
S 1,40 NIHS NT GO
S 1,40 NIHS NT NO GO

SELECTION OF THREADING TOOLS

✓ = item from stock

		Z	Page		CARBIDE	TiAlN	CUTINOX	DI-TOP	
MICRO-TAPS									
DIXI 1712 R S 0.30 - M 2.00		3	244	NIHS 06 ISO 60°	✓				
DIXI 1712 L S 0.60 - S 1.00		3	245	NIHS 06	✓				
DIXI 1713 S 0.40 - S 1.40		3	245	NIHS 06	✓				
DIXI 1715 S 0.40 - M 2.20		-	246	NIHS 06 ISO 60°				✓	
GAUGES									
DIXI 1718 R+L **R** S 0.30 - S 1.40 M 1.00 - M 3.00 **L** S 0.50 - S 1.00		-	247	NIHS 06 ISO 60°	✓				
DIXI 1719 R+L **R** S 0.30 - S 1.40 M 1.00 - M 3.00 **L** S 0.50 - S 1.00		-	247	NIHS 06 ISO 60°	✓				
WHIRLING TOOLS									
DIXI 1730 M 0.80 - M 10.00		3 - 6	248	ISO 60°	✓	✓			
DIXI 1731 M 0.80 - M 10.00		3 - 6	249	ISO 60°	✓	✓			
DIXI 1735 UNC N°1 - 1/2''		3 - 6	250	UN 60°	✓	✓			
DIXI 1736 UNC N°1 - 1/2''		3 - 6	251	UN 60°	✓	✓			
DIXI 1738 S 0.70 - M 3.00		3	252	NIHS 06 ISO 60°	✓		✓		
DIXI 1739 S 0.30 - S 1.40		1	253	NIHS 06	✓				

○ good ◎ excellent

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron 45-65 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
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○								◎				
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SELECTION OF THREADING TOOLS

✓ = item from stock

DRILLING THREAD WHIRLER	Z	Page		CARBIDE	TiAlN	CUTINOX		
DIXI 1740 M 0.80 - M 10.00 	1 - 3	254	ISO 60°	✓		✓		
THREAD MILLS								
DIXI 7908 M 1.6 - M 24 	3 - 6	255	ISO 60°	✓	✓			
DIXI 7910 M 1.4 - M 24 	2 - 4	256	ISO 60°	✓	✓			
DIXI 7918 UNF N°2 - UNC 3/4'' 	3 - 5	257	UN 60°	✓	✓			
DIXI 7920 UNF N°2 - UNC 3/4'' 	2 - 4	258	UN 60°	✓	✓			
DIXI 7940 R 1/16'' - 1'' 	3 - 4	259	BSP 55°	✓				
DIXI 7946 R 1/16'' - 2-1/2'' 	3 - 4	259	BSPT 55°	✓				
DIXI 7950 NPT 1/4'' - 3'' 	3 - 4	260	NPT 60°	✓				
DIXI 7956 NPTF 1/16'' - 2'' 	3 - 4	260	NPTF 60°	✓				

○ good ◎ excellent

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron > 45 HRC	Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Graphite	Plastic
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DIXI 1712 R

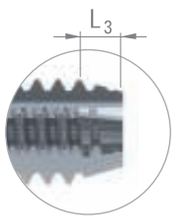
MICRO-TAPS

Z = 3

P. 261

NIHS 06

ISO 60°



Steel < 600MPa

Cu alloy Silver Gold

Nominal Ø	Pitch	Drill. Ø brass	Drill. Ø steel	D_1	L_1	L_2	L_3	D_{h6}	L	Z	CARBIDE
S 0.30	0.08	0.23	0.24	0.306	1.1	1.0	0.25	1.5	30	3	☐
S 0.35	0.09	0.27	0.28	0.356	1.7	1.5	0.27	1.5	30	3	☐
S 0.40	0.10	0.32	0.33	0.406	2.5	2.0	0.30	1.5	30	3	☐
		0.33	0.34	0.416	3.0	2.5	0.30	1.5	30	3	☐
S 0.50	0.125	0.40	0.42	0.506	3.0	2.5	0.38	1.5	30	3	☐
		0.41	0.43	0.516	4.0	3.5	0.38	1.5	30	3	☐
S 0.60	0.15	0.48	0.50	0.606	3.5	3.0	0.45	1.5	30	3	☐
		0.49	0.51	0.616	4.5	4.0	0.45	1.5	30	3	☐
		0.50	0.52	0.626	4.5	4.0	0.45	1.5	30	3	☐
S 0.70	0.175	0.56	0.58	0.716	3.5	3.0	0.52	1.5	30	3	☐
		0.57	0.59	0.726	4.5	4.0	0.52	1.5	30	3	☐
		0.58	0.60	0.736	4.5	4.0	0.52	1.5	30	3	☐
S 0.80	0.20	0.64	0.66	0.816	4.0	3.5	0.60	1.5	30	3	☐
		0.65	0.67	0.826	5.0	4.0	0.60	1.5	30	3	☐
		0.66	0.68	0.836	5.0	4.0	0.60	1.5	30	3	☐
S 0.90	0.225	0.72	0.74	0.916	4.5	4.0	0.67	1.5	30	3	☐
		0.73	0.75	0.926	5.0	4.0	0.67	1.5	30	3	☐
		0.74	0.76	0.936	5.0	4.0	0.67	1.5	30	3	☐
S 1.00	0.25	0.80	0.82	1.016	5.0	4.0	0.76	1.5	30	3	☐
		0.81	0.83	1.026	5.0	4.0	0.76	1.5	30	3	☐
		0.82	0.84	1.036	5.0	4.0	0.76	1.5	30	3	☐
S 1.20	0.25	1.00	1.02	1.216	6.0	5.0	0.76	1.5	30	3	☐
		1.01	1.03	1.226	6.0	5.0	0.76	1.5	30	3	☐
		1.02	1.04	1.236	6.0	5.0	0.76	1.5	30	3	☐
S 1.40	0.30	1.15	1.17	1.426	6.0	5.0	0.85	1.5	30	3	☐
		1.16	1.18	1.436	6.0	5.0	0.85	1.5	30	3	☐
M 1.50	0.30	1.26	1.28	1.536	7.0	6.0	0.85	2.0	38	3	☐
M 2.00	0.40	1.65	1.68	2.056	12.0	11.0	1.00	2.5	43	3	☐

n Rotation speed [rev/min] **500 - 2500**

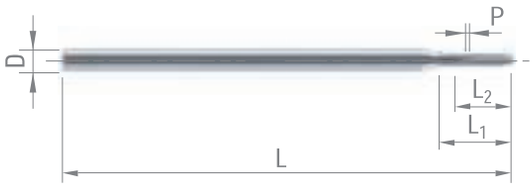
DIXI 1712 L

MICRO-TAPS
LEFT HAND CUTTING

Z = 3

P. 261

NIHS 06



Steel < 600MPa | Cu alloy Silver Gold

Nominal Ø	Pitch	Drill. Ø brass	Drill. Ø steel	L_1	L_2	L_3	D_{h6}	L	Z	CARBIDE
S 0.60	0.15	0.49	0.51	4.5	4.0	0.45	1.5	30	3	☐
S 0.70	0.175	0.57	0.59	4.5	4.0	0.52	1.5	30	3	☐
S 0.80	0.20	0.65	0.67	5.0	4.0	0.60	1.5	30	3	☐
S 0.90	0.225	0.73	0.75	5.0	4.0	0.67	1.5	30	3	☐
S 1.00	0.25	0.81	0.83	5.0	4.0	0.75	1.5	30	3	☐

n Rotation speed [rev/min] **500 - 2500**

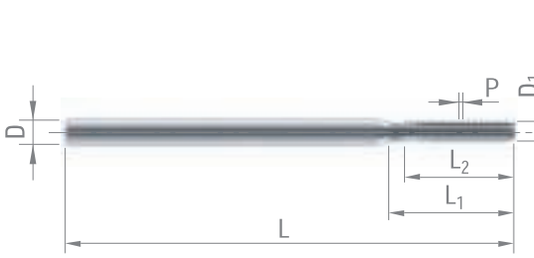
DIXI 1713

HIGH PERFORMANCE MICRO-TAPS

Z = 3

P. 161

NIHS 06



Steel < 600MPa | Cu alloy Silver Gold | Cu alloy difficult to machine | Al

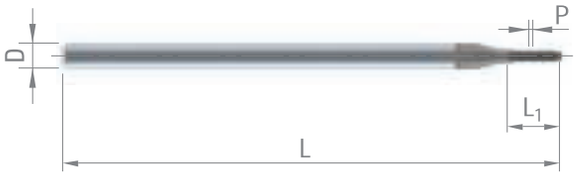
Nominal Ø	Pitch	Drill. Ø brass	Drill. Ø steel	L_1	L_2	L_3	D_{h6}	L	Z	CARBIDE
S 0.40	0.10	0.33	0.34	3.0	2.5	0.30	2.0	32	3	☐
S 0.50	0.125	0.41	0.43	4.0	3.5	0.38	2.0	32	3	☐
S 0.60	0.15	0.49	0.51	4.5	4.0	0.45	2.0	32	3	☐
S 0.70	0.175	0.57	0.59	4.5	4.0	0.52	2.0	32	3	☐
S 0.80	0.20	0.65	0.67	5.0	4.0	0.60	2.0	32	3	☐
S 0.90	0.225	0.73	0.75	5.0	4.0	0.67	2.0	32	3	☐
S 1.00	0.25	0.81	0.83	5.0	4.0	0.76	2.0	32	3	☐
S 1.20	0.25	1.01	1.03	6.0	5.0	0.76	2.0	32	3	☐
S 1.40	0.30	1.16	1.18	6.0	5.0	0.85	2.0	32	3	☐

