AHB TOOLING & MACHINERY

COMPLETE METALWORKING SOLUTIONS

(800) 991-4225
www.ahbinc.com
ISO Certified
customerservice@ahbinc.com

YU-TM21 AMERICA

BEST VALUE IN THE WORLD OF CUTTING TOOLS

Registered ISO 9001:2015 / ISO 14001:2015

AHB TOOLING & MACHINERY
COMPLETE METALWORKING SOLUTIONS

YG-1 CO., LTD.

YG-1 USA
730 Corporate Woods Parkway, Vernon Hills, IL 60061 U.S.A.
Phone: 800-991-4225

YG-1 CANADA
3375 North Service Road,Unit A8, Burlington, ON, CANADA, L7N 3G2
Phone: +1-905-335-2500
Fax: +1-905-335-4003
E-mail: orders@yg1.ca
www.yg1.ca

HEAD OFFICE
13-40, Songdogwahak-ro 16beon-gil, Yeonsu-gu, Incheon 21984, South Korea
Notice YG-1 Global head office is relocating from December 2020 to a new address as above;
Phone: +82-32-526-0909
E-mail: yg1@yg1.kr
www.yg1.kr

YouTube

Search 'YG-1' on social media outlets

YG1YUTM210217001

THREAD MILLS

Threading a Range of Hole Sizes with the Same Thread Mill in a Wide Range of Materials

NEW ***with / without Coolant Hole***
with Chamfer
Miniature

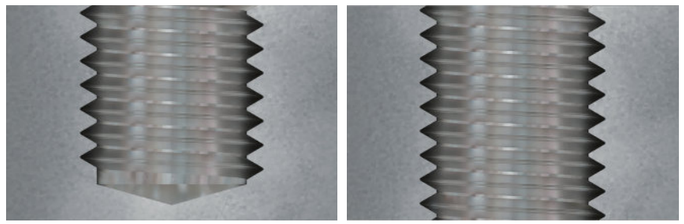
NEW SIZES ***without Coolant Hole***
- M/UN Thread

PRODUCT FEATURES

THREAD MILLS VS. TAPPING

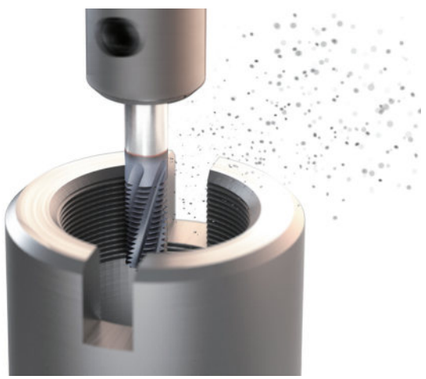
Versatility

- Able to thread a range of hole sizes with the same thread mill
- The same thread mill can produce right and left hand threads with a simple program change
- The same thread mill can produce threads in a wide range of materials
- Capable of producing full threads to the bottom of the hole
- The same thread mill can produce any Class of Fit
- Low cutting forces make thread mills a perfect solution for underpowered machines



Process Improvement

- Hold tight tolerance pitch diameters with program offset changes
- Very low chance of scrap with the ease of removing broken tools from the workpiece
- No issues with chip control as the short chips eliminate bird nesting typically associated with spiral flute taps
- Excellent thread finish with greater control over cutting condition than with tapping

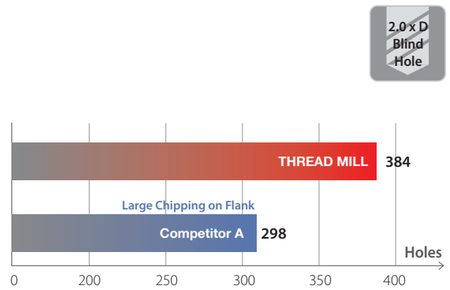


CASE STUDY

with Coolant Hole & Chamfer

▶M10 x 1.5 Carbon Steel

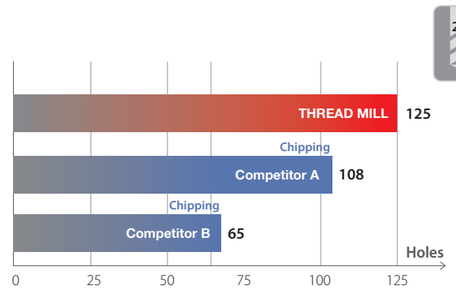
Tool	YG-1	Competitor A
Dimension	M8 x 1.25	M8 x 1.25
	Ø6.5x 16.8x 72	Ø6.2x 16.8x 72
Work Material	Carbon Steel (1045 / C45 / S45C) HB228 (HRc20)	
RPM	5,387 rev./min	
Vc (Tapping Speed)	360.9 ft./min.	
Feed per Tooth	.0012 in./tooth	
Tapping Depth	.63" (2xD)	
Holes	384	298
Cutting Fluid (Coolant)	External Cooling Water Soluble (9% Emulsion)	



