NEW
PRODUCT!

Achteck High-efficiency End Mill PRO Series

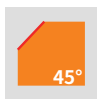
M150 End Mills for Stainless Steel, Titanium Alloy

Solid Carbide End Mills-M150

Series	Pictures	Category	Teeth	Helix angles	Application	Cutting edge tolerance	Diameter	Material	Application
M150-4ES		PRO	Z=4	36°/38°		h9	3-20	P、M、S	Used in stainless steel, Titanium alloy, 4 cutting edges design for good surface quality,different--ial teeth distance and helix eliminate vibration, geometry in U type for smooth chip removal.
M150-4RS		PRO	Z=4	36°/38°		h9	4-20	P、M、S	Used in stainless steel, T itanium alloy, round cor--ner can effectively reduce the edge break--age, 4 cutting edge design for good surface quality, differential teeth distance and helix elimin--ate vibration, geometry in U type for smooth chip removal.

Icon Description

Icons	Description
	Slot milling and square shoulder milling
	Square shoulder Rough milling
	Square shoulder Finish milling
	High feed milling
	Dynamic milling Cycloid milling
	Profile milling
	Chamfering and deburring
AlTiN	AlTiN coating
UN	Uncoated
AlCrN	AlCrN coating
AlTiN/Zr	AlTiN/Zr coating
	Cylindrical shank
	Side lock shank

图标	说明
	30° Helix angle
	35° Helix angle
	35°/38° Helix angle
	36°/38° Helix angle
	40° Helix angle
	45° Helix angle
	37°/39°/41° Helix angle
	Square
	Round corner
	Ball-nose
	Corner chamfer
	Chamfer
	Waved edge

ACHTECK M150 End Mills

Tool

– Solid carbide end mills M150

– Metric

– 2 categories with 18 dimensions

–Square, round corner

– Diameter range D3-D16

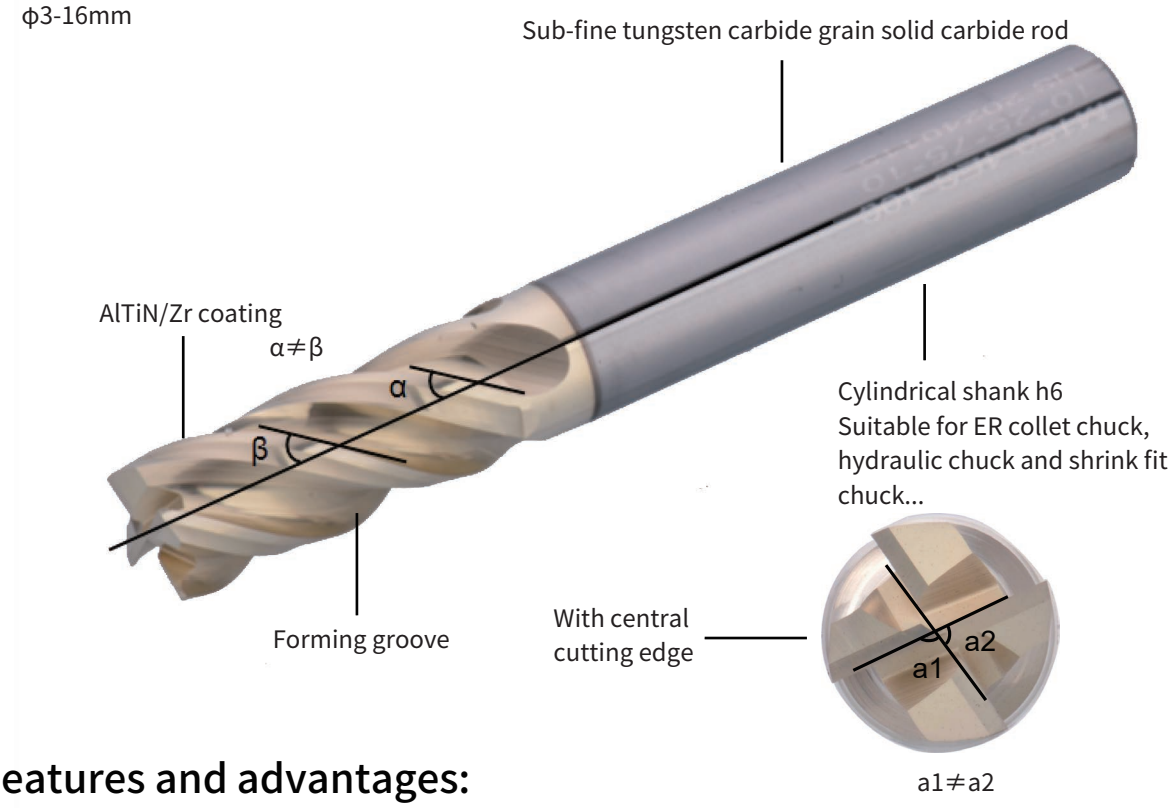
Application

– ISO workpiece material group: P, M and S

– Side edge milling, full slot milling, pocket milling, helical interpolated milling, slope milling, forming milling

