

# CARBIDE



Being the best through innovation



# THREAD MILLS












# GEWINDEFRÄSER

- With & without coolant Holes  
Threading Most of Materials and Big Sizes in High Quality, Available with Chamfer
- Mit und ohne Kühlkanäle  
Für die meisten Werkstoffe und große Durchmesser in bester Qualität. Mit Senkstufe lieferbar

# SELECTION GUIDE

SOLID CARBIDE THREAD MILLS (with & without coolant Holes)  
Threading Most of Materials and Big Sizes in High Quality, Available with Chamfer

## SOLID CARBIDE THREAD MILL

EDP No.	MODEL	Description	PAGE
L1111 L1211		SOLID CARBIDE THREAD MILL for ISO METRIC INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄSER für ISO METRISCHES INNENGEWINDE - DIN 13	497
L1112 L1212		SOLID CARBIDE THREAD MILL for ISO METRIC-FINE INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄSER für ISO METRISCH - FEIN INNENGEWINDE - DIN 13	498
L1113 L1213		SOLID CARBIDE THREAD MILL for UNC INTERNAL THREAD - ANSI B 1.1 VOLLHARTMETALL GEWINDEFÄSER für UNC INNENGEWINDE, ANSI B 1.1	499
L1114 L1214		SOLID CARBIDE THREAD MILL for UNF INTERNAL THREAD - ANSI B 1.1 VOLLHARTMETALL GEWINDEFÄSER für UNF INNENGEWINDE, ANSI B 1.1	500
L4111 L4211		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for ISO METRIC INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL für ISO METRISCHES INNENGEWINDE - DIN 13	501
L4112 L4212		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for ISO METRIC-FINE INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL für ISO METRISCH - FEIN INNENGEWINDE - DIN 13	502
L4171 L4271		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for ISO METRIC INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für METRISCHES INNENGEWINDE - DIN 13	503
L4172 L4272		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for ISO METRIC-FINE INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für METRISCH - FEIN INNENGEWINDE - DIN 13	504
L4173 L4273		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for UNC INTERNAL THREAD - ANSI B 1.1 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für UNC INNENGEWINDE - ANSI B 1.1	505
L4174 L4274		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for UNF INTERNAL THREAD - ANSI B 1.1 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für UNF INNENGEWINDE - ANSI B 1.1	506
L4176 L4276		SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for NPT THREAD - ANSI B 1.20.1 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für NPT INNENGEWINDE - ANSI B 1.20.1	507
		PROGRAMMING OF THREAD MILLING PROGRAMMIERUNG BEIM GEWINDEFÄSEN	
		RECOMMENED CUTTING SPEED EMPFOHLENE SCHNEIDKONDITIONEN	