Miniature Thread Mill

▶M2x0.4 (TiAlN Coating), Tool Steel

Tool	YG-1	Competitor A	Competitor B
Dimension	M2 x 0.4	M2 x 0.4	M2 x 0.4
	Ø1.52x1.2(4.2)x57	Ø1.55x1.2x57	Ø1.5x1.2x40
Work Material	Tool Steel (SKD61 / X40CrMoV5-1 / H13) HB371 (HRc40)		
RPM	14,659 rev./min		
Vc (Tapping Speed)	229.7 ft./min.		
Feed per Tooth	.00047 in./tooth		
Tapping Depth	.16" (2xD)		
Holes	125	108	65
Cutting Fluid (Coolant)	External Cooling Water Soluble (9% Emulsion)		



ICON GUIDE

Work Piece Material — MU (Material groups)

Tool Raw Material — CARBIDE

Type of Shank — PLAIN

Helix Angle — R15°

Thread Angle — 60°

Coating — TiAlN

Cutting Condition Page

SELECTION GUIDE

SOLID CARBIDE THREAD MILLS

Threading a Range of Hole Sizes with the Same Thread Mill in a Wide Range of Materials

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.21

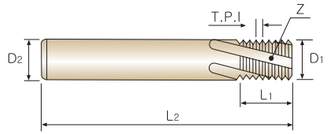
THREAD MILL TYPE	without Coolant Hole	with Coolant Hole	without Coolant Hole	with Coolant Hole	with Coolant Hole & Chamfer		Miniature		without Coolant Hole	with Coolant Hole	without Coolant Hole	with Coolant Hole	without Coolant Hole	with Coolant Hole
THREAD STANDARD	UN	UN	M	M	UN	M	UN	M	NPT	NPT	NPTF	NPTF	NPS	NPS
HOLE TYPE	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole	Blind / Through Hole
TOOL MATERIAL	CARBIDE			CARBIDE	CARBIDE		CARBIDE		CARBIDE					
FLUTE TYPE	Helix			Helix	Helix		Helix		Helix					
HELIX ANGLE	R15			R15	R15		R15		R15					
SERIES NO.	TE (P.06~07)	L421E (P.08)	TD (P.09)	L421D (P.10)	L427E (P.11)	L427D (P.12)	L12DE (P.13)	L12DD (P.14)	TF (P.15)	L621F (P.16)	TG (P.17)	L621G (P.18)	L121K (P.19)	L421K (P.20)
COATING	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN
MODEL	 NEW SIZES	 NEW	 NEW SIZES	 NEW	 NEW	 NEW	 NEW	 NEW		 NEW		 NEW	 NEW	 NEW

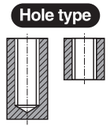
ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC	Examples	TE	L421E	TD	L421D	L427E	L427D	L12DE	L12DD	TF	L621F	TG	L621G	L121K	L421K
P	1	Non-alloy steel	About 0.15% C	Annealed	125		S15C, C15, 1015	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	S45C, C45, 1045	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	SK5, Ck75, 1080	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	SCM440, 42CrMo4, 410	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	7			Quenched & Tempered	275	29		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8			Quenched & Tempered	300	32		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9			Quenched & Tempered	350	38		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	SKD, D2	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	SKH, SUH, M42	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	SUS 420, X40Cr13, 420	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	13		Martensitic	Quenched & Tempered	240	23		○	○	○	○	○	○	○	○	○	○	○	○	○	○
	14		Austenitic		180	10	SUS 316, 316, X5CrNiMo 17 12 2	○	○	○	○	○	○	○	○	○	○	○	○	○	○
K	15	Grey cast iron	Pearlitic / ferritic		180	10	FC, GG, EN-GJL-250	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	16		Pearlitic (Martensitic)		260	26		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	17	Nodular cast iron	Ferritic		160	3	FCD, GGG, EN-GJS-500-7	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	18		Pearlitic		250	25		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	19	Malleable cast iron	Ferritic		130		FCMW, FCMP, GTS, GJMB350-10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	20		Pearlitic		230	21		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	21	Aluminum-wrought alloy	Not Curable		60		SAE 1000, AlMg 1, 3.3315	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	22		Curable	Hardened	100		SAE 7050, AlCuMg 1, 3.1325	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		ADC12, G-AlSi12, 3.2581	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	24		≤ 12% Si, Curable	Hardened	90		C4BS, G-AlSi10Mg, 3.2381	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	25		> 12% Si, Not Curable		130			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		CuZn36Pb 3, 2.0375	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	27		CuZn, CuSnZn (Brass)		90		CuZn 15, 2.0240	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	28		CuSn, lead-free copper and electrolytic copper		100		G-CuZn40Fe, 2.0590	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				CFRP	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	30		Rubber, Wood, etc.					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	X12 NiCrSi 36-16, 1.4864	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	32			Cured	280	30		○	○	○	○	○	○	○	○	○	○	○	○	○	○
	33		Ni or Co Based	Annealed	250	25	Inconel 718, NiCr20TiAl, 2.4631	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	34			Cured	350	38	NiCu30Al, 2.4375	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	35			Cast	320	34	G-X120Mn12, 1.3401	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	36	Titanium Alloys	Pure Titanium		400 Rm			○	○	○	○	○	○	○	○	○	○	○	○	○	○
	37		Alpha + Beta Alloys	Hardened	1050 Rm		TiAl6V4, 3.7165	○	○	○	○	○	○	○	○	○	○	○	○	○	○
H	38	Hardened steel		Hardened	550	55	SK3														
	39			Hardened	630	60															
	40	Chilled Cast Iron		Cast	400	42															
	41	Hardened Cast Iron		Hardened	550	55															