– Application range: medical industry, aerospace industry and 3C industry

M150 end mills for stainless steel, Titanium alloy



Features and advantages:

– The differential teeth distance and helix eliminate vibration.

– The forming groove design acquires smoother chip removal.

– Sub-fine tungsten carbide grain solid carbide rod has good impact resistance and thermal fatigue resistance.

– AlTiN/Zr coating with smooth surface effectively reduces the stickiness of workpiece and the built-up edge in the machining.

Solid Carbide End Mill Denomination

M	1	50	—	4	R	S	—	060	002	N
1	2	3		4	5	6		7	8	9

1
Tool Category
M End Mill

2
Generation
1

3
Series
00-09 Universal end mills HRC45°
10-19 Universal end mills HRC55°
20-29 High performance end mills
30-39 Dedicated for steel
40-49 Dedicated for Aluminium alloy
50-59 Dedicated for stainless steel
60-69 Dedicated for S group material
70-79 Dedicated for hardened material
80-99 Others

4
Teeth
2, 3, 4, 5, 6……

5
Tool Type
E Square
B Ball nose
R Round corner
C Chamfer
P With waved edges
W Forming end mills
T Taper end mills
H High feed milling

6
Length
S Standard
L Long version
X Super long version
A Extra long version
SP Long cutting edge
LP Long version& Long cutting edge
SN Short cutting edge

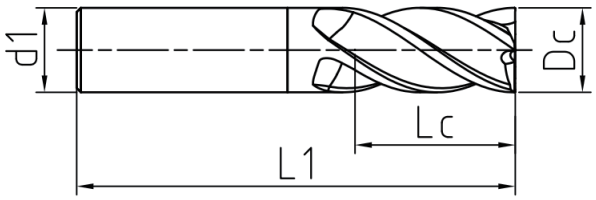
7
Tool Diameter
Inch
0.125=0.125 in=1/8 in
0.188=0.188 in=3/16 in
Metric
060=6.0mm
200=20.0mm

8
Round Corner Chamfer Size
Inch
R015=0.015 in
Metric
002=0.2mm

9
Structure Type
N Straight necking
C Conical necking
P Special shank
W Side lock shank
Default: No necking

Solid Carbide End Mills M150

Square end mills with 4 cutting edges



P	M	K	N	S	H
●●	●●			●●	

Product Code	Dc mm h9	d1 mm h6	Lc mm	L1 mm	Z	Stock
M150-4ES-010	1	4	3	50	4	○
M150-4ES-015	1.5	4	4	50	4	○
M150-4ES-020	2	4	6	50	4	○
M150-4ES-025	2.5	4	8	50	4	○
M150-4ES-030	3	4	8	50	4	●
M150-4ES-040	4	4	12	50	4	●
M150-4ES-050	5	6	13	50	4	●
M150-4ES-060	6	6	16	50	4	●
M150-4ES-080	8	8	20	60	4	●
M150-4ES-100	10	10	25	75	4	●
M150-4ES-120	12	12	30	75	4	●
M150-4ES-160	16	16	36	100	4	●
M150-4ES-200	20	20	45	100	4	○

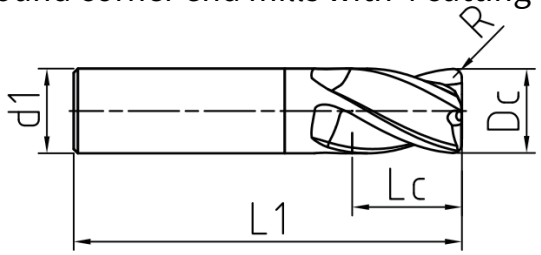
Marked:● Stocked ○ Non-stocked

Product Code	Dc mm h9	d1 mm h6	Lc mm	L1 mm	Z	Stock
M150-4EL-030	3	4	15	60	4	○
M150-4EL-040	4	4	20	60	4	○
M150-4EL-060	6	6	25	75	4	○
M150-4EL-080	8	8	30	75	4	○
M150-4EL-100	10	10	40	100	4	○
M150-4EL-120	12	12	45	100	4	○

