

**NEW**  
**PRODUCT!**

## Solid carbide chamfering end mill

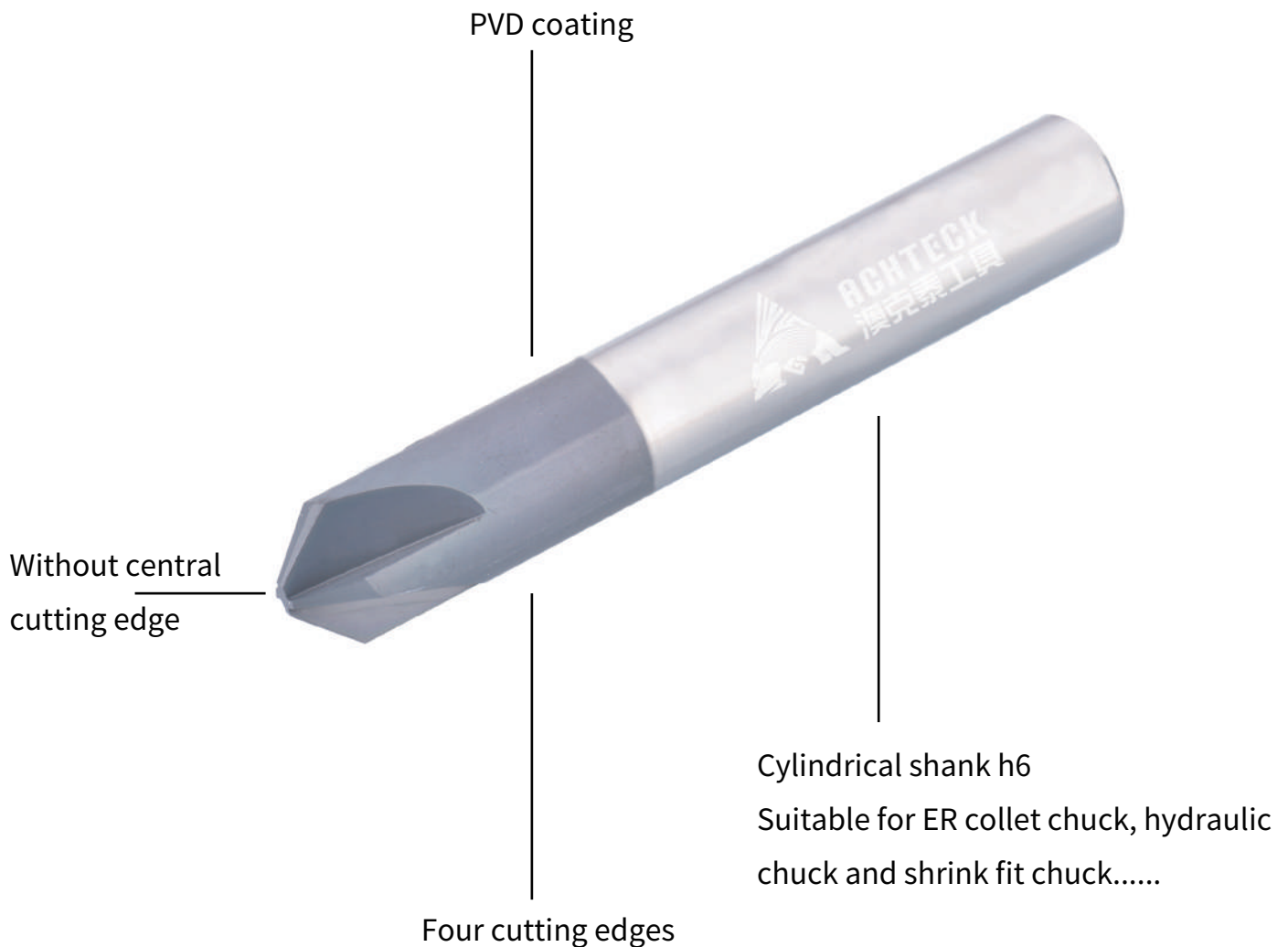


• **Tool**




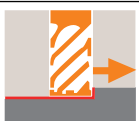



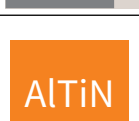


- Solid carbide chamfering end mill
- Metric
- 5 dimensions
- 4 cutting edges
- Ø 6mm to 16mm