UN Solid Carbide Thread Mills for Unified Internal Threads - ANSI B1.1

NEW SIZES

TiAlN **TE** SERIES





Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

* NEW SIZE

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
#2	64	.065	.125	.125	2.000	3	* **TE100**
#2	56	.065	.125	.125	2.000	3	**TE080**
#3	48	.075	.125	.167	2.000	3	**TE120**
#5	44	.095	.125	.228	2.000	3	**TE220**
#4	40	.085	.125	.175	2.000	3	**TE160**
#8	36	.115	.125	.250	2.000	3	**TE300**
#6	32	.100	.125	.218	2.000	3	**TE240**
#8	32	.115	.125	.250	2.000	3	**TE280**
#10	32	.120	.125	.312	2.000	3	**TE340**
1/2	32	.370	.375	1.000	3.500	4	**TEF90**
#10	28	.120	.125	.312	2.000	3	**TEK90**
1/4	28	.180	.187	.500	2.500	3	**TE420**
1/2	28	.370	.375	1.000	3.500	4	**TE590**
#10	24	.120	.125	.312	2.000	3	**TE320**
5/16	24	.235	.250	.625	2.500	3	**TE460**
3/8	24	.285	.312	.750	3.000	4	**TE500**
1/2	24	.370	.375	1.000	3.500	4	**TE570**
1/4	20	.180	.187	.500	2.500	3	**TE400**
7/16	20	.335	.375	.875	3.500	4	**TE540**
1/2	20	.370	.375	1.000	3.500	4	**TE580**
5/16	18	.235	.250	.625	2.500	3	**TE440**
9/16	18	.370	.375	.875	3.500	4	**TE620**
3/8	16	.285	.312	.750	3.000	4	**TE480**
3/4	16	.490	.500	1.250	3.500	4	**TE720**
7/16	14	.305	.312	.750	3.000	4	**TE520**
7/8	14	.490	.500	1.250	3.500	4	**TE760**
1/2	13	.350	.375	.875	3.500	4	**TE560**
9/16	12	.370	.375	.875	3.500	4	**TE600**

▶ NEXT PAGE

◎ : Excellent ○ : Good

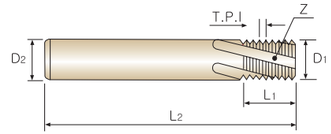
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

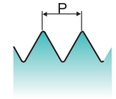
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○					

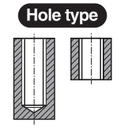
UN Solid Carbide Thread Mills for Unified Internal Threads - ANSI B1.1

NEW SIZES

TiAlN **TE** SERIES







Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

* NEW SIZE

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
3/4	12	.495	.500	1.250	3.500	4	**TE710**
1	12	.745	.750	1.500	4.000	5	**TE800**
5/8	11	.470	.500	1.250	3.500	4	**TE640**
3/4	10	.495	.500	1.250	3.500	4	**TE700**
7/8	9	.620	.625	1.375	4.000	4	**TE740**
1	8	.620	.625	1.375	4.000	4	**TE780**
1-1/8 & 1-1/4	7	.745	.750	1.572	4.500	5	**TE820**
1 3/8	6	.745	.750	1.500	4.500	5	* **TE900**

◎ : Excellent ○ : Good

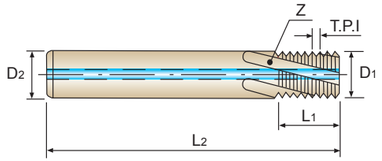
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

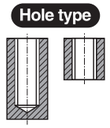
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

UN Solid Carbide Thread Mills with Coolant Hole for Unified Internal Threads - ANSI B1.1