### Application Program Available

#### Programing of Thread Milling

Internal Thread Milling in Machining Center  
 Fanuc

English

M - Metric

D = thread diameter (mm) **16.0**

P = pitch (mm) **2.00**

L = thread length (mm) **30.0**

S = safety distance (mm) **0.0**

Steel, Low Carbon, < 0.25% C, < 400 N/mm2

M12120C34.0 2.0P L1111600

Number of passes, axial **1**

Number of passes, radial (max 2) **1**

d = cutter diameter (mm) **12**

l = length of cutting edge (mm) **34**

z = number of flutes **5**

V = cutting speed (m/min) **150**

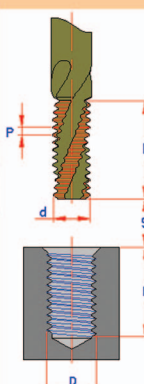
Fz = feed/tooth (mm/tooth) **0.070**

N = spindle speed (rpm) **3,979**

FD = feed at thread diameter (mm/min) **3,114**

Fd = feed in center of mill (mm/min) **2,79**

T = time to mill the thread (seconds) **1**



CNC program for Fanuc

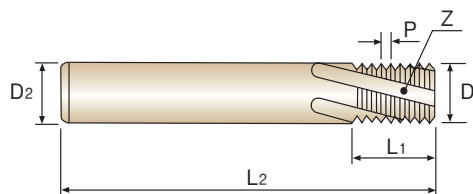
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G90 G00 G57 X0, Y0,
G43 H10 Z0, M3 S3979
G91 G00 Z-30.5
G41 D10 X0, Y-7
G03 X8.05 Y7, Z0.5 R7.068 F279
G03 X0, Y0, Z2, I-8.05 J0,
G03 X-8.05 Y7, Z0.5 R7.068
G00 G40 X0, Y-7,
G00 Z27.5
G90 G49 G00 Z200, M5
M30
                    
