

10

MINI-GEWINDEFÄHRER

MINI THREAD MILLS

VORTEILE

- das gleiche Werkzeug f#r eine Vielzahl von Gewinden und Steigungen
- Spiralnuten erlauben einen weichen Schnitt
- das gleiche Werkzeug f#r Innen und Au#engewinde
- k#rzere Bearbeitungszeit durch mehrere Schneiden (3-5)
- gro#e Auskragl#nge
- Gewinde bis max. 5xD m#glich
- geringer Schnittdruck durch spezielle Schneidengeometrie

ADVANTAGES:

- *same tool can produce a wide range of threads and pitches*
- *spiral flutes allows smooth cutting operation*
- *same tool can produce both external & internal threads*
- *shorter machining time due to 3 to 6 simultaneously engaged cutting edges*
- *enables machining of deep holes*
- *thread length up to 5xD*
- *low cutting forces thanks to a special cutting edge profile*

TMCM

- Gewinde ab M1x0.25 und 0-80UN | *threads starting from ISO M1 x 0.25 and 0.08UN*
- hohe Schnittgeschwindigkeit | *high cutting speed*
- kurze Bearbeitungszeit | *short machining time*
- Fr#sen von hochverg#teten Material m#glich bis 45 HRC
machining of hardened materials up to 45 HRC

HARTMETALLSORTE | COATING TIALN

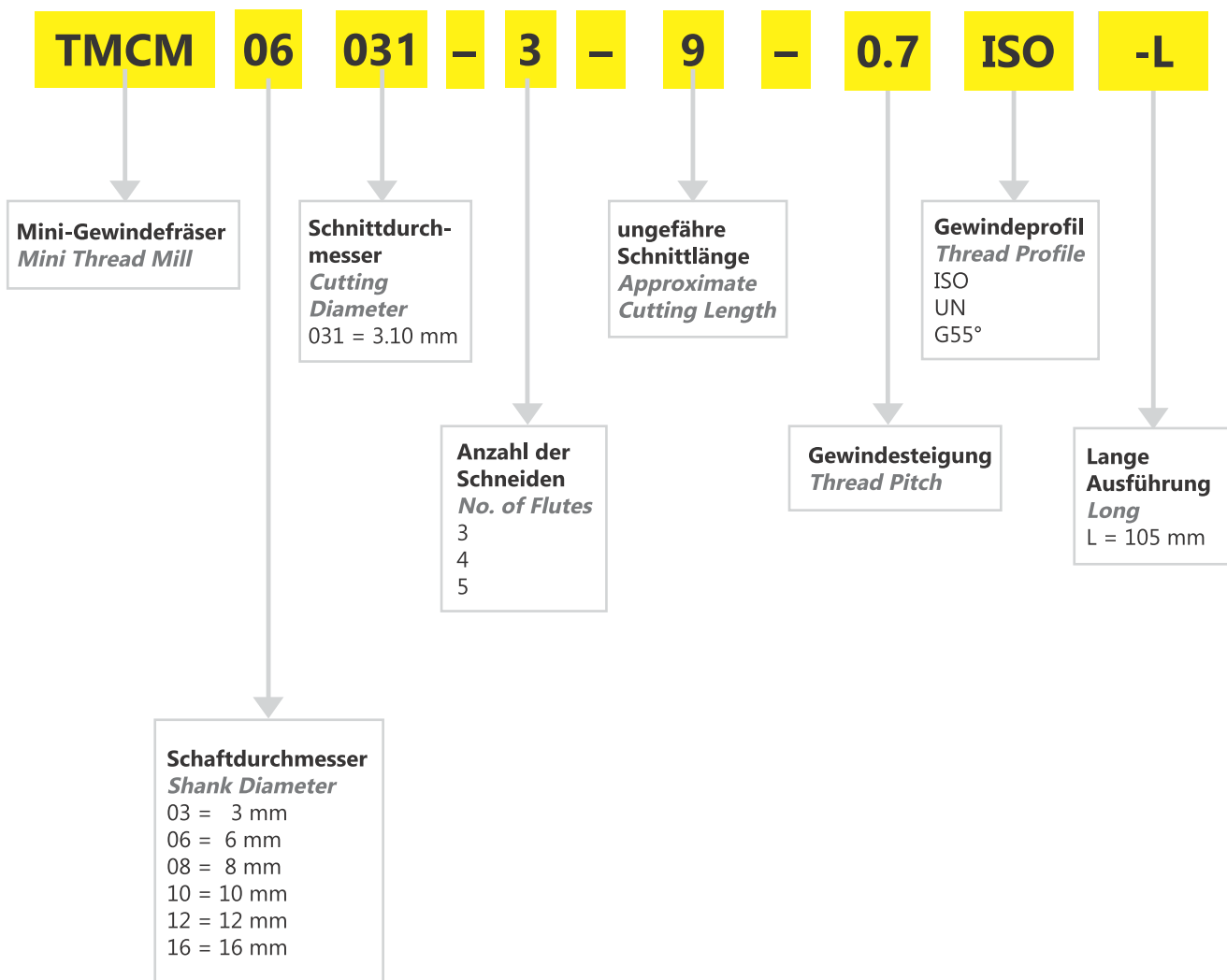
Titan-Aluminum-Nitrid-Mehrfachbeschichtung (ISO K10 - K20), bei mittlerer und hoher Schnittgeschwindigkeit einsetzbar, generell f#r alle Werkstoffe.

Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). To be run at medium to high cutting speeds. General purpose for all materials.

THREAD MILLING

PRODUKT BEZEICHNUNG | PRODUCT DESIGNATION

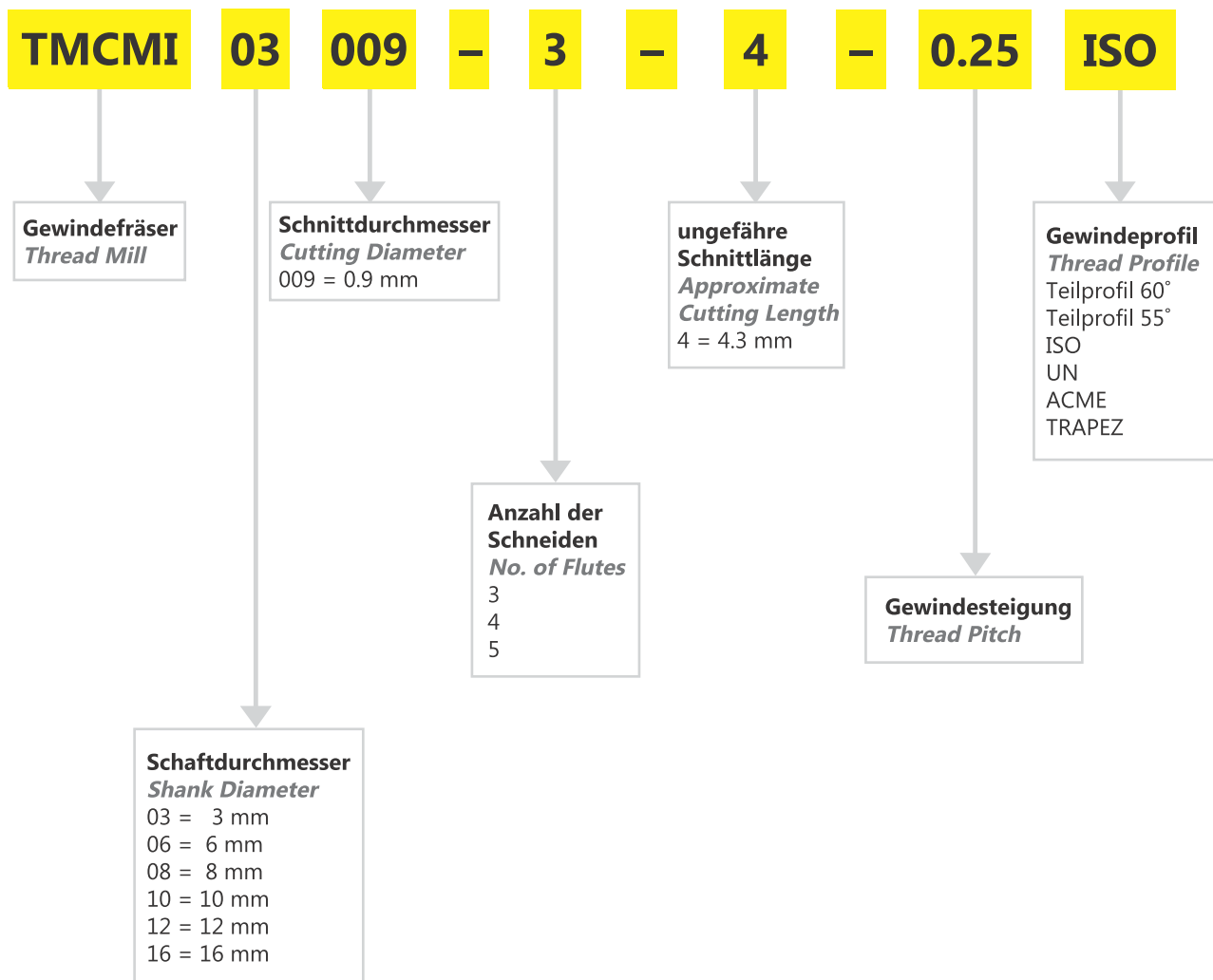
BEISPIEL | EXAMPLE: TMCM0603-3-39-0.7ISO-L