NEW

TiAlN **L421E** SERIES





Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
1/2	32	.370	.375	1.000	3.500	4	**L421EF90**
1/4	28	.180	.187	.500	2.500	3	**L421E420**
1/2	28	.370	.375	1.000	3.500	4	**L421E590**
5/16	24	.235	.250	.625	2.500	3	**L421E460**
3/8	24	.285	.312	.750	3.000	4	**L421E500**
1/2	24	.370	.375	1.000	3.500	4	**L421E570**
1/4	20	.180	.187	.500	2.500	3	**L421E400**
7/16	20	.335	.375	.875	3.500	4	**L421E540**
1/2	20	.370	.375	1.000	3.500	4	**L421E580**
5/16	18	.235	.250	.625	2.500	3	**L421E440**
9/16	18	.370	.375	.875	3.500	4	**L421E620**
3/8	16	.285	.312	.750	3.000	4	**L421E480**
3/4	16	.490	.500	1.250	3.500	4	**L421E720**
7/16	14	.305	.312	.750	3.000	4	**L421E520**
7/8	14	.490	.500	1.250	3.500	4	**L421E760**
1/2	13	.350	.375	.875	3.500	4	**L421E560**
9/16	12	.370	.375	.875	3.500	4	**L421E600**
3/4	12	.495	.500	1.250	3.500	4	**L421E710**
1	12	.745	.750	1.500	4.000	5	**L421E800**
5/8	11	.470	.500	1.250	3.500	4	**L421E640**
3/4	10	.495	.500	1.250	3.500	4	**L421E700**
7/8	9	.620	.625	1.375	4.000	4	**L421E740**
1	8	.620	.625	1.375	4.000	4	**L421E780**
1-1/8" & 1-1/4"	7	.745	.750	1.572	4.500	5	**L421E820**
1-3/8"	6	.745	.750	1.500	4.500	5	**L421E900**

◎ : Excellent ○ : Good

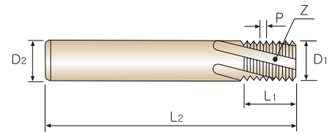
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

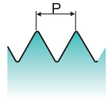
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

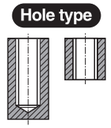
M Solid Carbide Thread Mills for Metric Internal Thread - DIN13

NEW SIZES

TiAlN **TD** SERIES







Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

* NEW SIZE

SIZE	Pitch (mm)	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	P	D1	D2	L1	L2	Z	TiAlN
M3	0.50	.085	.125	.178	2.000	3	**TD200**
M4	0.70	.115	.125	.276	2.000	3	**TD240**
M4.5	0.75	.120	.125	.250	2.000	3	**TD260**
M8	0.75	.235	.250	.625	2.500	3	**TD380**
M5	0.80	.120	.125	.312	2.000	3	**TD280**
M6	1.00	.170	.187	.500	2.500	3	**TD310**
M10	1.00	.300	.312	.750	3.000	4	* **TD440**
M12	1.00	.360	.375	.875	3.500	4	**TD530**
M8	1.25	.235	.250	.625	2.500	3	**TD360**
M10	1.50	.300	.312	.750	3.000	4	**TD420**
M14	1.50	.370	.375	.875	3.500	4	**TD550**
M18	1.50	.490	.500	1.250	3.500	4	**TD670**
M12	1.75	.360	.375	.875	3.500	4	**TD500**
M14	2.00	.370	.375	1.125	3.500	4	* **TD540**
M16	2.00	.470	.500	1.250	3.500	4	**TD600**
M20	2.50	.495	.500	1.250	3.500	4	**TD700**
M24	3.00	.620	.625	1.375	4.000	4	**TD780**

◎ : Excellent ○ : Good

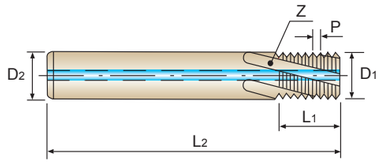
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

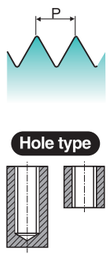
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

M Solid Carbide Thread Mills with Coolant Hole for Metric Internal Thread - DIN13

NEW

TiAlN **L421D** SERIES





Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch (mm)	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	P	D1	D2	L1	L2	Z	TiAlN
M8	0.75	.235	.250	.625	2.500	3	**L421D380**
M6	1.00	.170	.187	.500	2.500	3	**L421D310**
M10	1.00	.300	.312	.750	3.000	4	**L421D440**
M12	1.00	.360	.375	.875	3.500	4	**L421D530**
M8	1.25	.235	.250	.625	2.500	3	**L421D360**
M10	1.50	.300	.312	.750	3.000	4	**L421D420**
M14	1.50	.370	.375	.875	3.500	4	**L421D550**
M18	1.50	.490	.500	1.250	3.500	4	**L421D670**
M12	1.75	.360	.375	.875	3.500	4	**L421D500**
M14	2.00	.370	.375	1.125	3.500	4	**L421D540**
M16	2.00	.470	.500	1.250	3.500	4	**L421D600**
M20	2.50	.495	.500	1.250	3.500	4	**L421D700**
M24	3.00	.620	.625	1.375	4.000	4	**L421D780**

◎ : Excellent ○ : Good

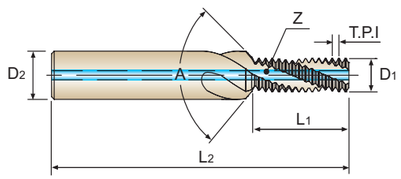
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

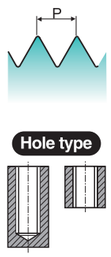
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

UN Solid Carbide Thread Mills with Coolant Hole & Chamfer for Unified Internal Threads - ANSI B1.1