```

# M SOLID CARBIDE THREAD MILL for ISO METRIC INTERNAL THREAD - DIN 13 VOLLHARTMETALL GEWINDEFÄRÄSER für ISO METRISCHES INNENGEWINDE - DIN 13

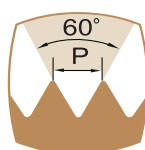
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 2 × D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindelänge : 2xD



Unit : mm

EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	No. of Flute Z
UNCOATED	TiAIN							
L1111200	L1211200	M3	0.5	2.2	6	5	57	3
L1111240	L1211240	M4	0.7	2.9	6	7	57	3
L1111280	L1211280	M5	0.8	3.8	6	8	57	3
L1111310	L1211310	M6	1.0	4.5	6	13	57	3
L1111360	L1211360	M8	1.25	6.0	6	17.5	65	3
L1111420	L1211420	M10	1.5	7.5	8	21	72	4
L1111500	L1211500	M12	1.75	9.5	10	26.25	80	4
L1111540	L1211540	M14	2.0	10.0	10	30	83	4
L1111600	L1211600	M16	2.0	12.0	12	34	92	4
L1111650	L1211650	M18	2.5	14.0	14	37.5	92	5
L1111700	L1211700	M20	2.5	16.0	16	42.5	105	5

\* Other coatings are available on your request

- HSS
- CARBIDE
- COMBO TAPS
- SPIRAL POINT TAPS
- SPIRAL FLUTE TAPS
- STRAIGHT FLUTE TAPS
- COLD FORMING TAPS
- NUT TAPS
- STI TAPS
- HAND TAPS
- PIPE TAPS
- CARBIDE TAPS
- THREAD MILLS
- TECHNICAL DATA

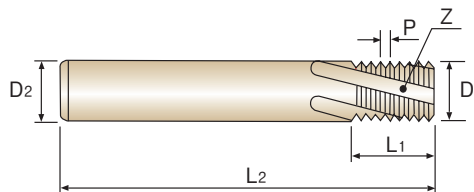


MF

SOLID CARBIDE THREAD MILL for ISO METRIC-FINE INTERNAL THREAD - DIN 13  
 VOLLHARTMETALL GEWINDEFÄSER für ISO METRISCH - FEIN INNENGEWINDE - DIN 13

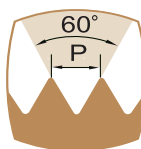
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 1.5 × D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindeläge : 1.5x D



Unit : mm

EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	No. of Flute Z
UNCOATED	TiAIN							
L1112370	L1212370	M8	1.0	6.0	6	13	57	3
L1112380	L1212380	M8	0.75	6.0	6	12.75	57	3
L1112440	L1212440	M10	1.0	8.0	8	16	63	4
L1112510	L1212510	M12	1.5	9.5	10	19.5	72	4
L1112520	L1212520	M12	1.25	9.5	10	18.75	72	4
L1112530	L1212530	M12	1.0	9.5	10	19	72	4
L1112550	L1212550	M14	1.5	10.0	10	22.5	83	4
L1112570	L1212570	M14	1.0	10.0	10	22	83	4
L1112610	L1212610	M16	1.5	12.0	12	25.5	83	4
L1112620	L1212620	M16	1.0	12.0	12	25	83	4
L1112670	L1212670	M18	1.5	14.0	14	28.5	92	5
L1112680	L1212680	M18	1.0	14.0	14	28	92	5
L1112720	L1212720	M20	1.5	16.0	16	31.5	92	5
L1112730	L1212730	M20	1.0	16.0	16	31	92	5

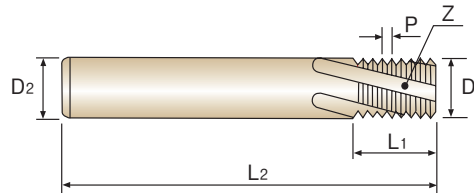
\* Other coatings are available on your request

# UNC SOLID CARBIDE THREAD MILL for UNC INTERNAL THREAD - ANSI B 1.1

## VOLLHARTMETALL GEWINDEFÄSER für UNC INNENGEWINDE, ANSI B 1.1

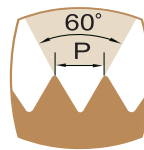
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 2×D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindelänge : 2xD



Unit : mm

EDP No.		Nominal Diameter [ D ]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	No. of Flute Z
UNCOATED	TiAIN							
L1113400	L1213400	1/4"	20	4.5	6	14	57	3
L1113440	L1213440	5/16"	18	5.8	6	16.9	65	3