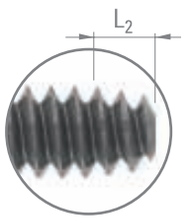
n Rotation speed [rev/min] **500 - 2500**

DIXI 1715

MICRO-THREAD FORMERS

NIHS 06 ISO 60°





Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Titanium, titanium alloy
Cu alloy Silver Gold	Cu alloy difficult to machine	Al		

Nominal Ø	Pitch	L_1	L_2	D_{h6}	L	DI-TOP
S 0.40	0.10	2.0	0.30	1.5	30	■
S 0.50	0.125	2.0	0.37	1.5	30	■
S 0.60	0.15	2.4	0.45	1.5	30	■
S 0.70	0.175	2.8	0.52	1.5	30	■
S 0.80	0.20	3.2	0.60	1.5	30	■
S 0.90	0.225	3.6	0.67	1.5	30	■
*M 1.00	0.25	4.0	0.75	1.5	30	■
*M 1.20	0.25	4.8	0.75	1.5	30	■
*M 1.40	0.20	5.6	0.60	1.5	30	■
M 1.40	0.30	5.6	0.90	1.5	38	■
M 1.50	0.30	6.0	0.90	2.0	38	■
M 1.60	0.35	6.4	1.05	2.0	38	■
M 1.80	0.20	7.2	0.60	2.0	38	■
M 2.00	0.20	8.0	0.60	2.5	43	■
M 2.00	0.40	8.0	1.20	2.5	43	■
M 2.20	0.25	8.0	0.75	2.5	43	■

* M 1.00 to M 1.40 are compatible with the NIHS 06 norm S 1.00 to S 1.40

Nominal Ø	Pitch	Drill Ø	[rev/min]
S 0.40	0.10	0.37 - 0.38	500
S 0.50	0.125	0.46 - 0.47	500
S 0.60	0.15	0.55 - 0.56	500
S 0.70	0.175	0.63 - 0.64	500
S 0.80	0.20	0.72 - 0.73	500
S 0.90	0.225	0.81 - 0.82	500
M 1.00	0.25	0.90 - 0.91	600
M 1.20	0.25	1.10 - 1.11	600
M 1.40	0.20	1.32 - 1.33	800
M 1.40	0.30	1.28 - 1.29	800
M 1.50	0.30	1.38 - 1.39	800
M 1.60	0.35	1.46 - 1.47	800
M 1.80	0.20	1.72 - 1.73	1'000
M 2.00	0.20	1.92 - 1.93	1'000
M 2.00	0.40	1.83 - 1.84	1'000
M 2.20	0.25	2.10 - 2.11	1'000

Nominal Ø	Pitch	Drill Ø	[rev/min]
S 0.40	0.10	0.36 - 0.37	500
S 0.50	0.125	0.45 - 0.46	1'000
S 0.60	0.15	0.54 - 0.55	1'000
S 0.70	0.175	0.62 - 0.63	1'000
S 0.80	0.20	0.71 - 0.72	1'500
S 0.90	0.225	0.80 - 0.81	1'500
M 1.00	0.25	0.89 - 0.90	1'500
M 1.20	0.25	1.09 - 1.10	1'500
M 1.40	0.20	1.31 - 1.32	2'000
M 1.40	0.30	1.27 - 1.28	2'000
M 1.50	0.30	1.37 - 1.38	2'500
M 1.60	0.35	1.45 - 1.46	2'500
M 1.80	0.20	1.71 - 1.72	2'500
M 2.00	0.20	1.91 - 1.92	2'500
M 2.00	0.40	1.83 - 1.84	2'500
M 2.20	0.25	2.09 - 2.10	2'500

Materials to be machined

Unalloyed steel / Low alloyed steel

Lead alloyed cutting steel

Stainless steel 400 – 700 N/mm²

Titanium, titanium alloy

Copper alloy – difficult to machine

Copper alloy – easy to machine

Aluminium alloy / Magnesium alloy

Gold, silver

HIGH PRECISION THREAD PLUG GAUGES
"GO" - "NO GO"
LEFT AND RIGHT HAND THREADS

NIHS 06 NT

MINI

MAXI

NIHS 06

Nominal Ø	Pitch	L_1	Tol.	1718 R	1718 L	1719 R	1719 L
S 0.30	0.080	1.0	NIHS NT	☐		☐	
S 0.35	0.090	1.3	NIHS NT	☐		☐	
S 0.40	0.100	2.0	NIHS NT	☐		☐	
S 0.50	0.125	2.5	NIHS NT	☐	☐	☐	☐
S 0.60	0.150	3.0	NIHS NT	☐	☐	☐	☐
S 0.70	0.175	3.0	NIHS NT	☐	☐	☐	☐
S 0.80	0.200	3.5	NIHS NT	☐	☐	☐	☐
S 0.90	0.225	4.0	NIHS NT	☐	☐	☐	☐
S 1.00	0.250	4.0	NIHS NT	☐	☐	☐	☐
S 1.20	0.250	5.0	NIHS NT	☐	☐	☐	☐
S 1.40	0.300	5.0	NIHS NT	☐		☐	

ISO NORM 60°

ISO 60°

Nominal Ø	Pitch	L_1	Tol.	1718 R	1719 R
M 1.00	0.250	5.0	5H	☐	☐
M 1.20	0.250	5.0	5H	☐	☐
M 1.40	0.200	5.0	5H	☐	☐
M 1.40	0.300	6.0	5H	☐	☐
M 1.50	0.300	6.0	6H	☐	☐
M 1.60	0.200	5.0	5H	☐	☐
M 1.60	0.350	6.0	6H	☐	☐
M 1.80	0.200	5.0	5H	☐	☐
M 1.80	0.350	6.0	6H	☐	☐
M 2.00	0.200	5.0	5H	☐	☐
M 2.00	0.400	6.0	6H	☐	☐
M 2.20	0.200	5.0	5H	☐	☐
M 2.20	0.250	5.0	5H	☐	☐
M 2.20	0.450	8.0	6H	☐	☐
M 2.50	0.200	5.0	5H	☐	☐
M 2.50	0.450	8.0	6H	☐	☐
M 3.00	0.300	6.0	6H	☐	☐
M 3.00	0.500	8.0	6H	☐	☐

DIXI 1730

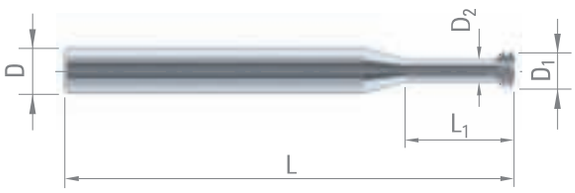
WHIRLING TOOLS

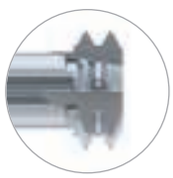
L_1 = 2 x Ø nom.

