

FILETAGE

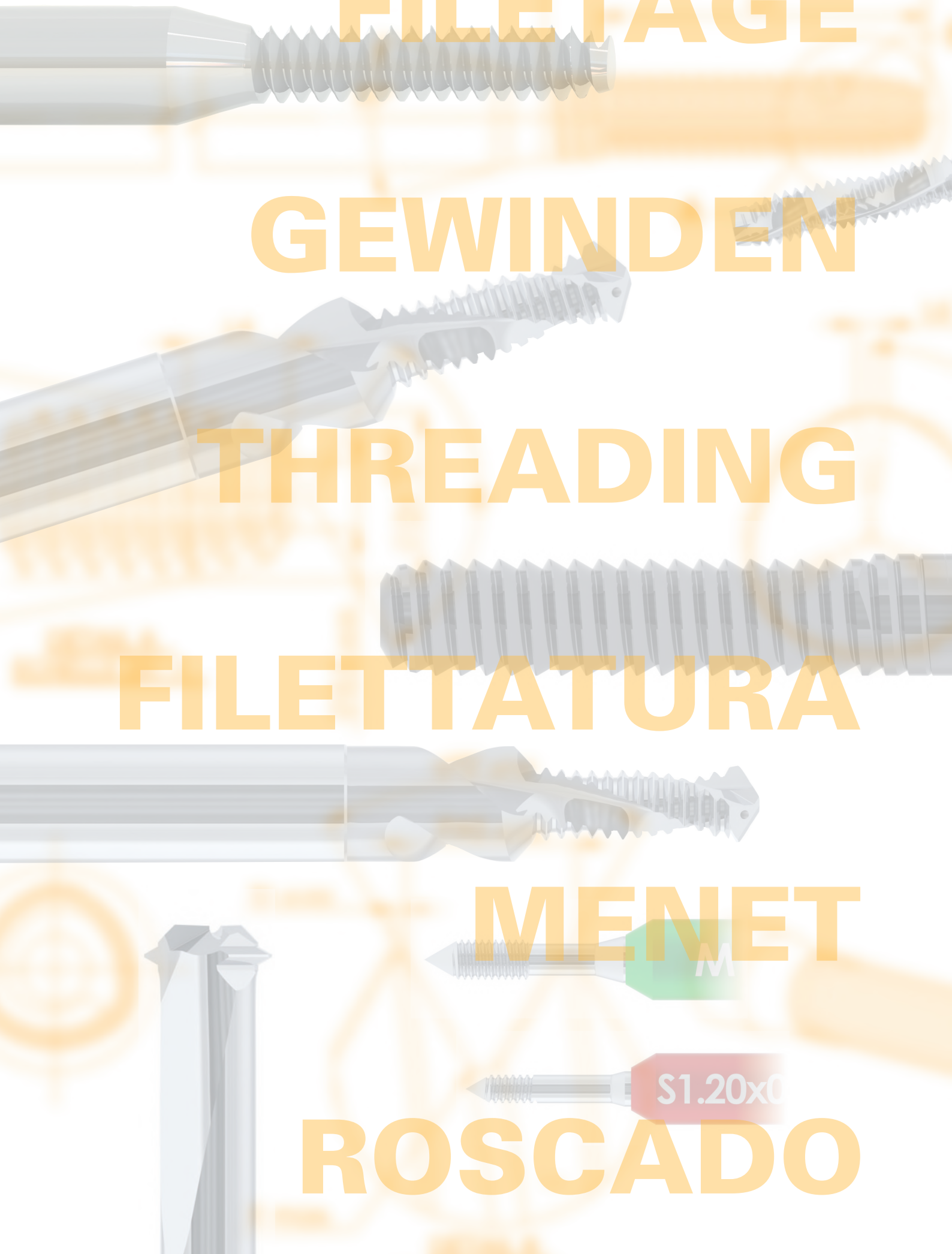
GEWINDEN

THREADING

FILETTATURA

MENET

ROSCADO



SELECTION OF THREADING TOOLS 278



MICRO CUTTING TAPS 286



MICRO THREAD FORMERS 289



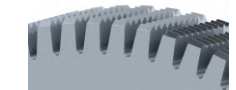
WHIRLING TOOLS 291



DRILLING THREAD WHIRLERS 295



SELF LOCKING THREAD 297



HOB CUTTERS 300



THREAD MILLS 301



THREAD GAUGES 311



PLAIN GAUGES 313



SET OF THREAD GAUGES 314



INFORMATION 315



CUTTING CONDITIONS 322

SELECTION OF THREADING TOOLS

✓ = item from stock

	Z	Page		☐ CARBIDE	☒ TiAIN	☒ CUTINOX	☒ DI-TOP	
MICRO CUTTING TAPS								
DIXI 1712 R S 0.30 - M 2.00	3	286	 NIHS 06 ISO 60°	✓				
DIXI 1712 L S 0.60 - S 1.00	3	286	 NIHS 06	✓				
DIXI 1713 S 0.40 - S 1.40	3	287	 NIHS 06	✓				
DIXI 1708 S 0.30 - S 1.40	3	287	 NIHS 06	✓			✓	
DIXI 1710 S 0.30 - S 1.40	3	288	 NIHS 06	✓				

MICRO THREAD FORMERS

DIXI 1715 S 0.40 - S 1.40 M 1.00 - M 2.20	-	289	 NIHS 06 ISO 60°				✓	
DIXI 1716 S 0.40 - S 1.40 M 1.00 - M 1.40	-	290	 NIHS 06 ISO 60°				✓	

WHIRLING TOOLS

DIXI 1739 S 0.30 - S 1.40 Partial profile	1	291	 NIHS 06	✓				
DIXI 1738 S 0.50 - M 3.00 Partial profile	3	292	 NIHS 06 ISO 60°	✓		✓		
DIXI 1730-D M 0.80 - M 10.00	3 - 6	293	 ISO 60°	✓	✓			
DIXI 1735-D UNF N°1 - UNC 1/2"	3 - 6	294	 UN 60°	✓	✓			

○ good ⊙ excellent

Steel + Pb	Low alloyed steel	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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SELECTION OF THREADING TOOLS

✓ = item from stock

DRILLING THREAD WHIRLERS

	Z	Page		☐ CARBIDE	☐ CUTINOX	☐ DAC	☐ DI-TOP
DIXI 1740 S 0.80 - M 10.00 	1 - 3	295	 	✓	✓		
DIXI 1742-TC M 5.00 - M 12.00 	2	296				✓	
DIXI 1744-TC M 5.00 - M 12.00 	4	296			✓		

SELF LOCKING THREAD

DIXI 1712-AF/BT S 0.70 - M 1.40 	3	297	 	✓			
DIXI 1716-AF/BT S 0.70 - M 1.40 	-	297	 				✓
DIXI 1738-AF/BT S 0.70 - M 3.00 Partial profile 	3	298		✓			
DIXI 1740-AF/BT S 0.80 - M 3.00 	1 - 2	298		✓			
DIXI 1718-AF/BT S 0.70 - M 3.00 	-	299		✓			
DIXI 1719-AF/BT S 0.70 - M 3.00 	-	299		✓			

HOB CUTTERS

DIXI 1660 S 0.40 - S 1.40 Flat root 	94	300		✓			
DIXI 1661 S 0.40 - S 1.40 Radius at root 	94	300		✓			

○ good ⊙ excellent

Steel + Pb	Low alloyed steel	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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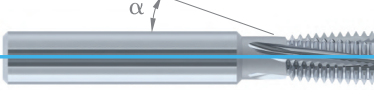
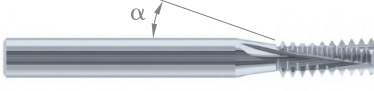
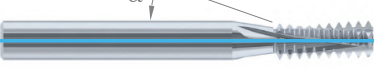
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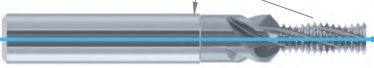
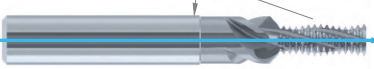
SELECTION OF THREADING TOOLS

✓ = item from stock

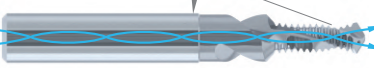
THREAD MILLS

	Z	Page		 CARBIDE	 TiAIN	 CUTINOX		
DIXI 7910 M 1.4 - M 24.0 	2 - 4	301		✓	✓			
DIXI 7908 M 2.0 - M 24.0 	3 - 6	302		✓	✓			
DIXI 7913-TC M 10 - M 30 	3 - 4	303		✓		✓		
DIXI 7920 UNC N°2 - UNC 3/4" 	2 - 4	304		✓	✓			
DIXI 7918 UNF N°2 - UNC 3/4" 	3 - 5	305		✓	✓			
DIXI 7923-TC UNJF N°10 - UNJF 1/2" 	3 - 4	306		✓				
DIXI 7940 G1/16" - G1" 	3 - 4	306		✓				
DIXI 7946 R1/16" - R2-1/2" 	3 - 4	307		✓				
DIXI 7950 NPT 1/4" - NPT 2" 	3 - 4	307		✓				
DIXI 7956 NPTF 1/16" - NPTF 2" 	3 - 4	308		✓				

THREAD MILLS WITH COUNTERSINK

DIXI 7915-TC M 4.0 - M 16.0 	3 - 4	308		✓		✓		
DIXI 7925-TC UNC N°8 - UNC 5/8" 	3 - 4	309		✓		✓		

DRILLING THREAD MILLS WITH COUNTERSINK

DIXI 7985-HH M 4.0 - M 16.0 	2	310		✓		✓		
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○ good ⊙ excellent

Steel + Pb	Low alloyed steel	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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SELECTION OF THREADING TOOLS

✓ = item from stock

THREAD GAUGES

DIXI 1718-NT R+L

R S 0.30 - S 1.40

L S 0.50 - S 1.20

S1.40x0.30 NIHS NT GO 

Z

Page

□ CARBIDE

-

311

NIHS
06

✓

DIXI 1718-RT

S 0.30 - S 1.40

S1.40x0.30 NIHS RT GO 

-

311

NIHS
06

✓

DIXI 1719-NT/RT R+L

R S 0.30 - S 1.40

L S 0.50 - S 1.20

S1.40x0.30 NIHS NT/RT NOGO 

-

311

NIHS
06

✓

DIXI 1718-M

M 1.00 - M 3.00

M 3.00 x 0.50 6H GO 

-

312

ISO
1502

✓

DIXI 1719-M

M 1.00 - M 3.00

M 3.00 x 0.50 6H NO GO 

-

312

ISO
1502

✓

PLAIN GAUGES

DIXI 0418

S 0.30 - S 1.40

S1.00x0.25 H5/H6 GO 

-

313

NIHS
06

✓

DIXI 0419

S 0.30 - S 1.40

S1.00x0.25 H6 NO GO 

-

313

NIHS
06

✓

GAUGES SET



-

314

NIHS
06

Steel + Pb	Low alloyed steel	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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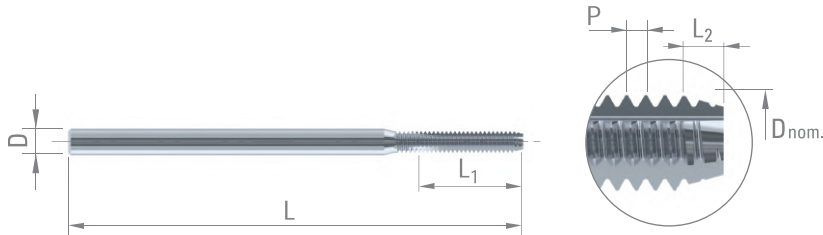
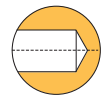
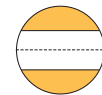
DIXI 1712

MICRO CUTTING TAPS

Z = 3



P. 316
P. 320



Steel
+ Pb

Cu alloy
Silver
Gold

D nom.	Pitch P	Drill. Ø brass (5H minor Ø)	Drill. Ø steel (6H minor Ø)	L ₁	L ₂	D _{h5}	L	NIHS-3G CARBIDE	NIHS-3G+ CARBIDE	ISO2-6H CARBIDE
S 0.30	0.08	0.23	0.24	1.0	0.25	1.5	30	62326		
S 0.35	0.09	0.27	0.28	1.5	0.27	1.5	30	965642		
S 0.40	0.10	0.32	0.33	2.0	0.30	1.5	30	62327	62328	
S 0.50	0.125	0.40	0.42	2.5	0.38	1.5	30	62329	62330	
S 0.60	0.15	0.48	0.50	3.0	0.45	1.5	30	62331	62332	
S 0.70	0.175	0.56	0.58	3.0	0.52	1.5	30	62334	62335	
S 0.80	0.20	0.64	0.66	3.5	0.60	1.5	30	62337	62338	
S 0.90	0.225	0.72	0.74	4.0	0.67	1.5	30	62342	62343	
S 1.00	0.25	0.80	0.82	4.0	0.76	1.5	30	62345	62346	
S 1.20	0.25	1.00	1.02	5.0	0.76	1.5	30	62348		
S 1.40	0.30	1.15	1.17	5.0	0.85	1.5	30	62351		
M 1.50	0.30	1.26	1.28	6.0	0.85	2.0	38			62353
M 2.00	0.40	1.65	1.68	11.0	1.00	2.5	43			62354

n Rotation speed [rev/min]

500 - 2500

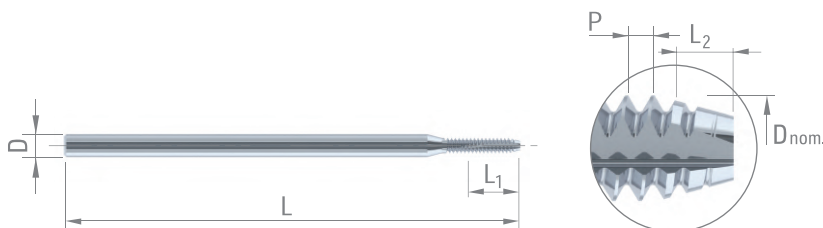
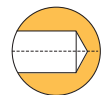
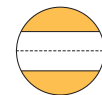
DIXI 1712 L

MICRO CUTTING TAPS LEFT HAND CUTTING

Z = 3



P. 316
P. 320



Steel
+ Pb

Cu alloy
Silver
Gold

D nom.	Pitch P	Drill. Ø brass (5h minor Ø)	Drill. Ø steel (6H minor Ø)	L ₁	L ₂	D _{h5}	L	NIHS-3G CARBIDE
S 0.60	0.15	0.49	0.51	4.0	0.45	1.5	30	969369
S 0.70	0.175	0.57	0.59	4.0	0.52	1.5	30	969370
S 0.80	0.20	0.65	0.67	4.0	0.60	1.5	30	969371
S 0.90	0.225	0.73	0.75	4.0	0.67	1.5	30	969372
S 1.00	0.25	0.81	0.83	4.0	0.75	1.5	30	969373

n Rotation speed [rev/min]