L1113480	L1213480	3/8"	16	7.0	8	20.6	72	4
L1113520	L1213520	7/16"	14	8.0	8	23.6	72	4
L1113560	L1213560	1/2"	13	9.5	10	27.4	80	4
L1113600	L1213600	9/16"	12	10.0	10	31.8	83	4
L1113640	L1213640	5/8"	11	12.0	12	34.6	92	4
L1113700	L1213700	3/4"	10	14.0	14	40.6	104	5

\* Other coatings are available on your request

HSS

CARBIDE

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

COLD FORMING TAPS

NUT TAPS

STI TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

THREAD MILLS

TECHNICAL DATA

HSS

CARBIDE



# THREAD MILLS

**L1114** SERIES

UNCOATED

**L1214** SERIES

TiAIN

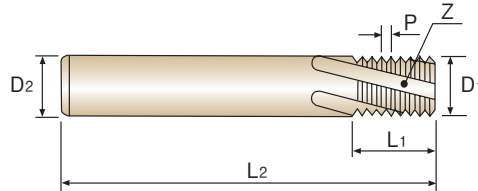
# UNF

## SOLID CARBIDE THREAD MILL for UNF INTERNAL THREAD - ANSI B 1.1

### VOLLHARTMETALL GEWINDEFÄSER für UNF INNENGEWINDE, ANSI B 1.1

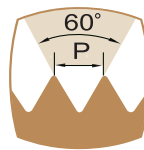
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- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 2×D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindeläge : 2xD



Unit : mm

EDP No.		Nominal Diameter [ D ]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	No. of Flute Z
UNCOATED	TiAIN							
L1114420	L1214420	1/4"	28	5.0	6	13.6	57	3
L1114460	L1214460	5/16"	24	6.0	6	16.9	65	3
L1114500	L1214500	3/8"	24	8.0	8	20.1	72	4
L1114540	L1214540	7/16"	20	8.0	8	24.1	72	4
L1114580	L1214580	1/2"	20	10.0	10	26.7	80	4
L1114620	L1214620	9/16"	18	12.0	12	29.6	83	4
L1114660	L1214660	5/8"	18	12.0	12	33.9	92	4
L1114720	L1214720	3/4"	16	14.0	14	39.7	104	5

\* Other coatings are available on your request

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

COLD FORMING TAPS

NUT TAPS

STI TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

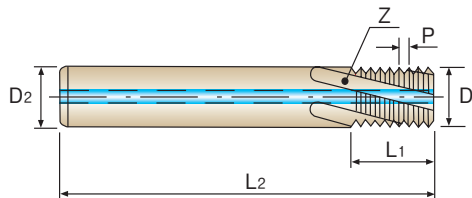
THREAD MILLS

TECHNICAL DATA

**M SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for ISO METRIC INTERNAL THREAD - DIN 13**  
**VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL für ISO METRISCHES INNENGEWINDE - DIN 13**

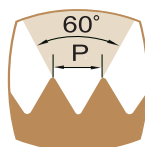
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

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- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 2×D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindeläge : 2xD



Unit : mm

EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D <sub>1</sub>	Shank Diameter D <sub>2</sub>	Thread Length L <sub>1</sub>	Over All Length		No. of Flute Z
UNCOATED	TiAlN						L <sub>2</sub>	Z	
<b>L4111310</b>	<b>L4211310</b>	M6	1.0	<b>4.5</b>	6	13.0	57	3	
<b>L4111360</b>	<b>L4211360</b>	M8	1.25	<b>6.0</b>	6	17.5	65	3	
<b>L4111420</b>	<b>L4211420</b>	M10	1.5	<b>7.5</b>	8	21.0	72	4	
<b>L4111500</b>	<b>L4211500</b>	M12	1.75	<b>9.5</b>	10	26.25	80	4	
<b>L4111540</b>	<b>L4211540</b>	M14	2.0	<b>10.0</b>	10	30.0	83	4	
<b>L4111600</b>	<b>L4211600</b>	M16	2.0	<b>12.0</b>	12	34.0	92	4	
