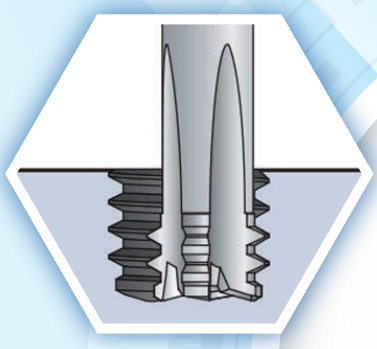
AXIS
Tools for mICRO mACHINING

Solid Carbide **Thread Mill**

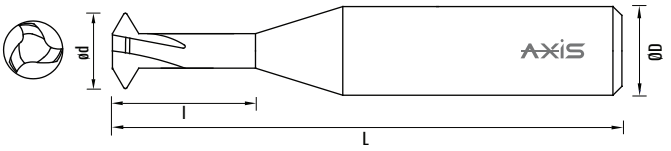
MMP® TECHNOLOGY
Embedded



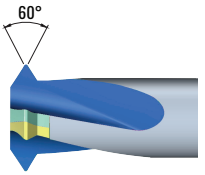
ISO 9001 Q ISO 13485
ISO 14001 45001

Solid Carbide Thread Mill
F500-SN

SS | Titanium | Super Alloys | Steel Alloys | Cast Iron



Z 3 | 12° | AxiH | AXIS+ | Edge Prep



APPLICATION

A versatile tool designed for Threading on Steel Alloys, Stainless Steel, Titanium and Super Alloys in Medical, Digital Dentistry and Automotive segments

FEATURES & BENEFITS

Precisely controlled dimensions for accurate thread

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Cutting edge preparation by MMP Superfinishing process for superior edge strength, better chip evacuation, better coating adhesion and longer tool life

Metric Thread — Single Pitch

MC	MF	Pitch P	ød	Neck Length l	L	ØD h6	Z
M0.6X0.150		0.150	0.43	1.7	38	3.00	3
M0.7X0.175		0.175	0.50	2.0	38	3.00	3
M0.8X0.200		0.200	0.57	2.3	38	3.00	3
M0.9X0.225		0.225	0.64	2.6	38	3.00	3
M1X0.25	-	0.250	0.71	2.9	38	3.00	3
-	M1X0.20	0.200	-	-	38	3.00	3
M1.2X0.25	M1.4X0.25 M1.6X0.25	0.250	0.91	3.4	38	3.00	3
M1.4X0.30	-	0.300	1.06	3.9	38	3.00	3
M1.6X0.35	-	0.350	1.20	4.5	38	3.00	3

UN Thread — Single Pitch

UNC	UNF	TPI	ød	Neck Length l	L	ØD h6	Z
-	#0-80	80	1.15	4.3	38	3.00	3
#1-64	#2-64	64	1.45	5.1	38	3.00	3

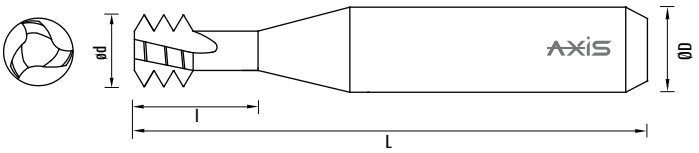
World of mICRO Tools

ISO 9001 Q ISO 13485 ISO 14001 45001

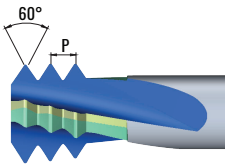
www.axis-microtools.com

Solid Carbide Thread Mill
F502-SN

Steel Alloys | SS | Cast Iron | Titanium | Super Alloys



Z 3,4 | 12° | AxiH | AXIS+ | Edge Prep



APPLICATION

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World of mICRO Tools

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Metric Thread — 3 Pitch

MC	MF	Pitch P	ød	Neck Length l	L	ØD h6	Z
M1.8X0.35	M2X0.35	0.35	1.40	5.0	38	3.00	3
M2X0.40	-	0.40	1.54	5.6	38	3.00	3
M2.5X0.45	-	0.45	1.98	6.9	38	3.00	3
M3X0.50	-	0.50	2.43	8.4	50	4.00	4
M3.5X0.60	-	0.60	2.81	9.9	50	4.00	4
M4X0.70	-	0.70	3.20	11.3	50	6.00	4
M5X0.80	-	0.80	4.08	14.0	50	6.00	4
M6X1.00	M8X1.00	1.00	4.90	16.8	50	6.00	4

UN Thread — 3 Pitch

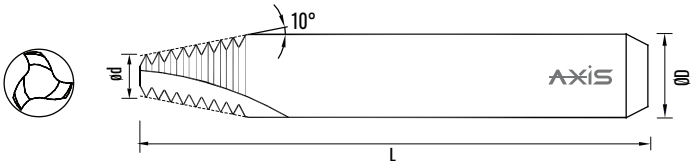
UNC	UNF	TPI	ød	Neck Length l	L	ØD h6	Z
-	#1-72	72	1.45	5.1	38	3.00	3
#2-56	-	56	1.66	6.1	38	3.00	3
#4-40	-	40	2.11	7.9	50	4.00	3
-	#4-48	48	2.23	7.9	50	4.00	3
#5-40	#6-40	40	2.47	9.0	50	4.00	4
#6-32	-	32	2.59	10.2	50	4.00	4
#8-32	#10-32	32	3.25	11.9	50	6.00	4
-	#8-36	36	3.35	11.9	50	6.00	4
#10-24	5/16"-24	24	3.60	14.0	50	6.00	4
-	#10-32	32	3.91	14.0	50	6.00	4
1/4"-20	-	20	4.89	18.2	50	6.00	4
-	1/4"-28	28	4.95	18.2	50	6.00	4
5/16"-18	-	18	5.95	23.0	63	6.00	4
-	5/16"-24	24	5.95	23.0	63	6.00	4

• UNC : Unified National Coarse Thread • UNF : Unified National Fine Thread

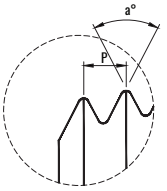
Solid Carbide Taper Thread Mill

F505-SN

SS | Titanium | Super Alloys | Steel Alloys



Z 3 | AxiH | Edge Prep



APPLICATION

A versatile tool designed for Threading on Steel Alloys, Stainless Steel, Titanium and Super Alloys in Medical.