500 - 2500



DIXI 1713

HIGH PERFORMANCE MICRO CUTTING TAPS

Z = 3



P. 316
P. 320

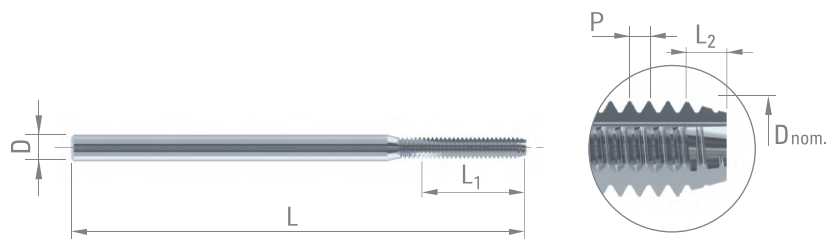


Steel
+ Pb

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al



D nom.	Pitch P	Drill. Ø brass (5H minor Ø)	Drill. Ø steel (6H minor Ø)	L ₁	L ₂	D _{h5}	L	NIHS-3G CARBIDE
S 0.40	0.10	0.33	0.34	2.5	0.30	2.0	30	969795
S 0.50	0.125	0.41	0.43	3.5	0.38	2.0	30	969474
S 0.60	0.15	0.49	0.51	4.0	0.45	2.0	30	969497
S 0.70	0.175	0.57	0.59	4.0	0.52	2.0	30	969498
S 0.80	0.20	0.65	0.67	4.0	0.60	2.0	30	969499
S 0.90	0.225	0.73	0.75	4.0	0.67	2.0	30	969500
S 1.00	0.25	0.81	0.83	4.0	0.76	2.0	30	969501
S 1.20	0.25	1.01	1.03	5.0	0.76	2.0	30	969502
S 1.40	0.30	1.16	1.18	5.0	0.85	2.0	30	969503

n Rotation speed [rev/min]

500 - 2500

DIXI 1708

MICRO CUTTING TAPS RIGHT HAND SPIRAL RIGHT HAND CUTTING

Z = 3



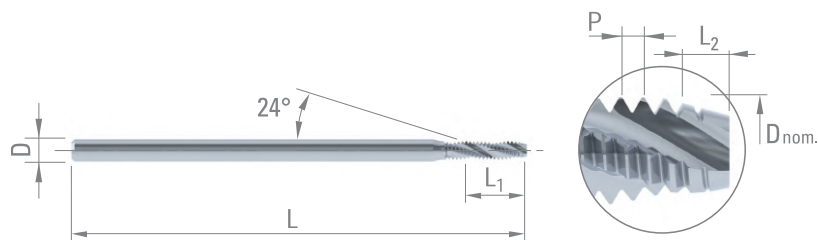
P. 316
P. 320



Lead
alloyed
steel

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine



D nom.	Pitch P	Drill. Ø brass (5H minor Ø)	Drill. Ø steel (6H minor Ø)	L ₁	L ₂	D _{h5}	L	NIHS-3G CARBIDE	NIHS-3G DI-TOP
S 0.30	0.08	0.23	0.24	1.0	0.25	1.5	30	986881	303483
S 0.35	0.09	0.27	0.28	1.5	0.27	1.5	30	986882	303484
S 0.40	0.10	0.32	0.33	2.5	0.30	1.5	30	986883	303485
S 0.50	0.125	0.40	0.42	3.5	0.38	1.5	30	984405	303486
S 0.60	0.15	0.48	0.50	4.0	0.45	1.5	30	983633	303487
S 0.70	0.175	0.56	0.58	4.0	0.52	1.5	30	986884	303488
S 0.80	0.20	0.64	0.66	4.0	0.60	1.5	30	986885	303489
S 0.90	0.225	0.72	0.74	4.0	0.67	1.5	30	986886	303490
S 1.00	0.25	0.80	0.82	4.0	0.76	1.5	30	986887	303491
S 1.20	0.25	1.00	1.02	5.0	0.76	1.5	30	986888	303492
S 1.40	0.30	1.15	1.17	5.0	0.85	1.5	30	986889	303493

n Rotation speed [rev/min]

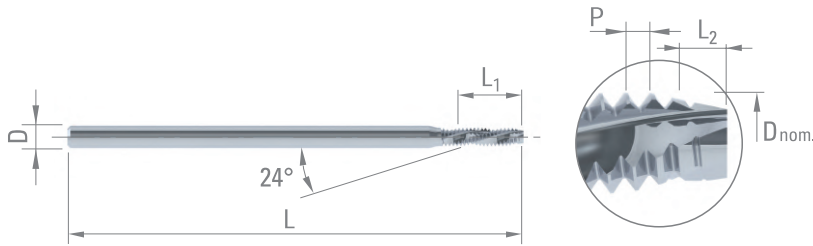
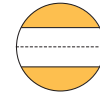
500 - 2500

MICRO CUTTING TAPS
LEFT HAND SPIRAL
RIGHT HAND CUTTING

Z = 3



P. 316
P. 320



Lead
alloyed
steel

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

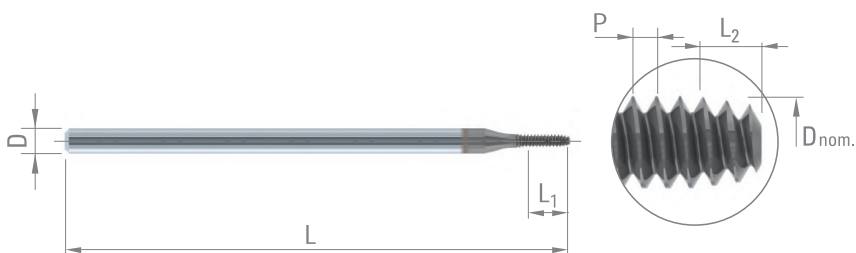
D nom.	Pitch P	Drill. Ø brass (5h minor Ø)	Drill. Ø steel (6H minor Ø)	L ₁	L ₂	D _{h5}	L	NIHS-3G CARBIDE
S 0.30	0.08	0.23	0.24	1.0	0.25	1.5	30	986890
S 0.35	0.09	0.27	0.28	1.5	0.27	1.5	30	986891
S 0.40	0.10	0.32	0.33	2.5	0.30	1.5	30	986892
S 0.50	0.125	0.40	0.42	3.5	0.38	1.5	30	986893
S 0.60	0.15	0.48	0.50	4.0	0.45	1.5	30	986894
S 0.70	0.175	0.56	0.58	4.0	0.52	1.5	30	986895
S 0.80	0.20	0.64	0.66	4.0	0.60	1.5	30	986896
S 0.90	0.225	0.72	0.74	4.0	0.67	1.5	30	986897
S 1.00	0.25	0.80	0.82	4.0	0.76	1.5	30	986898
S 1.20	0.25	1.00	1.02	5.0	0.76	1.5	30	986899
S 1.40	0.30	1.15	1.17	5.0	0.85	1.5	30	986900

n Rotation speed [rev/min]

500 - 2500

DIXI 1715 DI-TOP

MICRO THREAD FORMERS



P. 316
P. 320



Steel
+ Pb

Low
alloyed
steel

High
alloyed
steel

DUPLEX
stainless
steel

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

D nom.	Pitch P	Drill. Ø brass	Drill. Ø steel	L ₁	L ₂	D _{h5}	L	NIHS-3GX DI-TOP
S 0.40	0.10	0.36 - 0.37	0.37 - 0.38	2.0	0.30	1.5	30	974654
S 0.50	0.125	0.45 - 0.46	0.46 - 0.47	2.0	0.37	1.5	30	972407
S 0.60	0.15	0.54 - 0.55	0.55 - 0.56	2.4	0.45	1.5	30	970899
S 0.70	0.175	0.62 - 0.63	0.63 - 0.64	2.8	0.52	1.5	30	970900
S 0.80	0.20	0.70 - 0.71	0.71 - 0.72	3.2	0.60	1.5	30	970901
S 0.90	0.225	0.81 - 0.82	0.82 - 0.83	3.6	0.67	1.5	30	970902
S 1.00	0.25	0.89 - 0.90	0.90 - 0.91	4.0	0.75	1.5	30	305793
S 1.20	0.20	1.11 - 1.12	1.12 - 1.13	4.8	0.60	1.5	30	305794
S 1.20	0.25	1.08 - 1.09	1.09 - 1.10	4.8	0.75	1.5	30	305795
S 1.40	0.20	1.30 - 1.32	1.32 - 1.33	5.6	0.60	1.5	30	305796
S 1.40	0.30	1.27 - 1.28	1.28 - 1.29	5.6	0.90	1.5	30	305797

D nom.	Pitch P	Drill. Ø brass	Drill. Ø steel	L ₁	L ₂	D _{h5}	L	4HX DI-TOP	5HX DI-TOP	6HX DI-TOP
M 1.00	0.25	0.89 - 0.90	0.90 - 0.91	4.0	0.75	1.5	30		970903	
M 1.20	0.20	1.11 - 1.12	1.12 - 1.13	4.8	0.60	1.5	30	978772		
M 1.20	0.25	1.09 - 1.10	1.10 - 1.11	4.8	0.75	1.5	30		970904	
M 1.40	0.20	1.31 - 1.32	1.32 - 1.33	5.6	0.60	1.5	30	973645		
M 1.40	0.30	1.27 - 1.28	1.28 - 1.29	5.6	0.90	1.5	38		970905	
M 1.50	0.30	1.37 - 1.38	1.38 - 1.39	6.0	0.90	2.0	38			971650
M 1.60	0.35	1.45 - 1.46	1.46 - 1.47	6.0	1.05	2.0	38			970906
M 1.80	0.20	1.71 - 1.72	1.72 - 1.73	7.0	0.60	2.0	38	975090		
M 2.00	0.20	1.91 - 1.92	1.92 - 1.93	8.0	0.60	2.5	43	976259		
M 2.00	0.40	1.83 - 1.84	1.83 - 1.84	8.0	1.20	2.5	43			970907
M 2.20	0.25	2.09 - 2.10	2.10 - 2.11	8.0	0.75	2.5	43		974959	

n Rotation speed [rev/min]

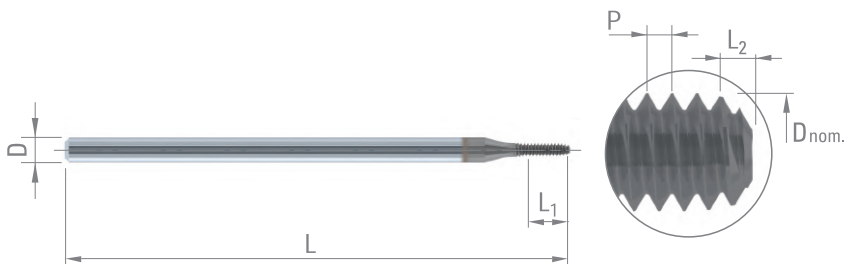
500 - 2500

DIXI 1716 DI-TOP

MICRO THREAD FORMERS



P. 316
P. 320



Steel
+ Pb

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

D nom.	Pitch P	Drill. Ø brass	Drill. Ø steel	L ₁	L ₂	D _{h5}	L	NIHS-3GX DI-TOP
S 0.40	0.10	0.36 - 0.37	0.37 - 0.38	1.6	0.20	1.5	30	992498
S 0.50	0.125	0.45 - 0.46	0.46 - 0.47	2.0	0.25	1.5	30	992509
S 0.60	0.15	0.54 - 0.55	0.55 - 0.56	2.4	0.30	1.5	30	992514
S 0.70	0.175	0.62 - 0.63	0.63 - 0.64	2.8	0.35	1.5	30	992515
S 0.80	0.20	0.70 - 0.71	0.71 - 0.72	3.2	0.40	1.5	30	992516
S 0.90	0.225	0.81 - 0.82	0.82 - 0.83	3.6	0.45	1.5	30	992517
S 1.00	0.25	0.89 - 0.90	0.90 - 0.91	4.0	0.50	1.5	30	305799
S 1.20	0.20	1.11 - 1.12	1.12 - 1.13	4.8	0.40	1.5	30	305800
S 1.20	0.25	1.08 - 1.09	1.09 - 1.10	4.8	0.50	1.5	30	305801
S 1.40	0.20	1.31 - 1.32	1.32 - 1.33	5.6	0.40	1.5	30	305802
S 1.40	0.30	1.27 - 1.28	1.28 - 1.29	5.6	0.60	1.5	30	305804

D nom.	Pitch P	Drill. Ø brass	Drill. Ø steel	L ₁	L ₂	D _{h5}	L	4HX DI-TOP	5HX DI-TOP
M 1.00	0.25	0.89 - 0.90	0.90 - 0.91	4.0	0.50	1.5	30		992518
M 1.20	0.20	1.11 - 1.12	1.12 - 1.13	4.8	0.40	1.5	30	992519	
M 1.20	0.25	1.08 - 1.09	1.09 - 1.10	4.8	0.50	1.5	30		992520
M 1.40	0.20	1.31 - 1.32	1.32 - 1.33	5.6	0.40	1.5	30	992521	
M 1.40	0.30	1.27 - 1.28	1.28 - 1.29	5.6	0.60	1.5	38		992522

n Rotation speed [rev/min]

500 - 2500



WHIRLING TOOLS
PARTIAL PROFILE

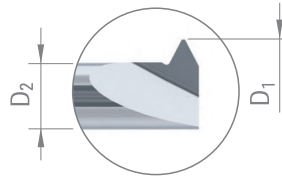
Z = 1



P. 320



P. 322



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Titanium, titanium alloy
Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic	

D nom.	Pitch	Drilling Ø	D ₁	L ₁	D ₂	D _{h5}	L	CARBIDE
S 0.30	0.08	0.23	0.21	0.70	0.12	3	38	961147
S 0.35	0.09	0.27	0.25	0.90	0.15	3	38	984299
S 0.40	0.10	0.32	0.29	0.90	0.18	3	38	961149
S 0.50	0.125	0.40	0.37	1.20	0.23	3	38	961163
S 0.60	0.15	0.48	0.44	1.50	0.27	3	38	961164
S 0.70	0.175	0.56	0.52	1.80	0.32	3	38	961165
S 0.80	0.20	0.64	0.59	2.00	0.36	3	38	961166
S 0.90	0.225	0.72	0.67	2.20	0.41	3	38	961167
S 1.00	0.25	0.80	0.74	2.40	0.46	3	38	961168
S 1.20	0.25	1.00	0.94	3.00	0.66	3	38	961169
S 1.40	0.30	1.15	1.08	3.30	0.74	3	38	961170