<b>L4111700</b>	<b>L4211700</b>	M20	2.5	<b>16.0</b>	16	42.5	105	5	

\* Other coatings are available on your request

HSS

CARBIDE



# THREAD MILLS

**L4112** SERIES

UNCOATED

**L4212** SERIES

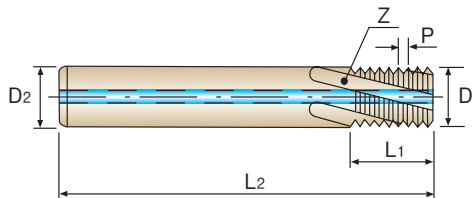
TiAIN

# MF

**SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for ISO METRIC-FINE INTERNAL THREAD - DIN 13**  
**VOLLHARTMETALL GEWINDEFÄSERER mit KÜHLKANAL für ISO METRISCH - FEIN INNENGEWINDE - DIN 13**

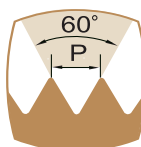
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 1.5 × D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindeläge : 1.5x D



Unit : mm

EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	No. of Flute Z
UNCOATED	TiAIN							
<b>L4112370</b>	<b>L4212370</b>	M8	1.0	<b>6.0</b>	6	13.0	57	3
<b>L4112380</b>	<b>L4212380</b>	M8	0.75	<b>6.0</b>	6	12.75	57	3
<b>L4112440</b>	<b>L4212440</b>	M10	1.0	<b>8.0</b>	8	16.0	63	4
<b>L4112510</b>	<b>L4212510</b>	M12	1.5	<b>9.5</b>	10	19.5	72	4
<b>L4112520</b>	<b>L4212520</b>	M12	1.25	<b>9.5</b>	10	18.75	72	4
<b>L4112530</b>	<b>L4212530</b>	M12	1.0	<b>9.5</b>	10	19.0	72	4
<b>L4112550</b>	<b>L4212550</b>	M14	1.5	<b>10.0</b>	10	22.5	83	4
<b>L4112570</b>	<b>L4212570</b>	M14	1.0	<b>10.0</b>	10	22.0	83	4
<b>L4112610</b>	<b>L4212610</b>	M16	1.5	<b>12.0</b>	12	25.5	83	4
<b>L4112620</b>	<b>L4212620</b>	M16	1.0	<b>12.0</b>	12	25.0	83	4
<b>L4112670</b>	<b>L4212670</b>	M18	1.5	<b>14.0</b>	14	28.5	92	5
<b>L4112680</b>	<b>L4212680</b>	M18	1.0	<b>14.0</b>	14	28.0	92	5
<b>L4112720</b>	<b>L4212720</b>	M20	1.5	<b>16.0</b>	16	31.5	92	5
<b>L4112730</b>	<b>L4212730</b>	M20	1.0	<b>16.0</b>	16	31.0	92	5

\* Other coatings are available on your request

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

COLD FORMING TAPS

NUT TAPS

STI TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

THREAD MILLS

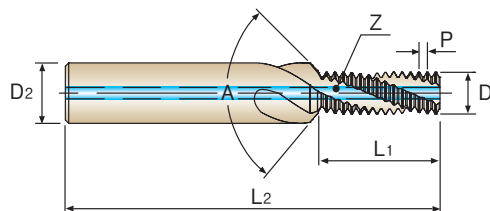
TECHNICAL DATA



**M** SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for ISO METRIC INTERNAL THREAD - DIN 13  
 VOLLHARTMETALL GEWINDEFÄRER mit KÜHLKANAL & FASE für METRISCHES INNENGEWINDE - DIN 13

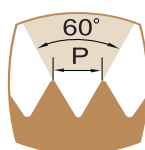
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

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- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 2×D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindelänge : 2xD



Unit : mm

EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D <sub>1</sub>	Shank Diameter D <sub>2</sub>	Thread Length L <sub>1</sub>	Over All Length L <sub>2</sub>	Angle A	No. of Flute Z
UNCOATED	TiAlN								
L4171310	L4271310	M6	1.0	4.8	8	12.4	62	90°	3
L4171360	L4271360	M8	1.25	6.5	10	16.8	74	90°	3
L4171420	L4271420	M10	1.5	8.2	12	20.15	80	90°	4
L4171500	L4271500	M12	1.75	9.9	14	25.25	90	90°	4
