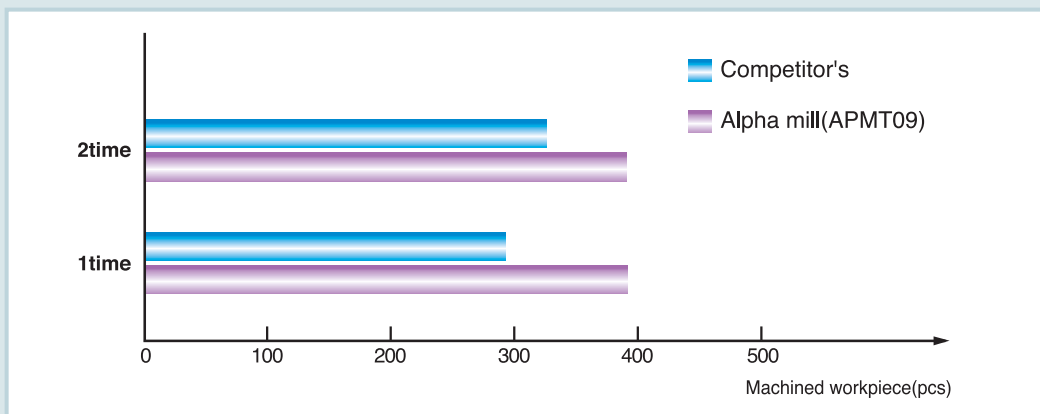
- Designation : AMS15030HS  
APMT0903PDSR-MM(PC3535)
- Workpiece : SUJ2(Bearing steel)
- Cutting speed(vc) : 330m/min
- feed(fz) : 0.11mm/t
- D.O.C(ap, ae) : ap(axial)=4~7mm,  
ae(radial)=0.2~0.3mm
- Coolant : wet



Alpha mill : 384 pcs



Competitor's : 288 pcs



### ■Test result

- Over 130% longer tool life, Excellent surface finish, Less burr , Perpendicularity: 20~30 μm

# Alpha Mill Series

Code system



## Code system

AM

Alpha mill

C

Tool type

C : Cutter  
S : Shank  
M : Modular

M

Arbor type

M : Metric  
A : Inch

4

Insert I/C

1000 : APMT06  
1500 : APMT09  
2000 : APXT11  
3000 : APXT16  
4000 : APMT18

100

Tool diameter

ISO : mm  
AISI : inch

H

Coolant type

H : Thru-hole  
Unmarked :  
No thru-hole

S

Shank type

S : Single edge  
SE : Single edge(E:15°)  
M : Multi edge  
MH : Multi edge  
helical cutting

AM

Alpha mill

S

Tool type

C : Cutter  
S : Shank  
M : Modular

4

Insert I/C

1000 : APMT06  
1500 : APMT09  
2000 : APXT11  
3000 : APXT16  
4000 : APMT18

063

Tool diameter

ISO : mm  
AISI : inch

H

Coolant type

H : Thru-hole  
Unmarked :  
No thru-hole

S

Shank type

S : Single edge  
SE : Single edge(E:15°)  
M : Multi edge  
MH : Multi edge  
helical cutting

S

Shank diameter

∅32

32



Warning

### ※ Safety instruction

- Use glasses safely and face cover with protective equipment. If cutting condition and use method are inaccurate, you may be injured by broken tools or scattered chips.
- Excessive cutting load may influence badly on both tool and machine.  
Make suitable tool replacement for preventing failure of machining.
- After machine stopped, clean remained chips from machine with special cleaning equipment.
- Keep safety distance from acute and hot chip during machining.
- Make precaution for prevention of fire in advance when you use insoluble cutting oil.
- Assembled parts may be scattered at high speed cutting. Please use protective equipment.

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