DIXI 1738

WHIRLING TOOLS PARTIAL PROFILE

Z = 3



P. 320



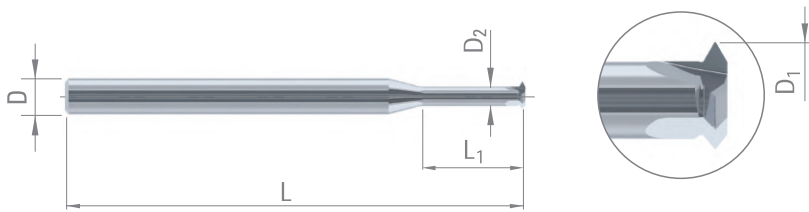
P. 322



NIHS
06



ISO
60°



High
alloyed
steel

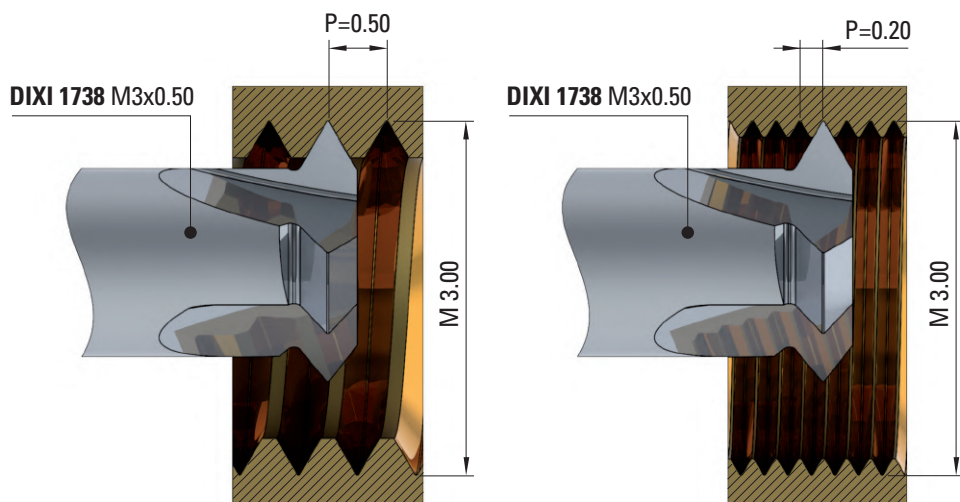
DUPLEX
stainless
steel

Refractory
alloy

Titanium,
titanium
alloy

D nom.	Pitch	ISO Drilling Ø	NIHS	D ₁	L ₁	D ₂	D _{h5}	L	CARBIDE CUTINOX	
S 0.50	0.125	0.40	0.37	0.85	0.23	3	38	306969	318544	
S 0.60	0.150	0.48	0.44	1.25	0.27	3	38	318623	318545	
S 0.70	0.175	0.56	0.52	1.80	0.31	3	38	984319	985156	
S 0.80	0.20	0.64	0.59	2.30	0.35	3	38	965997	966008	
S 0.90	0.225	0.72	0.67	2.50	0.38	3	38	965996	966007	
M 1.00	S 1.00	0.75	0.80	0.71	2.80	0.37	3	964485	966006	
M 1.20	S 1.20	0.95	1.00	0.91	3.40	0.57	3	965664	965943	
M 1.40	S 1.40	1.10	1.15	1.05	4.00	0.64	3	965988	965998	
M 1.40	0.20	1.22	1.15	4.00	0.77	3	38	965989	965999	
M 1.60	0.35	1.30	1.19	4.50	0.65	3	38	965990	966000	
M 1.80	0.35	1.50	1.39	5.10	0.71	3	38	965991	966001	
M 2.00	(0.20)	1.60	1.53	5.60	0.78	3	38	965992	966002	
M 2.00	0.40	1.65	1.67	6.20	0.88	3	38	965993	966003	
M 2.20	(0.25)	1.80	1.97	7.00	1.17	3	38	965994	966004	
M 2.50	0.45	1.80	1.97	7.00	1.17	3	38	965994	966004	
M 2.50	(0.25)	1.95	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	0.50	2.10	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	(0.35)	2.15	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	(0.25)	2.25	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	(0.20)	2.30	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	0.50	2.50	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	(0.35)	2.65	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	(0.25)	2.75	2.40	8.40	1.60	3	38	965995	966005	
M 3.00	(0.20)	2.80	2.40	8.40	1.60	3	38	965995	966005	

A single tool for many pitches (example, from 0.20 to 0.50)



DIXI 1730-D

WHIRLING TOOLS
FULL PROFILE

Z = 3-6



P. 320

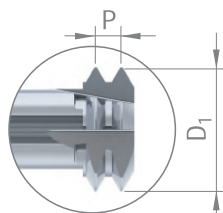
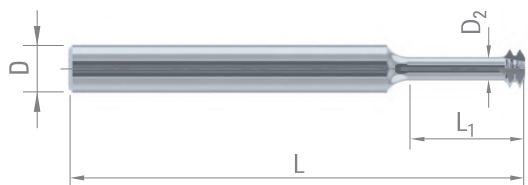


P. 322



ISO
60°

DIXI 1730-2D $L_1 = 2 \times D \text{ nom.}$
DIXI 1730-3D $L_1 = 3 \times D \text{ nom.}$



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu
Graphite	Plastic			

D nom.	Pitch P	D ₁	D ₂	D _{h5}	L	Z	L ₁	DIXI	CARBIDE	TiAIN
M 0.80	0.20	0.57	0.25	3	38	3	1.85	1730-2D	958853	960446
							2.60	1730-3D	961148	961176
M 0.90	0.225	0.64	0.29	3	38	3	2.10	1730-2D	953216	960117
							2.90	1730-3D	961150	961177
M 1.00	0.25	0.71	0.32	3	38	3	2.30	1730-2D	953217	960118
							3.20	1730-3D	961151	961178
M 1.20	0.25	0.91	0.51	3	38	3	2.80	1730-2D	953218	960450
							3.85	1730-3D	961152	961179
M 1.40	0.30	1.05	0.58	3	38	3	3.20	1730-2D	953219	960451
							4.50	1730-3D	961153	961180
M 1.60	0.35	1.19	0.64	3	38	3	3.70	1730-2D	953220	960453
							5.10	1730-3D	961154	961181
M 1.80	0.20	1.55	1.23	3	38	3	4.10	1730-2D	961128	961130
							5.80	1730-3D	961155	961182
M 1.80	0.35	1.39	0.84	3	38	3	4.10	1730-2D	953221	960454
							5.80	1730-3D	961156	961183
M 2.00	0.40	1.53	1.10	3	38	3	4.60	1730-2D	953222	960455
							6.40	1730-3D	961157	961184
M 2.20	0.20	1.94	1.63	3	38	3	5.10	1730-2D	961129	961132
							7.10	1730-3D	961158	961185
M 2.20	0.45	1.67	0.96	3	38	3	5.10	1730-2D	953223	960456
							7.10	1730-3D	961159	961186
M 2.50	0.25	2.18	1.79	3	38	3	5.80	1730-2D	960062	960459
							8.00	1730-3D	961160	961187
M 2.50	0.35	2.07	1.52	3	38	3	5.80	1730-2D	960063	960460
							8.00	1730-3D	961161	961188
M 2.50	0.45	1.97	1.26	3	38	3	5.80	1730-2D	953225	960461
							8.00	1730-3D	961162	961189
M 3.00	0.50	2.40	1.62	4	42	3	7.00	1730-2D	955698	960462
							9.60	1730-3D	961171	961190
M 4.00	0.70	3.17	2.07	4	42	3	9.30	1730-2D	955699	960463
							12.80	1730-3D	961172	961191
M 5.00	0.80	4.05	2.78	6	57	4	11.50	1730-2D	957925	960464
							16.00	1730-3D	961173	961192
M 6.00	1.00	4.81	3.23	6	57	4	13.80	1730-2D	957982	960465
							19.20	1730-3D	961174	961193
M 8.00	1.25	6.51	4.53	8	75	6	18.40	1730-2D	958039	960466
							25.60	1730-3D	961175	961194
M 10.00	1.50	7.90	5.53	8	75	6	23.00	1730-2D	958040	960467
							32.00	1730-3D	960883	961195



DIXI 1735-D

WHIRLING TOOLS
FULL PROFILE

Z = 3-6



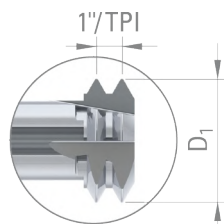
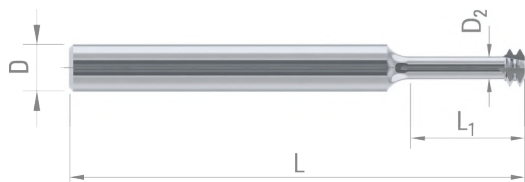
P. 320



P. 322



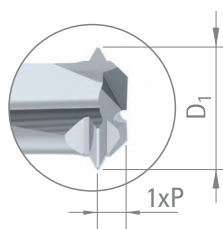
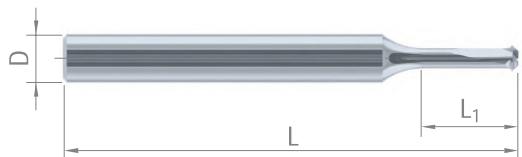
DIXI 1735-2D $L_1 = 2 \times D$ nom.
DIXI 1735-3D $L_1 = 3 \times D$ nom.



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	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	D ₂	D _{h5}	L	Z	L ₁	DIXI	CARBIDE	TiAIN
	N°1			72	1.44	0.88	3	38	3	4.30 6.00	1735-2D 1735-3D	966664 966653	966833 966852
N°1	N°2			64	1.39	0.77	3	38	3	4.30 6.00	1735-2D 1735-3D	966663 966652	966834 966851
N°2	N°3			56	1.65	0.94	3	38	3	5.00 7.00	1735-2D 1735-3D	966662 966651	966835 966850
N°3	N°4			48	1.90	1.06	3	38	3	5.80 8.10	1735-2D 1735-3D	966661 966650	966836 966849
	N°5			44	2.49	1.58	3	38	3	7.30 10.20	1735-2D 1735-3D	966660 966649	966837 966848
N°4				40	2.11	1.11	4	42	3	6.60 9.10	1735-2D 1735-3D	966659 966648	966838 966847
N°5	N°6			40	2.43	1.43	4	42	3	7.30 10.20	1735-2D 1735-3D	966658 966647	966839 966846
	N°8			36	3.33	2.21	4	42	3	9.60 13.40	1735-2D 1735-3D	966657 966646	966841 966845
N°6				32	2.59	1.33	4	42	3	8.10 11.30	1735-2D 1735-3D	966656 966645	966840 966844
N°8	N°10	N°12		32	3.24	1.98	4	55	3	9.60 13.40	1735-2D 1735-3D	960205 961020	960628 961062
	N°12	7/16"	5/16"	28	4.41	2.97	6	63	4	12.60 17.60	1735-2D 1735-3D	966655 966644	966842 966643
	1/4"	7/16"	5/16"	28	5.26	3.82	6	63	4	14.60 20.30	1735-2D 1735-3D	966654 966641	966843 966642
N°10				24	3.60	1.93	4	55	3	11.10 15.50	1735-2D 1735-3D	960395 961052	960629 961063
N°12	5/16"			24	4.25	2.57	6	57	4	12.60	1735-2D	960396	960630
1/4"			5/16"	20	4.87	2.86	6	57	4	14.60 20.30	1735-2D 1735-3D	960397 961054	960631 961085
5/16"	9/16"			18	6.28	4.04	8	63	6	18.20 25.40	1735-2D 1735-3D	960398 961055	960635 961086
3/8"			7/16"	16	7.65	5.13	8	63	6	21.90 30.50	1735-2D 1735-3D	960399 961056	960636 961087
7/16"	7/8"			14	8.96	6.08	10	75	6	25.60 35.50	1735-2D 1735-3D	960400 961057	960637 961088
1/2"				13	10.37	7.27	12	75	6	29.20 40.60	1735-2D 1735-3D	960402 961058	960638 961060

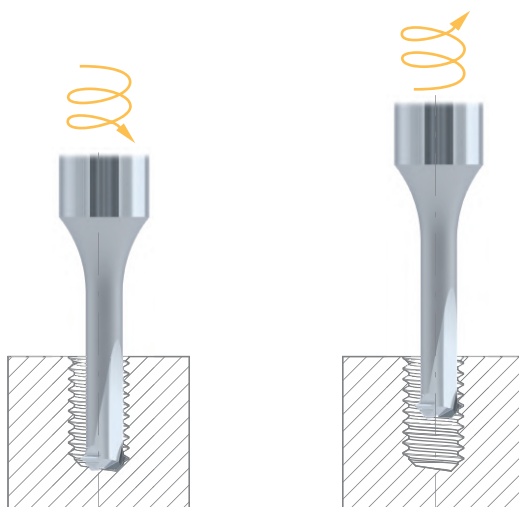




Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic			

D nom.	Pitch P	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	CUTINOX
S 0.80	0.20	0.60	2.4	3	38	1	977703	977716
S 0.90	0.225	0.66	2.7	3	38	1	977704	977717
M 1.00	0.20	0.80	3.0	3	38	1	985121	985134
M 1.00	0.25	0.73	3.0	3	38	1	977656	977698
M 1.20	0.20	1.00	3.6	3	38	1	985136	985143
M 1.20	0.25	0.92	3.6	3	38	1	977705	977718
M 1.40	0.20	1.20	4.2	3	38	1	985144	985145
M 1.40	0.30	1.05	4.2	3	38	1	977706	977719
M 1.60	0.35	1.21	4.8	3	38	1	977707	977720
M 2.00	0.40	1.55	6.0	3	38	2	977708	977721
M 2.50	0.45	2.00	7.5	3	38	2	977709	977722
M 3.00	0.50	2.44	9.0	6	57	2	977710	977723
M 4.00	0.70	3.20	12.0	6	57	2	977711	977724
M 5.00	0.80	4.00	15.0	6	57	2	977712	977725
M 6.00	1.00	4.85	18.0	6	57	3	977713	977726
M 8.00	1.25	6.50	24.0	8	75	3	977714	977727
M 10.00	1.50	7.90	30.0	8	75	3	977715	977728

Example for difficult to machine materials (titanium, stainless steel).
For easy to machine materials, step n° 2 is not necessary.



1

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

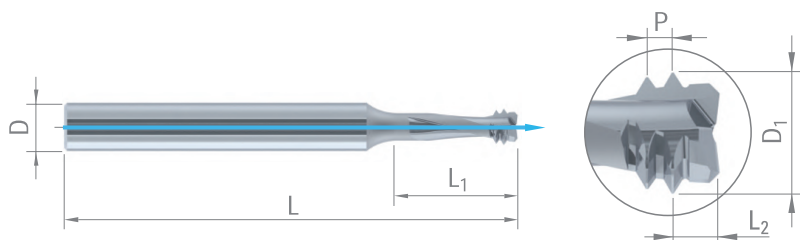
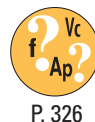
2

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

DIXI 1742-TC DAC

DRILLING THREAD WHIRLERS
WITH THROUGH COOLANT

Z = 2



Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

Graphite

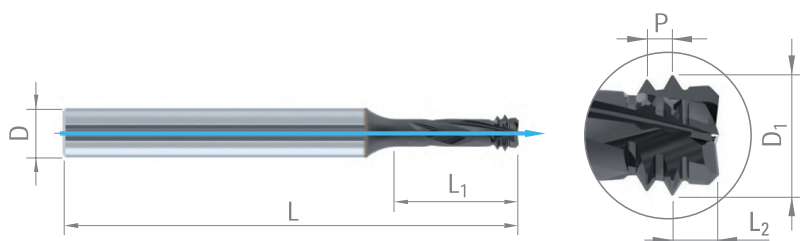
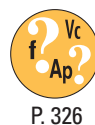
Plastic

D nom.	Pitch P	D ₁	L ₁	L ₂	D _{h5}	L	DAC
M 5.00	0.80	4.00	12.5	1.50	8	60	303475
M 6.00	1.00	4.80	15.0	1.85	8	60	303476
M 8.00	1.25	6.40	20.0	2.30	8	75	303477
M 10.00	1.50	7.80	25.0	2.75	8	75	303478
M 12.00	1.75	9.50	30.0	3.10	10	100	308709

DIXI 1744-TC CUTINOX

DRILLING THREAD WHIRLERS
WITH THROUGH COOLANT

Z = 4



Steel
+ Pb

Low
alloyed
steel

High
alloyed
steel

DUPLEX
stainless
steel

Cast iron

Refractory
alloy

Titanium,
titanium
alloy

D nom.	Pitch P	D ₁	L ₁	L ₂	D _{h5}	L	CUTINOX
M 5.00	0.80	4.00	12.5	1.50	8	60	303479
M 6.00	1.00	4.80	15.0	1.85	8	60	303480
M 8.00	1.25	6.40	20.0	2.30	8	75	303481
M 10.00	1.50	7.80	25.0	2.75	8	75	303482
M 12.00	1.75	9.50	30.0	3.10	10	100	308710

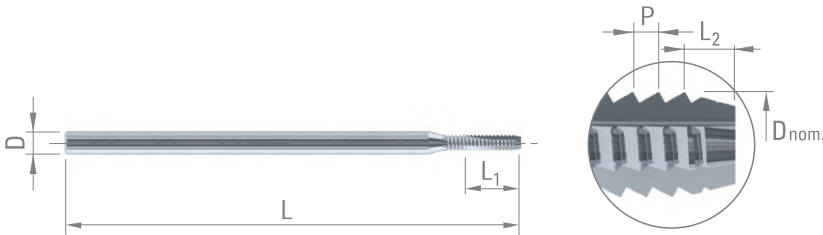
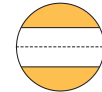
DIXI 1712-AF/BT