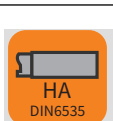
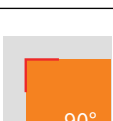




**Application**

- ISO workpiece material groups  
P、M、K、N、S
- Suitable for chamfering  
and deburring



- Icon description**

Icons	Description
	Slot milling and shoulder milling applications
	Shoulder milling Rough machining
	Shoulder milling Finish machining
	High feed milling
	Dynamic milling cycloid milling
	Profile milling
	Chamfering and deburring
	AlTiN coating
	AlCrN coating
	Uncoated

Icons	Description
	30° Helix angles
	35° Helix angles
	35°/38° Helix angles
	45° Helix angles
	Cylinder shank HA DIN6535
	Square 90°
	Corner radius CR
	Ball-nose End Mill BR
	Corner chamfer 45°
	Chamfer D



• **Solid carbide end mill denomination**

M	1	00	—	2	E	S	—	060	002	N
1	2	3		4	5	6		7	8	9

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Tool category</b>	<b>Generations</b>	<b>Series</b>	<b>Number of teeth</b>	<b>Tool type</b>
M milling	1	00 General purpose end mills, HRC45 10 General purpose end mills, HRC55 16 Rough machining end mills 20 High performance end mills, HRC40 30 Designed for steel milling 40 Designed for aluminium alloy milling 50 Designed for stainless steel milling 60 Designed for difficult machining material milling 70 Designed for hardened material milling 80&90 Others	2, 3, 4, 5, 6.....	E Square B Ball nose R Round corner C Chamfer P With waved edges W Forming T Taper milling H High feed milling

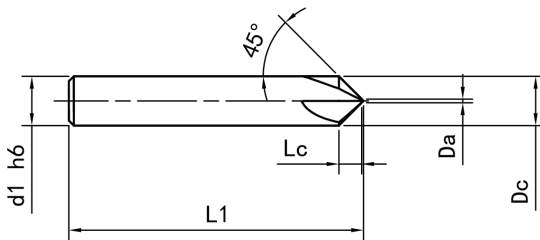
  

<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>Length standard</b>	<b>Tool diameter</b>	<b>Chamfer / nose radius size</b>	<b>Shank type</b>
S Standard total length L Long version XL Super long version XXL Extra long version SN Short cutting edge SP Long cutting edge	060=6.0mm 200=20.0mm	002=0.2mm	N Straight shank C Conical necking P Special shank Default: No necking

## ● Solid carbide chamfering end mill M180

4 cutting edges

Solid carbide end mill



P	M	K	N	S	H	O
●●	●	●●	●	●		

Product code	Dc mm +0.00/-0.03	d1 mm	Lc mm	L1 mm	Da mm	Z	Stock
M180-4WS-060	6	6	2.5	50	1	4	●
M180-4WS-080	8	8	3	60	2	4	●
M180-4WS-100	10	10	4.25	75	1.5	4	●
M180-4WS-120	12	12	4.5	75	3	4	●
M180-4WS-160	16	16	6	100	4	4	●

Marked: ● Stocked ○ Non-stocked  
 Special product can be ordered



**Solid carbide chamfering end mill cutting parameter**

The recommended cutting parameters are theoretical values, it can be adjusted according to the application conditions.