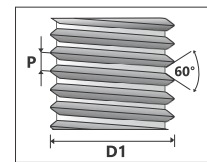
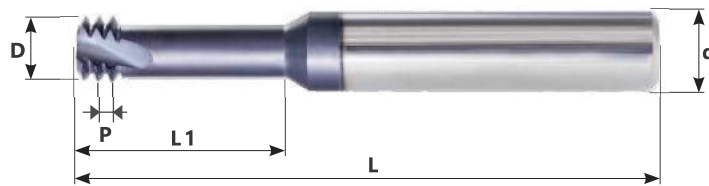
THREAD MILLING

PRODUKT BEZEICHNUNG | PRODUCT DESIGNATION

BEISPIEL | EXAMPLE: TMCMIO3009-3-3-0.25ISO



ISO



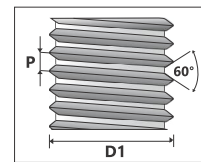
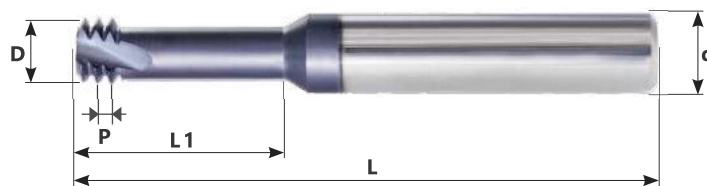
TiAlN beschichtet
TiAlN coated

Mini VHM-Gewindefräser ISO | Mini Thread Mill ISO
bis zu einer Gewindetiefe von 2 x D1 | for thread depth up to 2 x D1

Artikelnummer (Item Number)	Maße (mm) Dimensions (mm)						Schneiden (Flutes)
	P	L	D1	d	D	L1	
TMCM03007-3-2-0.25ISO	0,25	39	M1	3	0,72	2,5	3
TMCM03009-3-3-0.25ISO	0,25	39	M1,2	3	0,90	3,0	3
TMCM06045-4-14-0.35ISO	0,35	58	M5	6	4,50	14,5	4
TMCM06016-3-4-0.4ISO	0,4	58	M2	6	1,53	4,5	3
TMCM06016-3-4-0.4ISO-L*	0,4	105	M2	6	1,53	4,5	3
TMCM06017-3-5-0.45ISO	0,45	58	M2,2	6	1,65	5,0	3
TMCM0602-3-5-0.45ISO	0,45	58	M2,5	6	1,95	5,5	3
TMCM0602-3-5-0.45ISO-L*	0,45	105	M2,5	6	1,95	5,5	3
TMCM06024-3-6-0.5ISO	0,5	58	M3	6	2,37	6,5	3
TMCM06024-3-6-0.5ISO-L*	0,5	105	M3	6	2,37	6,5	3
TMCM06028-3-70.6ISO	0,6	58	M3,5	6	2,75	7,5	3
TMCM06031-3-9-0.7ISO	0,7	58	M4	6	3,10	9,0	3
TMCM0808-4-25-0.75ISO	0,75	64	M10	8	8,00	25,0	4
TMCM06038-3-12-0.8ISO	0,8	58	M5	6	3,80	12,5	3
TMCM06047-3-14-1.0ISO	1,0	58	M6	6	4,65	14,0	3
TMCM0606-3-18-1.25ISO	1,25	58	M8	6	6,00	18,0	3
TMCM08078-3-23-1.5ISO	1,5	64	M10	8	7,80	23,0	3
TMCM1009-3-26-1.75ISO	1,75	73	M12	10	9,00	26,0	3
TMCM12118-4-35-2.0ISO	2,0	84	M16	12	11,80	35,0	4
TMCM1615-5-43-2.5ISO	2,5	105	M20	16	15,00	43,0	5

L* Lange Ausführung | long

ISO



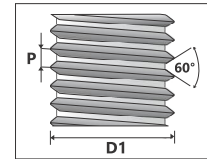
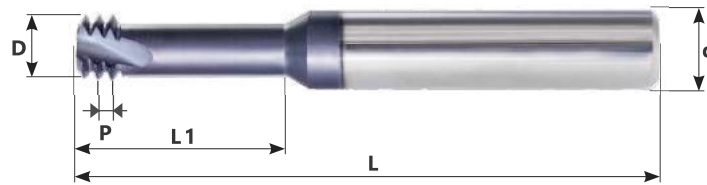
TiAlN beschichtet
TiAlN coated

Mini VHM-Gewindefräser ISO | Mini Thread Mill ISO
bis zu einer Gewindetiefe von 3 x D1 | for thread depth up to 3 x D1

Artikelnummer (Item Number)	Maße (mm) Dimensions (mm)						Schneiden (Flutes)
	P	L	D1	d	D	L1	
TMCM03011-3-4-0.3ISO	*0.3	39	M1.4	3	1.05	4.0	3
TMCM03012-3-5-0.35ISO	*0.35	39	M1.6	3	1.20	4.8	3
TMCM06012-3-5-0.35ISO-L*	0.35	105	M1.6	6	1.20	4.8	3
TMCM06045-4-14-0.35ISO	0.35	58	M5	6	4.50	14.5	4
TMCM03016-3-6-0.4ISO	*0.4	39	M2	3	1.53	6.0	3
TMCM03017-3-7-0.45ISO	*0.45	39	M2.2	3	1.65	7.0	3
TMCM0602-3-7-0.45ISO	0.45	58	M2.5	6	1.95	7.5	3
TMCM0602-3-8-0.45ISO-L*	0.45	105	M2.5	6	1.95	8.0	3
TMCM06024-3-9-0.5ISO	0.5	58	M3	6	2.37	9.5	3
TMCM06024-3-9-0.5ISO-L*	0.5	105	M3	6	2.37	9.5	3
TMCM06054-4-20-0.5ISO	0.5	58	M6, M7	6	5.35	20.0	4
TMCM06028-3-10-0.6ISO	0.6	58	M3.5	6	2.75	10.5	3
TMCM06031-3-12-0.7ISO	0.7	58	M4	6	3.10	12.5	3
TMCM06031-3-12-0.7ISO-L*	0.7	105	M4	6	3.10	12.5	3
TMCM06038-3-16-0.8ISO	0.8	58	M5	6	3.80	16.0	3
TMCM06038-3-16-0.8ISO-L*	0.8	105	M5	6	3.80	16.0	3
TMCM06047-3-20-1.0ISO	1.0	58	M6	6	4.65	20.0	3
TMCM06047-3-20-1.0ISO-L*	1.0	105	M6	6	4.65	20.0	3
TMCM0808-4-31-1.0ISO	1.0	64	M10	8	8.00	31.0	4
TMCM0606-3-24-1.25ISO	1.25	58	M8	6	6.00	24.0	3
TMCM0606-3-24-1.25ISO-L*	1.25	105	M8	6	6.00	24.0	3
TMCM08078-3-31-1.5ISO	1.5	64	M10	8	7.80	31.5	3
TMCM08078-3-31-1.5ISO-L*	1.5	105	M10	8	7.80	31.5	3
TMCM1009-3-37-1.75ISO	1.75	73	M12	10	9.00	37.8	3
TMCM12118-4-50-2.00ISO	2.0	105	M16	12	11.80	50.0	4