MICRO CUTTING TAPS SELF LOCKING PROFILE

Z = 3



P. 319



Steel
+ Pb

Cu alloy
Silver
Gold

D nom.	Pitch P	Drilling Ø	L ₁	L ₂	D _{h5}	L	CARBIDE
S 0.70	0.175	0.59	3.0	0.35	1.5	30	995574
S 0.80	0.20	0.68	3.5	0.40	1.5	30	995676
S 0.90	0.225	0.76	4.0	0.45	1.5	30	995677
M 1.00	0.25	0.84	4.0	0.50	1.5	30	995678
M 1.20	0.25	1.04	5.0	0.50	1.5	30	995679
M 1.40	0.30	1.21	5.0	0.60	1.5	30	995680

n Rotation speed [rev/min]

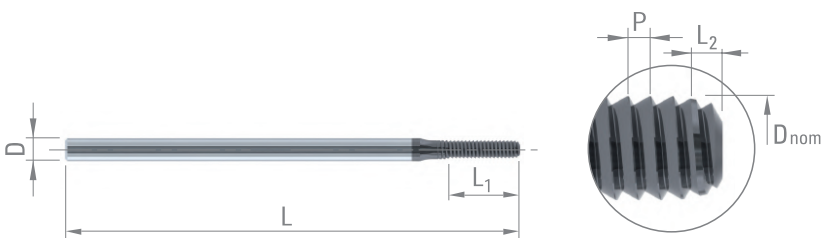
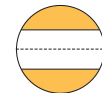
500 - 2500

DIXI 1716-AF/BT DI-TOP

THREAD FORMERS SELF LOCKING PROFILE



P. 319



Steel
+ Pb

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

Al

D nom.	Pitch P	Drilling Ø	L ₁	L ₂	D _{h5}	L	DI-TOP
S 0.70	0.175	0.65	2.8	0.35	1.5	30	995723
S 0.80	0.20	0.74	3.2	0.40	1.5	30	995745
S 0.90	0.225	0.83	3.6	0.45	1.5	30	995746
M 1.00	0.25	0.92	4.0	0.50	1.5	30	995747
M 1.20	0.25	1.12	4.8	0.50	1.5	30	995748
M 1.40	0.30	1.31	5.6	0.60	1.0	30	995749

n Rotation speed [rev/min]

500 - 2500

DIXI 1738-AF/BT

WHIRLING TOOLS SELF LOCKING PROFILE

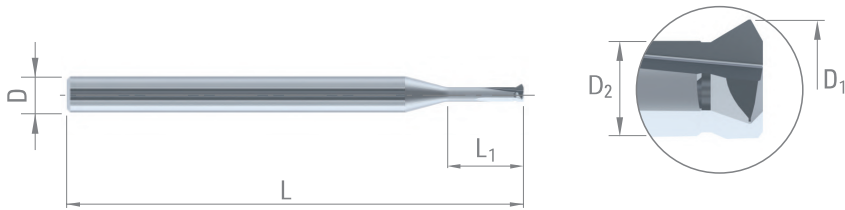
Z = 3



P. 319



P. 322



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Refractory alloy
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Alu	Plastic

D nom.	Pitch	Drilling Ø	D ₁	L ₁	D ₂	D _{h5}	L	CARBIDE
S 0.70	0.175	0.59	0.54	1.8	0.34	3	38	995725
S 0.80	0.20	0.68	0.62	2.3	0.39	3	38	995880
S 0.90	0.225	0.76	0.70	2.5	0.44	3	38	995881
M 1.00	0.25	0.84	0.80	2.8	0.51	3	38	995882
M 1.20	0.25	1.04	0.98	3.4	0.69	3	38	995883
M 1.40	0.30	1.21	1.12	4.0	0.77	3	38	995884
M 1.60	0.35	1.38	1.26	4.5	0.86	3	38	995885
M 2.00	0.40	1.75	1.60	5.6	1.14	3	38	995886
M 2.20	0.45	1.91	1.70	6.2	1.18	3	38	995887
M 3.00	0.50	2.68	2.40	8.4	1.82	3	38	995888

DIXI 1740-AF/BT

DRILLING THREAD WHIRLERS SELF LOCKING PROFILE

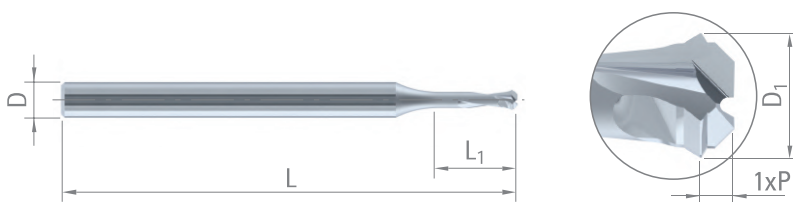
Z = 1-2



P. 319



P. 324



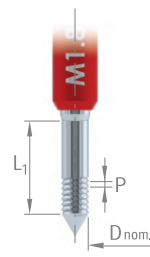
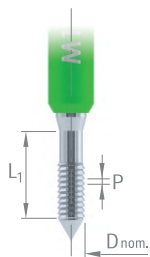
Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al
Graphite	Plastic			

D nom.	Pitch P	D ₁	L ₁	D _{h5}	L	Z	CARBIDE
S 0.80	0.20	0.60	2.4	3	38	1	300295
S 0.90	0.225	0.66	2.7	3	38	1	300435
M 1.00	0.25	0.73	3.0	3	38	1	300436
M 1.20	0.25	0.92	3.6	3	38	1	300437
M 1.40	0.30	1.05	4.2	3	38	1	300438
M 1.60	0.35	1.21	4.8	3	38	1	300439
M 2.00	0.40	1.55	6.0	3	38	2	300440
M 2.20	0.45	1.70	6.6	3	38	2	300441
M 2.50	0.45	2.00	7.5	3	38	2	300444
M 3.00	0.50	2.44	9.0	6	57	2	300445



DIXI 1718-AF/BT - DIXI 1719-AF/BT

THREAD GAUGES
"GO" - **"NO GO"**
 SELF LOCKING PROFILE



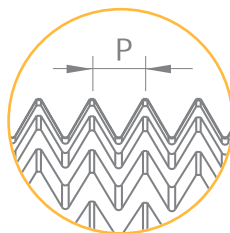
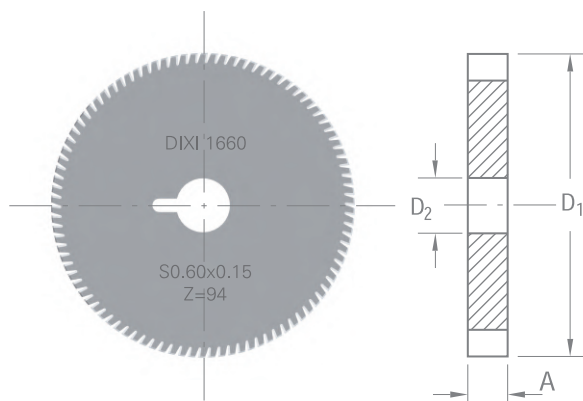
D nom.	Pitch P	L ₁	1718-AF/BT	1719-AF/BT
			GO	NO GO
S 0.70	0.175	3.0	995572	995573
S 0.80	0.20	3.5	995615	995664
S 0.90	0.225	4.0	995616	995665
M 1.00	0.25	4.0	995617	995666
M 1.20	0.25	5.0	995619	995667
M 1.40	0.30	5.0	995620	995668
M 1.60	0.35	6.0	995621	995669
M 1.80	0.35	6.0	995622	995670
M 2.00	0.40	6.0	995623	995671
M 2.20	0.45	8.0	995624	995672
M 2.50	0.45	8.0	995631	995674
M 3.00	0.50	8.0	995626	995675



HOB CUTTERS FOR NIHS SCREWS

Z = 94

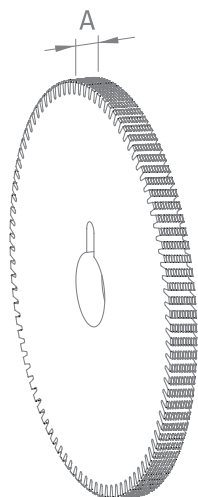
NIHS
06



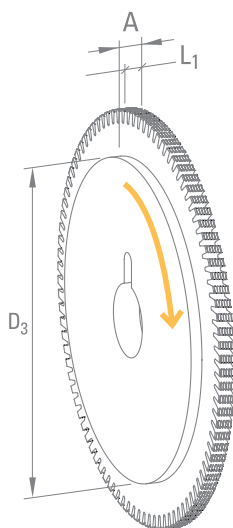
Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Titanium, titanium alloy
Cu alloy Silver Gold	Cu alloy difficult to machine			

D nom.	Pitch P	$D_1 \pm 0.03$	$D_2 H_5$	D_3	Z	A	L_1	Ref.	Flat root DIXI 1660	Radius at root DIXI 1661
CARBIDE										
S0.40	0.100	45	8	35	94	3	1.00	B	301926	334510
							1.00	C	301927	327631
S0.50	0.125	45	8	35	94	3	1.10	B	301928	334511
							1.10	C	301929	334512
S0.60	0.150	45	8	35	94	3	1.35	B	301930	334513
							1.35	C	301305	334514
							3.00	A	301931	334515
							1.60	B	301932	334516
S0.70	0.175	45	8	35	94	3	1.60	C	301943	334517
							3.00	A	301945	334518
							1.80	B	301946	334519
							1.80	C	301947	334520
S0.80	0.200	45	8	35	94	3	3.00	A	301948	334521
							2.00	B	301949	334522
							2.00	C	301950	334523
							3.00	A	301951	334524
S0.90	0.225	45	8	35	94	3	2.00	C	301952	334525
S1.00	0.250	45	8	35	94	3	3.00	A	301953	334526
S1.40	0.300	45	8	35	94	3	3.00	A		

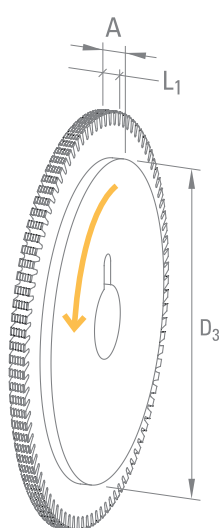
Ref. A



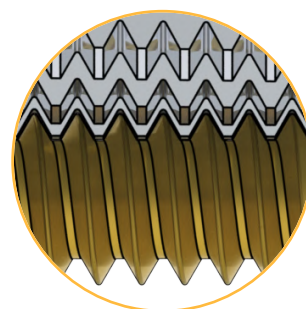
Ref. B



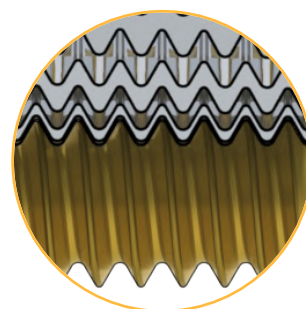
Ref. C



Flat
root
DIXI 1660



Radius
at root
DIXI 1661



DIXI 7910

STRAIGHT FLUTE THREAD MILLS

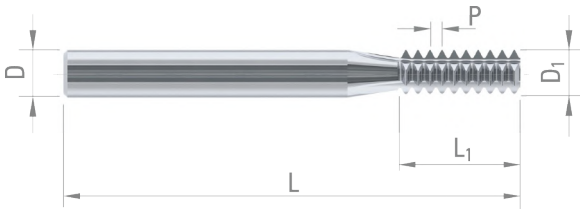
Z = 2-4



P. 320



P. 328



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

D nom.	Pitch P	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
M 1.4	0.30	0.90	2.10	3	38	2	41565	56990
M 1.6	0.35	1.00	2.45	3	38	2	41566	56991
M 2.0	0.40	1.30	3.20	3	38	2	41568	56993
M 2.3	0.40	1.50	3.20	3	38	2	41569	56994
M 2.5	0.35	1.30	2.80	3	38	2	41567	56992
M 2.5	0.45	1.50	3.60	3	38	2	41570	56995
M 3.0	0.50	2.10	4.50	3	38	3	41571	56996
M 4.0	0.50	2.60	5.50	3	38	3	41572	56997
M 4.0	0.70	2.60	6.30	3	38	3	41573	56998
M 4.5	0.75	3.00	6.75	4	42	3	41574	56999
M 5.0	0.80	3.60	8.00	4	42	3	41576	57001
M 6.0	1.00	4.00	9.00	6	57	3	42578	55510
M 8.0	0.75	5.90	15.00	6	57	3	42577	57000
M 8.0	1.25	5.00	12.50	6	57	3	42579	57003
M 10.0	1.50	5.90	15.00	6	57	3	42580	57004
M 12.0	1.00	7.90	20.00	8	63	4	42554	57002
M 12.0	1.75	7.90	19.25	8	63	4	42590	57007
M 14.0	1.50	9.90	24.00	10	72	4	42561	57005
M 14.0	2.00	9.90	24.00	10	72	4	42591	57008
M 18.0	1.50	11.90	30.00	12	83	4	42589	57006
M 24.0	3.00	15.90	36.00	16	92	4	42594	

DIXI 7910 E = External

D nom.	Pitch P	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
M 3.0	0.50	5.90	15.00	6	57	3	42597	57013
M 4.5	0.75	7.90	19.50	8	63	4	42598	57014
M 6.0	1.00	9.90	24.00	10	72	4	41471	57015
M 10.0	1.50	11.90	30.00	12	83	4	41472	



HELICAL THREAD MILLS

Z = 3-6



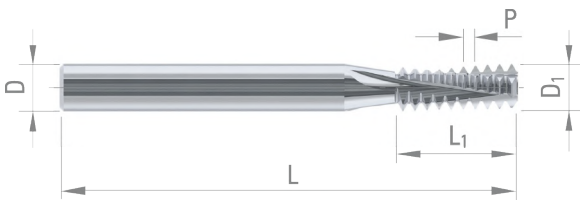
P. 320



P. 330



ISO
60°



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

D nom.	Pitch P	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
M 3.0	0.50	2.10	4.50	3	38	3	67420	952938
M 4.0	0.50	2.60	5.50	3	38	3	951594	952939
M 4.0	0.70	2.60	6.30	3	38	3	67452	952940
M 4.5	0.75	3.00	6.75	4	42	3	67453	952941
M 5.0	0.80	3.60	8.00	4	42	3	67454	952942
M 6.0	1.00	4.00	9.00	6	57	3	67455	952013
M 8.0	0.75	5.90	15.00	6	57	5	67461	952944
M 8.0	1.25	5.00	12.50	6	57	3	67274	952014
M 10.0	1.50	5.90	15.00	6	57	5	67456	952015
M 12.0	0.50	9.90	10.00	10	50	5	957036	957037
M 12.0	1.75	7.90	19.25	8	63	5	67457	952016
M 14.0	1.50	9.90	24.00	10	72	5	67463	952948
M 14.0	2.00	9.90	24.00	10	72	5	67459	952949
M 18.0	1.50	11.90	30.00	12	83	5	67464	952951
M 18.0	2.00	11.90	30.00	12	83	5	67465	952956
M 18.0	2.50	11.90	30.00	12	83	5	67458	952851
M 24.0	3.00	15.90	36.00	16	92	6	67460	952953

DIXI 7908 E = External

D nom.	Pitch P	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
M 3.0	0.50	5.90	15.00	6	57	5	67466	952943
M 10.0	1.50	11.90	30.00	12	83	5	67469	952950
M 14.0	2.00	11.90	30.00	12	83	5	67470	952952