L4171540	L4271540	M14	2.0	11.6	16	28.85	100	90°	4
L4171600	L4271600	M16	2.0	13.6	18	32.85	102	90°	4

\* Other coatings are available on your request

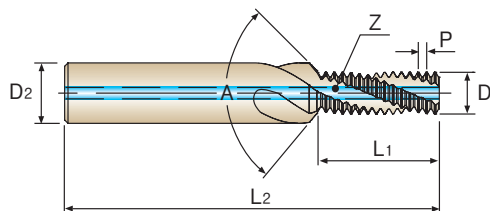


MF

SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for ISO METRIC-FINE INTERNAL THREAD - DIN 13  
 VOLLHARTMETALL GEWINDEFÄRÄSER mit KÜHLKANAL & FASE für METRISCH - FEIN INNENGEWINDE - DIN 13

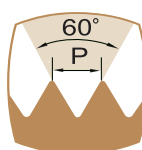
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 1.5×D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindeläge : 1.5xD



Unit : mm

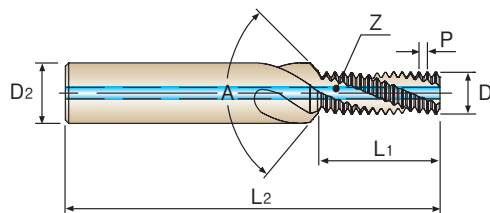
EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	Angle A	No. of Flute Z
UNCOATED	TiAIN								
L4172370	L4272370	M8	1.0	6.7	10	12.4	74	90°	3
L4172440	L4272440	M10	1.0	8.7	12	15.4	80	90°	4
L4172430	L4272430	M10	1.25	8.3	12	15.9	80	90°	4
L4172530	L4272530	M12	1.0	10.7	14	18.4	90	90°	4
L4172520	L4272520	M12	1.25	10.3	14	18.3	80	90°	4
L4172510	L4272510	M12	1.5	10.0	14	18.65	90	90°	4
L4172550	L4272550	M14	1.5	12.0	16	21.65	100	90°	4
L4172610	L4272610	M16	1.5	14.0	18	24.65	102	90°	5

\* Other coatings are available on your request

**UNC** SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for UNC INTERNAL THREAD - ANSI B 1.1  
 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für UNC INNENGEWINDE - ANSI B 1.1

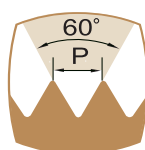
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 2 × D

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindelänge : 2xD



Unit : mm

EDP No.		Nominal Diameter [ D ]	T.P.I.	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	Angle A	No. of Flute Z
UNCOATED	TiAlN								
L4173400	L4273400	1/4"	20	4.8	8	13.3	62	90°	3
L4173440	L4273440	5/16"	18	6.2	10	16.18	74	90°	3
L4173480	L4273480	3/8"	16	7.6	12	19.8	80	90°	4
L4173520	L4273520	7/16"	14	8.9	12	22.62	80	90°	4
L4173560	L4273560	1/2"	13	10.3	14	26.32	90	90°	4
L4173600	L4273600	9/16"	12	11.7	16	30.63	100	90°	4
L4173640	L4273640	5/8"	11	13.1	18	33.41	102	90°	4
L4173700	L4273700	3/4"	10	16.0	20	39.29	110	90°	5

\* Other coatings are available on your request

- HSS
- CARBIDE
- COMBO TAPS
- SPIRAL POINT TAPS
- SPIRAL FLUTE TAPS
- STRAIGHT FLUTE TAPS
- COLD FORMING TAPS
- NUT TAPS
- STI TAPS
- HAND TAPS
- PIPE TAPS
- CARBIDE TAPS
- THREAD MILLS
- TECHNICAL DATA

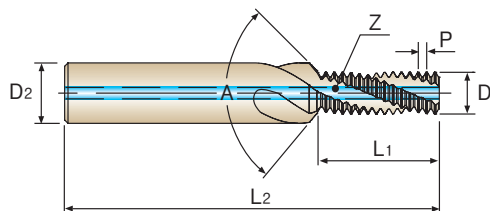


UNF

SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for UNF INTERNAL THREAD - ANSI B 1.1  
 VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL & FASE für UNF INNENGEWINDE - ANSI B 1.1

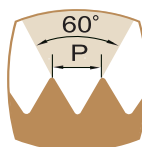
► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



► Material : Solid Carbide  
 ► Shank : DIN6535 HA  
 ► Spiral Angle : 15°  
 ► Thread Length : 2×D

► Material : Vollhartmetall  
 ► Schaft : DIN 6535 HA  
 ► Drallwinkel : 15°  