NEW

TiAlN **L427E** SERIES





Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	A	Z	TiAlN
1/4	28	.205	.312	.500	2.500	90°	3	**L427E420**
3/8	24	.325	.500	.750	3.000	90°	4	**L427E500**
1/4	20	.190	.312	.500	2.500	90°	3	**L427E400**
1/2	20	.435	.625	1.000	3.500	90°	4	**L427E580**
5/16	18	.240	.375	.625	2.500	90°	3	**L427E440**
3/8	16	.290	.375	.750	3.000	90°	4	**L427E480**
3/4	16	.655	.750	1.500	4.000	90°	5	**L427E720**
7/16	14	.335	.500	.750	3.500	90°	4	**L427E520**
1/2	13	.385	.500	1.000	3.500	90°	4	**L427E560**
9/16	12	.455	.625	1.200	3.500	90°	4	**L427E600**
5/8	11	.515	.625	1.250	3.500	90°	4	**L427E640**
3/4	10	.630	.750	1.500	4.000	90°	5	**L427E700**

◎ : Excellent ○ : Good

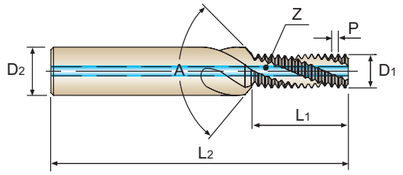
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

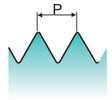
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

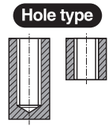
M Solid Carbide Thread Mills with Coolant Hole & Chamfer for Metric Internal Thread - DIN13

NEW

TiAlN **L427D** SERIES







Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch (mm)	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute	EDP No.
	P	D1	D2	L1	L2	A	Z	TiAlN
M6	1.00	.185	.312	.500	2.500	90°	3	**L427D310**
M8	1.25	.250	.375	.630	2.500	90°	3	**L427D360**
M10	1.50	.315	.500	.790	3.000	90°	4	**L427D420**
M12	1.75	.370	.500	.950	3.500	90°	4	**L427D500**

◎ : Excellent ○ : Good

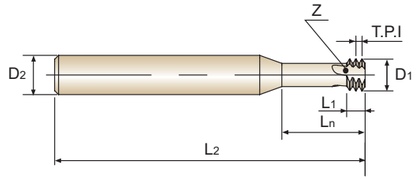
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

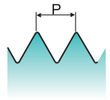
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

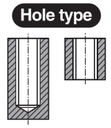
UN Solid Carbide Miniature Thread Mills for Unified Internal Threads - ANSI B1.1

NEW

TiAlN **L12DE** SERIES







Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	Ln	L2	Z	TiAlN
#1	64	.055	.250	.047	.165	2.500	3	**L12DE040**
#2	56	.065	.250	.054	.197	2.500	3	**L12DE080**
#3	48	.075	.250	.063	.236	2.500	3	**L12DE120**
#4	40	.083	.250	.075	.236	2.500	3	**L12DE160**
#8	36	.130	.250	.083	.343	2.500	3	**L12DE300**
#6	32	.100	.250	.094	.292	2.500	3	**L12DE240**
#8	32	.126	.250	.094	.394	2.500	3	**L12DE280**
#10	32	.150	.250	.094	.406	2.500	3	**L12DE340**
1/4	28	.207	.250	.107	.520	2.500	3	**L12DE420**
#10	24	.141	.250	.125	.402	2.500	3	**L12DE320**
5/16	24	.263	.312	.125	.650	2.500	3	**L12DE460**
1/4	20	.192	.250	.150	.528	2.500	3	**L12DE400**
7/16	20	.360	.375	.150	.906	2.500	4	**L12DE540**
5/16	18	.242	.312	.167	.650	2.500	3	**L12DE440**
3/8	16	.264	.375	.188	.752	2.500	3	**L12DE480**
7/16	14	.354	.375	.214	.917	2.500	4	**L12DE520**
1/2	13	.407	.500	.231	1.080	3.000	4	**L12DE560**
9/16	12	.465	.500	.250	1.240	3.500	4	**L12DE600**

◎ : Excellent ○ : Good

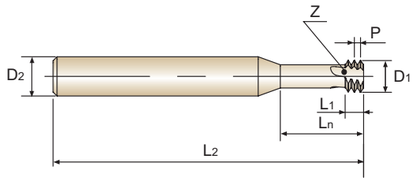
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

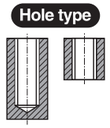
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

M Solid Carbide Miniature Thread Mills for Metric Internal Thread - DIN13

NEW

TiAlN **L12DD** SERIES





Material groups **MU** | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch (mm)	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute	EDP No.
	P	D1	D2	L1	Ln	L2	Z	TiAlN
M1.6	0.35	.047	.125	.041	.134	2.500	3	**L12DD090**
M2	0.40	.061	.250	.047	.165	2.500	3	**L12DD130**
M2.2	0.45	.065	.250	.053	.181	2.500	3	**L12DD150**
M2.5	0.45	.077	.250	.053	.205	2.500	3	**L12DD170**
M3	0.50	.094	.250	.059	.244	2.500	3	**L12DD200**
M3.5	0.60	.108	.250	.071	.287	2.500	3	**L12DD220**
M4	0.70	.124	.250	.083	.327	2.500	3	**L12DD240**
M4.5	0.75	.133	.250	.089	.369	2.500	3	**L12DD260**
M5	0.80	.159	.250	.094	.409	2.500	3	**L12DD280**
M6	1.00	.189	.250	.118	.492	2.500	3	**L12DD310**
M8	1.25	.256	.312	.148	.654	2.500	3	**L12DD360**
M10	1.50	.323	.375	.177	.819	2.500	4	**L12DD420**
M12	1.75	.371	.375	.207	.984	2.500	4	**L12DD500**