Z = 3-6

P. 261 P. 262

ISO 60°





Steel < 600MPa | Steel > 600MPa | High alloyed steel | DUPLEX stainless steel | Steel Hardened cast iron

Cast iron | Refractory alloy | Titanium, titanium alloy | Cu alloy Silver Gold | Cu alloy difficult to machine

Alu | Graphite | Plastic

Nominal Ø	Pitch	D_1	L_1	D_2	D_{h6}	L	Z	CARBIDE	TiAlN
M 0.8	0.20	0.60	1.85	0.27	3	38	3	☐	■
M 0.9	0.225	0.66	2.10	0.33	3	38	3	☐	■
M 1.0	0.25	0.73	2.30	0.34	3	38	3	☐	■
M 1.2	0.25	0.92	2.80	0.53	3	38	3	☐	■
M 1.4	0.30	1.05	3.20	0.60	3	38	3	☐	■
M 1.6	0.35	1.21	3.70	0.69	3	38	3	☐	■
M 1.8	0.20	1.41	4.10	0.89	3	38	3	☐	■
M 1.8	0.35	1.41	4.10	0.89	3	38	3	☐	■
M 2.0	0.40	1.55	4.60	0.96	3	38	3	☐	■
M 2.2	0.20	1.72	5.10	1.08	3	38	3	☐	■
M 2.2	0.45	1.72	5.10	1.08	3	38	3	☐	■
M 2.5	0.25	2.00	5.80	1.35	3	38	3	☐	■
M 2.5	0.35	2.00	5.80	1.35	3	38	3	☐	■
M 2.5	0.45	2.00	5.80	1.35	3	38	3	☐	■
M 3.0	0.50	2.44	7.00	1.70	4	42	3	☐	■
M 4.0	0.70	3.20	9.30	2.25	4	42	3	☐	■
M 5.0	0.80	4.00	11.50	2.80	6	57	4	☐	■
M 6.0	1.00	4.85	13.80	3.15	6	57	4	☐	■
M 8.0	1.25	6.50	18.40	4.65	8	75	6	☐	■
M 10.0	1.50	7.90	23.00	5.60	8	75	6	☐	■

DIXI 1731

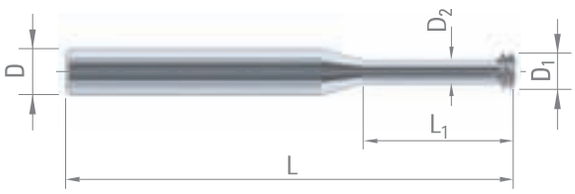
WHIRLING TOOLS

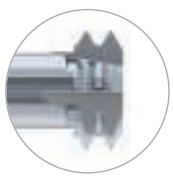
L_1 = 3 x Ø nom.

Z = 3-6

P. 261 P. 262

ISO 60°





Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Steel Hardened cast iron
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine
Alu	Graphite	Plastic		

Nominal Ø	Pitch	D_1	L_1	D_2	D_{h6}	L	Z	CARBIDE	TiAlN
M 0.8	0.20	0.60	2.60	0.27	3	38	3	☐	■
M 0.9	0.225	0.66	2.90	0.33	3	38	3	☐	■
M 1.0	0.25	0.73	3.20	0.34	3	38	3	☐	■
M 1.2	0.25	0.92	3.85	0.53	3	38	3	☐	■
M 1.4	0.30	1.05	4.50	0.60	3	38	3	☐	■
M 1.6	0.35	1.21	5.10	0.69	3	38	3	☐	■
M 1.8	0.20	1.41	5.80	0.89	3	38	3	☐	■
M 1.8	0.35	1.41	5.80	0.89	3	38	3	☐	■
M 2.0	0.40	1.55	6.40	0.96	3	38	3	☐	■
M 2.2	0.20	1.72	7.10	1.08	3	38	3	☐	■
M 2.2	0.45	1.72	7.10	1.08	3	38	3	☐	■
M 2.5	0.25	2.00	8.00	1.35	3	38	3	☐	■
M 2.5	0.35	2.00	8.00	1.35	3	38	3	☐	■
M 2.5	0.45	2.00	8.00	1.35	3	38	3	☐	■
M 3.0	0.50	2.44	9.60	1.70	4	42	3	☐	■
M 4.0	0.70	3.20	12.80	2.25	4	42	3	☐	■
M 5.0	0.80	4.00	16.00	2.80	6	57	4	☐	■
M 6.0	1.00	4.85	19.20	3.15	6	57	4	☐	■
M 8.0	1.25	6.50	25.60	4.65	8	75	6	☐	■
M 10.0	1.50	7.90	32.00	5.60	8	75	6	☐	■

DIXI 1735

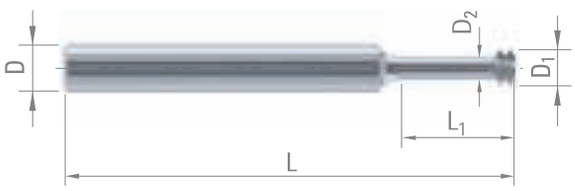
WHIRLING TOOLS

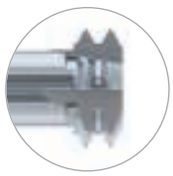
L_1 = 2 x Ø nom.

Z = 3-6

P. 261 P. 262

UN 60°





Steel < 600MPa | Steel > 600MPa | High alloyed steel | DUPLEX stainless steel | Steel Hardened cast iron

Cast iron | Refractory alloy | Titanium, titanium alloy | Cu alloy Silver Gold | Cu alloy difficult to machine

Alu | Graphite | Plastic

UNC	UNF	UNEF	UN	TPI	D_1	L_1	D_2	D_{h6}	L	Z	CARBIDE	TiAlN
	N°1			72	1.40	4.3	0.85	3	38	3	☐	■
N°1	N°2			64	1.40	4.3	0.80	3	38	3	☐	■
N°2	N°3			56	1.65	5.0	0.95	3	38	3	☐	■
N°3	N°4			48	1.90	5.8	1.10	3	38	3	☐	■
	N°5			44	2.00	7.3	1.15	3	38	3	☐	■
N°4				40	2.10	6.6	1.17	4	42	3	☐	■
N°5	N°6			40	2.45	7.3	1.52	4	42	3	☐	■
	N°8			36	3.30	9.6	2.15	4	42	3	☐	■
N°6				32	2.55	8.1	1.30	4	42	3	☐	■
N°8	N°10	N°12 - 1/4''		32	3.10	9.6	1.90	4	55	3	☐	■
	N°12	5/16'' - 3/8''		28	4.20	12.6	2.85	6	63	3	☐	■
	1/4''	5/16'' - 3/8''		28	5.00	14.6	3.55	6	63	4	☐	■
N°10				24	3.40	11.1	1.90	4	55	3	☐	■
N°12	5/16'' - 3/8''	5/16'' - 1-1/16''		24	4.10	12.6	2.70	6	57	4	☐	■
1/4''	7/16''		5/16'' - 3/8''	20	4.70	14.6	2.90	6	57	4	☐	■
5/16''				18	6.10	18.2	4.00	8	63	6	☐	■
3/8''	3/4''		7/16'' - 9/16''	16	7.50	21.9	5.30	8	63	6	☐	■
7/16''	7/8''			14	8.70	25.6	6.20	10	75	6	☐	■
1/2''				13	10.00	29.2	7.30	12	75	6	☐	■

DIXI 1736

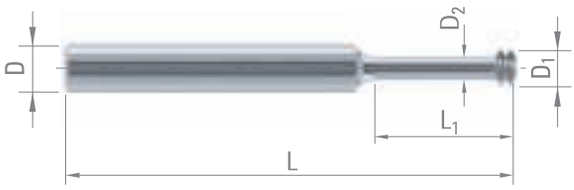
WHIRLING TOOLS

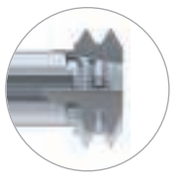
L_1 = 3 x Ø nom.

Z = 3-6

P. 261 P. 262

UN 60°





Steel < 600MPa | Steel > 600MPa | High alloyed steel | DUPLEX stainless steel | Steel Hardened cast iron

Cast iron | Refractory alloy | Titanium, titanium alloy | Cu alloy Silver Gold | Cu alloy difficult to machine

Alu | Graphite | Plastic

UNC	UNF	UNEF	UN	TPI	D_1	L_1	D_2	D_{h6}	L	Z	CARBIDE	TiAlN
	N°1			72	1.40	6.0	0.85	3	38	3	☐	■
N°1	N°2			64	1.40	6.0	0.80	3	38	3	☐	■
N°2	N°3			56	1.65	7.0	0.95	3	38	3	☐	■
N°3	N°4			48	1.90	8.1	1.10	3	38	3	☐	■
	N°5			44	2.00	10.2	1.15	3	42	3	☐	■
N°4				40	2.10	9.1	1.17	4	42	3	☐	■
N°5	N°6			40	2.45	10.2	1.52	4	42	3	☐	■
	N°8			36	3.30	13.4	2.15	4	42	3	☐	■
N°6				32	2.55	11.3	1.30	4	42	3	☐	■
N°8	N°10	N°12 - 1/4''		32	3.10	13.4	1.90	4	55	3	☐	■
	N°12	5/16'' - 3/8''		28	4.20	17.6	2.85	6	63	3	☐	■
	1/4''	5/16'' - 3/8''		28	5.00	20.3	3.55	6	63	4	☐	■
N°10				24	3.40	15.5	1.90	4	55	3	☐	■
N°12	5/16'' - 3/8''	5/16'' - 1-1/16''		24	4.10	17.6	2.70	6	57	4	☐	■
1/4''	7/16''		5/16'' - 3/8''	20	4.70	20.3	2.90	6	63	4	☐	■
5/16''				18	6.10	25.4	4.00	8	75	6	☐	■
3/8''	3/4''		7/16'' - 9/16''	16	7.50	30.5	5.30	8	75	6	☐	■
7/16''	7/8''			14	8.70	35.5	6.20	10	86	6	☐	■
1/2''				13	10.00	40.6	7.30	12	93	6	☐	■