 ► Gewindeläge : 2xD



Unit : mm

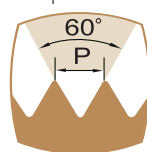
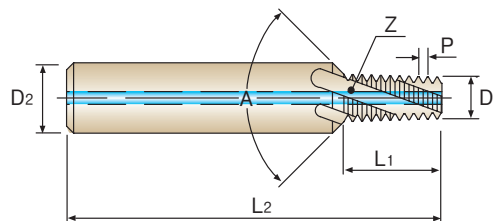
EDP No.		Nominal Diameter [ D ]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	Angle A	No. of Flute Z
UNCOATED	TiAIN								
L4174420	L4274420	1/4"	28	5.1	8	13.21	62	90°	3
L4174460	L4274460	5/16"	24	6.5	10	16.37	74	90°	3
L4174500	L4274500	3/8"	24	8.1	12	19.54	80	90°	4
L4174540	L4274540	7/16"	20	9.4	12	22.19	80	90°	4
L4174580	L4274580	1/2"	20	11.0	14	26	90	90°	4
L4174620	L4274620	9/16"	18	12.4	16	28.88	100	90°	4
L4174660	L4274660	5/8"	18	14.0	18	33.12	102	90°	5
L4174720	L4274720	3/4"	16	17.0	20	38.86	110	90°	5

\* Other coatings are available on your request

**NPT** SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for NPT THREAD - ANSI B 1.20.1  
 VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für NPT INNENGEWINDE - ANSI B 1.20.1

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



- Material : Solid Carbide
- Shank : DIN6535 HA
- Spiral Angle : 15°
- Thread Length : 9×P

- Material : Vollhartmetall
- Schaft : DIN 6535 HA
- Drallwinkel : 15°
- Gewindeläge : 9xP

Unit : mm

EDP No.		Nominal Diameter [ D ]	T.P.I.	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Over All Length L2	Angle A	No. of Flute Z
UNCOATED	TiAIN								
L4176020	L4276020	NPT1/16"	27	5.9	10	8.9	64	90°	3
L4176200	L4276200	NPT1/8"	27	7.8	12	8.9	70	90°	4
L4176400	L4276400	NPT1/4"	18	10.05	16	13.4	81	90°	4
L4176480	L4276480	NPT3/8"	18	13.45	18	13.4	81	90°	4

\* Other coatings are available on your request

HSS

CARBIDE

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

COLD FORMING TAPS

NUT TAPS

STI TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

THREAD MILLS

TECHNICAL DATA



### PROGRAMMING OF THREAD MILLING PROGRAMMIERUNG BEIM GEWINDEFRÄSEN

#### Program Data

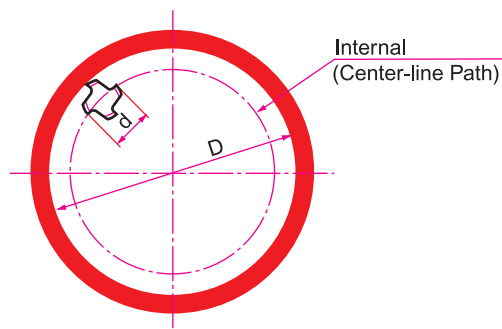
##### G Codes for Thread Milling

<b>G00</b>	Fast Feed Linear	<b>G90</b>	Absolute Command
<b>G01</b>	Linear Movement	<b>G91</b>	Incremental Command
<b>G02</b>	Circular/Helical Interpolation C.W.	<b>M03</b>	Clockwise Rotation of Spindle
<b>G03</b>	Circular/Helical Interpolation A.C.W.	<b>M05</b>	Spindle Stop
<b>G17</b>	X, Y Plane (Vertical Machining)	<b>M08</b>	Coolant On
<b>G18</b>	Z, X Plane (Horizontal Machining)	<b>X</b>	Horizontal Co-ordinate
<b>G19</b>	Y, Z Plane (Using 90° Head)	<b>Y</b>	Horizontal Co-ordinate
<b>G40</b>	Cutter Radius Compensation Cancel	<b>Z</b>	Vertical Co-ordinate
<b>G41</b>	Cutter Radius Compensation Left	<b>I</b>	X Co-ordinate to Center of Arc Travel
<b>G42</b>	Cutter Radius Compensation Right	<b>J</b>	Y Co-ordinate to Center of Arc Travel
<b>G43</b>	Tool Length Compensation Plus	<b>S</b>	Spindle Speed R.P.M.
<b>G49</b>	Tool Length Compensation Cancel	<b>F</b>	Feed mm/min

#### CNC Internal Thread Milling