L* Lange Ausführung | long

ISO



TiAlN beschichtet
TiAlN coated

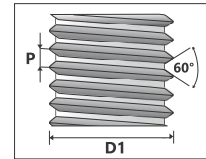
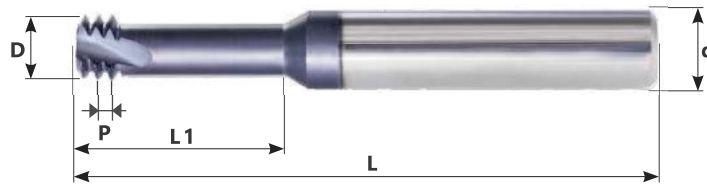
Werkzeuge zur Herstellung von Innengewinde | tools for internal thread
bis zu einer Gewindetiefe von 4 x D1 | for thread depth up to 4 x D1

Artikelnummer (Item Number)	Maße (mm) (Dimensions mm)						Schneiden (Flutes)
	P	L	D1	d	D	L1	
TMCM0302-3-10-0.45ISO	0.45	39	M2.5	3	1.95	10.5	3
TMCM03024-3-12-0.5ISO	0.5	39	M3	3	2.40	12.5	3
TMCM06031-3-16-0.7ISO	0.7	58	M4	6	3.10	16.7	3
TMCM0604-3-20-0.8ISO	0.8	58	M5	6	4.00	20.8	3
TMCM06048-3-25-1.0ISO	1.0	58	M6	6	4.80	25.0	3

Bis zu einer Gewindetiefe von 5 x D1 | For thread depth up to 5 x D1

Artikelnummer (Item Number)	Maße (mm) (Dimensions mm)						Schneiden (Flutes)
	P	L	D1	d	D	L1	
TMCM03024-3-15-0.5ISO	0.5	39	M3	3	2.40	15.5	3

UN



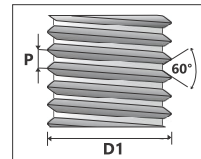
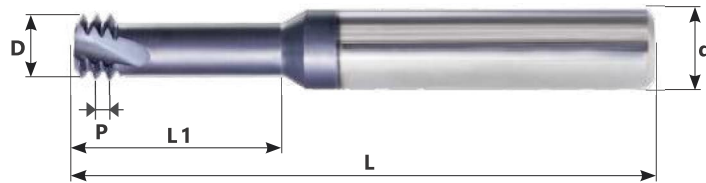
TiAlN beschichtet
TiAlN coated

Mini VHM-Gewindefräser UN | Mini Thread Mill UN
bis zu einer Gewindetiefe von 2 x D1 | for thread depth up to 2 x D1

Artikelnummer (Item Number)	UNC	UNF	Gänge/Zoll (TPI) P	Maße (mm) (Dimensions mm)				Schneiden (Flutes)
				L	d	D	L1	
TMCM06014-3-3-72UN		1	72	58	6	1.45	3.7	3
TMCM06014-3-3-64UN	1	2	64	58	6	1.40	3.8	3
TMCM03016-3-4-56UN	2	3	56	39	3	1.65	4.4	3
TMCM06016-3-4-56UN	2	3	56	58	6	1.65	4.4	3
TMCM06019-3-548UN	3	4	48	58	6	1.90	5.2	3
TMCM06021-3-6-40UN	4		40	58	6	2.10	6.3	3
TMCM06021-3-6-40UN-L*	4		40	105	6	2.10	6.3	3
TMCM06024-3-7-40UN	5	6	40	58	6	2.45	7.0	3
TMCM06033-3-9-36UN		8	36	58	6	3.30	9.0	3
TMCM06025-3-7-32UN	6		32	58	6	2.55	7.1	3
TMCM06025-3-7-32UN-L*	6		32	105	6	2.55	7.1	3
TMCM06032-3-9-32UN	8		32	58	6	3.20	9.5	3
TMCM06032-3-9-32UN-L*	8		32	105	6	3.20	9.5	3
TMCM06037-3-10-32UN		10	32	58	6	3.70	10.5	3
TMCM06042-3-11-28UN		12	28	58	6	4.20	11.0	3
TMCM0605-3-14-28UN		1/4	28	58	6	5.00	14.5	3
TMCM06035-3-10-24UN	10,12		24	58	6	3.50	10.6	3
TMCM08066-3-17-24UN		5/16, 3/8	24	64	8	6.60	17.0	3
TMCM06047-3-14-20UN	1/4		20	58	6	4.75	14.0	3
TMCM06047-3-14-20UN-L*	1/4		20	105	6	4.75	25.0	3
TMCM0808-3-25-20UN		7/16	20	64	8	8.00	25.0	3
TMCM0606-3-17-18UN	5/16		18	58	6	6.00	17.0	3
TMCM1212-4-35-18UN		5/8	18	84	12	12.00	35.0	4
TMCM08067-3-22-16UN	3/8		16	64	8	6.70	22.0	3
TMCM08077-3-25-14UN	7/16		14	64	8	7.70	25.0	3
TMCM10092-3-27-13UN	1/2		13	73	10	9.20	27.5	3
TMCM12105-3-31-12UN	9/16		12	84	12	10.50	31.5	3
TMCM12114-3-34-11UN	5/8		11	84	12	11.40	34.5	3
TMCM16144-4-41-10UN	3/4		10	105	16	14.40	41.5	4

L* Lange Ausführung | long

UN



TiAlN beschichtet
TiAlN coated

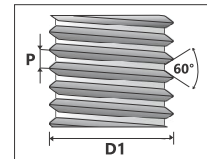
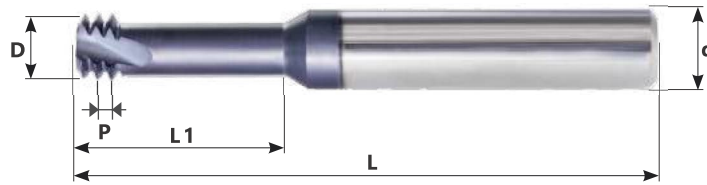
Mini VHM-Gewindefräser UN | Mini Thread Mill UN
bis zu einer Gewindetiefe von 3 x D1 | for thread depth up to 3 x D1

Artikelnummer (Item Number)	UNC	UNF	Gänge/Zoll (TPI) P	Maße (mm) (Dimensions mm)				Schneiden (Flutes)
				L	d	D	L1	
TMCM06012-3-4-80UN		0	80	58	6	1.15	4.0	3
TMCM03015-3-6-72UN		1	*72	39	3	1.45	6.0	3
TMCM06014-3-364UN	1	2	64	58	6	1.40	3.8	3
TMCM03016-3-6-56UN	2	3	56	39	3	1.65	6.6	3
TMCM06016-3-6-56UN	2	3	56	58	6	1.65	6.6	3
TMCM06016-3-6-56UN-L*	2	3	56	105	6	1.65	6.6	3
TMCM03021-3-8-40UN	4		40	39	3	2.10	8.0	3
TMCM06021-3-8-40UN	4		40	58	6	2.10	8.0	3
TMCM06021-3-8-40UN-L*	4		40	105	6	2.10	8.0	3
TMCM06024-3-9-40UN	5	6	40	58	6	2.45	9.6	3
TMCM03025-3-10-32UN	6		32	39	3	2.55	10.5	3
TMCM06025-3-10-32UN	6		32	58	6	2.55	10.5	3
TMCM06025-3-10-32UN-L*	6		32	105	6	2.55	10.5	3
TMCM06032-3-12-32UN	8		32	58	6	3.20	12.5	3
TMCM06032-3-12-32UN-L*	8		32	105	6	3.20	12.5	3
TMCM06037-3-15-32UN		10	32	58	6	3.70	15.0	3
TMCM06037-3-15-32UN-L*		10	32	105	6	3.70	15.0	3
TMCM0605-3-19-28UN		1/4	28	58	6	5.00	19.0	3
TMCM0605-3-19-28UN-L*	1/4		28	105	6	5.00	19.0	3
TMCM06035-3-15-24UN	10,12		24	58	6	3.50	15.5	3
TMCM08066-3-24-24UN		5/16, 3/8	24	64	8	6.60	24.0	3
TMCM06047-3-19-20UN	1/4		20	58	6	4.75	19.0	3
TMCM06047-3-19-20UN-L*	1/4		20	105	6	4.75	19.0	3
TMCM0808-3-34-20UN		7/16	20	64	8	8.00	34.6	3
TMCM0606-3-23-18UN	5/16		18	58	6	6.00	23.0	3
TMCM1212-4-49-18UN		5/8	18	105	12	12.00	49.0	4
TMCM08067-3-30-16UN	3/8		16	64	8	6.70	30.2	3
TMCM08077-3-35-14UN	7/16		14	64	8	7.70	35.2	3
TMCM10092-3-40-13UN	1/2		13	73	10	9.20	27.5	3
TMCM12105-3-45-12UN	9/16		12	105	12	10.50	45.0	3
TMCM12114-3-50-11UN	5/8		11	105	12	11.40	50.0	3
TMCM16144-4-59-10UN	3/4		10	105	16	14.40	59.7	4