DIXI 7913-TC

ISO THREAD MILLS, FINE PITCH
WITH THROUGH COOLANT

Z = 4-5



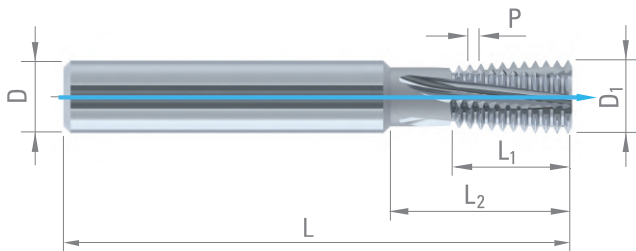
P. 320



P. 330

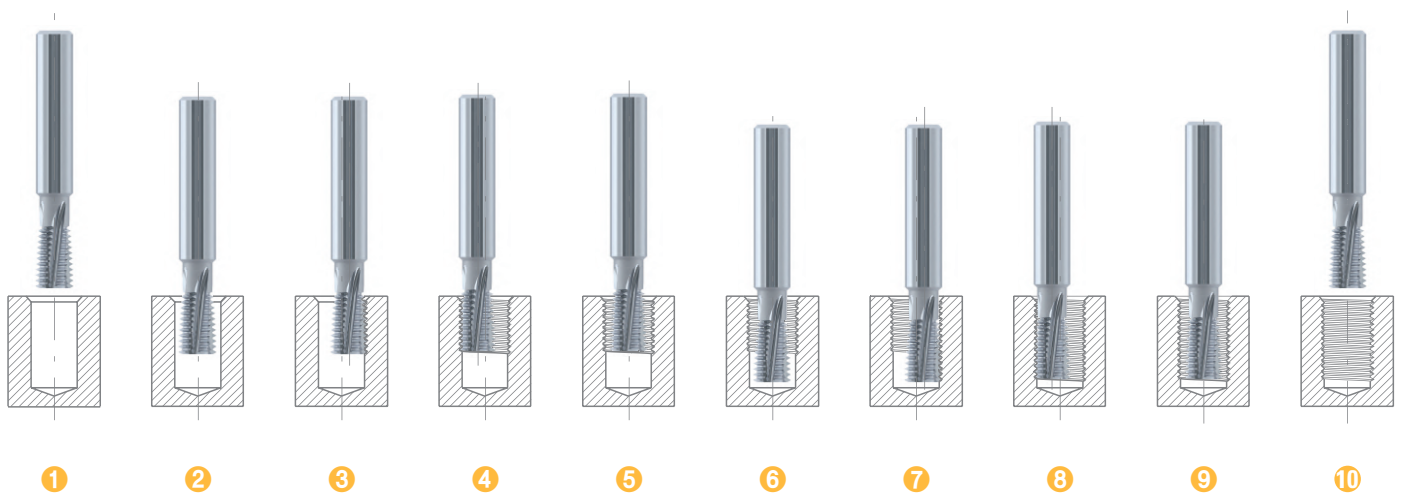


ISO
60°



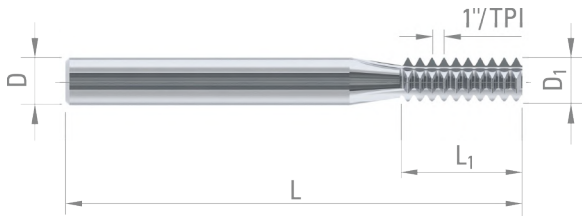
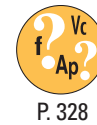
Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

Pitch P	D nom.	D ₁	L ₁	L ₂	D _{h5}	L	Z	CARBIDE	CUTINOX
0.50	M 10	7.95	16	-	8	64	4	303435	303455
	M 14	11.95	20	31	12	80	4	303436	303456
0.75	M 10	7.95	16	-	8	64	4	303437	303457
	M 12	9.95	16	25	10	70	4	303438	303458
	M 14	11.95	20	31	12	80	4	303439	303459
1.00	M 12	9.95	16	25	10	70	4	303440	303460
	M 16	11.95	20	31	12	80	4	303441	303461
	M 20	15.95	25	40	16	90	5	303442	303462
	M 24	19.95	33	50	20	105	5	303443	303463
1.25	M 14	9.95	16	25	10	70	4	303444	303464
	M 16	11.95	20	31	12	80	4	303445	303465
1.50	M 14	9.95	16	25	10	70	4	303446	303466
	M 16	11.95	20	31	12	80	4	303447	303467
	M 22	15.95	25	40	16	90	5	303448	303468
	M 26	19.95	33	50	20	105	5	303449	303469
2.00	M 16	11.95	20	31	12	80	4	303450	303470
	M 22	15.95	25	40	16	90	5	303451	303471
	M 27	19.95	33	50	20	105	5	303452	303472
2.50	M 22	15.95	25	40	16	90	5	303453	303473
	M 30	19.95	33	50	20	105	5	303454	303474



STRAIGHT FLUTE THREAD MILLS

Z = 2-4



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

UNC	UNF	UNEF	UN	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
N°2	N°3			56	1.50	3.17	3	38	2	41581	953797
N°5	N°6			40	2.10	4.44	3	38	3	41582	953798
	N°8			36	3.00	6.35	4	42	3	39811	953799
N°8	N°10	N°12		32	3.00	6.35	4	42	3	41583	65997
		5/16"	7/16"	32	5.90	14.28	6	57	3	39813	953806
		N°12	5/16"	28	3.60	8.16	4	42	3	41584	64133
		7/16"	9/16"	28	7.90	19.95	8	63	4	39815	953812
N°12	5/16"			24	4.00	8.46	6	57	3	41585	953802
	1/2"	3/4 "	9/16"	20	9.90	22.86	10	72	4	41475	953819
5/16"				18	5.00	12.70	6	57	3	41587	953803
	9/16"			18	9.90	23.98	10	72	4	41476	
3/8"			7/16"	16	5.90	14.28	6	57	3	42600	953804
			5/8"	16	11.90	28.57	12	83	4	42601	63605
1/2"				13	7.90	19.53	8	63	4	39824	953807
3/4"				10	11.90	27.94	12	83	4	39828	953820

DIXI 7920 E = External

D nom.	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
UNC N°6	32	5.90	14.28	6	57	3	39850	953805
UNF N°12	28	7.90	19.95	8	63	4	39851	953810
UNC 1/4"	20	9.90	22.86	10	72	4	39852	953818
UNC 5/16"	18	9.90	23.98	10	72	4	39853	953816



HELICAL THREAD MILLS

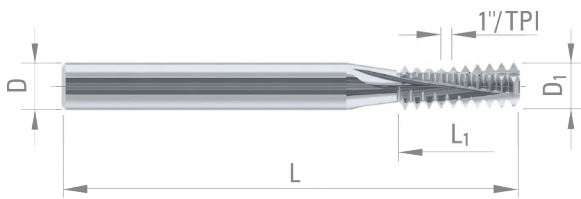
Z = 3-5



P. 320



P. 330

UN
60°

Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

UNC	UNF	UNEF	UN	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
	N°2			64	1.50	3.17	3	38	3	951595	952964
N°2	N°3			56	1.50	3.17	3	38	3	67489	952963
		N°5		44	2.10	4.62	3	38	3	951482	952966
N°5	N°6			40	2.10	4.44	3	38	3	67491	952965
N°8	N°10	N°12		32	3.00	6.35	4	42	3	67493	952967
		5/16"	7/16"	32	5.90	14.28	6	57	5	67497	952975
	N°12		5/16"	28	3.60	8.16	4	42	3	67494	952969
		7/16"	9/16"	28	7.90	19.95	8	63	5	67498	952979
N°12	5/16"	5/8"		24	4.00	8.46	6	57	3	67495	952971
1/4"			5/16"	20	4.00	10.16	6	57	3	67496	952970
	1/2"	3/4"	9/16"	20	9.90	22.86	10	72	5	67499	952985
5/16"				18	5.00	12.70	6	57	3	67500	952972
	9/16"			18	9.90	23.98	10	72	5	67501	952983
3/8"			7/16"	16	5.90	14.28	6	57	5	67502	952973
			5/8"	16	11.90	28.57	12	83	5	67503	952990
7/16"				14	7.90	16.33	8	63	5	67504	952977
1/2"				13	7.90	19.53	8	63	5	67505	952976
9/16"				12	9.90	23.28	10	72	5	67512	952981
	1"		1-1/16"	12	11.90	29.63	12	83	5	67506	952988
5/8"				11	9.90	23.09	10	72	5	951597	952980
3/4"				10	11.90	27.94	12	83	5	951667	952986

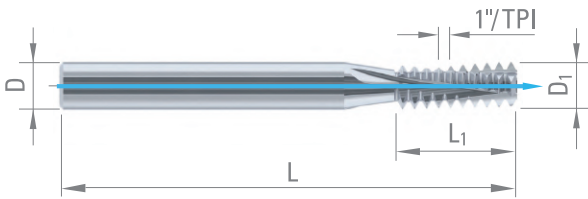
DIXI 7918 E = External

D nom.	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE	TiAIN
UNC N°6	32	5.90	14.28	6	57	5	67507	952974
UNF N°12	28	7.90	19.95	8	63	5	67508	952978
UNC 1/4"	20	9.90	22.86	10	72	5	67509	952984
UNC 5/16"	18	9.90	23.98	10	72	5	67510	952982
UNC 3/8"	16	11.90	28.57	12	83	5	67511	952989

DIXI 7923-TC

HELICAL THREAD MILLS WITH THROUGH COOLANT

$$L_1 = 2 \times \emptyset \text{ nom.}$$



Z = 3-4



P. 321



P. 330



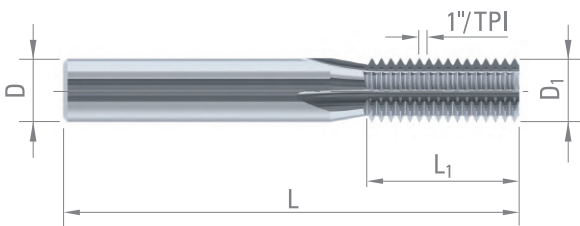
Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

UNJF	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE
N°10	32	3.90	11.50	6	54	3	303381
1/4"	28	5.20	14.00	6	54	3	303382
5/16"	24	5.95	17.40	6	54	3	303383
3/8"	24	7.95	20.60	8	64	4	303384
7/16"	20	7.95	24.70	8	64	4	303385
1/2"	20	9.95	27.30	10	74	4	303386

DIXI 7940

STRAIGHT FLUTE THREAD MILLS

Z = 3-4



P. 321



P. 328



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

BSP	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE
G1/16" – G1/8"	28	5.90	14.51	6	57	3	42603
G1/4" – G3/8"	19	7.90	18.71	8	63	4	42604
G1/2" – G5/8" – G3/4" – G7/8"	14	11.90	29.02	12	83	4	42605
G1"	11	15.90	34.63	16	92	4	42606

For internal and external threading



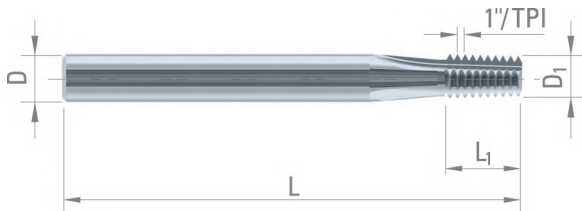
DIXI 7946

STRAIGHT FLUTE THREAD MILLS

Z = 3-4



P. 328



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

BSPT	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE
R1/4" – R3/8"	19	7.07	14.70	8	63	4	42608
R1" => R2-1/2"	11	14.32	27.70	16	92	4	42610

For internal and external threading

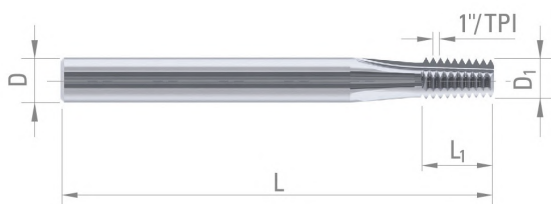
DIXI 7950

STRAIGHT FLUTE THREAD MILLS

Z = 3-4



P. 328



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

NPT	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE
1/4" – 3/8"	18	7.10	14.11	8	63	4	41592
1/2" – 3/4"	14	10.65	19.95	12	83	4	42611
1" – 1-1/4" – 1-1/2" – 2"	11.5	14.38	26.50	16	92	4	39792

For internal and external threading

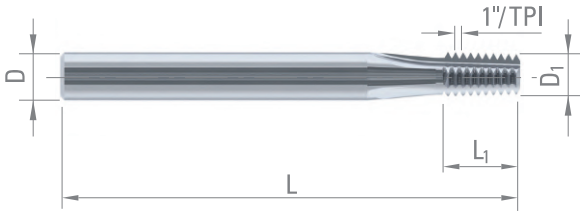
DIXI 7956

STRAIGHT FLUTE THREAD MILLS

Z = 3-4



P. 328



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

NPTF	TPI	D ₁	L ₁	D _{h5}	L	Z	CARBIDE
1/4" – 3/8"	18	7.10	14.11	8	63	4	39795
1/2" – 3/4"	14	10.65	19.95	12	83	4	39796
1" – 1-1/4" – 1-1/2" – 2"	11.5	14.38	26.50	16	92	4	41591

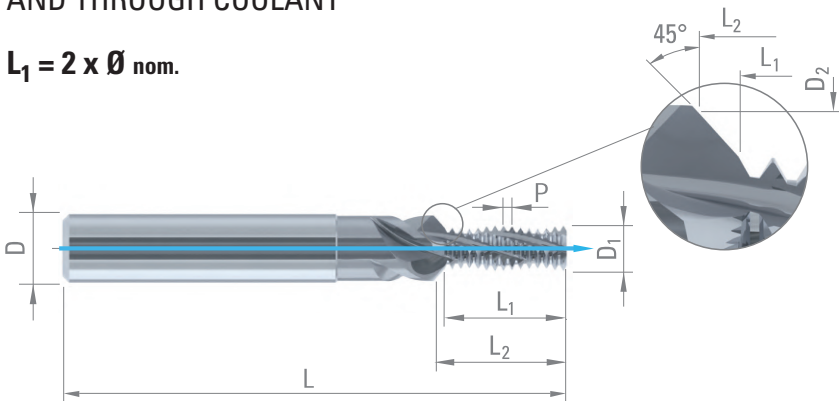
For internal and external threads

DIXI 7915-TC

THREAD MILLS WITH COUNTERSINK AND THROUGH COOLANT

Z = 3-4

$L_1 = 2 \times \varnothing \text{ nom.}$



P. 320



P. 330



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

D nom.	Pitch P	D ₁	D ₂	L ₁	L ₂	D _{h5}	L	Z	CARBIDE	CUTINOX
M 4.0	0.70	3.10	4.2	8.70	9.3	6	48	3	303387	303394
M 5.0	0.80	3.90	5.3	10.70	11.5	6	54	3	303388	303395
M 6.0	1.00	4.70	6.3	13.40	14.3	8	62	3	303389	303396
M 8.0	1.25	6.40	8.4	18.10	19.1	10	74	3	303390	303397
M 10.0	1.50	8.10	10.5	21.70	22.9	12	80	4	303391	303398
M 12.0	1.75	9.95	12.6	25.30	26.7	14	90	4	303392	303399
M 16.0	2.00	13.40	16.8	34.90	36.6	18	102	4	303393	303400