Marked:● Stocked ○ Non-stocked

Solid Carbide End Mills M150

Round corner end mills with 4 cutting edges



P	M	K	N	S	H
●●	●●			●●	

Product Code	Dc mm h9	d1 mm h6	Rmm ±0.02	Lc mm	L1 mm	Z	Stock
M150-4RS-010002	1	4	0.2	3	50	4	○
M150-4RS-015002	1.5	4	0.2	4	50	4	○
M150-4RS-020002	2	4	0.2	6	50	4	○
M150-4RS-020005	2	4	0.5	6	50	4	○
M150-4RS-025005	2.5	4	0.5	8	50	4	○
M150-4RS-030002	3	4	0.2	8	50	4	○
M150-4RS-030005	3	4	0.5	8	50	4	○
M150-4RS-040002	4	4	0.2	12	50	4	●
M150-4RS-040005	4	4	0.5	12	50	4	○
M150-4RS-040010	4	4	1	12	50	4	○
M150-4RS-060002	6	6	0.2	16	50	4	○
M150-4RS-060005	6	6	0.5	16	50	4	●
M150-4RS-060010	6	6	1	16	50	4	○
M150-4RS-080002	8	8	0.2	20	60	4	○
M150-4RS-080005	8	8	0.5	20	60	4	●
M150-4RS-080010	8	8	1	20	60	4	●
M150-4RS-100005	10	10	0.5	25	75	4	●
M150-4RS-100010	10	10	1	25	75	4	●
M150-4RS-100020	10	10	2	25	75	4	●
M150-4RS-120005	12	12	0.5	30	75	4	●
M150-4RS-120010	12	12	1	30	75	4	●
M150-4RS-120020	12	12	2	30	75	4	●

Marked:● Stocked ○ Non-stocked

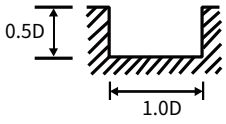
Solid Carbide End Mills M150 Cutting Parameter

The provided cutting data represents typical recommended values. Adjustment may be necessary for specific or unique applications.

Workpiece Materials					
ISO	Material classification			Brinell hardness (HB)	Tensile strength Rm(N/ mm²)
P	Non-alloyed 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
		Free cutting steel (short-chipping)	Annealed	220	745
	Low-alloyed steel	Annealed		175	591
		Heat-treated		300	1013
		Heat-treated		380	1282
		Heat-treated		430	1477
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675
		Hardened and tempered		300	1013
		Hardened and tempered		400	1361
	Stainless steel	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	Ferritic		200	400
		Pearlitic		260	700
	Grey cast iron	Low tensile strength		180	200
		High tensile strength/austenitic		245	350
	Cast iron with spheroidal graphite	Ferritic		155	400
		Pearlitic		265	700
	GGV(CGI)			230	400
N	Wrought aluminium alloys	non-aging		30	-
		aged		100	340
	Cast aluminium alloys	≤ 12% Si, non-aging		75	260
		≤ 12% Si, aged		90	310
		> 12% Si, non-aging		130	450
	Magnesium-based 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		300	1010
S	Heat-resistant alloys	Fe-based	Annealed	200	680
			Hardened	280	940
		Ni or Co based	Annealed	250	840
			Hardened	350	1180
			Cast	320	1080
	Titanium alloys	Pure titanium		200	680
		α and β alloys, hardened		375	1260
		β alloys		410	1400
	Tungsten alloys			300	1010
	Molybdenum alloys			300	1010
H	Hardened steel	Hardened and tempered		50HRC	
		Hardened and tempered		55HRC	
		Hardened and tempered		60HRC	
	Chilled cast iron	Hardened and tempered		50HRC	