- * Speziell für die Herstellung von Zahnimplantaten entwickelt | Specially designed for production of dental implants
- Bearbeitung möglich in Titan, Edelstahl aller Art, gehärtetes und vergütetes Material und NE-Metalle
 - Passend für Hochgeschwindigkeitszentren (30.000 - 40.000 UPM) und für Bearbeitungszentren (6.000 UPM und mehr)
 - Generell für alle Regel- und Feingewinde einsetzbar
 - Machining Titanium, surgical stainless steels and hardened materials up to 45 HRC
 - Suitable for high speed high speed machining centers (30,000 - 40,000 RPM) and for standard machining centers (6,000 RPM and higher)
 - Can also be used for general purpose machining of regular & fine threads

L* Lange Ausführung | long

UN

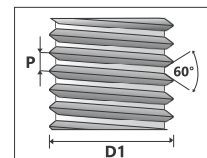


TiAlN beschichtet
TiAlN coated

Mini VHM-Gewindefräser UN | Mini Thread Mill UN
bis zu einer Gewindetiefe von 4 x D1 | for thread depth up to 4 x D1

Artikelnummer (Item Number)	UNC	UNF	Gänge/Zoll (TPI) P	Maße (mm) (Dimensions mm)				Schneiden (Flutes)
				L	d	D	L1	
TMCM03016-3-9-56UN	2	3	56	39	3	1.65	9.2	3
TMCM03021-3-12-40UN	4		40	39	3	2.10	12.0	3
TMCM03025-3-14-32UN	6		32	39	3	2.55	14.8	3
TMCM06032-3-17-32UN	8		32	58	6	3.20	17.5	3
TMCM06037-3-20-32UN		10	32	58	6	3.70	20.0	3

UN

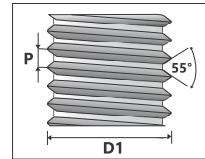


TiAlN beschichtet
TiAlN coated

Mini VHM-Gewindefräser UN | Mini Thread Mill UN
bis zu einer Gewindetiefe von 5 x D1 | for thread depth up to 5 x D1

Artikelnummer (Item Number)	UNC	UNF	Gänge/Zoll (TPI) P	Maße (mm) (Dimensions mm)				Schneiden (Flutes)
				L	d	D	L1	
TMCM03012-3-8-80UN		0	80	39	3	1.15	8.0	3
TMCM03016-3-11-56UN	2	3	56	39	3	1.65	11.4	3

G55°



TiAlN beschichtet
TiAlN coated

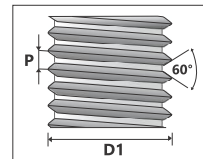
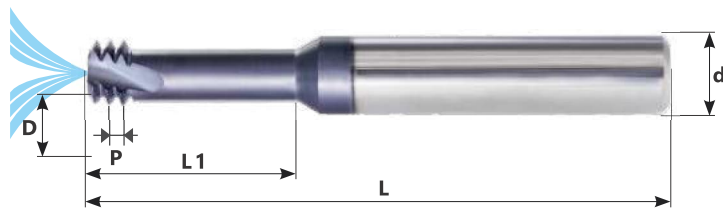
gleiches Werkzeug für Innen- und Außengewinde | same Tool for internal and external thread

Artikelnummer (Item Number)	Gänge/Zoll (TPI) P	Standard	Maße (mm) Dimensions (mm)				Schneiden (Flutes)
			L	d	D	L1	
TMCM08078-3-19-28W	28	G 1/8	64	8	7.8	19.5	3
TMCM1010-4-30-19W	19	G 1/4 - 3/8	73	10	10.0	30.0	4
TMCM1212-4-37-14W	14	G 1/2 - 7/8	84	12	12.0	37.0	4
TMCM1616-4-44-11W	11	G ≥ 1	105	16	16.0	44.0	4

bis zu einer Gewindetiefe von 2 x D1 | for thread depth up to 2 x D1

MJ

NEW



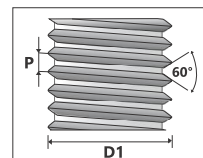
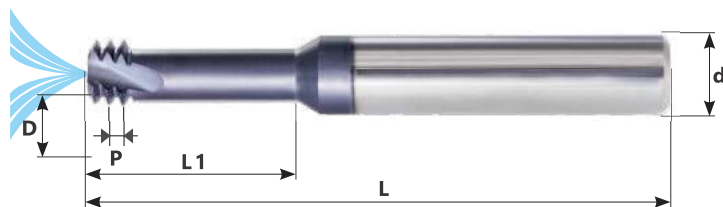
TiAlN beschichtet
TiAlN coated

Artikelnummer (Item Number)	P	L	Maße (mm) (Dimensions mm)				Schneiden (Flutes)	Tiefe (Depth)
			D1	d	D	L1		
TMCM03024-3-7-0.5MJ*	0.5	38	MJ3	3	2.40	7.5	3	2.5xD
TMCM06032-3-10-0.7MJ*	0.7	58	MJ4	6	3.20	10.0	3	2.5xD
TMCM06039-3-12-0.8MJ*	0.8	58	MJ5	6	3.90	12.5	3	2.5xD
TMCM06048-3-15-1.0MJ*	1.0	58	MJ6	6	4.80	15.0	3	2.5xD
TMCM08061-3-20-1.25MJ	1.25	64	MJ8	8	6.10	20.0	3	2.5xD
TMCM0808-3-25-1.5MJ	1.5	64	MJ10	8	8.00	25.5	3	2.5xD
TMCM10092-3-30-1.75MJ	1.75	73	MJ12	10	9.20	30.0	3	2.5xD
TMCM1010-3-35-2.0MJ	2.0	73	MJ14, MJ16	10	10.00	35.0	3	2.5xD

* ohne Innenkühlung | without internal coolant

UNJ

NEW



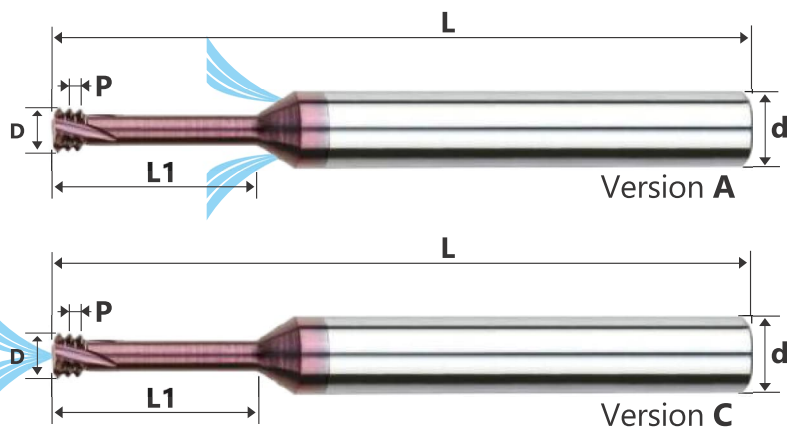
TiAlN beschichtet
TiAlN coated

Artikelnummer (Item Number)	UNJC	UNJF	P	L	Maße (mm) (Dimensions mm)			Schneiden (Flutes)	Tiefe (Depth)
					d	D	L1		
TMCM06025-3-7-32UNJ*	6		32	58	6	2.55	7.1	3	2.5xD
TMCM06033-3-10-32UNJ*	8	10	32	58	6	3.30	10.5	3	2.5xD
TMCM08051-3-16-28UNJ		1/4	28	64	8	5.10	16.0	3	2.5xD
TMCM08067-3-20-24UNJ		5/16, 3/8	24	64	8	6.70	20.0	3	2.5xD
TMCM06049-3-16-20UNJ*	1/4		20	58	6	4.90	16.0	3	2.5xD
TMCM0808-3-28-20UNJ		7/16	20	64	8	8.00	28.0	3	2.5xD
TMCM08061-3-20-18UNJ	5/16	9/16	18	64	8	6.15	20.0	3	2.5xD
TMCM08069-3-24-16UNJ	3/8		16	64	8	6.90	24.0	3	2.5xD
TMCM08079-3-25-14UNJ	7/16		14	64	8	7.90	25.0	3	2.5xD
TMCM10094-3-27-13UNJ	1/2		13	73	10	9.40	27.5	3	2.5xD