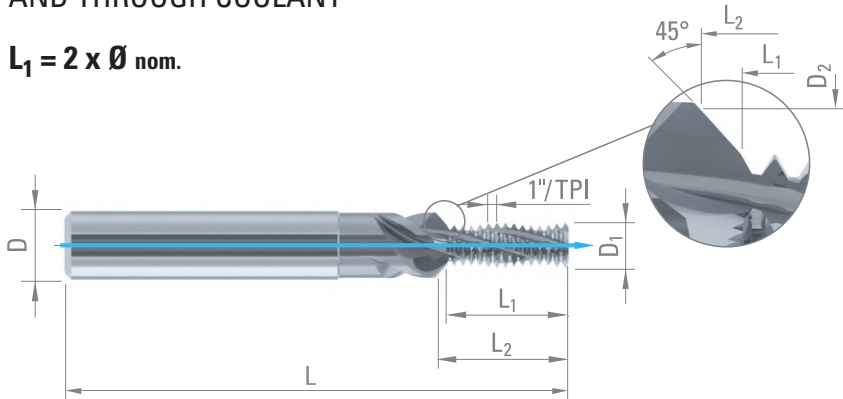


DIXI 7925-TC

THREAD MILLS WITH COUNTERSINK AND THROUGH COOLANT

$$L_1 = 2 \times \emptyset \text{ nom.}$$

Z = 3-4



P. 320



P. 330



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Al	Plastic

UNC	TPI	D ₁	D ₂	L ₁	L ₂	D _{h5}	L	Z	CARBIDE	CUTINOX
N°8	32	3.10	4.4	9.10	9.7	6	48	3	303401	303411
N°10	24	3.60	5.1	11.00	11.9	6	54	3	303402	303412
N°12	24	4.10	5.8	12.10	13.0	6	54	3	303403	303413
1/4"	20	4.80	6.7	14.50	15.6	8	62	3	303404	303414
5/16"	18	5.95	8.3	17.60	18.7	10	74	3	303405	303415
3/8"	16	7.50	10.0	21.40	22.6	12	80	4	303406	303416
7/16"	14	8.80	11.7	24.40	25.9	12	80	4	303407	303417
1/2"	13	10.30	13.3	28.20	29.8	14	90	4	303408	303418
9/16"	12	10.80	15.0	30.60	32.3	16	102	4	303409	303419
5/8"	11	11.90	16.7	35.70	37.6	18	102	4	303410	303420



1



2



3



4



5



6

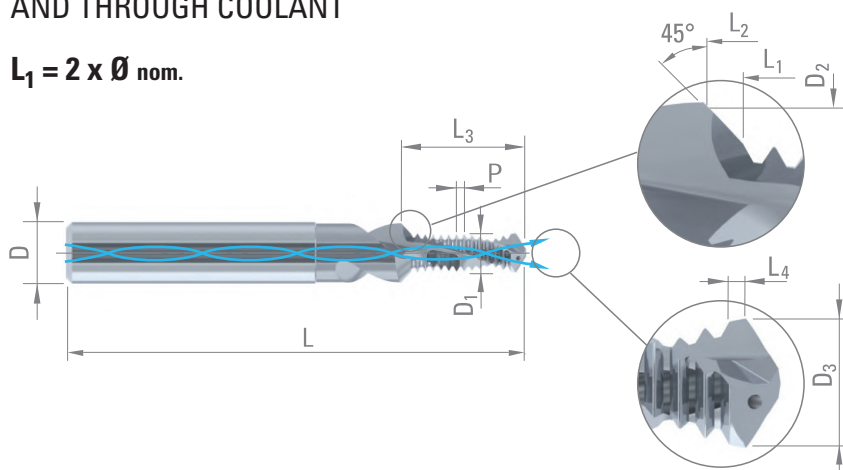


DIXI 7985-HH

DRILLING THREAD MILLS WITH COUNTERSINK
AND THROUGH COOLANT

$$L_1 = 2 \times \varnothing \text{ nom.}$$

Z = 2



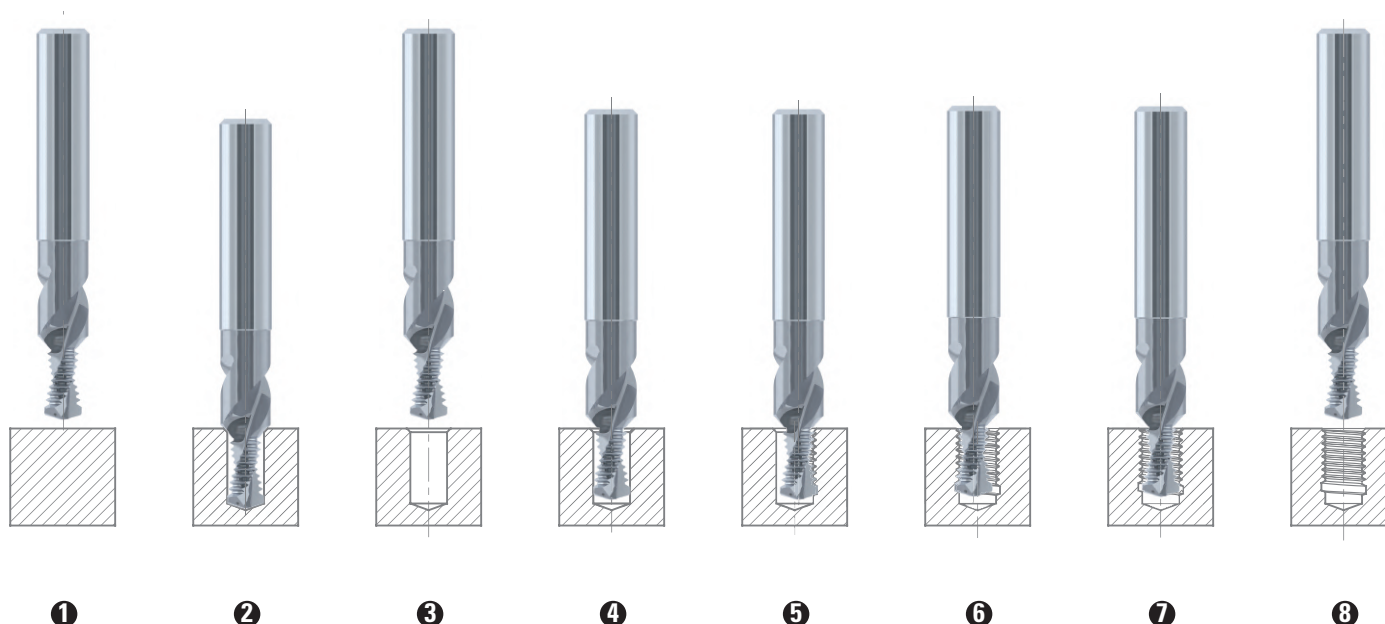
Cast iron

Cu alloy
Silver
Gold

Cu alloy
difficult
to machine

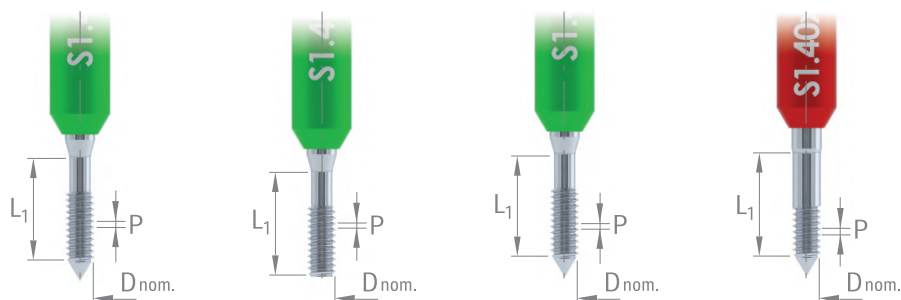
Al

D nom.	Pitch P	D ₁	D ₂	D ₃	L ₁	L ₂	L ₃	L ₄	D _{h5}	L	CARBIDE CUTINOX	
M 4.0	0.70	3.20	4.2	3.30	8.90	8.9	9.5	0.7	6	48	303421	303428
M 5.0	0.80	4.00	5.3	4.20	11.10	11.0	11.8	0.8	6	54	303422	303429
M 6.0	1.00	4.75	6.3	5.00	13.85	13.7	14.6	1.0	8	62	303423	303430
M 8.0	1.25	6.35	8.4	6.75	18.60	18.4	19.6	1.3	10	74	303424	303431
M 10.0	1.50	7.95	10.5	8.50	22.40	22.2	23.7	1.5	12	80	303425	303432
M 12.0	1.75	9.95	12.6	10.25	26.00	25.5	27.4	1.5	14	90	303426	303433
M 16.0	2.00	13.20	16.8	14.00	35.90	35.1	37.6	1.5	18	102	303427	303434



DIXI 1718-NT, -RT - DIXI 1719-NT/RT

THREAD GAUGES
"GO" - "NO GO"
RIGHT HAND THREADS



D nom.	Pitch P	L ₁	1718-NT 4H GO	1718-NT (blind hole) 4H GO	1718-RT 3G GO	1719-NT/RT 3G/4H NO GO
S 0.30	0.08	1.0	965295	978958	983114	965312
S 0.35	0.09	1.3	965296	978959	983468	965313
S 0.40	0.10	2.0	965297	978960	983115	965314
S 0.50	0.125	2.5	965298	978961	983116	965315
S 0.60	0.15	3.0	965299	978962	983117	965316
S 0.70	0.175	3.0	965300	978963	983236	965317
S 0.80	0.20	3.5	965301	978964	983118	965318
S 0.90	0.225	4.0	965302	978965	983119	965319
S 1.00	0.25	4.0	965303	978966	983120	965320
S 1.20	0.25	5.0	965304	978967	983121	965321
S 1.40	0.30	5.0	965305	978968	983122	965322

Each thread plug gauge is delivered with its pitch diameter measurement

DIXI 1718-NT L - DIXI 1719-NT/RT L

THREAD GAUGES
"GO" - "NO GO"
LEFT HAND THREADS

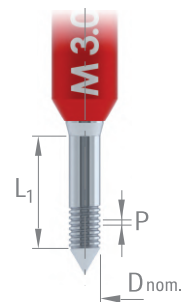
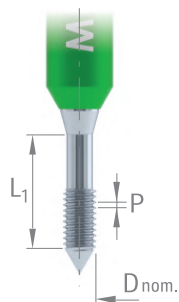


D nom.	Pitch P	L ₁	1718-NT L 4H GO	1719-NT/RT L 3G/4H NO GO
S 0.50	0.125	2.5	968369	968370
S 0.60	0.15	3.0	968345	968346
S 0.70	0.175	3.0	968344	968347
S 0.80	0.20	3.5	968343	968348
S 0.90	0.225	4.0	968925	968926
S 1.00	0.25	4.0	969395	969396
S 1.20	0.25	5.0	982638	982639

Each thread plug gauge is delivered with its pitch diameter measurement

DIXI 1718-M - DIXI 1719-M

THREAD GAUGES
"GO" - "NO GO"



D nom.	Pitch P	L ₁	Tol.	1718-M GO	1719-M NO GO
M 1.00	0.25	5.0	5H	976633	976635
M 1.20	0.20	5.0	4H	305894	305900
M 1.20	0.25	5.0	5H	976634	976636
M 1.40	0.20	5.0	4H	305895	305901
M 1.40	0.30	6.0	5H	976693	976710
M 1.50	0.30	6.0	6H	976694	976711
M 1.60	0.20	5.0	4H	976695	305902
M 1.60	0.35	6.0	6H	975716	975717
M 1.80	0.20	5.0	4H	305897	305903
M 1.80	0.35	6.0	6H	976024	976026
M 2.00	0.20	5.0	4H	305898	305904
M 2.00	0.40	6.0	6H	976699	976716
M 2.20	0.20	5.0	4H	305899	305905
M 2.20	0.25	5.0	5H	976701	976718
M 2.20	0.45	8.0	6H	976702	976719
M 2.50	0.35	6.0	6H	303652	303653
M 2.50	0.45	8.0	6H	976704	976721
M 3.00	0.50	8.0	6H	976705	976722

Each thread plug gauge is delivered with its pitch diameter measurement



DIXI 0418 - DIXI 0419

"GO" - "NO GO" PLAIN GAUGES
FOR NIHS THREAD MINOR DIAMETER



P. 317



D nom.	Pitch	L ₁	0418 5H/6H GO (Brass / Steel)	0419 5H NO GO (Brass)	0419 6H NO GO (Steel)
S 0.30	0.08	2.0	308301	308307	-
S 0.35	0.09	2.0	308300	308306	-
S 0.40	0.10	3.5	308299	308305	308310
S 0.50	0.125	3.5	308298	308304	308309
S 0.60	0.15	3.5	308297	308302	308308
S 0.70	0.175	5.0	306719	306818	306824
S 0.80	0.20	5.0	306813	306819	306825
S 0.90	0.225	5.0	306814	306820	306826
S 1.00	0.25	5.0	306815	306821	306827
S 1.20	0.25	5.0	306816	306822	306828
S 1.40	0.30	5.0	306817	306823	306829



DIXI 1718 - SET

SET OF NIHS THREAD GAUGES



P. 317



Content	Art.
DIXI 1718-NT GO (S0.30-S1.40)	305989
DIXI 1719-NT/RT NO GO (S0.30-S1.40)	

Content	Art.
DIXI 1718-RT GO (S0.30-S1.40)	305990
DIXI 1719-NT/RT NO GO (S0.30-S1.40)	

Content	Art.
DIXI 1718-NT GO (S0.30-S1.40)	305991
DIXI 1718-RT GO (S0.30-S1.40)	
DIXI 1719-NT/RT NO GO (S0.30-S1.40)	

Empty box (NIHS NT)	307437
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Empty box (NIHS RT)	307438
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Empty box (NIHS NT & RT)	307439
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SET OF THREAD AND PLAIN GAUGES FOR THE FULL CHECKING OF NIHS THREADS



Content	Art.
DIXI 1718-NT GO (S0.30-S1.40)	308313
DIXI 1718-RT GO (S0.30-S1.40)	
DIXI 1719-NT/RT NO GO (S0.30-S1.40)	
DIXI 0418-H5/H6 GO (brass / steel) (S0.30-S1.40)	
DIXI 0419-H5 NO GO (brass) (S0.30-S1.40)	
DIXI 0419-H6 NO GO (steel) (S0.40-S1.40)	



Empty box	312619
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Figure 1
DIXI 1718



Figure 2
DIXI 1719



Figure 3
DIXI 0418



Figure 4
DIXI 0419

Gauging internal threads must be done with both thread and plain gauges. Each of these gauges has its own function, way of use and result analysis.

Figure 1: GO thread gauge (DIXI 1718)

A **GO** thread gauge checks the minimum limit of the pitch diameter, taking into account pitch errors, errors in flank angles and deviations of form, which produce an apparent reduction of the pitch diameter of the workpiece.

In addition, it checks the minimum limit of the major diameter and also whether the length of straight flank is sufficient; i.e. that the rounding at the root of the profile does not encroach too far upon the flank of the thread.

The **GO** thread gauge, when screwed by hand without using excessive force, shall enter the whole length of the workpiece thread. If entry is not possible, the workpiece thread does not comply with the specification.

Wear of the **GO** thread gauge shall be monitored by re-measurement of the gauge at intervals of time according to the intensity of use.

Note: This gauge does not check the min or diameter of the workpiece thread.

Figure 2: NO GO thread gauge (DIXI 1719)

A **NO GO** thread gauge checks whether the actual pitch diameter exceeds the specified maximum size.

The **NO GO** thread gauge, when screwed by hand without using excessive force, may enter into both ends of the threaded part, but by not more than two turns of thread. If it can be screwed in by more than two turns of thread, the workpiece thread does not comply with the specification.

The **NO GO** thread gauge shall not pass completely through a workpiece with a length of thread of three threads or less.

It is recommended that the **NO GO** screw plug gauge be checked regularly for wear.