M150-4ES、M150-4RS

Slot Milling



Cutting Speed Vc(m/min)	fz[mm/Teeth] Diameter[mm]					
	4	6	8	10	12	16
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~70	0.015	0.030	0.035	0.045	0.055	0.065
45~55	0.013	0.025	0.030	0.040	0.049	0.058
50~60	0.013	0.025	0.030	0.040	0.049	0.058
50~60	0.013	0.025	0.030	0.040	0.049	0.058
50~60	0.013	0.025	0.030	0.040	0.049	0.058
45~55	0.013	0.024	0.028	0.037	0.046	0.055
45~55	0.013	0.024	0.028	0.037	0.046	0.055
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~70	0.015	0.030	0.035	0.045	0.055	0.065
40~50	0.013	0.024	0.028	0.037	0.046	0.055
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~70	0.015	0.030	0.035	0.045	0.055	0.065
50~60	0.013	0.024	0.028	0.037	0.046	0.055
50~70	0.015	0.030	0.035	0.045	0.055	0.065
25	0.013	0.017	0.026	0.035	0.044	0.053
25	0.013	0.017	0.026	0.035	0.044	0.053
25	0.013	0.017	0.026	0.035	0.044	0.053
25	0.010	0.014	0.023	0.032	0.041	0.050
25	0.010	0.014	0.023	0.032	0.041	0.050
50	0.015	0.020	0.030	0.040	0.050	0.060
40	0.010	0.014	0.023	0.032	0.041	0.050
40	0.010	0.014	0.023	0.032	0.041	0.050
25	0.010	0.014	0.023	0.032	0.041	0.050
25	0.010	0.014	0.023	0.032	0.041	0.050

Solid Carbide End Mills M150 Cutting Parameter

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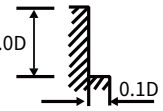
Workpiece Materials					
ISO	Material classification			Brinell hardness (HB)	Tensile strength Rm(N/ mm²)
P	Non-alloyed steel	C≤0.25%	Annealed	125	428
		0.25<C≤0.55%	Annealed	190	639
		0.25<C≤0.55%	Heat-treated	210	708
		C>0.55%	Annealed	190	639
		C>0.55%	Heat-treated	300	1013
		Free cutting steel (short-chipping)	Annealed	220	745
	Low-alloyed steel	Annealed		175	591
		Heat-treated		300	1013
		Heat-treated		380	1282
		Heat-treated		430	1477
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675
		Hardened and tempered		300	1013
		Hardened and tempered		400	1361
	Stainless steel	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	Ferritic		200	400
		Pearlitic		260	700
	Grey cast iron	Low tensile strength		180	200
		High tensile strength/austenitic		245	350
	Cast iron with spheroidal graphite	Ferritic		155	400
		Pearlitic		265	700
	GGV(CGI)			230	400
N	Wrought aluminium alloys	non-aging		30	-
		aged		100	340
	Cast aluminium alloys	≤ 12% Si, non-aging		75	260
		≤ 12% Si, aged		90	310
		> 12% Si, non-aging		130	450
	Magnesium-based 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		300	1010
S	Heat-resistant alloys	Fe-based	Annealed	200	680
			Hardened	280	940
		Ni or Co based	Annealed	250	840
			Hardened	350	1180
			Cast	320	1080
	Titanium alloys	Pure titanium		200	680
		α and β alloys, hardened		375	1260
		β alloys		410	1400
	Tungsten alloys			300	1010
	Molybdenum alloys			300	1010
H	Hardened steel	Hardened and tempered		50HRC	
		Hardened and tempered		55HRC	
		Hardened and tempered		60HRC	
	Chilled cast iron	Hardened and tempered		50HRC	

M150-4ES、M150-4RS

Shoulder Milling(Roughing)



Cutting Speed Vc(m/min)	fz[mm/Teeth] Diameter[mm]					
	4	6	8	10	12	16
60~110	0.020	0.025	0.040	0.050	0.060	0.070
60~110	0.020	0.025	0.040	0.050	0.060	0.070
60~110	0.020	0.025	0.040	0.050	0.060	0.070
60~110	0.020	0.025	0.040	0.050	0.060	0.070
60~90	0.018	0.022	0.036	0.045	0.054	0.063
60~100	0.018	0.022	0.036	0.045	0.054	0.063
60~100	0.018	0.022	0.036	0.045	0.054	0.063
60~100	0.018	0.022	0.036	0.045	0.054	0.063
50~80	0.015	0.025	0.035	0.045	0.055	0.065
50~80	0.015	0.025	0.035	0.045	0.055	0.065
60~100	0.018	0.022	0.036	0.045	0.054	0.063
60~100	0.018	0.022	0.036	0.045	0.054	0.063
40~70	0.015	0.025	0.035	0.045	0.055	0.065
60~110	0.020	0.025	0.040	0.050	0.060	0.070
60~100	0.020	0.025	0.040	0.050	0.060	0.070
60~110	0.020	0.025	0.040	0.050	0.060	0.070
60~100	0.015	0.025	0.035	0.045	0.055	0.065
60~110	0.020	0.025	0.040	0.050	0.060	0.070
30	0.013	0.022	0.031	0.040	0.049	0.058
30	0.013	0.022	0.031	0.040	0.049	0.058
30	0.013	0.022	0.031	0.040	0.049	0.058
30	0.010	0.019	0.028	0.037	0.046	0.055
30	0.010	0.019	0.028	0.037	0.046	0.055
60	0.015	0.025	0.035	0.045	0.055	0.065
50	0.010	0.019	0.028	0.037	0.046	0.055
50	0.010	0.019	0.028	0.037	0.046	0.055
30	0.010	0.019	0.028	0.037	0.046	0.055
30	0.010	0.019	0.028	0.037	0.046	0.055