```

G54    G90    G00    X...    Y...    Z2    T1    S...    M03
G91    G00    Z...(A3+2)
G41    G01    D26    X...(A6)  Y...(A5)  F...
G03    X...(A6)  Y...(A6)  Z...(A4)  I...(A6)  J0
G03    X0      Y0      Z...(A2)  I0      J...(A1)
G03    X...(A6)  Y...(A6)  Z...(A4)  I0      J...(A6)
G00    G40    X...(A6)  Y...(A5)
G00    Z...(A7)
G90    G49    G00    Z200    M5
M30
  
```



#### <Explanation of Parameters>

**A1** : 1/2 Nominal Thread Diameter 1/2D

**A2** : Thread Pitch

**A3** : Thread Depth

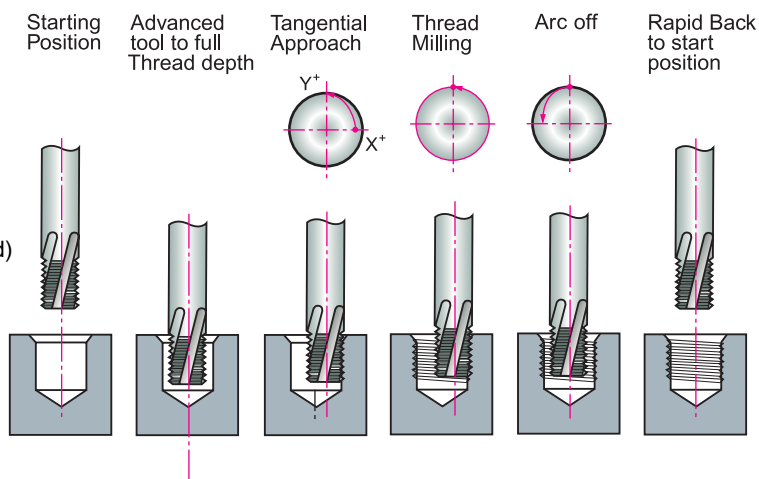
**A4** : 1/4P(for climb milling and right-hand thread)

**A5** : Beginning of Contour in Y 0.5xP

**A6** : Arc Off (A1 - A5)

**A7** : A3+2-0.5P

**T1** : Cutter radius to be programmed is normally included in the tool memory



**RECOMMENDED CUTTING SPEED**  
**EMPFOHLENE SCHNEIDKONDITIONEN**

unit : mm

Materials	Cutting Speed (m/min)	Feed per Tooth (fz)	
		Cutter Diameter ≤ Ø8.0	Cutter Diameter > Ø8.0
Low Carbon Steels Medium Carbon Steels	80 - 120	0.02 - 0.04	0.04 - 0.10
High Carbon Steels	80 - 120	0.02 - 0.04	0.04 - 0.10
Alloy Steels	80 - 120	0.02 - 0.04	0.04 - 0.10
Heat Treated Steels	60 - 100	0.02 - 0.04	0.04 - 0.10
Stainless Steels	40 - 80	0.01 - 0.02	0.02 - 0.06
Cast Iron	50 - 100	0.02 - 0.04	0.04 - 0.10
Chrome-Nickel Alloys Titanium Alloys	20 - 60	0.01 - 0.02	0.02 - 0.06
Non Ferrous Materials	100 - 300	0.03 - 0.07	0.05 - 0.10

**TO CALCULATE SPEED & FEED RATES**  
**SCHNITTGESCHWINDIGKEIT & VORSCHUB KALKULIEREN**
**Calculate R.P.M of cutter**

$$N = \frac{1000 \times V}{d \times \pi}$$

**Calculate Feed per Revolution**

$$F_1 = fz \times Z \times N$$

**Finally Calculate Feed at Tool Center Line**

$$F_2 = \frac{F_1 \times (D - d)}{D}$$

N : R.P.M

V : Recommended Cutting Speed

d : Diameter of Cutter

F<sub>1</sub> : Feed at Cutting Edge

fz : Recommended Feed per Tooth

Z : Number of Teeth

F<sub>2</sub> : Feed at Center Line of CuttingF<sub>1</sub> : Feed at Cutting Edge

D : Major Diameter of Component

COMBO  
TAPSSPIRAL  
POINT TAPSSPIRAL  
FLUTE TAPSSTRAIGHT  
FLUTE TAPSCOLD  
FORMING  
TAPS

NUT TAPS

STI TAPS

HAND TAPS

PIPE TAPS

CARBIDE  
TAPSTHREAD  
MILLSTECHNICAL  
DATA