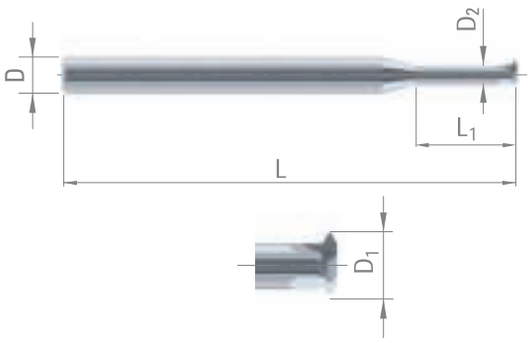
DIXI 1738

WHIRLING TOOLS

Z = 3

P. 261 P. 262

NIHS 06 ISO 60°



DUPLEX stainless steel | Refractory alloy | Titanium, titanium alloy

Nominal Ø		Pitch	Drilling Ø	D_1	L_1	D_2	D_{h6}	L	Z	CARBIDE	CUTINOX
	S 0.70	0.175	0.56	0.54	1.80	0.0.23	3	38	3	☐	■
	S 0.80	0.20	0.64	0.62	2.30	0.29	3	38	3	☐	■
	S 0.90	0.225	0.72	0.70	2.50	0.35	3	38	3	☐	■
M 1.00	S 1.00	0.25	0.80	0.78	2.80	0.38	3	38	3	☐	■
M 1.20	S 1.20	0.25	1.00	0.98	3.40	0.62	3	38	3	☐	■
M 1.40	S 1.40	0.30	1.15	1.12	4.00	0.68	3	38	3	☐	■
M 1.40		0.20	1.22	1.18	4.00	0.74	3	38	3	☐	■
M 1.60		0.35	1.30	1.26	4.50	0.72	3	38	3	☐	■
M 1.80		0.35	1.50	1.45	5.10	0.77	3	38	3	☐	■
		0.20	1.62	1.45	5.10	0.77	3	38	3	☐	■
M 2.00		0.40	1.65	1.60	5.60	0.85	3	38	3	☐	■
		0.20	1.82	1.60	5.60	0.85	3	38	3	☐	■
M 2.20		0.45	1.80	1.70	6.20	0.91	3	38	3	☐	■
		0.25	1.93	1.70	6.20	0.91	3	38	3	☐	■
M 2.50		0.45	2.10	2.00	7.00	1.20	3	38	3	☐	■
		0.35	2.15	2.00	7.00	1.20	3	38	3	☐	■
		0.25	2.25	2.00	7.00	1.20	3	38	3	☐	■
		0.20	2.30	2.00	7.00	1.20	3	38	3	☐	■
M 3.00		0.50	2.50	2.40	8.40	1.60	3	38	3	☐	■
		0.35	2.65	2.40	8.40	1.60	3	38	3	☐	■
		0.25	2.75	2.40	8.40	1.60	3	38	3	☐	■
		0.20	2.80	2.40	8.40	1.60	3	38	3	☐	■

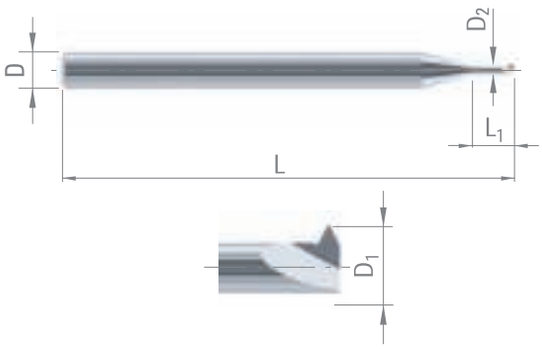
DIXI 1739

WHIRLING TOOLS

Z = 1

P. 261 P. 262

NIHS 06



Steel < 600MPa | Steel > 600MPa | High alloyed steel | DUPLEX stainless steel | Titanium, titanium alloy

Cu alloy Silver Gold | Cu alloy difficult to machine | Al | Plastic

Nominal Ø	Pitch	Drilling Ø	D_1	L_1	D_2	D_{h6}	L	Z	CARBIDE
S 0.30	0.08	0.23	0.22	0.70	0.125	3	38	1	☐
S 0.35	0.09	0.27	0.25	0.90	0.17	3	38	1	☐
S 0.40	0.10	0.32	0.30	0.90	0.18	3	38	1	☐
S 0.50	0.125	0.40	0.38	1.20	0.20	3	38	1	☐
S 0.60	0.15	0.48	0.46	1.50	0.24	3	38	1	☐
S 0.70	0.175	0.56	0.54	1.80	0.29	3	38	1	☐
S 0.80	0.20	0.64	0.60	2.00	0.31	3	38	1	☐
S 0.90	0.225	0.72	0.68	2.20	0.36	3	38	1	☐
S 1.00	0.25	0.80	0.76	2.40	0.40	3	38	1	☐
S 1.20	0.25	1.00	0.94	3.00	0.58	3	38	1	☐
S 1.40	0.30	1.15	1.10	3.30	0.66	3	38	1	☐

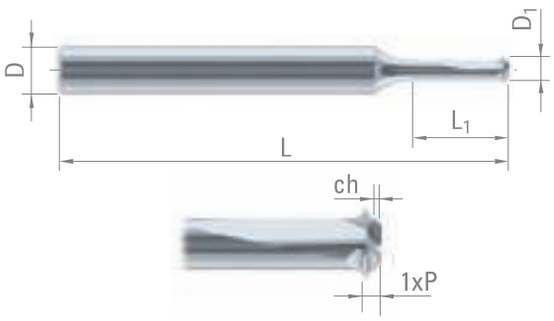
DIXI 1740

DRILLING THREAD WHIRLER

Z = 1-3

P. 264

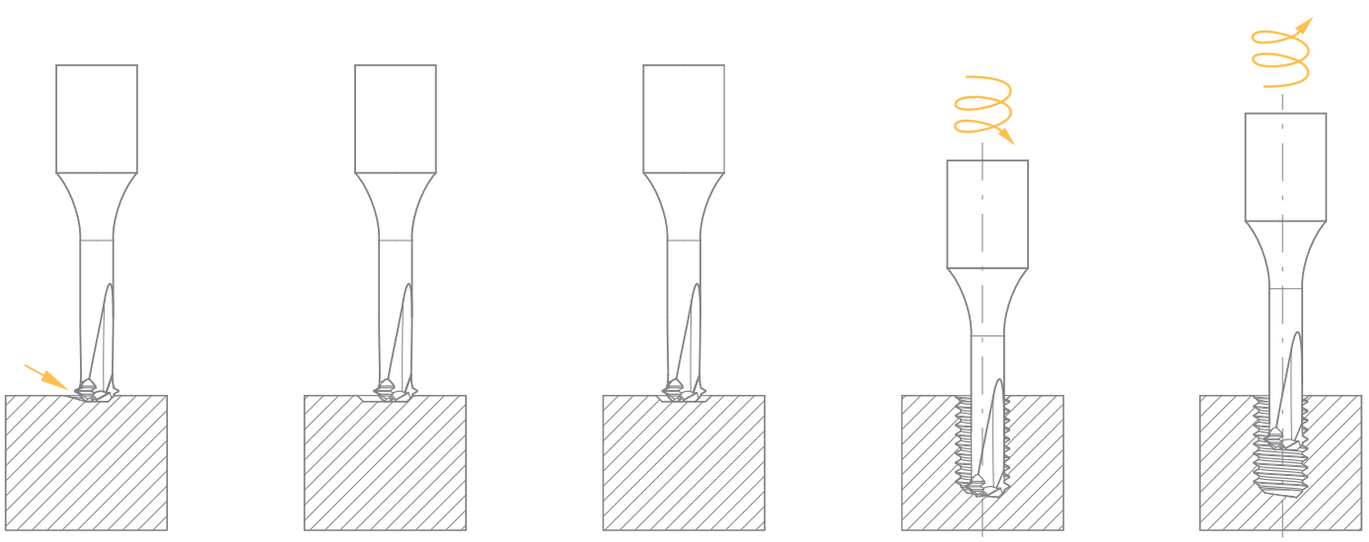
ISO 60°



Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic			

Nominal Ø	Pitch	D_1	ch	L_1	D_{h6}	L	Z	CARBIDE	CUTINOX
M 0.80	0.20	0.60	0.10	2.4	3	38	1	☐	■
M 0.90	0.225	0.66	0.12	2.7	3	38	1	☐	■
M 1.00	0.20	0.80	0.10	3.0	3	38	1	☐	■
M 1.00	0.25	0.73	0.15	3.0	3	38	1	☐	■
M 1.20	0.20	1.00	0.11	3.6	3	38	1	☐	■
M 1.20	0.25	0.92	0.15	3.6	3	38	1	☐	■
M 1.40	0.20	1.20	0.11	4.2	3	38	1	☐	■
M 1.40	0.30	1.05	0.19	4.2	3	38	1	☐	■
M 1.60	0.35	1.21	0.22	4.8	3	38	1	☐	■
M 2.00	0.40	1.55	0.25	6.0	3	38	2	☐	■
M 2.50	0.45	2.00	0.29	7.5	3	38	2	☐	■
M 3.00	0.50	2.44	0.33	9.0	6	57	2	☐	■
M 4.00	0.70	3.20	0.45	12.0	6	57	2	☐	■
M 5.00	0.80	4.00	0.53	15.0	6	57	2	☐	■
M 6.00	1.00	4.85	0.65	18.0	6	57	3	☐	■
M 8.00	1.25	6.50	0.80	24.0	8	75	3	☐	■
M 10.00	1.50	7.90	1.00	30.0	8	75	3	☐	■

Example for difficult to machine materials (titanium, stainless steel).
For easy to machine materials, step n° 5 is not necessary.