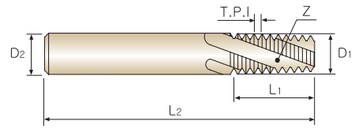
◎ : Excellent ○ : Good

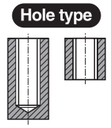
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

NPT Solid Carbide Thread Mills for NPT Thread - ANSI B 1.20.1

TiAlN **TF** SERIES





Material groups **MU** | CARBIDE | PLAIN | 60° | R15° | TiAlN | P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
1/16 & 1/8	27	.245	.250	.437	2.500	3	**TF020**
1/4 & 3/8	18	.305	.312	.625	3.000	4	**TF400**
1/4 & 3/8	18	.363	.375	.680	3.500	4	**TF480**
1/2 & 3/4	14	.495	.500	.875	3.500	4	**TF560**
1" - 2"	11.5	.620	.625	1.125	4.000	4	**TF780**
2-1/2" - 6"	8	.745	.750	1.500	5.000	4	**TFF40**

◎ : Excellent ○ : Good

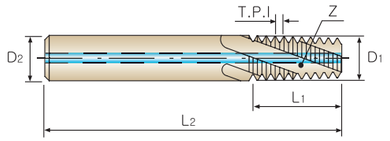
ISO	P										M					K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10		10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180		180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○		◎	◎	◎	◎	◎	◎

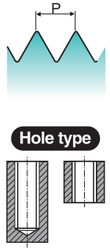
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

NPT Solid Carbide Thread Mills with Coolant Hole for NPT Thread - ANSI B 1.20.1

NEW

TiAlN **L621F** SERIES





Material groups **MU** CARBIDE PLAIN 60° R15° TiAlN P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
1/6 & 1/8	27	.245	.250	.437	2.500	3	**L621F020**
1/4 & 3/8	18	.305	.312	.625	3.000	4	**L621F400**
1/4 & 3/8	18	.363	.375	.680	3.500	4	**L621F480**
1/2 & 3/4	14	.495	.500	.875	3.500	4	**L621F560**
1" - 2"	11.5	.620	.625	1.125	4.000	4	**L621F780**
2-1/2" - 6"	8	.745	.750	1.500	5.000	4	**L621FF40**

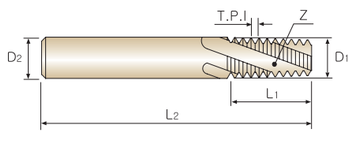
◎ : Excellent ○ : Good

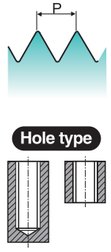
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

NPTF Solid Carbide Thread Mills for NPTF Thread - ANSI B 1.20.3

TiAlN **TG** SERIES





Material groups **MU** CARBIDE PLAIN 60° R15° TiAlN P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
1/16 & 1/8	27	.245	.250	.437	2.500	3	**TG020**
1/4 & 3/8	18	.305	.312	.625	3.000	4	**TG400**
1/2 & 3/4	14	.495	.500	.875	3.500	4	**TG560**
1" -2"	11.5	.620	.625	1.125	4.000	4	**TG780**
2-1/2" - 6"	8	.745	.750	1.500	5.000	4	**TGF40**

◎ : Excellent ○ : Good

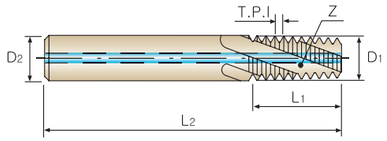
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

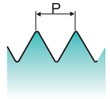
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

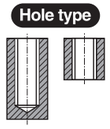
NPTF Solid Carbide Thread Mills with Coolant Hole for NPTF Thread - ANSI B 1.20.3

NEW

TiAlN **L621G** SERIES







P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
1/16 & 1/8	27	.245	.250	.437	2.500	3	**L621G020**
1/4 & 3/8	18	.305	.312	.625	3.000	4	**L621G400**
1/2 & 3/4	14	.495	.500	.875	3.500	4	**L621G560**
1" - 2"	11.5	.620	.625	1.125	4.000	4	**L621G780**
2-1/2" - 6"	8	.745	.750	1.500	5.000	4	**L621GF40**

◎ : Excellent ○ : Good

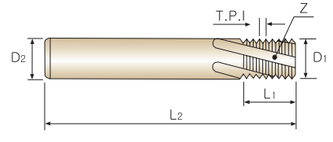
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