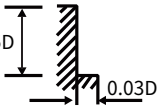
Solid Carbide End Mills M150 Cutting Parameter

The provided cutting data represents typical recommended values. Adjustment may be necessary for specific or unique applications.

Workpiece Materials					
ISO	Material classification			Brinell hardness (HB)	Tensile strength Rm(N/ mm²)
P	Non-alloyed 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
		Free cutting steel (short-chipping)	Annealed	220	745
	Low-alloyed steel	Annealed		175	591
		Heat-treated		300	1013
		Heat-treated		380	1282
		Heat-treated		430	1477
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675
		Hardened and tempered		300	1013
		Hardened and tempered		400	1361
	Stainless steel	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	Ferritic		200	400
		Pearlitic		260	700
	Grey cast iron	Low tensile strength		180	200
		High tensile strength/austenitic		245	350
	Cast iron with spheroidal graphite	Ferritic		155	400
		Pearlitic		265	700
	GGV(CGI)			230	400
N	Wrought aluminium alloys	non-aging		30	-
		aged		100	340
	Cast aluminium alloys	≤ 12% Si, non-aging		75	260
		≤ 12% Si, aged		90	310
		> 12% Si, non-aging		130	450
	Magnesium-based 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		300	1010
S	Heat-resistant alloys	Fe-based	Annealed	200	680
			Hardened	280	940
		Ni or Co based	Annealed	250	840
			Hardened	350	1180
			Cast	320	1080
	Titanium alloys	Pure titanium		200	680
		α and β alloys, hardened		375	1260
		β alloys		410	1400
	Tungsten alloys			300	1010
	Molybdenum alloys			300	1010
H	Hardened steel	Hardened and tempered		50HRC	
		Hardened and tempered		55HRC	
		Hardened and tempered		60HRC	
	Chilled cast iron	Hardened and tempered		50HRC	

M150-4ES、M150-4RS

Shoulder Milling(Finishing)



Cutting Speed Vc(m/min)	fz[mm/Teeth] Diameter[mm]					
	4	6	8	10	12	16
80~130	0.020	0.025	0.040	0.050	0.060	0.070
80~130	0.020	0.025	0.040	0.050	0.060	0.070
80~130	0.020	0.025	0.040	0.050	0.060	0.070
80~130	0.020	0.025	0.040	0.050	0.060	0.070
70~100	0.018	0.022	0.036	0.045	0.054	0.063
70~110	0.018	0.022	0.036	0.045	0.054	0.063
70~110	0.018	0.022	0.036	0.045	0.054	0.063
70~110	0.018	0.022	0.036	0.045	0.054	0.063
70~90	0.015	0.025	0.035	0.045	0.055	0.065
70~90	0.015	0.025	0.035	0.045	0.055	0.065
70~110	0.018	0.022	0.036	0.045	0.054	0.063
70~110	0.018	0.022	0.036	0.045	0.054	0.063
60~80	0.015	0.025	0.035	0.045	0.055	0.065
80~130	0.020	0.025	0.040	0.050	0.060	0.070
80~130	0.020	0.025	0.040	0.050	0.060	0.070
80~130	0.020	0.025	0.040	0.050	0.060	0.070
70~110	0.015	0.025	0.035	0.045	0.055	0.065
80~130	0.020	0.025	0.040	0.050	0.060	0.070
30	0.013	0.022	0.031	0.040	0.049	0.058
30	0.013	0.022	0.031	0.040	0.049	0.058
30	0.013	0.022	0.031	0.040	0.049	0.058
30	0.010	0.019	0.028	0.037	0.046	0.055
30	0.010	0.019	0.028	0.037	0.046	0.055
80	0.015	0.025	0.035	0.045	0.055	0.065
60	0.010	0.019	0.028	0.037	0.046	0.055
60	0.010	0.019	0.028	0.037	0.046	0.055
30	0.010	0.019	0.028	0.037	0.046	0.055
30	0.010	0.019	0.028	0.037	0.046	0.055