❶ Approach X0 Y0 Z0.10 then angular plunging on 2 axis (XZ)

❷ Circular interpolation on 1 rotation (Ø of hole is chanfered)

❸ Back to the center of the hole X0 Y0

❹ Helical plunging to the roughing Ø (finishing Ø -2%)

❺ Up-milling to the finished thread Ø

DIXI 7908

HELICAL THREAD MILLS

Z = 3-6

P. 268

ISO 60°

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

DIXI 7908 N = Internal

Nominal Ø	Pitch	Ref.	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
M 1.6	0.35	03.010	1.00	2.45	3	38	3	☐	■
M 2.0	0.40	03.013	1.30	3.20	3	38	3	☐	■
M 2.3	0.40	03.015	1.50	3.20	3	38	3	☐	■
M 2.5	0.35	03.013	1.30	2.80	3	38	3	☐	■
M 2.5	0.45	03.015	1.50	3.60	3	38	3	☐	■
M 3.0	0.50	03.021	2.10	4.50	3	38	3	☐	■
M 4.0	0.50	03.026	2.60	5.50	3	38	3	☐	■
M 4.0	0.70	03.026	2.60	6.30	3	38	3	☐	■
M 4.5	0.75	04.030	3.00	6.75	4	42	3	☐	■
M 5.0	0.80	04.036	3.60	8.00	4	42	3	☐	■
M 6.0	1.00	06.040	4.00	9.00	6	57	3	☐	■
M 8.0	0.75	06.059	5.90	15.00	6	57	5	☐	■
M 8.0	1.25	06.050	5.00	12.50	6	57	3	☐	■
M 10.0	1.50	06.059	5.90	15.00	6	57	5	☐	■
M 12.0	0.50	10.099	9.90	10.00	10	50	5	☐	■
M 12.0	1.00	08.079	7.90	20.00	8	63	5	☐	■
M 12.0	1.75	08.079	7.90	19.25	8	63	5	☐	■
M 14.0	1.50	10.099	9.90	24.00	10	72	5	☐	■
M 14.0	2.00	10.099	9.90	24.00	10	72	5	☐	■
M 18.0	1.50	12.119	11.90	30.00	12	83	5	☐	■
M 18.0	2.00	12.119	11.90	30.00	12	83	5	☐	■
M 18.0	2.50	12.119	11.90	30.00	12	83	5	☐	■
M 24.0	3.00	16.159	15.90	36.00	16	92	6	☐	■

DIXI 7908 E = External

Nominal Ø	Pitch	Ref.	D_1	L_1	D	L	Z	CARBIDE	TiAlN
M 3.0	0.50	06.059	5.90	15.00	6	57	5	☐	■
M 4.5	0.75	08.079	7.90	19.50	8	63	5	☐	■
M 6.0	1.00	10.099	9.90	24.00	10	72	5	☐	■
M 10.0	1.50	12.119	11.90	30.00	12	83	5	☐	■
M 14.0	2.00	12.119	11.90	30.00	12	83	5	☐	■

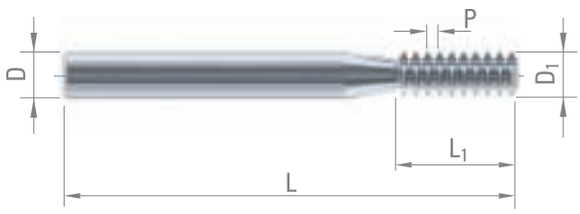
DIXI 7910

THREAD MILLS

Z = 2-4

P. 266

ISO 60°



Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

DIXI 7910 N = Internal

Nominal Ø	Pas	Ref.	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
M 1.4	0.30	03.009	0.90	2.10	3	38	2	☐	■
M 1.6	0.35	03.010	1.00	2.45	3	38	2	☐	■
M 2.0	0.40	03.013	1.30	3.20	3	38	2	☐	■
M 2.3	0.40	03.015	1.50	3.20	3	38	2	☐	■
M 2.5	0.35	03.013	1.30	2.80	3	38	2	☐	■
M 2.5	0.45	03.015	1.50	3.60	3	38	2	☐	■
M 3.0	0.50	03.021	2.10	4.50	3	38	3	☐	■
M 4.0	0.50	03.026	2.60	5.50	3	38	3	☐	■
M 4.0	0.70	03.026	2.60	6.30	3	38	3	☐	■
M 4.5	0.75	04.030	3.00	6.75	4	42	3	☐	■
M 5.0	0.80	04.036	3.60	8.00	4	42	3	☐	■
M 6.0	1.00	06.040	4.00	9.00	6	57	3	☐	■
M 8.0	0.75	06.059	5.90	15.00	6	57	3	☐	■
M 8.0	1.25	06.050	5.00	12.50	6	57	3	☐	■
M 10.0	1.50	06.059	5.90	15.00	6	57	3	☐	■
M 12.0	1.00	08.079	7.90	20.00	8	63	4	☐	■
M 12.0	1.75	08.079	7.90	19.25	8	63	4	☐	■
M 14.0	1.50	10.099	9.90	24.00	10	72	4	☐	■
M 14.0	2.00	10.099	9.90	24.00	10	72	4	☐	■
M 18.0	1.50	12.119	11.90	30.00	12	83	4	☐	■
M 18.0	2.00	12.119	11.90	30.00	12	83	4	☐	■
M 18.0	2.50	12.119	11.90	30.00	12	83	4	☐	■
M 24.0	3.00	16.159	15.90	36.00	16	92	4	☐	■

DIXI 7910 E = External

Nominal Ø	Pas	Ref.	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
M 3.0	0.50	06.059	5.90	15.00	6	57	3	☐	■
M 4.5	0.75	08.079	7.90	19.50	8	63	4	☐	■
M 6.0	1.00	10.099	9.90	24.00	10	72	4	☐	■
M 10.0	1.50	12.119	11.90	30.00	12	83	4	☐	■
M 14.0	2.00	12.119	11.90	30.00	12	83	4	☐	■

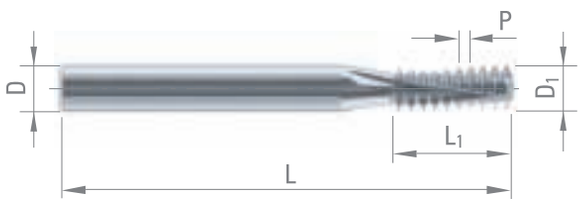
DIXI 7918

HELICAL THREAD MILLS

Z = 3-5

P. 268

UN 60°



Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

DIXI 7918 N = Internal

UNC	UNF	UNEF	UN	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
	N° 2			03.015	64	1.50	3.17	3	38	3	☐	■
N° 2	N° 3			03.015	56	1.50	3.17	3	38	3	☐	■
N° 3	N° 4			03.015	48	1.50	3.17	3	38	3	☐	■
	N° 5			03.021	44	2.10	4.62	3	38	3	☐	■
N° 5	N° 6			03.021	40	2.10	4.44	3	38	3	☐	■
	N° 8			04.030	36	3.00	6.35	4	42	3	☐	■
N° 8	N° 10	N° 12 – 1/4"		04.030	32	3.00	6.35	4	42	3	☐	■
		5/16" – 3/8"	7/16" – 1"	06.059	32	5.90	14.28	6	57	5	☐	■
	N° 12 – 1/4"	5/16" –3/8"		04.036	28	3.60	8.16	4	42	3	☐	■
		7/16" – 1/2"	9/16" –1-1/2"	08.079	28	7.90	19.95	8	63	5	☐	■
N° 12	5/16" – 3/8"	5/8" – 1-1/16"		06.040	24	4.00	8.46	6	57	3	☐	■
1/4"	7/16"		5/16" – 3/8"	06.040	20	4.00	10.16	6	57	3	☐	■
	1/2"	3/4 "– 1"	9/16" – 3"	10.099	20	9.90	22.86	10	72	5	☐	■
5/16"				06.050	18	5.00	12.70	6	57	3	☐	■
	9/16" – 5/8"	1-1/16" – 1-11/16"		10.099	18	9.90	23.98	10	72	5	☐	■
3/8"	3/4"		7/16" – 9/16"	06.059	16	5.90	14.28	6	57	5	☐	■
			5/8" – 6"	12.119	16	11.90	28.57	12	83	5	☐	■
7/16"	7/8"			08.079	14	7.90	16.33	8	63	5	☐	■
1/2"				08.079	13	7.90	19.53	8	63	5	☐	■
9/16"				10.099	12	9.90	23.28	10	72	5	☐	■
	1" – 1-1/2"		1-9/16" – 6"	12.119	12	11.90	29.63	12	83	5	☐	■
5/8"				10.099	11	9.90	23.09	10	72	5	☐	■
3/4"			1"	12.119	10	11.90	27.94	12	83	5	☐	■