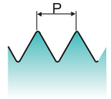
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

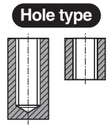
NPS Solid Carbide Thread Mills for NPS Thread - ANSI B 1.20.1

NEW

TiAlN **L121K** SERIES







P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAlN
1/8	27	.245	.250	.556	2.500	3	**L121K020**
1/4 & 3/8	18	.363	.375	.833	3.500	4	**L121K400**
1/2 & 3/4	14	.495	.500	1.071	3.500	4	**L121K560**
1" - 2"	11.5	.620	.625	1.304	4.000	4	**L121K780**

◎ : Excellent ○ : Good

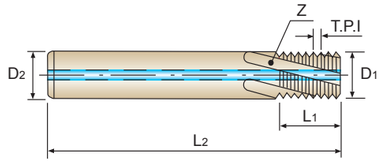
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

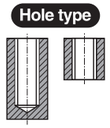
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

NPS Solid Carbide Thread Mills with Coolant Hole for NPS Thread - ANSI B 1.20.1

NEW

TiAIN **L421K** SERIES





Material groups MU | CARBIDE | PLAIN | 60° | R15° | TiAIN | P.21

Unit : inch

SIZE	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute	EDP No.
	TPI	D1	D2	L1	L2	Z	TiAIN
1/8	27	.245	.250	.556	2.500	3	**L421K020**
1/4 & 3/8	18	.363	.375	.833	3.500	4	**L421K400**
1/2 & 3/4	14	.495	.500	1.071	3.500	4	**L421K560**
1" - 2"	11.5	.620	.625	1.304	4.000	4	**L421K780**