* ohne Innenkühlung | without internal coolant

ISO

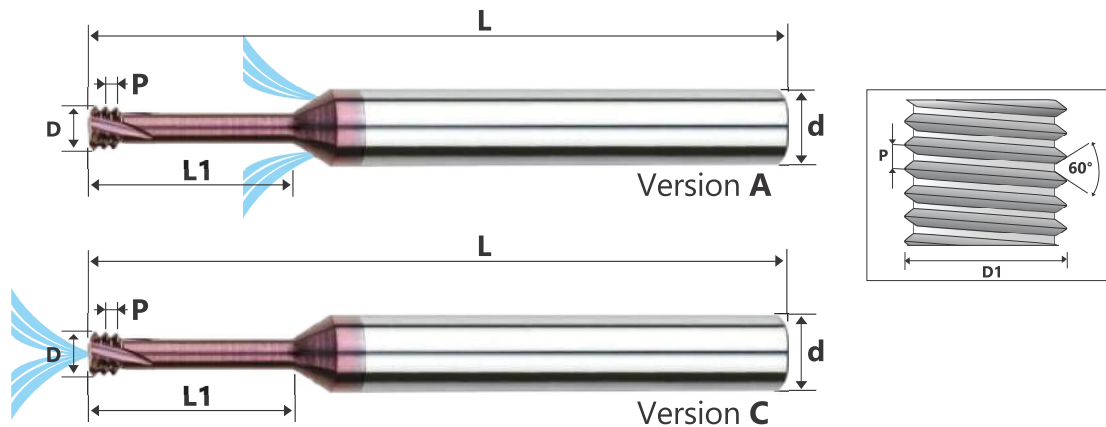
NEW



Artikelnummer (Item Number)	P	L	Maße (mm) (Dimensions mm)				Schneiden (Flutes)	Tiefe (Depth)	Version
			D1	d	D	L1			
TMCMC06016-3-4-0.4ISO	0.4	58	M2	6	1.55	4.4	3	2xD	A
TMCMC06016-3-6-0.4ISO	0.4	58	M2	6	1.55	6.4	3	3xD	A
TMCMC06024-4-5-0.45ISO	0.45	58	M2.5	6	1.95	5.5	4	2xD	A
TMCMC06024-4-7-0.45ISO	0.45	58	M2.5	6	1.95	7.9	4	3xD	A
TMCMC06024-4-6-0.5ISO	0.5	58	M3	6	2.40	6.5	4	2xD	A
TMCMC06024-4-9-0.5ISO	0.5	58	M3	6	2.40	9.5	4	3xD	A
TMCMC06028-4-7-0.6ISO	0.6	58	M3.5	6	2.80	7.6	4	2xD	A
TMCMC06032-4-8-0.7ISO	0.7	58	M4	6	3.20	8.7	4	2xD	C
TMCMC06032-4-12-0.7ISO	0.7	58	M4	6	3.20	12.7	4	3xD	C
TMCMC06038-4-10-0.8ISO	0.8	58	M5	6	3.80	10.8	4	2xD	C
TMCMC06038-4-15-0.8ISO	0.8	58	M5	6	3.80	15.8	4	3xD	C
TMCMC08048-4-13-1.0ISO	1.0	64	M6	8	4.80	13.0	4	2xD	C
TMCMC08048-4-19-1.0ISO	1.0	64	M6	8	4.80	19.0	4	3xD	C
TMCMC0606-4-25-1.25ISO	1.25	58	M8	6	6.00	25.3	4	3xD	C
TMCMC0808-5-31-1.5ISO	1.5	64	M10	8	8.00	31.5	5	3xD	C
TMCMC10095-5-37-1.75ISO	1.75	73	M12	10	9.50	37.8	5	3xD	C
TMCMC1212-5-50-2.0ISO	2.0	105	M16	12	12.00	50.0	5	3xD	C

UN

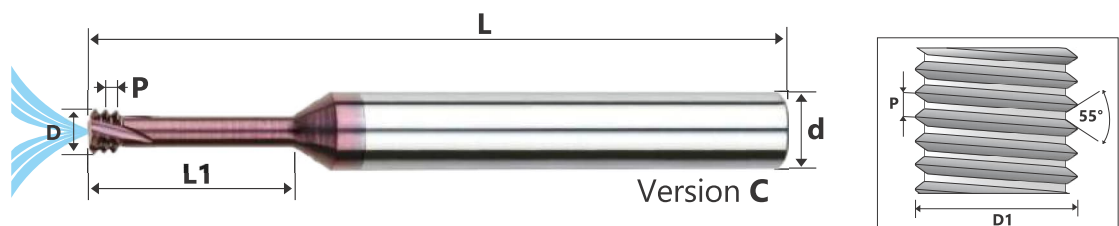
NEW



Artikelnummer (Item Number)	UNC	UNF	P	L	Maße (mm) (Dimensions mm)			Schneiden (Flutes)	Tiefe (Depth)	Version
					d	D	L1			
TMCMC06025-4-7-32UN	6		32	58	6	2.55	7.8	4	2xD	A
TMCMC06025-4-11-32UN	6		32	58	6	2.55	11.3	4	3xD	A
TMCMC06032-4-9-32UN	8		32	58	6	3.20	9.1	4	2xD	C
TMCMC06032-4-13-32UN	8		32	58	6	3.20	13.3	4	3xD	C
TMCMC06037-4-10-32UN		10	32	58	6	3.70	10.5	4	2xD	C
TMCMC06037-4-15-32UN		10	32	58	6	3.70	15.3	4	3xD	C
TMCMC06052-4-20-28UN		1/4	28	58	6	5.20	20.0	4	3xD	C
TMCMC06035-4-10-24UN	10, 12		24	58	6	3.50	10.7	4	2xD	C
TMCMC06035-4-15-24UN	12, 12		24	58	6	3.50	15.5	4	3xD	C
TMCMC08066-4-24-24UN		5/16, 3/8	24	64	8	6.60	24.9	4	3xD	C
TMCMC10092-5-34-20UN		7/16, 1/2	20	73	10	9.20	34.6	5	3xD	C

G (BSP)

NEW



Artikelnummer (Item Number)	P	Standard	L	Maße (mm) (Dimensions mm)			Schneiden (Flutes)	Tiefe (Depth)	Version
				d	D	L1			
TMCMC06016-3-4-0.4ISO	19	G 1/4 - 3/8	73	8	8	20.4	5	2xD	C
TMCMC06016-3-6-0.4ISO	14	G 1/2 - 7/8	84	10	10	27.7	5	2xD	C
TMCMC0602-4-5-0.45ISO	0.45	58	M2.5	12	12	43.7	5	2xD	C

TEILPROFIL 60° / PARTIAL PROFILE 60°



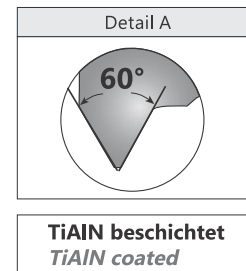
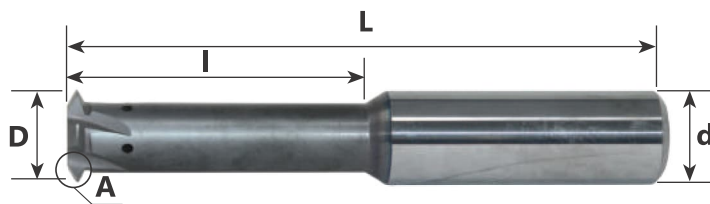
TiAlN beschichtet
TiAlN coated

gleiches Werkzeug für Innen- und Außengewinde | same Tool for internal and external thread