DIXI 7918 E = External

UNC	UN	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
N°6	N° 10 – 1"	06.059	32	5.90	14.28	6	57	5	☐	■
	N° 12 – 1-1/2"	08.079	28	7.90	19.95	8	63	5	☐	■
1/4"	7/16" – 3"	10.099	20	9.90	22.86	10	72	5	☐	■
5/16"	9/16" – 1-11/16"	10.099	18	9.90	23.98	10	72	5	☐	■
3/8"	7/16" – 6"	12.119	16	11.90	28.57	12	83	5	☐	■
9/16"	5/8" – 6"	12.119	12	11.90	29.63	12	83	5	☐	■

DIXI 7920

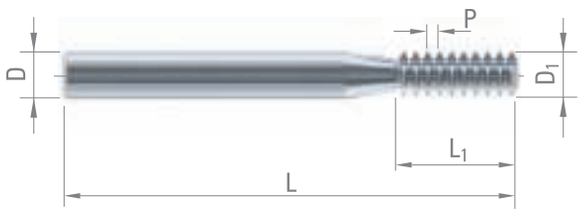
THREAD MILLS

Z = 2-4

P. 266

UN 60°

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic



DIXI 7920 N = Internal

UNC	UNF	UNEF	UN	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
N° 2	N° 3			03.015	56	1.50	3.17	3	38	2	☐	■
N° 3	N° 4			03.015	48	1.50	3.17	3	38	2	☐	■
N° 5	N° 6			03.021	40	2.10	4.44	3	38	3	☐	■
	N° 8			04.030	36	3.00	6.35	4	42	3	☐	■
N° 8	N° 10	N° 12 – 1/4"		04.030	32	3.00	6.35	4	42	3	☐	■
		5/16" – 3/8"	7/16" – 1"	06.059	32	5.90	14.28	6	57	3	☐	■
	N° 12 – 1/4"	5/16" –3/8"		04.036	28	3.60	8.16	4	42	3	☐	■
		7/16" – 1/2"	9/16" –1-1/2"	08.079	28	7.90	19.95	8	63	4	☐	■
N° 12	5/16" – 3/8"	5/8" – 1-1/16"		06.040	24	4.00	8.46	6	57	3	☐	■
1/4"	7/16"		5/16" – 3/8"	06.040	20	4.00	10.16	6	57	3	☐	■
	1/2"	3/4 "– 1"	9/16" – 3"	10.099	20	9.90	22.86	10	72	4	☐	■
5/16"				06.050	18	5.00	12.70	6	57	3	☐	■
	9/16" – 5/8"	1-1/16" – 1-11/16"		10.099	18	9.90	23.98	10	72	4	☐	■
3/8"	3/4"		7/16" – 9/16"	06.059	16	5.90	14.28	6	57	3	☐	■
			5/8" – 6"	12.119	16	11.90	28.57	12	83	4	☐	■
7/16"	7/8"			08.079	14	7.90	16.33	8	63	4	☐	■
1/2"				08.079	13	7.90	19.53	8	63	4	☐	■
9/16"				10.099	12	9.90	23.28	10	72	4	☐	■
	1" – 1-1/2"		1-9/16" – 6"	12.119	12	11.90	29.63	12	83	4	☐	■
5/8"				10.099	11	9.90	23.09	10	72	4	☐	■
3/4"			1"	12.119	10	11.90	27.94	12	83	4	☐	■

DIXI 7920 E = External

UNC	UN	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE	TiAlN
N°6	N° 10 – 1"	06.059	32	5.90	14.28	6	57	3	☐	■
	N° 12 – 1-1/2"	08.079	28	7.90	19.95	8	63	4	☐	■
1/4"	7/16" – 3"	10.099	20	9.90	22.86	10	72	4	☐	■
5/16"	9/16" – 1-11/16"	10.099	18	9.90	23.98	10	72	4	☐	■
3/8"	7/16" – 6"	12.119	16	11.90	28.57	12	83	4	☐	■
9/16"	5/8" – 6"	12.119	12	11.90	29.63	12	83	4	☐	■

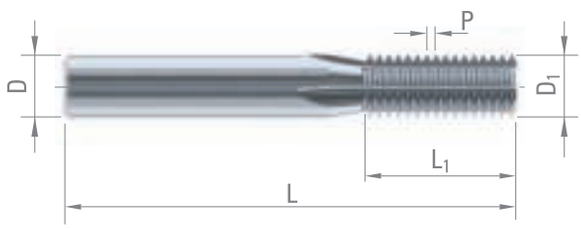
DIXI 7940

THREAD MILLS

Z = 3-4

P. 266

BSP 55°



Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

BSP	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE
R1/16" – R1/8"	06.059	28	5.90	14.51	6	57	3	☐
R1/4" – R3/8"	08.079	19	7.90	18.71	8	63	4	☐
R1/2" – R5/8"– R3/4"– R7/8"	12.119	14	11.90	29.02	12	83	4	☐
R1"	16.159	11	15.90	34.63	16	92	4	☐

For internal and external threading

DIXI 7946

THREAD MILLS

Z = 3-4

P. 266

BSPT 55°

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

BSPT	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE
R1/16" – R1/8"	06.059	28	5.34	9.97	6	57	3	☐
R1/4" – R3/8"	08.079	19	7.07	14.70	8	63	4	☐
R1/2" – R5/8" –R3/4" – R7/8"	12.119	14	10.77	19.95	12	83	4	☐
R1 " => R2-1/2"	16.159	11	14.32	27.70	16	92	4	☐

For internal and external threading

DIXI 7950

THREAD MILLS

Z = 3-4

P. 266

NPT 60°

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

NPT	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE
1/16" – 1/8"	06.059	27	5.37	9.40	6	57	3	☐
1/4" – 3/8"	08.079	18	7.10	14.11	8	63	4	☐
1/2" – 3/4"	12.119	14	10.65	19.95	12	83	4	☐
1" – 1-1/4" – 1-1/2" – 2"	16.159	11.5	14.38	26.50	16	92	4	☐

For internal and external threads

DIXI 7956

THREAD MILLS

Z = 3-4

P. 266

NPTF 60°

Steel < 600MPa	Steel > 600MPa	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

NPTF	Ref.	TPI	D_1	L_1	D_{h6}	L	Z	CARBIDE
1/16" – 1/8"	06.059	27	5.37	9.40	6	57	3	☐
1/4" – 3/8"	08.079	18	7.10	14.11	8	63	4	☐
1/2" – 3/4"	12.119	14	10.65	19.95	12	83	4	☐
1" – 1-1/4" – 1-1/2" – 2"	16.159	11.5	14.38	26.50	16	92	4	☐

For internal and external threads

DRILLING Ø BEFORE TAPPING OR INTERNAL WHIRLING OPERATION AS PER ISO 261 NORM

Nominal Ø	Pitch	Tolerance	Drilling Ø		Drill Ø
			min.	max.	
M 0.8	0.20	-	0.608	0.685	**0.65**
M 0.9	0.225	-	0.684	0.765	**0.70**
M 1.0	0.25	5H	0.729	0.785	**0.75**
M 1.1	0.25	5H	0.829	0.885	**0.85**
M 1.2	0.25	5H	0.929	0.985	**0.95**
M 1.4	0.30	6H	1.075	1.142	**1.10**
M 1.6	0.35	6H	1.221	1.321	**1.25**
M 1.7	0.35	6H	1.321	1.421	**1.35**
M 1.8	0.35	6H	1.421	1.521	**1.45**
M 2.0	0.40	6H	1.567	1.679	**1.60**
M 2.2	0.45	6H	1.713	1.838	**1.75**
M 2.5	0.45	6H	2.013	2.138	**2.05**
M 3.0	0.50	6H	2.459	2.599	**2.50**
M 3.5	0.60	6H	2.850	3.010	**2.90**
M 4.0	0.70	6H	3.242	3.422	**3.30**
M 4.5	0.75	6H	3.688	3.878	**3.70**
M 5.0	0.80	6H	4.134	4.334	**4.20**
M 6.0	1.00	6H	4.917	5.153	**5.00**
M 7.0	1.00	6H	5.917	6.153	**6.00**
M 8.0	1.25	6H	6.647	6.912	**6.80**
M 9.0	1.25	6H	7.647	7.912	**7.80**
M 10.0	1.50	6H	8.376	8.676	**8.50**
M 11.0	1.50	6H	9.376	9.676	**9.50**
M 12.0	1.75	6H	10.106	10.441	**10.20**
M 14.0	2.00	6H	11.835	12.210	**12.00**
M 16.0	2.00	6H	13.835	14.210	**14.00**
M 18.0	2.50	6H	15.294	15.744	**15.50**
M 20.0	2.50	6H	17.294	17.744	**17.50**