<b>Machining Materials</b>						
ISO	Material classification			Brinell hardness (HB/HRC)	Tensile strength (N/mm <sup>2</sup> )	
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	
		0.25 < C ≤ 0.55%	Annealed	190	639	
		0.25 < C ≤ 0.55%	Heat-treated	210	708	
		C > 0.55%	Annealed	190	639	
		C > 0.55%	Heat-treated	300	1013	
	Low-alloy steel	Free-Cutting Steel (short chip)		Annealed	220	745
		Annealing			175	591
		Heat-treated			300	1013
		Heat-treated			380	1282
	High-alloy steel and high-alloy tool steel	Heat-treated			430	1477
		Annealed			200	675
		Hardened and tempered			300	1013
	Stainless steel	Hardened and tempered			400	1361
		Ferritic/martensitic, annealed			200	675
		Martensitic, heat-treated			330	1114
M	Stainless steel	Austenitic, quench hardened		200	675	
		Austenitic, precipitation hardened (PH)		300	1013	
		Austenitic/ferritic, duplex		230	778	
K	Malleable cast iron	Ferrite		200	400	
		Pearlite		260	700	
	Gray cast iron	Low tensile strength		180	200	
		High tensile strength / austenite		245	350	
	Nodular Cast iron	Ferrite		155	400	
		Pearlite		265	700	
GGV(CGI)			230	400		
N	Wrought aluminium alloys	Non-aging		30	-	
		Aged		100	340	
	Cast aluminium alloys	≤ 1.2 % Si, Non-aging		75	260	
		≤ 1.2 % Si, aging		90	310	
		> 1.2 % Si, Non-aging		130	450	
	Magnesium alloys			70	250	
	Copper and copper alloys (bronze / brass)	Unalloyed, electrolytic copper		100	340	
		Brass, bronze, red brass		90	310	
Cu alloys, short-chipping		110	380			
High-tensile, Ampco alloy		300	1010			
S	Fe base alloys	Fe based	Annealed	200	680	
			Hardened	280	940	
		Ni or Co based	Annealed	250	840	
			Hardened	350	1180	
	Titanium alloys	Cast		320	1080	
		Pure titanium		200	680	
		α and β alloys, hardened		375	1260	
	Tungsten alloys	β alloys		410	1400	
Molybdenum alloys			300	1010		
H	Hardened steel	Hardened and tempered		50HRC		
		Hardened and tempered		55HRC		
		Hardened and tempered		60HRC		
	Hardened cast steel	Hardened and tempered		50HRC		

M180-4WS					
Cutting speed Vc(m/min)	fz[mm/tooth]				
	End mill diameter (mm)				
	6	8	10	12	16
130	0.060	0.080	0.100	0.120	0.160
130	0.060	0.080	0.100	0.120	0.160
105	0.060	0.080	0.100	0.120	0.160
105	0.060	0.080	0.100	0.120	0.160
73	0.050	0.070	0.080	0.100	0.140
105	0.050	0.070	0.080	0.100	0.140
105	0.060	0.080	0.100	0.120	0.160
73	0.050	0.070	0.080	0.100	0.140
60	0.050	0.070	0.080	0.100	0.140
52	0.040	0.060	0.070	0.080	0.120
105	0.060	0.080	0.100	0.120	0.160
73	0.050	0.070	0.080	0.100	0.140
32	0.040	0.060	0.070	0.080	0.120
38	0.050	0.070	0.080	0.100	0.140
33	0.050	0.070	0.080	0.100	0.140
32	0.040	0.050	0.060	0.070	0.090
30	0.030	0.040	0.050	0.060	0.070
32	0.040	0.050	0.060	0.070	0.090
150	0.060	0.080	0.100	0.120	0.160
118	0.060	0.080	0.100	0.120	0.160
150	0.060	0.080	0.100	0.120	0.160
150	0.060	0.080	0.100	0.120	0.160
150	0.050	0.070	0.080	0.010	0.140
118	0.040	0.060	0.070	0.080	0.120
120	0.050	0.070	0.080	0.010	0.140
260	0.120	0.140	0.200	0.240	0.320
260	0.120	0.140	0.200	0.240	0.320
153	0.120	0.140	0.200	0.240	0.320
153	0.120	0.140	0.200	0.240	0.320
100	0.120	0.140	0.200	0.240	0.320
240	0.120	0.140	0.200	0.240	0.320
195	0.120	0.140	0.200	0.240	0.320
195	0.120	0.140	0.200	0.240	0.320
195	0.120	0.140	0.200	0.240	0.320
41	0.040	0.060	0.070	0.080	0.120
37	0.040	0.050	0.060	0.070	0.090
23	0.030	0.040	0.050	0.060	0.070
35	0.030	0.040	0.050	0.060	0.070
23	0.030	0.040	0.050	0.060	0.070
23	0.030	0.040	0.050	0.060	0.070
118	0.040	0.050	0.060	0.070	0.090
35	0.030	0.040	0.050	0.060	0.070
35	0.030	0.040	0.050	0.060	0.070
30	0.030	0.040	0.050	0.060	0.070
30	0.030	0.040	0.050	0.060	0.070