Note: This gauge does not check the minor diameter of the workpiece thread.

Figure 3: GO plain gauge (DIXI 0418)

A **GO** plain gauge checks the minimum limit of the minor diameter of the workpiece thread.

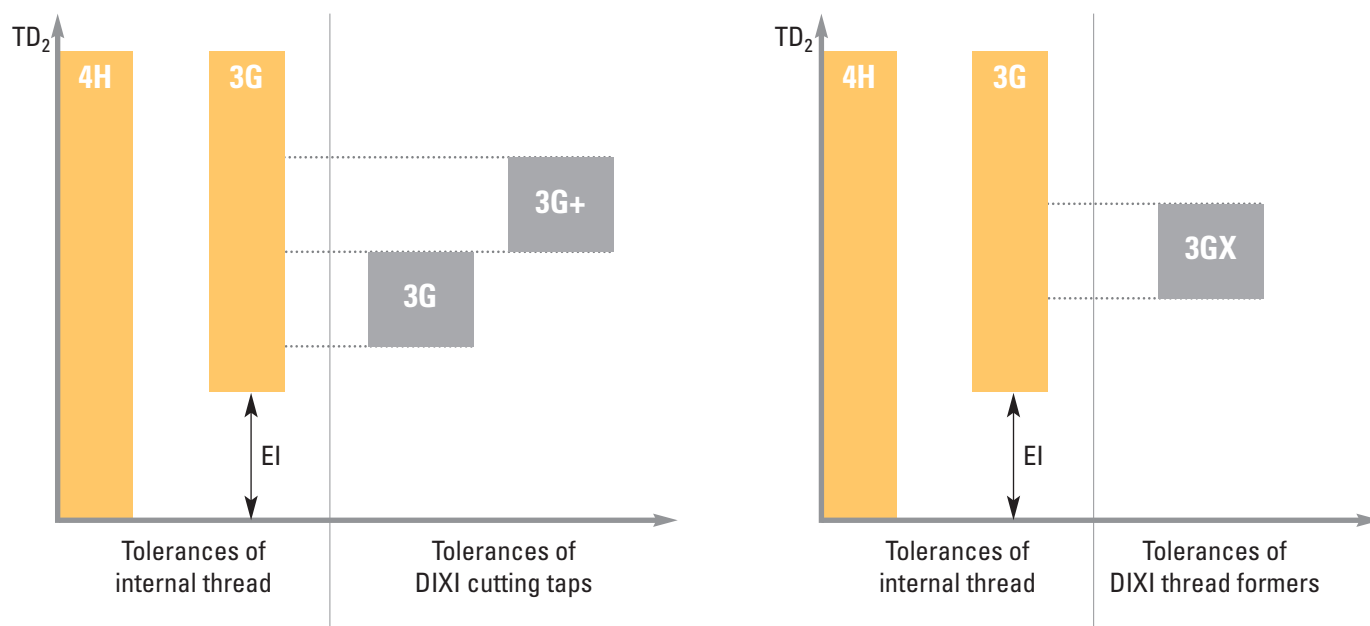
The **GO** plain gauge, when introduced by hand without using excessive force, shall pass through the workpiece thread.

Figure 4: NO GO plain gauge (DIXI 0419)

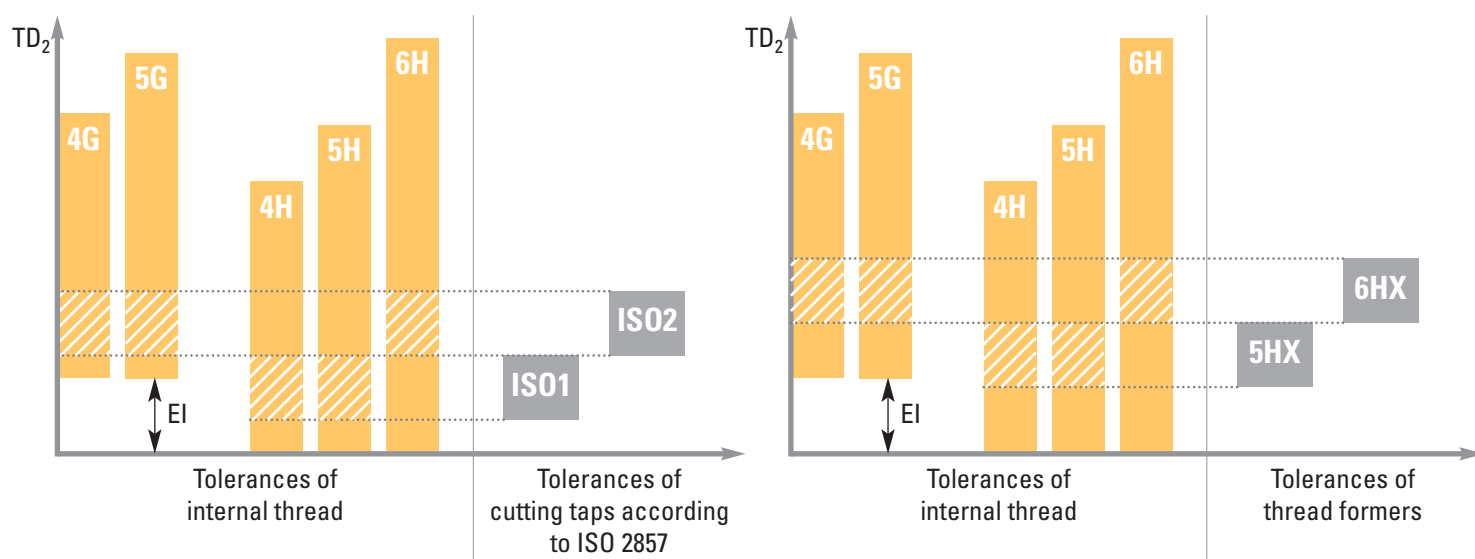
A **NO GO** plain gauge checks whether the actual minor diameter exceeds the specified maximum size.

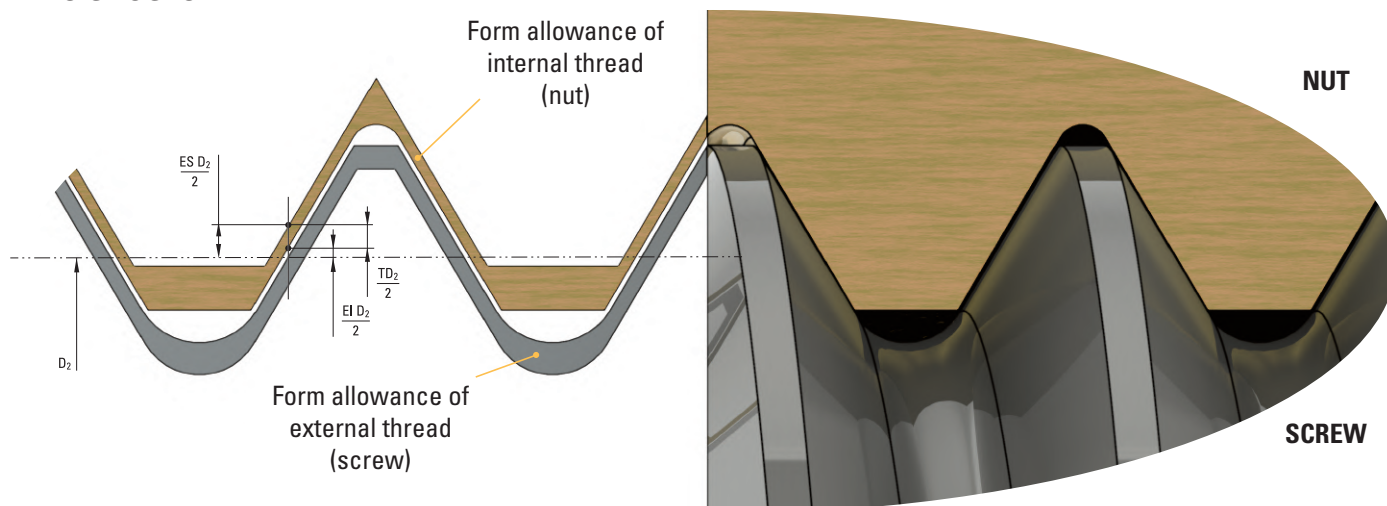
The **NO GO** plain gauge may enter into both ends of the workpiece thread but only in a zone which has a distance of not more than one pitch length from the start of the thread.

TOLERANCE ZONES OF PITCH DIAMETERS ON "S" MINIATURE THREADS (ISO 1501 / NIHS 06-10 / DIN 14)

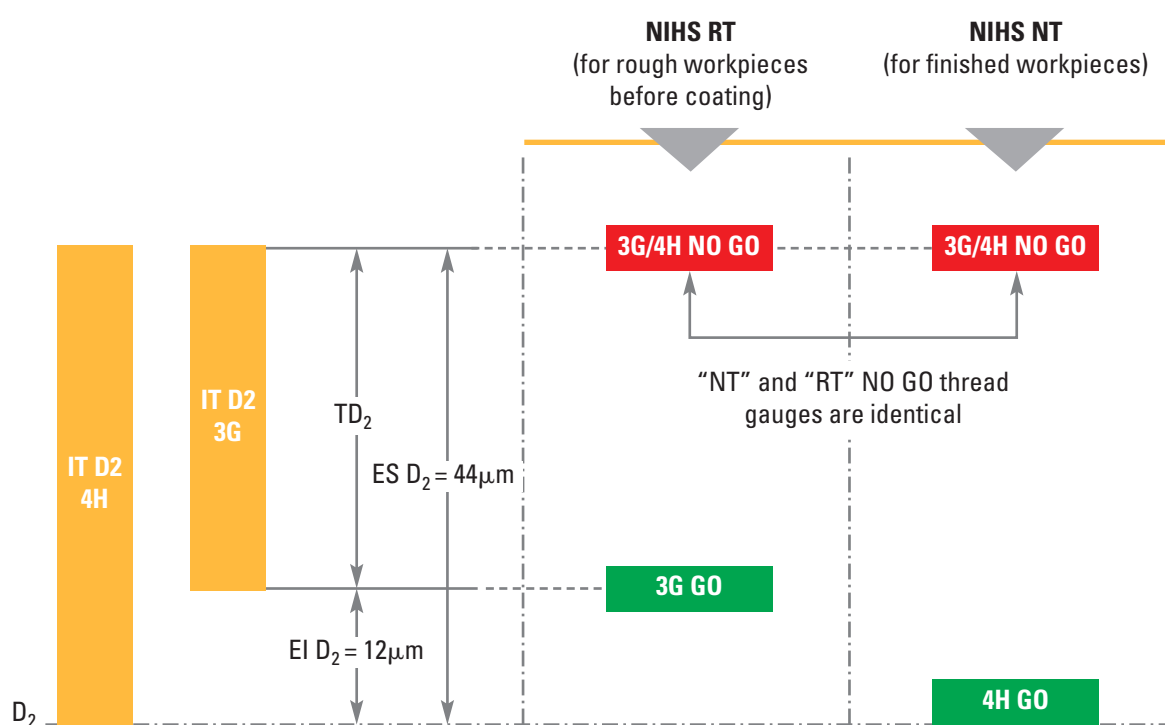


TOLERANCE ZONES OF PITCH DIAMETERS ON METRIC INTERNAL THREADS (ISO 965 / NIHS 06-06 / DIN 13)





D_2	Pitch diameter
$EI D_2$ deviation	Lower deviation of pitch diameter D_2 .
$ES D_2$ deviation	Upper deviation of pitch diameter D_2 .
TD_2 allowance	Pitch diameter (D_2) allowance. $TD_2 = ES D_2 - EI D_2$.
NIHS NT allowance criteria	NT is abbreviation of "Normal Tolerance". This criteria is used to control NIHS threads on finished workpieces (with or without coating). NIHS NT GO gauges are aimed to check NIHS 06-10 threads with 4H tolerance.
NIHS RT allowance criteria	RT is abbreviation of "Reduced Tolerance". This criteria is used to control NIHS threads on rough workpieces in production (before coating). NIHS RT GO gauges are aimed to check NIHS 06-10 threads with 4H tolerance.
NO GO thread gauge	NO GO thread gauges are identical (NT or RT allowance criteria). They are used to check rough workpieces (production stage) or finished workpieces (with or without coating). NIHS NT/RT NO GO gauges are aimed to check NIHS 06-10 threads with 3G or 4H tolerances.



GO and NO GO thread gauges tolerances - Example for a 0.25 mm pitch

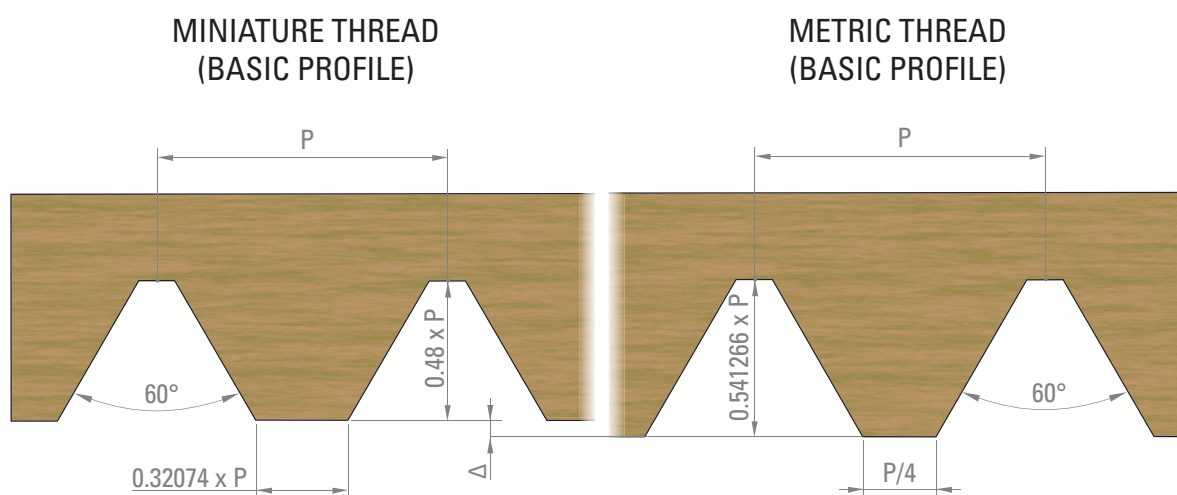
TECHNICAL ADVANTAGES OF CARBIDE GAUGES



All the gauges produced by DIXI Polytool are made of carbide.