Artikelnummer (Item Number)	Steigung (Pitch) mm	Steigung Gänge/ Zoll (Pitch TPI)	M Coarse	M Fine	UN, UNC, UNS UNF, UNEF	d mm	D	Anzahl der Nuten (No. of Flutes)	I	L
TMCMI03012-3-3-A60	0.25-0.35	100-72	M1.6 x 0.35	M1.6 x 0.25 M1.8 x 0.25 M2.0 x 0.25	0-80 UNF	3	1.15	3	3.1	39
TMCMI03014-3-4-A60	0.35-0.45	72-56	M2 x 0.4 M2.2 x 0.45	M2 x 0.35 M2.2 x 0.35	1-64 UNC, 1-72 UNF, 2-56 UNC, 2-64 UNF	3	1.40	3	3.7	39
TMCMI03019-3-5-A60	0.35-0.6	72-40	M2.5 x 0.45	M2.5 x 0.35 M3 x 0.35	3-84 UNC, 3-56 UNF, 4-40 UNC, 4-48 UNF	3	1.90	3	5.2	39
TMCMI03024-3-7-A60	0.5-0.8	48-32	M3 x 0.5 M3.5 x 0.6	M3.5 x 0.5	5-40 UNC, 5-44 UNF, 6-32 UNC, 6-40 UNF	3	2.45	3	7.0	39
TMCMI06032-3-9-A60	0.5-1.0	48-24	M4 x 0.7 M4.5 x 0.75	M4 x 0.5	8-32 UNC, 8-36 UNF, 10-24 UNC, 10-28 UNS, 10-32 UNF	6	3.20	3	9.5	58
TMCMI0604-3-12-A60	0.5-1.0	48-24	M5 x 0.8 M6 x 1.0	M5 x 0.5 M5.5 x 0.5 M5 x 0.75	10-36 UNS, 10-40 UNS, 10-48 UNS, 12-24 UNC, 12-28 UNF	6	4.00	3	12.5	58

Hartmetall Qualität: Ultra-Feinstkorn-Hartmetall mit PVD-Dreilagenschichtung | Carbide grade: Ultra-fine sub-micron grade with triple PVD coating

TEILPROFIL 60° / PARTIAL PROFILE 60°



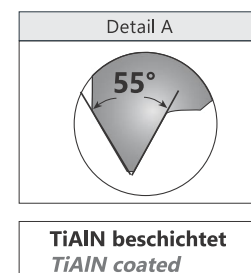
Innere Khlmittehzufuhr mit Nutenaustritt, gleiches Werkzeug fr Innen- & Auengewinde
 with internal coolant supply through the flutes, same tool for internal and external thread

Artikelnummer (Item Number)	Steigung (Pitch) mm	Steigung Gnge/Zoll (Pitch TPI)	Gewinde Ø (mm) (Thread Dia. mm)	d mm	D	Anzahl der Nuten (No. of Flutes)	I	L
TMCMI0605-4-20-A60	Int. 0.5 - 0.8 Ex. 0.4 - 0.8	56-28 64-32	Ø ≥ 6	6	5.0	4	20	58
TMCMI0808-4-28-A60			Ø ≥ 9	8	8.0	4	28	64
TMCMI1212-5-38-A60			Ø ≥ 13	12	12.0	5	38	84
TMCMI0808-4-30-A60	Int. 1.0 - 1.75 Ex. 0.8 - 1.5	28-14 32-16	Ø ≥ 10	8	8.0	4	30	64
TMCMI1010-4-35-A60			Ø ≥ 12	10	10.0	4	35	73
TMCMI1212-5-39-A60			Ø ≥ 14	12	12.0	5	39	84
TMCMI1212-5-40-A60	Int. 2.0 - 3.0 Ex. 1.75-2.5	13- 8 15-10	Ø ≥ 16	12	12.0	5	40	84
TMCMI1614-5-45-A60			Ø ≥ 18	16	14.0	5	45	101
TMCMI1616-5-50-A60			Ø ≥ 20	16	16.0	5	50	101

Hartmetall Qualitt: Feinstkorn Hartmetall mit einer Aluminium-Titan-Nitrit Mehrlagenbeschichtung (ISO K10-K20). Sehr hohe Temperaturbestndigkeit und weiche Schnitte fr hohe Schnittgeschwindigkeiten garantieren beste Standzeiten. Generell fr alle Regel- und Feingewinde einsetzbar.

Carbide Grade: fine grain grade with multi-layer Titan Aluminium Nitride coating (ISO K10-K20). Very high heat resistance and smooth cutting at high speed guarantee the best tool life. For general machining of regular and fine threads.

TEILPROFIL 55° / PARTIAL PROFILE 55°

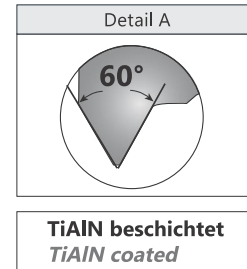


gleiches Werkzeug fr Innen- und Auengewinde | same tool for internal and external thread

Artikelnummer (Item Number)	Steigung Gnge/Zoll (Pitch TPI)	d	D	Anzahl der Nuten (No. of Flutes)	I	L
TMCMI03023-3-7-A55	40-32	3	2.25	3	7.0	39
TMCMI06044-3-14-A55	28-20	6	4.35	3	14.0	58
TMCMI06059-3-20-A55	28-18	6	5.85	3	20.5	58
TMCMI0807-3-23-A55	20-14	8	7.00	3	23.0	64

Hartmetall Qualitt: Ultra-Feinstkorn-Hartmetall mit PVD-Dreilagenschichtung
 Carbide Grade: Ultra-fine Sub-micron grade with triple PVD coating

ISO

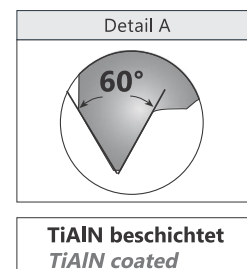


Werkzeuge zur Herstellung von Innengewinden | tools for internal thread

Artikelnummer (Item Number)	Steigung (Pitch) mm	M Coarse	M Fine	d	D	Anzahl der Nuten (No. of Flutes)	I	L
TMCMI03007-3-3-0.25ISO	0.25	M1 x 0.25		3	0.72	3	3.6	39
TMCMI03009-3-4-0.25ISO	0.25	M1.2 x 0.25	M1.4 x 0.25 M1.6 x 0.25	3	0.90	3	4.3	39
TMCMI03011-3-5-0.3ISO	0.3	M1.4 x 0.3		3	1.05	3	5.0	39
TMCMI03012-3-6-0.35ISO	0.35	M1.6 x 0.35	M2 x 0.35 M2.2 x 0.35	3	1.20	3	5.7	39
TMCMI03016-3-7-0.4ISO	0.4	M2 x 0.4		3	1.55	3	7.1	39
TMCMI03024-3-10-0.5ISO	0.5	M3 x 0.5	M3.5 x 0.5 M4 x 0.5	3	2.37	3	10.6	39

für Gewindetiefe up to 3.5 x D1 | for thread depth up to 3.5 x D1

UN

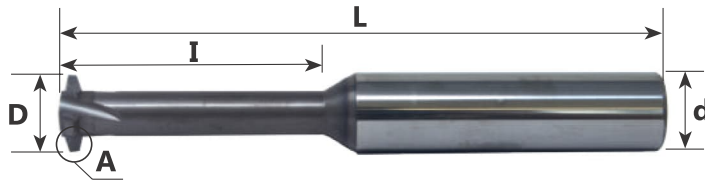


Werkzeuge zur Herstellung von Innengewinden | tools for internal thread

Artikelnummer (Item Number)	Steigung (Pitch) mm	UNC	UNF	d	D	Anzahl der Nuten (No. of Flutes)	I	L
TMCMI03012-3-5-80UN	80		0	3	1.15	3	5.5	39
TMCMI03015-3-7-72UN	72		1	3	1.45	3	6.6	39
TMCMI03016-3-9-56UN	56	2	3	3	1.65	3	8.9	39
TMCMI03021-3-10-40UN	40	4		3	2.10	3	10.1	39