DRILLING Ø BEFORE THREADING AS PER ANSI B1.1 NORM

UNC	TPI	Drilling Ø		Drill Ø
		min.	max.	
N° 1	64	1.425	1.582	**1.50**
N° 2	56	1.695	1.871	**1.80**
N° 3	48	1.941	2.146	**2.00**
N° 5	40	2.487	2.697	**2.60**
N° 8	32	3.302	3.530	**3.50**
N° 10	24	3.683	0.396	**3.80**
N° 12	24	4.344	4.597	**4.50**
1/4''	20	4.979	5.257	**5.10**
5/16''	18	6.401	6.731	**6.50**
3/8''	16	7.798	8.153	**7.90**
7/16''	14	9.144	9.550	**9.30**
1/2''	13	10.592	11.023	**10.70**
9/16''	12	11.989	12.446	**12.30**
5/8''	11	13.386	13.868	**13.50**
3/4''	10	16.307	16.840	**16.50**

CUTTING CONDITIONS

MACHINING WITH A FIXED WORKPIECE

	Materials to be machined		CARBIDE Vc [m/min]		TiALN Vc [m/min]		CUTINOX Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**65**	80	**70**	100		
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²			**40**	60		
P	High alloyed steel	700 – 1500 N/mm²			**25**	50	**60**	80
M	Stainless steel	400 – 700 N/mm²	**35**	40	**40**	60	**70**	90
M	DUPLEX stainless steel	> 800 N/mm²			**25**	50	**60**	80
K	Tool steel and cast iron	> 1500 N/mm² (50 - 65 HRC)	**65**	80	**70**	100		
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**35**	40	**40**	60		
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**35**	40	**40**	60		
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			**25**	50	**40**	60
S	Titanium, titanium alloys		**15**	35				
N			**100**	200				
N								
N								

MACHINING ON A SWISS-TURNING MACHINE - Workpiece turns

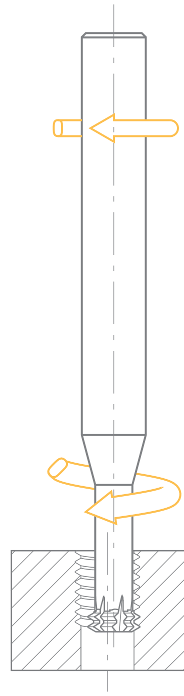
	Materials to be machined	CARBIDE Vc [m/min]	fz [mm] Pitch 0.20 - 0.25	fz [mm] Pitch 0.30 - 0.35	fz [mm] Pitch 0.40 - 0.50	fz [mm] Pitch 0.70 - 1.00
P	Steel	**50** - 100	**0.002** - 0.004	**0.002** - 0.004	**0.003** - 0.006	**0.005** - 0.013
M	Stainless steel	**40** - 80	**0.002** - 0.003	**0.002** - 0.004	**0.002** - 0.005	**0.004** - 0.01
S	Titanium, titanium alloys	**50** - 90	**0.002** - 0.003	**0.002** - 0.004	**0.002** - 0.005	**0.004** - 0.01
N	Copper alloys	**60** - 150	**0.002** - 0.005	**0.002** - 0.006	**0.003** - 0.007	**0.005** - 0.013

$$n\ [tr/min] = \frac{Vc\ [m/min] \times 1000}{\pi \times D_1\ [mm]}$$

$$Vf\ [mm/min] = n\ [tr/min] \times fz\ [mm] \times z$$

Feed per tooth **fz [mm]**

Ø D_1 0.20 - 0.60	Ø D_1 0.60 - 1.20	Ø D_1 1.20 - 2.00	Ø D_1 2.00 - 3.00	Ø D_1 3.00 - 5.00	Ø D_1 5.00 - 8.00
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07
0.003 - 0.006	**0.004** - 0.01	**0.01** - 0.03	**0.02** - 0.04	**0.03** - 0.05	**0.04** - 0.07



Example for M2 x 0.40 in titanium, DIXI 1730 Ø D_1 = 1.55

❶ **Tool rotation n (min^{-1})** $= \frac{1000 \times Vc}{\pi \times Ø D_1}$

$\frac{1000 \times 90}{(\pi \times 1.55)} \Rightarrow 19'000\ min^{-1}$

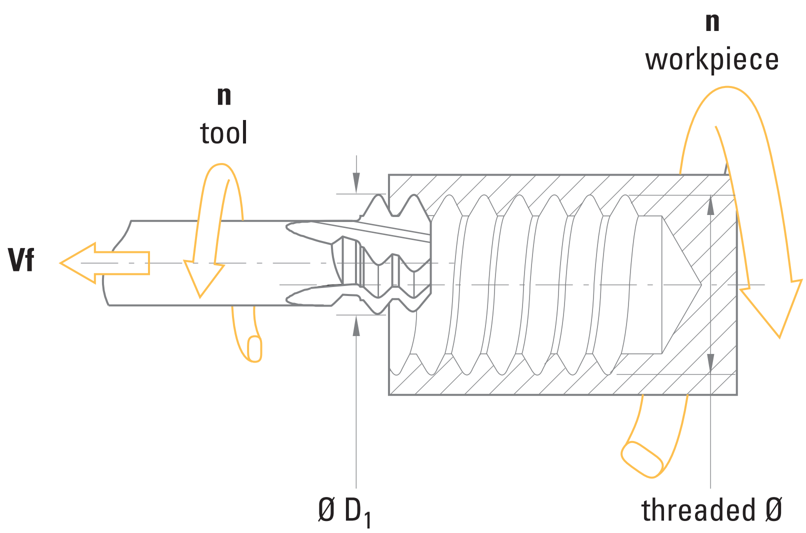
❷ **Feed Vf mm/min** = n x fz x z

19'000 x 0.004 x 3 = 223 mm/min

❸ **Piece rotation** $min^{-1} = \frac{Vf}{\text{threaded } Ø \times \pi}$

$\frac{223}{M2 \times \pi} \Rightarrow 36\ min^{-1}$

When necessary, convert in degrees nb° = min^{-1} x 360° ⇒ 36 min^{-1} x 360° = 12960°



CUTTING CONDITIONS

Materials to be machined			CARBIDE		CUTINOX	
			Vc [m/min]		Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**100**	150	**120**	180
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²	**90**	130	**110**	150
P	Lead alloyed cutting steel		**100**	180	**120**	200
P	High alloyed steel	700 – 1500 N/mm²	**40**	70	**50**	80
M	Stainless steel	400 – 700 N/mm²	**50**	80	**60**	110
M	DUPLEX stainless steel	> 800 N/mm²	**35**	60	**45**	75
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**100**	200	**150**	250
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**100**	140	**120**	160
K	Nodular ferritic cast iron / Malleable cast iron		**70**	110	**80**	140
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	**20**	45	**30**	60
S	Titanium, titanium alloys		**40**	65	**40**	65
N	Copper alloys - easy to machine (brass - bronze)		**100**	200	**100**	200
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	**80**	150	**80**	150
N	Aluminium alloys	Si < 8%	**100**	250	**100**	250
N	Cast aluminium	Si > 8%	**100**	200	**100**	200
N	Graphite		**100**	200	**100**	200
N	Plastic		**100**	250	**100**	250
N	Gold, silver		**100**	200	**100**	200

$$n\ [tr/min] = \frac{Vc\ [m/min] \times 1000}{\pi \times D_1\ [mm]}$$

$$Vf\ [mm/min] = n\ [tr/min] \times fz\ [mm] \times z$$

Feed per tooth fz [mm]