Pitch P	ød	Thread Angle a°	L	ØD h6	Z
0.30	1.50	55°	38	3.00	3
0.35	1.80	55°	45	4.00	3
0.40	2.50	55°	57	6.00	3
0.50	2.90	55°	57	6.00	3
0.60	3.80	55°	57	6.00	3
0.40	3.20	60°	57	6.00	3
0.50	2.90	60°	57	6.00	3

FEATURES & BENEFITS

Precisely controlled dimensions for accurate thread.

Designed for threading at faster feed.

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness.

Cutting edge preparation by MMP Superfinishing process for superior edge strength, better chip evacuation, better coating adhesion and longer tool life.

World of mICRO Tools

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Cutting Parameters F500-SN / F502-SN

Materials			Dia Range		
			0.30 - 1.00	1.01 - 3.00	3.01 - 6.00
P	Low/Unalloyed Steel <600 N/mm²	Vc m/min	50-56	50-56	50-56
		Fz mm/tooth	0.004-0.01	0.01-0.05	0.02-0.10
	Low/Unalloyed Steel 600-1000 N/mm²	Vc m/min	50-56	50-56	50-56
		Fz mm/tooth	0.004-0.01	0.01-0.05	0.02-0.10
	High Alloyed Steel 700-1500 N/mm²	Vc m/min	50-56	50-56	50-56
		Fz mm/tooth	0.004-0.01	0.01-0.05	0.02-0.10
M	Ferritic/ Martensitic	Vc m/min	20-26	20-26	20-26
		Fz mm/tooth	0.004-0.010	0.01-0.03	0.02-0.05
	Austenitic	Vc m/min	20-26	20-26	20-26
		Fz mm/tooth	0.004-0.010	0.01-0.03	0.02-0.05
	Duplex/PH > 800 N/mm²	Vc m/min	20-26	20-26	20-26
		Fz mm/tooth	0.004-0.010	0.01-0.03	0.02-0.05
K	GCI/NCI <180 BHN	Vc m/min	68-74	68-74	68-74
		Fz mm/tooth	0.004-0.010	0.01-0.05	0.04-0.10
	GCI/NCI 200-250 BHN	Vc m/min	50-56	50-56	50-56
		Fz mm/tooth	0.004-0.010	0.01-0.05	0.04-0.10
S	Ti-Based	Vc m/min	12 - 15	12 - 15	12 - 15
		Fz mm/tooth	0.004-0.010	0.01-0.03	0.02-0.05
	Fe, Ni, Co-Based	Vc m/min	10 - 15	10 - 15	10 - 15
		Fz mm/tooth	0.004-0.010	0.01-0.03	0.02-0.05

ø 0.43 - 1.45 mm Art : F500-SN

Case Study Solid Carbide Thread Mill

Product Features

- Precisely controlled dimensions for accurate thread
- Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness
- Cutting edge preparation by MMP Superfinishing process for superior edge strength, chip evacuation, better coating adhesion and longer tool life

Application

Material	SS304
Machine	VMC Makino
Component	Watch Case

Accomplishment

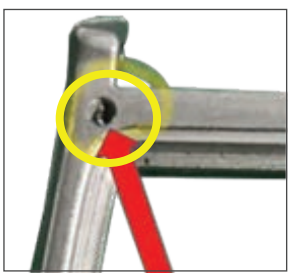
- Increased tool life 250 to 500 components
- CPC reduced from 18.8 INR to 2.6 INR reduced by 7 times
- Ease of alignment between back cover and case components
- Burr free component and better finish

Performance

Tool Description : ø0.91 x 3.40 x 39.00 x 3.00mm			
Tool Used		Competitor	AXIS
Thread Dimensions		M1.2x0.25P	M1.2x0.25P
Coating		Yes	Yes
Post Coat Treatment		N/A	Yes
Cutting Speed	m/min	25	25
RPM		8500	8500
Feed	mm/min	250	250
Burr		Visible	No burr better surface finish
Life (Components)		250	500

Wear Analysis

Competitor

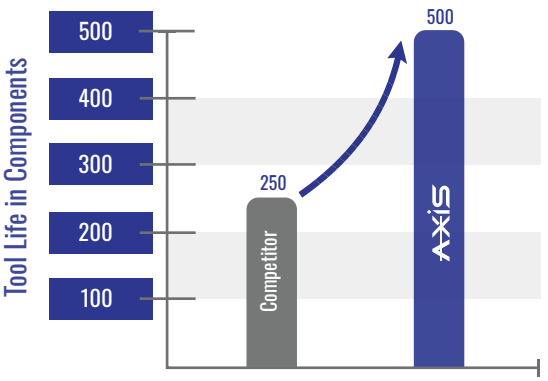


Burr on component

AXIS

Burr free component and better finish

Results



AXIS

Long-Standing Experience in mICRO Tools

Solid Carbide Thread Mill

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02-08/2025