für Gewindetiefe up to 3.5 x D1 | for thread depth up to 3.5 x D1

TRAPEZ DIN 103



TiAlN beschichtet
TiAlN coated

Werkzeuge zur Herstellung von Innengewinden | tools for internal thread

Artikelnummer (Item Number)	Steigung (Pitch) mm	GewindegröÙe Thread size	d	D	Anzahl der Nuten No. of Flutes	I	L
TMCM106055-3-13-1.5TR	1.5	Tr8x1.5 Tr9x1.5	6	5.5	3	13.5	58
TMCM108066-3-21-2TR	2	Tr10x2 Tr11x2	8	6.6	3	21.0	64
TMCM110086-4-25-2TR	2	Tr12x2 Tr14x2	10	8.6	4	25.0	73
TMCM10807-3-25-3TR	3	Tr12x3	8	7.0	3	25.0	64
TMCM110089-4-29-3TR	3	Tr14x3 Tr22x3	10	8.9	4	29.0	73
TMCM110092-3-33-4TR	4	Tr16x4 Tr18x4 Tr20x4	10	9.2	3	33.0	73
TMCM114135-4-45-5TR	5	Tr22x5 Tr24x5 Tr26x5	14	13.5	4	45.0	105

für Gewindetiefe up to 2 x D1 | for thread depth up to 2 x D1



11

MINI GEWINDEFÄSER

MINI THREAD MILLS

FÜR GEHÄRTETE MATERIALIEN | FOR HARDENED MATERIALS

VORTEILE

- geringer Schnittdruck durch spezielle Schneidengeometrie
- perfekte Lösung für Werkzeug- und Formenbau
- Gewinde ab ISO M1.4 x 0.3 und 0-80UN
- Gewinde bis max. 2xD möglich
- kleinere Späne, welche die Prozesssicherheit erhöhen
- reduziert die Bearbeitungszeit
- hohe Schnittgeschwindigkeit
- verkürzte Bearbeitungszeit erhöht Ihre Produktivität
- Ultra-Feinstkorn Hartmetall speziell für gehärtete Materialien
- die Beschichtung gewährleistet eine höhere Abriebfestigkeit und Hitzebeständigkeit

ADVANTAGES:

- *lower cutting forces thanks to a special cutting edge geometry*
- *perfect solution for the Mold and Die Industry*
- *threading from ISO m1.4x0.3 and 0-80 UN*
- *thread length up to 2xD*
- *short chips increase safety*
- *short machining time*
- *machining at high cutting speeds*
- *short cycle time - increase a productivity*
- *ultra fine grade - special for hardened materials*
- *coating provides high wear and heat resistance*

TMCMH

Gewindefräser für die Bearbeitung von gehärteten Materialien bis 62 HRC. Diese Werkzeuge garantieren höchste Genauigkeit, einen weichen Schnitt und eine hervorragende Oberfläche.

Thread Mills designed specifically for machining of hardened materials up to 62HRC. These tools provide high performance, improved cut and excellent surface.

HARTMETALLSORTE TIALN | CARBIDE GRADE WITH TIALN COATING

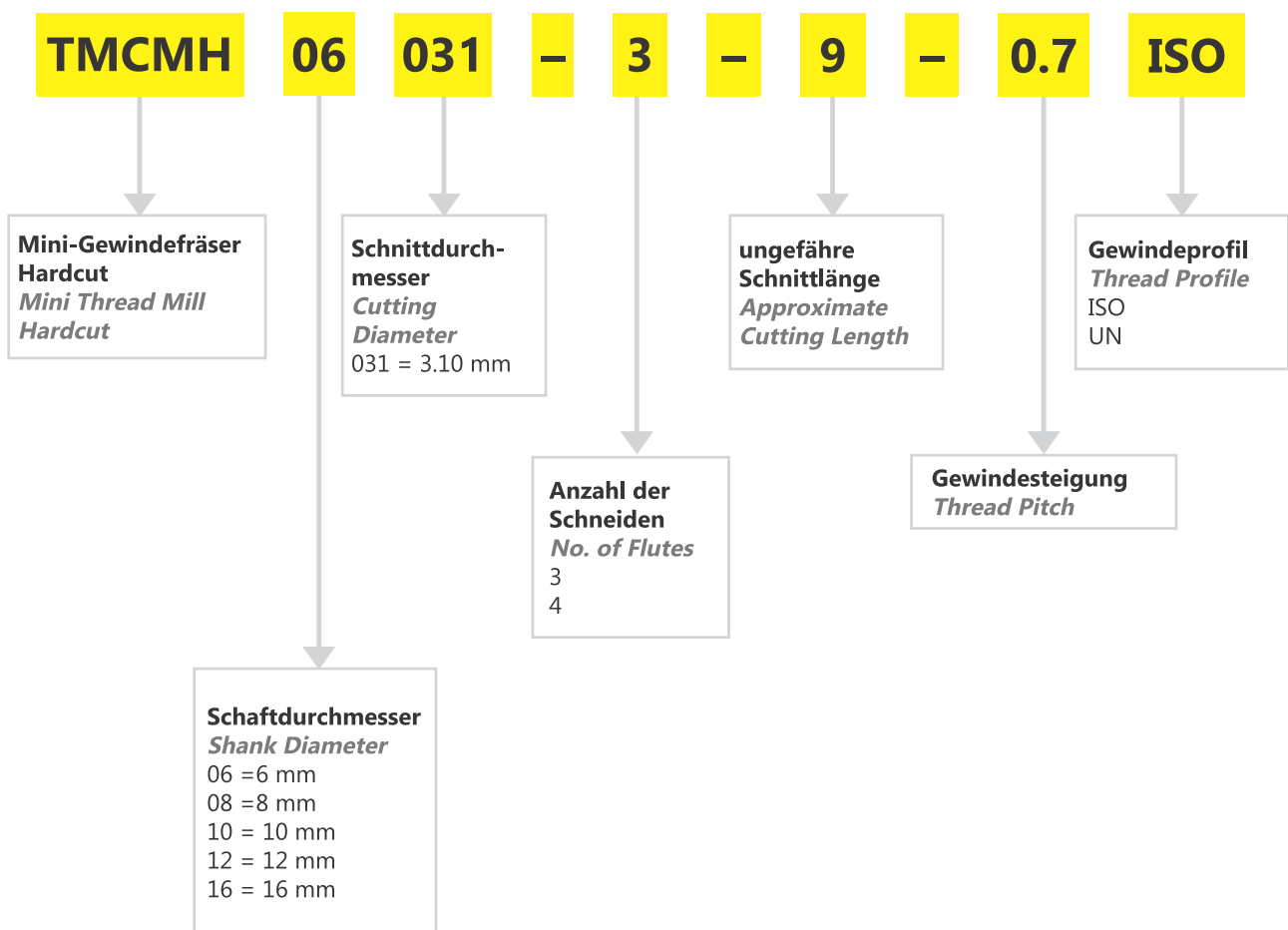
Ultra-Feinstkorn Hartmetall mit einer speziellen PVD dreifach Beschichtung.

Ultra fine sub-micron grade with advanced triple PVD coating.

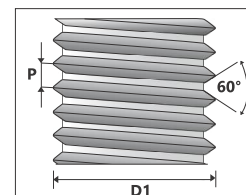
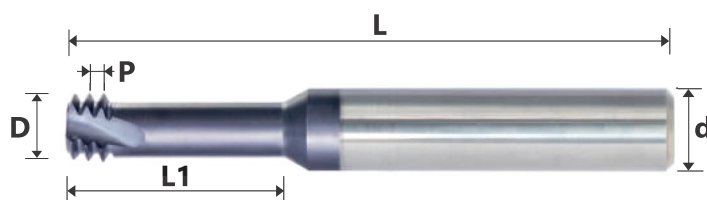
THREAD MILLING

PRODUKT BEZEICHNUNG | PRODUCT DESIGNATION

BEISPIEL | EXAMPLE: TMCH0631-3-9-0.7 ISO



ISO



Linkslaufende
Spindeldrehrichtung
code M04
for left hand spindle
rotation use code M04

Werkzeuge zur Herstellung von Innengewinde | tools for internal thread
bis zu einer Gewindetiefe von 2 x D1 | for thread depth up to 2 x D1