Ø D_1 0.60 - 1.00	Ø D_1 1.00 -1.50	Ø D_1 1.50 - 2.00	Ø D_1 2.00 - 3.00	Ø D_1 3.00 - 5.00	Ø D_1 5.00 - 9.00
0.008 - 0.015	**0.010** - 0.025	**0.015** - 0.030	**0.020** - 0.050	**0.030** - 0.070	**0.040** - 0.080
0.005 - 0.012	**0.008** - 0.020	**0.013** - 0.025	**0.020** - 0.045	**0.025** - 0.060	**0.035** - 0.075
0.012 - 0.030	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.035** -0.080	**0.050** - 0.100
0.002 - 0.011	**0.008** - 0.015	**0.012** - 0.023	**0.015** - 0.038	**0.023** - 0.060	**0.038** -0.060
0.003 - 0.016	**0.011** - 0.023	**0.018** - 0.034	**0.023** - 0.056	**0.034** - 0.090	**0.056** -0.090
0.002 - 0.009	**0.007** - 0.014	**0.011** - 0.020	**0.014** - 0.034	**0.020** - 0.054	**0.034** - 0.054
0.012 - 0.030	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.005 - 0.012	**0.008** - 0.020	**0.013** - 0.025	**0.020** - 0.045	**0.025** -0.060	**0.035** - 0.075
0.005 - 0.012	**0.008** - 0.020	**0.013** - 0.025	**0.020** - 0.045	**0.025** - 0.060	**0.035** - 0.075
0.001 - 0.007	**0.005** - 0.010	**0.008** - 0.015	**0.010** - 0.025	**0.015** - 0.040	**0.025** - 0.040
0.008 - 0.015	**0.010** - 0.020	**0.015** - 0.040	**0.030** - 0.060	**0.040** - 0.080	**0.060** - 0.100
0.015 - 0.035	**0.020** - 0.040	**0.025** - 0.050	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.012 - 0.030	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.015 - 0.035	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.015 - 0.035	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.015 - 0.035	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.015 - 0.035	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150
0.015 - 0.035	**0.020** - 0.040	**0.025** - 0.055	**0.030** - 0.070	**0.050** - 0.100	**0.080** - 0.150

CUTTING CONDITIONS

	Materials to be machined		CARBIDE		TiALN	
			Vc [m/min]		Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**70**	100	**90**	110
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²			**70**	90
P	Lead alloyed cutting steel		**70**	100	**90**	110
P	High alloyed steel	700 – 1500 N/mm²			**40**	55
M	Stainless steel	400 – 700 N/mm²	**40**	60	**70**	90
M	DUPLEX stainless steel	> 800 N/mm²			**40**	55
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**70**	100	**90**	110
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**40**	70	**70**	90
K	Nodular ferritic cast iron / Malleable cast iron		**70**	100	**90**	110
S	Titanium, titanium alloys		**30**	45	**40**	60
N	Copper alloys - easy to machine (brass - bronze)		**140**	160	**200**	220
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	**120**	140	**170**	190
N	Aluminium alloys	Si < 8%	**180**	260	**230**	340
N	Cast aluminium	Si > 8%	**140**	160	**210**	230
N	Plastic		**240**	260	**300**	340
N	Gold, silver		**140**	160	**200**	220

$$n\ [tr/min] = \frac{Vc\ [m/min] \times 1000}{\pi \times D_1\ [mm]}$$

$$Vf\ [mm/min] = n\ [tr/min] \times fz\ [mm] \times z$$

Feed per tooth **fz [mm]**

Ø D_1 0.90 - 1.50	Ø D_1 1.50 -2.00	Ø D_1 2.00 - 2.50	Ø D_1 2.50 - 3.00	Ø D_1 3.00 - 4.00	Ø D_1 4.00 - 6.00	Ø D_1 6.00 - 8.00	Ø D_1 8.00 - 10.00	Ø D_1 10.00 - 12.00	Ø D_1 12.00 - 16.00
		0.008 - 0.02	**0.010** - 0.02	**0.012** - 0.03	**0.016** - 0.04	**0.024** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.05** - 0.11
		0.006 - 0.01	**0.008** - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
0.005 - 0.015	**0.008** - 0.020	**0.010** - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.020** - 0.06	**0.030** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.06** - 0.16
			0.008 - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
		0.006 - 0.01	**0.008** - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
			0.008 - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
		0.008 - 0.02	**0.010** - 0.02	**0.012** - 0.03	**0.016** - 0.04	**0.024** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.05** - 0.11
			0.008 - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
	0.006 - 0.014	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.03	**0.016** - 0.04	**0.024** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.05** - 0.11
		0.006 - 0.01	**0.008** - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
0.005 - 0.015	**0.008** - 0.020	**0.010** - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.020** - 0.06	**0.030** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.06** - 0.16
0.003 - 0.008	**0.005** - 0.010	**0.006** - 0.01	**0.008** - 0.01	**0.009** - 0.02	**0.012** - 0.03	**0.018** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.04** - 0.08
0.005 - 0.015	**0.008** - 0.020	**0.010** - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.020** - 0.06	**0.030** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.06** - 0.16
0.005 - 0.015	**0.008** - 0.020	**0.010** - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.020** - 0.06	**0.030** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.06** - 0.16
0.006 - 0.023	**0.011** - 0.030	**0.014** - 0.04	**0.018** - 0.04	**0.021** - 0.06	**0.028** - 0.09	**0.042** - 0.12	**0.06** - 0.15	**0.07** - 0.18	**0.08** - 0.24
0.005 - 0.015	**0.008** - 0.020	**0.010** - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.020** - 0.06	**0.030** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.06** - 0.16

CUTTING CONDITIONS

	Materials to be machined		CARBIDE Vc [m/min]		TiALN Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**70**	100	**90**	110
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²	**40**	60	**70**	90
P	Lead alloyed cutting steel		**70**	100	**90**	110
P	High alloyed steel	700 – 1500 N/mm²	**40**	60	**70**	90
M	Stainless steel	400 – 700 N/mm²	**30**	45	**40**	55
M	DUPLEX stainless steel	> 800 N/mm²	**40**	60	**70**	90
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**70**	100	**90**	110
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**40**	70	**70**	90
K	Nodular ferritic cast iron / Malleable cast iron		**70**	100	**90**	110
S	Titanium, titanium alloys		**30**	45	**40**	60
N	Copper alloys - easy to machine (brass - bronze)		**140**	160	**200**	220
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	**120**	140	**170**	190
N	Aluminium alloys	Si < 8%	**180**	260	**230**	270
N	Cast aluminium	Si > 8%	**140**	160	**210**	230
N	Plastic		**240**	260	**300**	340
N	Gold, silver		**140**	160	**200**	220

$$n\ [tr/min] = \frac{Vc\ [m/min] \times 1000}{\pi \times D_1\ [mm]}$$

$$Vf\ [mm/min] = n\ [tr/min] \times fz\ [mm] \times z$$

Feed per tooth fz [mm]

Ø D_1 0.90 - 1.50	Ø D_1 1.50 -2.00	Ø D_1 2.00 - 2.50	Ø D_1 2.50 - 3.00	Ø D_1 3.00 - 4.00	Ø D_1 4.00 - 6.00	Ø D_1 6.00 - 8.00	Ø D_1 8.00 - 10.00	Ø D_1 10.00 - 12.00	Ø D_1 12.00 - 16.00
0.005 - 0.012	**0.009** - 0.016	**0.012** - 0.02	**0.015** - 0.02	**0.018** - 0.03	**0.024** - 0.05	**0.036** - 0.06	**0.05** - 0.08	**0.06** - 0.10	**0.07** - 0.13
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.006 - 0.018	**0.011** - 0.024	**0.014** - 0.03	**0.018** - 0.03	**0.021** - 0.05	**0.028** - 0.07	**0.042** - 0.10	**0.06** - 0.12	**0.07** - 0.14	**0.08** - 0.19
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.005 - 0.012	**0.009** - 0.016	**0.012** - 0.02	**0.015** - 0.02	**0.018** - 0.03	**0.024** - 0.05	**0.036** - 0.06	**0.05** - 0.08	**0.06** - 0.10	**0.07** - 0.13
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.005 - 0.012	**0.009** - 0.016	**0.012** - 0.02	**0.015** - 0.02	**0.018** - 0.03	**0.024** - 0.05	**0.036** - 0.06	**0.05** - 0.08	**0.06** - 0.10	**0.07** - 0.13
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.006 - 0.018	**0.011** - 0.024	**0.014** - 0.03	**0.018** - 0.03	**0.021** - 0.05	**0.028** - 0.07	**0.042** - 0.10	**0.06** - 0.12	**0.07** - 0.14	**0.08** - 0.19
0.004 - 0.009	**0.006** - 0.012	**0.008** - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.016** - 0.04	**0.024** - 0.05	**0.03** - 0.06	**0.04** - 0.07	**0.05** - 0.10
0.006 - 0.018	**0.011** - 0.024	**0.014** - 0.03	**0.018** - 0.03	**0.021** - 0.05	**0.028** - 0.07	**0.042** - 0.10	**0.06** - 0.12	**0.07** - 0.14	**0.08** - 0.19
0.006 - 0.018	**0.011** - 0.024	**0.014** - 0.03	**0.018** - 0.03	**0.021** - 0.05	**0.028** - 0.07	**0.042** - 0.10	**0.06** - 0.12	**0.07** - 0.14	**0.08** - 0.19
0.007 - 0.027	**0.012** - 0.036	**0.016** - 0.05	**0.020** - 0.05	**0.024** - 0.07	**0.032** - 0.11	**0.048** - 0.14	**0.06** - 0.18	**0.08** - 0.22	**0.10** - 0.29
0.006 - 0.018	**0.011** - 0.024	**0.014** - 0.03	**0.018** - 0.03	**0.021** - 0.05	**0.028** - 0.07	**0.042** - 0.10	**0.06** - 0.12	**0.07** - 0.14	**0.08** - 0.19