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○				

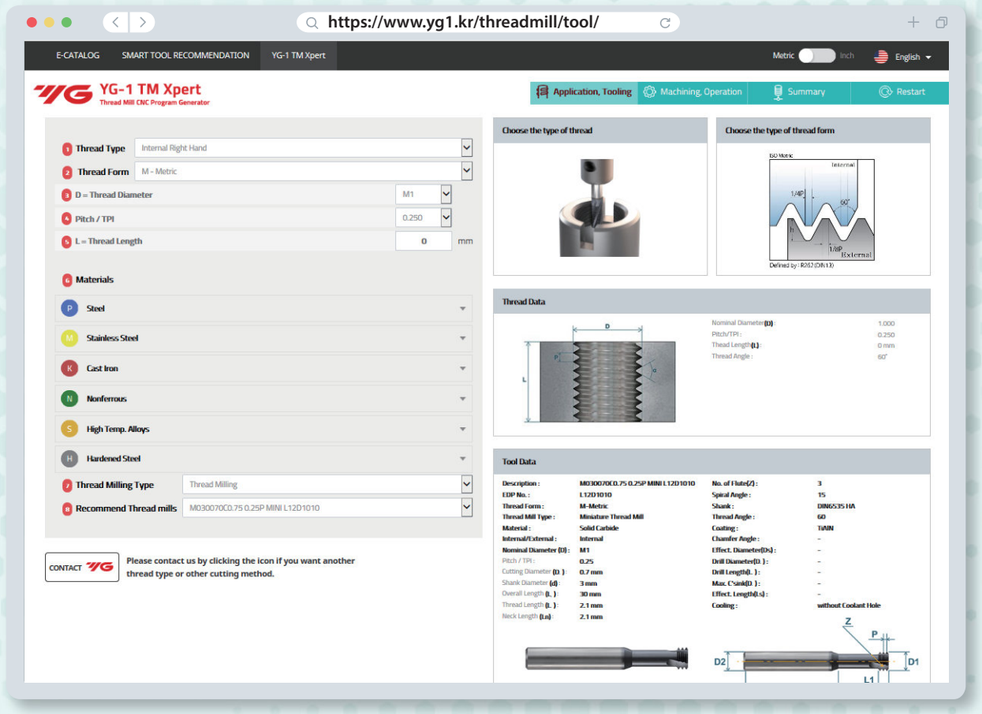
RECOMMENDED CUTTING SPEED AND FEED

ISO	VDI 3323	Material Description	HB	HRC	Cutting Speed (SFM)		Feed per tooth (inch/tooth)			
					without Coolant Hole with Coolant Hole with Coolant & Chamfer	Miniature	without Coolant Hole with Coolant Hole with Coolant & Chamfer		Miniature	
							D1≤.3125	D1>.3125	D1≤.3125	D1>.3125
P	1	Non-alloy steel	125		250-400	220-380	.0010-.0020	.0020-.0038	.0008-.0022	.0022-.0042
	2		190	13	250-370	220-380	.0008-.0016	.0016-.0034	.0008-.0018	.0018-.0038
	3		250	25	250-360	220-380	.0008-.0016	.0016-.0034	.0008-.0018	.0018-.0038
	4		270	28	230-330	220-350	.0006-.0014	.0014-.0030	.0006-.0016	.0016-.0036
	5		300	32	230-320	220-300	.0006-.0014	.0014-.0030	.0006-.0016	.0016-.0036
	6	Low alloy steel	180	10	250-360	220-350	.0008-.0016	.0016-.0034	.0008-.0020	.0020-.0040
	7		275	29	230-330	220-350	.0006-.0014	.0014-.0030	.0006-.0018	.0018-.0038
	8		300	32	230-320	200-300	.0006-.0014	.0014-.0030	.0006-.0018	.0018-.0038
	9		350	38	200-300	200-300	.0006-.0014	.0014-.0030	.0006-.0018	.0018-.0038
	10	High alloyed steel, and tool steel	200	15	230-320	220-350	.0008-.0016	.0016-.0034	.0008-.0020	.0020-.0040
	11		325	35	200-300	220-350	.0006-.0014	.0014-.0026	.0006-.0018	.0018-.0042
M	12	Stainless steel	200	15	200-250	200-250	.0006-.0010	.0010-.0022	.0006-.0016	.0016-.0028
	13		240	23	200-250	200-250	.0004-.0008	.0008-.0018	.0004-.0014	.0014-.0026
	14		180	10	150-250	180-220	.0006-.0010	.0010-.0022	.0006-.0016	.0016-.0028
K	15	Grey cast iron	180	10	250-400	300-500	.0012-.0020	.0020-.0041	.0012-.0024	.0024-.0046
	16		260	26	250-360	300-500	.0008-.0016	.0016-.0034	.0008-.0020	.0020-.0042
	17	Nodular cast iron	160	3	250-400	280-450	.0012-.0020	.0020-.0041	.0012-.0024	.0024-.0046
	18		250	25	230-320	250-400	.0008-.0016	.0016-.0034	.0008-.0020	.0020-.0042
	19	Malleable cast iron	130		230-320	250-400	.0008-.0016	.0016-.0034	.0008-.0020	.0020-.0042
	20		230	21	230-350	280-450	.0012-.0020	.0020-.0041	.0012-.0024	.0024-.0046
N	21	Aluminum-wrought alloy	60		500-1000	400-1000	.0024-.0032	.0032-.0049	.0020-.0034	.0034-.0060
	22		100		400-800	400-900	.0020-.0028	.0028-.0041	.0016-.0030	.0030-.0056
	23	Aluminum-cast, alloyed	75		350-900	300-900	.0012-.0020	.0020-.0034	.0008-.0022	.0022-.0048
	24		90		350-900	300-900	.0012-.0020	.0020-.0034	.0008-.0022	.0022-.0048
	25		130		350-800	350-800	.0008-.0016	.0016-.0030	.0004-.0018	.0018-.0044
	26	Copper and Copper Alloys (Bronze / Brass)	110		500-800	400-700	.0016-.0024	.0024-.0038	.0012-.0026	.0026-.0052
	27		90		350-800	350-700	.0016-.0024	.0024-.0038	.0012-.0026	.0026-.0052
	28		100		300-600	300-600	.0012-.0020	.0020-.0034	.0008-.0022	.0022-.0048
	29	Non Metallic Materials			350-900	350-700	.0012-.0020	.0020-.0034	.0008-.0022	.0022-.0048
	30				350-900	350-700	.0012-.0020	.0020-.0034	.0008-.0022	.0022-.0048
S	31	Heat Resistant Super Alloys	200	15	100-200	150-250	.0004-.0008	.0008-.0014	.0004-.0008	.0008-.0018
	32		280	30	70-180	130-200	.0002-.0006	.0006-.0014	.0002-.0006	.0006-.0016
	33		250	25	50-140	100-160	.0002-.0006	.0006-.0010	.0002-.0006	.0006-.0016
	34		350	38	50-120	100-160	.0002-.0006	.0006-.0010	.0002-.0006	.0006-.0016
	35		320	34	50-140	120-180	.0002-.0006	.0006-.0009	.0002-.0006	.0006-.0016
	36	Titanium Alloys	400 Rm		100-250	80-200	.0006-.0010	.0010-.0022	.0006-.0010	.0010-.0026
	37		1050 Rm		60-140	80-120	.0002-.0006	.0006-.0010	.0002-.0006	.0006-.0016

* without Coolant Hole : TE, TD, TF, TG, L121K
* with Coolant Hole : L421E, L421D, L621F, L621G, L421K
* with Coolant & Chamfer : L427E, L427D
* Miniature : L12DE, L12DD

MEMO

YG-1 TM Xpert provides user-oriented data and display with user friendly Interface



https://www.yg1.kr/threadmill/tool/

YG-1 has released a new Thread Milling Program Generator, 'YG-1 TM Xpert' on its website. This launch mainly focuses on significantly developing the design and displaying the relevant images, drawings, and data at a glance for easy use and benefit all users.

YG-1 TM Xpert is a program that generates G Code required for thread milling with CNC machine. With the left side bar menu, users can select the thread type, thread form, work materials, thread milling type and cutting condition or change the options easily according to their needs. Moreover, not only the data can be saved as text file but also can be printed out directly or transferred via email.

It can be also accessed by PC and the smartphone at present, and provides responsive web design and optimized visual interface on various individual devices.