Artikelnummer (Item Number)	P Steigung (Pitch) in mm	L in mm	d in mm	D1 in mm	D in mm	L1 in mm	Anz. der Schneiden (No. of Flutes)
TMCMH06016-3-4-0.4ISO	0.4	58	6	M2	1.53	4.5	3
TMCMH06017-3-5-0.45ISO	0.45	58	6	M2.2	1.65	5.0	3
TMCMH0602-3-5-0.45ISO	0.45	58	6	M2.5	1.95	5.5	3
TMCMH06024-3-6-0.5ISO	0.5	58	6	M3	2.37	6.5	3
TMCMH06028-3-7-0.6ISO	0.6	58	6	M3.5	2.75	7.5	3
TMCMH06031-3-9-0.7ISO	0.7	58	6	M4	3.10	9.0	3
TMCMH06038-3-12-0.8ISO	0.8	58	6	M5	3.80	12.5	3
TMCMH06047-3-14-1.0ISO	1.0	58	6	M6	4.65	14.0	3
TMCMH0606-3-18-1.25ISO	1.25	58	6	M8	6.00	18.0	3
TMCMH08078-3-23-1.5ISO	1.5	64	8	M10	7.80	23.0	3
TMCMH1009-3-26-1.75ISO	1.75	73	10	M12	9.00	26.0	3
TMCMH12118-4-35-2.0ISO	2.0	84	12	M16	11.80	35.0	4

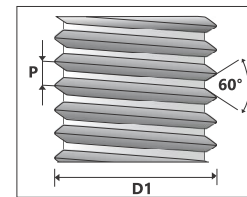
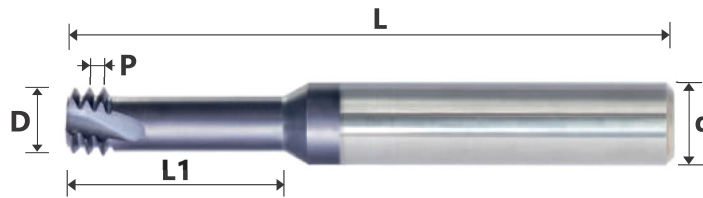
Bestellbeispiel | Order example: TMCMH08078-3-23-1.5ISO TiAlN

bis zu einer Gewindetiefe von 3 x D1 | for thread depth up to 3 x D1

Artikelnummer (Item Number)	P Steigung (Pitch) in mm	L in mm	d in mm	D1 in mm	D in mm	L1 in mm	Anz. der Schneiden (No. of Flutes)
TMCMH03011-3-4-0.3ISO	0.3	39	3	M1.4	1.05	4.0	3
TMCMH03012-3-5-0.35ISO	0.35	39	3	M1.6	1.20	4.8	3
TMCMH03016-3-6-0.4ISO	0.4	39	3	M2	1.53	6.0	3
TMCMH06017-3-7-0.45ISO	0.45	58	6	M2.2	1.65	7.0	3
TMCMH0602-3-7-0.45ISO	0.45	58	6	M2.5	1.95	7.5	3
TMCMH06024-3-9-0.5ISO	0.5	58	6	M3	2.37	9.5	3
TMCMH06028-3-10-0.6ISO	0.6	58	6	M3.5	2.75	10.5	3
TMCMH06031-3-12-0.7ISO	0.7	58	6	M4	3.20	12.5	3
TMCMH06038-3-16-0.8ISO	0.8	58	6	M5	3.80	16.0	3
TMCMH06047-3-20-1.0ISO	1.0	58	6	M6	4.65	20.0	3
TMCMH0606-3-24-1.25ISO	1.25	58	6	M8	6.00	24.0	3

Bestellbeispiel | Order example: TMCMH08078-3-23-1.5ISO TiAlN

UN



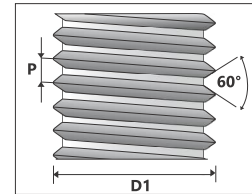
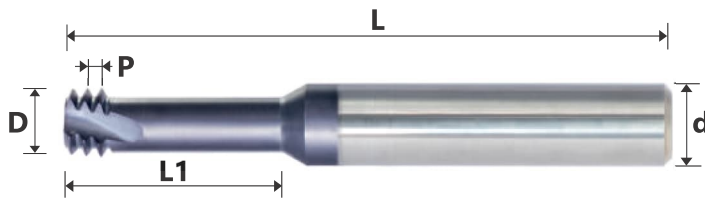
Linkslaufende
Spindeldrehrichtung
code M04
for left hand spindle
rotation use code M04

Werkzeuge zur Herstellung von Innengewinde | tools for internal thread
bis zu einer Gewindetiefe von 2 x D1 | for thread depth up to 2 x D1

Artikelnummer (Item Number)	P Steigung (Pitch) in TPI	L in mm	UNC	UNF	d in mm	D in mm	L1 in mm	Anz. der Schneiden (No. of Flutes)
TMCMH06014-3-3-72UN	72	58		1	6	1.45	3.7	3
TMCMH06014-3-3-64UN	64	58	1	2	6	1.40	3.8	3
TMCMH06016-3-4-56UN	56	58	2	3	6	1.65	4.4	3
TMCMH06019-3-5-48UN	48	58	3	4	6	1.90	5.2	3
TMCMH06021-3-6-40UN	40	58	4		6	2.10	6.3	3
TMCMH06024-3-7-40UN	40	58	5	6	6	2.45	7.0	3
TMCMH06033-3-9-36UN	36	58		8	6	3.30	9.0	3
TMCMH06025-3-7-32UN	32	58	6		6	2.55	7.1	3
TMCMH06032-3-9-32UN	32	58	8		6	3.20	9.5	3
TMCMH06037-3-10-32UN	32	58		10	6	3.70	10.5	3
TMCMH06042-3-11-28UN	28	58		12	6	4.20	11.0	3
TMCMH0605-3-14-28UN	28	58		1/4	6	5.00	14.5	3
TMCMH06035-3-10-24UN	24	58	10, 12		6	3.50	10.6	3
TMCMH08066-3-17-24UN	24	64		5/16, 3/8	8	6.60	17.0	3
TMCMH06047-3-14-20UN	20	58	1/4		6	4.75	14.0	3
TMCMH0808-3-25-20UN	20	64		7/16	8	8.00	25.0	3
TMCMH0606-3-17-18UN	18	58	5/16		6	6.00	17.0	3
TMCMH1212-4-35-18UN	18	84		5/8	12	12.00	35.0	4
TMCMH08067-3-22-16UN	16	64	3/8		8	6.70	22.0	3
TMCMH08077-3-25-14UN	14	64	7/16		8	7.70	25.0	3
TMCMH10092-3-27-13UN	13	73	1/2		10	9.20	27.5	3
TMCMH12105-3-31-12UN	12	84	9/16		12	10.50	31.5	3
TMCMH12114-3-34-11UN	11	84	5/8		12	11.40	34.5	3
TMCMH16144-4-41-10UN	10	105	3/4		16	14.40	41.5	4

Bestellbeispiel | Order example: TMCMH12114-3-34-11UNTAIIN

UN



Linkslaufende
Spindeldrehrichtung
code M04
for left hand spindle
rotation use code M04

Werkzeuge zur Herstellung von Innengewinde | tools for internal thread
bis zu einer Gewindetiefe von 3 x D1 | for thread depth up to 3 x D1

Artikelnummer (Item Number)	P Steigung (Pitch) in TPI	L in mm	UNC	UNF	d in mm	D in mm	L1 in mm	Anz. der Schneiden (No. of Flutes)
TMCMH06012-3-4-80UN	80	58		0	6	1.15	4.0	3
TMCMH03015-3-6-72UN	72	39		1	3	1.45	6.0	3
TMCMH06016-3-6-56UN	56	58	2	3	6	1.65	6.6	3
TMCMH06021-3-8-40UN	40	58	4		6	2.10	8.0	3
TMCMH06024-3-9-40UN	40	58	5	6	6	2.45	9.6	3
TMCMH06025-3-10-32UN	32	58	6		6	2.55	10.5	3
TMCMH06032-3-12-32UN	32	58	8		6	3.20	12.5	3
TMCMH06037-3-15-32UN	32	58		10	6	3.70	15.0	3
TMCMH0605-3-19-28UN	28	58		1/4	6	5.00	19.0	3
TMCMH08066-3-24-24UN	24	64		5/16, 3/8	8	6.60	24.0	3
TMCMH06047-3-19-20UN	20	58	1/4		6	4.75	19.0	3
TMCMH0606-3-23-18UN	18	58	5/16		6	6.00	23.0	3

Bestellbeispiel | Order example: TMCMH06012-3-4-80UNTiAlN