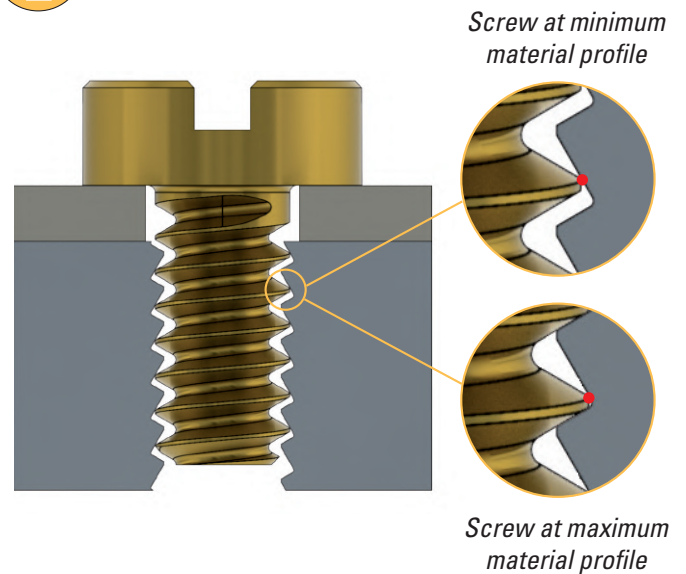
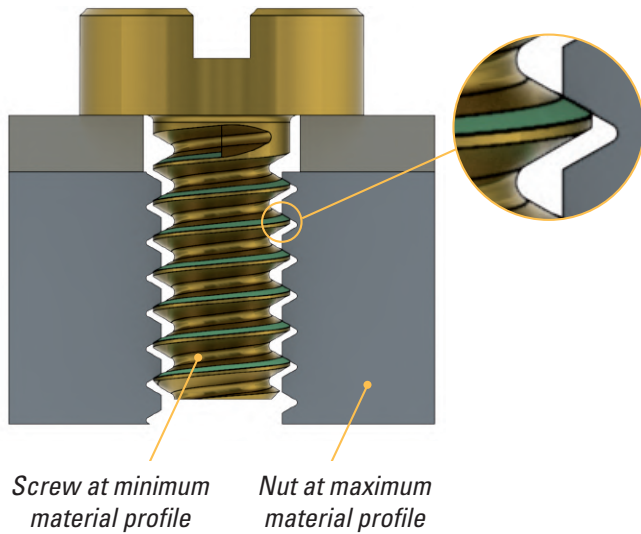
	STEEL	CARBIDE	
Wear resistance	☹️	😊	A steel gauge gets worn quicker and thus can be wrong.
Shape accuracy	☹️	😊	Grinding process allows higher levels of precision.
Dimensional stability	☹️	😊	Insignificant influence of ambient temperature on carbide.
Oxydation resistance	☹️	😊	A carbide gauge doesn't get rusted.
Yield strength	☹️	😊	A carbide gauge doesn't bend, steel gauges can. Deformation generates wrong gauges.

COMPARISON BETWEEN "S" AND "M" THREADS



	Miniature thread				Metric thread ISO
Standard	ISO 1501	NIHS 06-10 (Switzerland)	ASM B1.10M (USA)	DIN 14 (Germany)	ISO 965
Thread symbol	"S"		"UNM"	"M"	"M"
Designation example	S 0.60 x 0.15		UNM 0.60 x 0.15	M 0.60 x 0.15	M 6.00 x 1.00
Nominal Ø range	0.30mm to 1.40mm			0.30mm to 0.90mm	1.00mm to 355mm
Pitch range	0.08mm to 0.30mm			0.08mm to 0.225mm	0.20mm to 8.00mm

AF THREAD - TECHNICAL ADVANTAGES



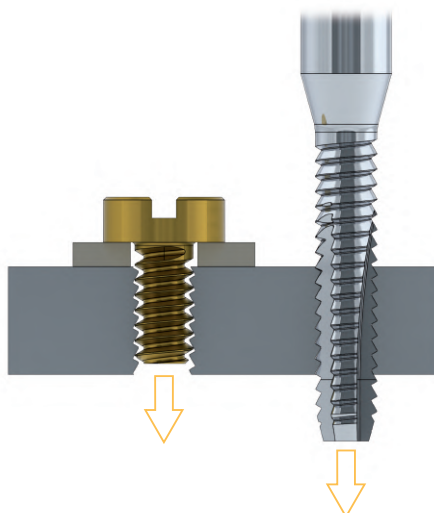
On a S1.00x0.25 assembly, there can be up to 0.05mm free space between the screw crest diameter and the nut root diameter. That clearance allows a freedom of movement that could cause vibration loosening. This phenomenon is accentuated by the narrow theoretical contact surface between the flanks of both screw and nut. In some cases, adhesives can be used to avoid vibration loosening. This solution is inappropriate for assemblies on which visual aspects are key (watch industry).

Whatever the screw size (minimum or maximum material profile), the contact line is guaranteed to be the same. Thus the manufacturing tolerances do not influence the assembly quality.

Thanks to AF thread profile, no need to use adhesive anymore.

PROFILE DIRECTION - MACHINING DIRECTION

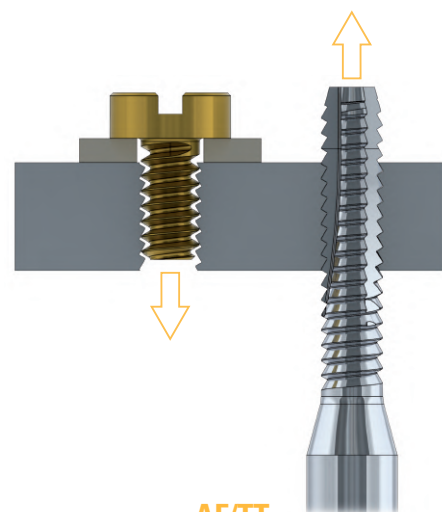
Unlike 60° thread, AF thread is made of an asymmetric profile. Depending on the tool machining direction, the cutting profile is reversed.



AF/BT

The tool and the screw have the same screwing direction.

Tools from stock



AF/TT

The tool and the screw have opposite screwing direction.

Tools on request



DRILLING Ø BEFORE TAPPING OR INTERNAL WHIRLING OPERATION

NIHS 06-10 (ISO 1501 / DIN 14)

Nominal Ø	Pitch	Brass (3G5)			Steel (3G6)		
		Minor Ø min.	Drilling Ø max.		Internal Ø min.	Drilling Ø max.	
S 0.30	0.08	0.223	0.240	0.23	-	-	-
S 0.35	0.09	0.264	0.286	0.275	-	-	-
S 0.40	0.10	0.304	0.330	0.32	0.304	0.342	0.34
S 0.45	0.10	0.354	0.380	0.37	0.354	0.392	0.39
S 0.50	0.125	0.380	0.415	0.40	0.380	0.435	0.42
S 0.55	0.125	0.430	0.465	0.45	0.430	0.485	0.47
S 0.60	0.15	0.456	0.502	0.48	0.456	0.522	0.50
S 0.70	0.175	0.532	0.585	0.56	0.532	0.605	0.58
S 0.80	0.20	0.608	0.665	0.64	0.608	0.685	0.66
S 0.90	0.225	0.684	0.745	0.72	0.684	0.765	0.74
S 1.00	0.25	0.760	0.825	0.80	0.760	0.845	0.82
S 1.10	0.25	0.860	0.925	0.90	0.860	0.945	0.92
S 1.20	0.25	0.960	1.025	1.00	0.960	1.045	1.02
S 1.30	0.30	1.012	1.085	1.05	1.012	1.105	1.07
S 1.40	0.30	1.112	1.185	1.15	1.112	1.205	1.17

ISO 965 (DIN 13)

Nominal Ø	Pitch	Tolerance	Minor Ø		Drilling 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
M 22.0	2.50	6H	19.294	19.744	19.50
M 24.0	3.00	6H	20.752	21.252	21.00
M 27.0	3.00	6H	23.752	24.252	24.00

UNC (ANSI B1.1 / ISO 5854)

Nominal Ø	Pitch	Tolerance	Minor Ø		Drilling Ø
			min.	max.	
N°1	64	2B	1.425	1.582	1.50
N°2	56	2B	1.695	1.871	1.80
N°3	48	2B	1.941	2.146	2.00
N°4	40	2B	2.157	2.385	2.25
N°5	40	2B	2.487	2.697	2.60
N°6	32	2B	2.645	2.895	2.75
N°8	32	2B	3.302	3.530	3.50
N°10	24	2B	3.683	3.962	3.80
N°12	24	2B	4.344	4.597	4.50
1/4"	20	2B	4.979	5.257	5.10
5/16"	18	2B	6.401	6.731	6.50
3/8"	16	2B	7.798	8.153	7.90
7/16"	14	2B	9.144	9.550	9.30
1/2"	13	2B	10.592	11.023	10.70
9/16"	12	2B	11.989	12.446	12.30
5/8"	11	2B	13.386	13.868	13.50
3/4"	10	2B	16.307	16.840	16.50

UNF (ANSI B1.1 / ISO 5854)

Nominal Ø	Pitch	Tolerance	Minor Ø		Drilling Ø
			min.	max.	
N°1	72	2B	1.474	1.612	1.50
N°2	64	2B	1.756	1.912	1.80
N°3	56	2B	2.025	2.197	2.10
N°4	48	2B	2.271	2.458	2.35
N°5	44	2B	2.551	2.740	2.60
N°6	40	2B	2.820	3.022	2.90
N°8	36	2B	3.404	3.606	3.50
N°10	32	2B	3.963	4.165	4.05
N°12	28	2B	4.496	4.724	4.60
1/4"	28	2B	5.360	5.588	5.50
5/16"	24	2B	6.782	7.035	6.90
3/8"	24	2B	8.382	8.636	8.50
7/16"	20	2B	9.729	10.033	9.80
1/2"	20	2B	11.329	11.607	11.40
9/16"	18	2B	12.751	13.081	12.90
5/8"	18	2B	14.351	14.681	14.50
3/4"	16	2B	17.323	17.678	17.50
7/8"	14	2B	20.270	20.675	20.40

UN (ANSI B1.1 / ISO 5854)

Nominal Ø	Pitch	Tolerance	Minor Ø		Drilling Ø
			min.	max.	
5/16"	28	2B	6.955	7.169	7.10
5/16"	20	2B	6.563	6.855	6.70
3/8"	28	2B	8.543	8.756	8.60
3/8"	20	2B	8.150	8.442	8.30
7/16"	32	2B	10.253	10.441	10.30
7/16"	16	2B	9.394	9.752	9.60
1/2"	32	2B	11.841	12.029	11.90
1/2"	16	2B	10.981	11.340	11.20
9/16"	32	2B	13.428	13.616	13.50
9/16"	28	2B	13.305	13.519	13.40
9/16"	20	2B	12.913	13.205	13.10
9/16"	16	2B	12.569	12.927	12.70
5/8"	32	2B	15.016	15.204	15.10
5/8"	28	2B	14.893	15.106	15.00
5/8"	20	2B	14.500	14.792	14.60
5/8"	16	2B	14.156	14.515	14.30
5/8"	12	2B	13.584	14.043	13.80
11/16"	32	2B	16.603	16.791	16.70
11/16"	28	2B	16.480	16.694	16.60
11/16"	20	2B	16.088	16.380	16.20
11/16"	16	2B	15.744	16.102	15.90
11/16"	12	2B	15.171	15.631	15.40
3/4"	32	2B	18.191	18.379	18.30
3/4"	28	2B	18.068	18.281	18.20
3/4"	12	2B	16.759	17.218	17.00
13/16"	32	2B	19.778	19.966	19.90
13/16"	28	2B	19.655	19.869	19.80
13/16"	16	2B	18.919	19.277	19.10
13/16"	12	2B	18.346	18.806	18.60
7/8"	32	2B	21.366	21.554	21.50
7/8"	28	2B	21.243	21.456	21.30
7/8"	16	2B	20.506	20.865	20.70
7/8"	12	2B	19.934	20.393	20.20
15/16"	32	2B	22.953	23.141	23.00
15/16"	28	2B	22.830	23.044	22.90
15/16"	16	2B	22.094	22.452	22.30
15/16"	12	2B	21.521	21.981	21.80
1"	32	2B	24.541	24.729	24.60
1"	28	2B	24.418	24.631	24.50
1"	16	2B	23.681	24.040	23.90
1 1/16"	28	2B	26.005	26.219	26.10
1 1/16"	20	2B	25.613	25.905	25.80
1 1/16"	18	2B	25.460	25.783	25.60
1 1/16"	16	2B	25.269	25.627	25.40
1 1/16"	12	2B	24.696	25.156	24.90





DRILLING Ø BEFORE TAPPING OR INTERNAL WHIRLING OPERATION

UNEF (ANSI B1.1 / ISO 5854)

Nominal Ø	Pitch	Tolerance	Minor Ø min.	max.	Drilling Ø
N°12	32	2B	4.623	4.826	4.70
1/4"	32	2B	5.487	5.689	5.60
5/16"	32	2B	7.087	7.264	7.20
3/8"	32	2B	8.662	8.864	8.75
7/16"	28	2B	10.135	10.337	10.25
1/2"	28	2B	11.710	11.938	11.85
9/16"	24	2B	13.132	13.385	13.20
5/8"	24	2B	14.732	14.986	14.80
11/16"	24	2B	16.307	16.560	16.40
3/4"	20	2B	17.679	17.957	17.80

UNJF (ISO 3161)

Nominal Ø	Pitch	Tolerance	Minor Ø min.	max.	Drilling Ø
N°10	32	3B	4.054	4.255	4.10
1/4"	28	3B	5.466	5.662	5.55
5/16"	24	3B	6.906	7.109	7.00
3/8"	24	3B	8.494	8.679	8.60
7/16"	20	3B	9.876	10.084	10.00
1/2"	20	3B	11.463	11.661	11.55

BSP (ISO 228)

Nominal Ø	Pitch	Minor Ø min.	max.	Drilling Ø
G 1/16"	28	6.561	6.843	6.75
G 1/8"	28	8.566	8.848	8.75
G 1/4"	19	11.445	11.890	11.60
G 3/8"	19	14.950	15.395	15.20
G 1/2"	14	18.631	19.172	18.90
G 5/8"	14	20.587	21.128	20.90
G 3/4"	14	24.117	24.658	24.40
G 7/8"	14	27.877	28.418	28.20
hG 1"	11	30.291	30.931	30.70

COMBINATION OF NOMINAL DIAMETERS AND PITCHES ACCORDING ANSI B1.1 / ISO 5854 NORM

Ø nom.		80	72	64	56	48	44	40	36	32	28	24	20	18	16	14	13	12	11	10	TPI
inch	mm	0.318	0.353	0.397	0.454	0.529	0.577	0.635	0.706	0.794	0.907	1.058	1.270	1.411	1.588	1.814	1.954	2.117	2.309	2.54	mm
N°0	1.524	UNF																			
N°1	1.854		UNF	UNC																	
N°2	2.184			UNF	UNC																
N°3	2.515				UNF	UNC															
N°4	2.845					UNF		UNC													
N°5	3.175						UNF	UNC													
N°6	3.505							UNF		UNC											
N°8	4.166								UNF	UNC											
N°10	4.826									UNF		UNC									
N°12	5.486									UNEF	UNF	UNC									
1/4"	6.350									UNEF	UNF		UNC								
5/16"	7.938									UNEF	UN	UNF	UN	UNC							
3/8"	9.525									UNEF	UN	UNF	UN		UNC						
7/16"	11.113									UN	UNEF	UNF			UN	UNC					
1/2"	12.700									UN	UNEF		UNF		UN		UNC				
9/16"	14.288									UN	UN	UNEF	UN	UNF	UN			UNC			
5/8"	15.875									UN	UN	UNEF	UN	UNF				UN	UNC		
11/16"	17.463									UN	UN	UNEF	UN		UN			UN			
3/4"	19.050									UN	UN		UNEF		UNF			UN		UNC	
13/16"	20.638									UN	UN		UNEF		UN			UN			
7/8"	22.225									UN	UN		UNEF		UN	UNF		UN			
15/16"	23.813									UN	UN		UNEF		UN			UN			
1"	25.400									UN	UN		UNEF		UN			UNF			
1-1/16"	26.988										UN		UN	UN	UN			UN			



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/mm ²	65	80	90	130		
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	100		
P	High alloyed steel	700 – 1500 N/mm ²			75	105	80	110
M	Stainless steel	400 – 700 N/mm ²	35	50	70	100		
M	DUPLEX stainless steel	> 800 N/mm ²			55	80	60	85
K	Tool steel and cast iron	> 1500 N/mm ² (50 - 65 HRC)	80	100	90	110		
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	65	80	75	90		
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	60	75	70	85		
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy			25	50	30	55
S	Titanium, titanium alloys		50	90				
N	Copper alloys - easy to machine (brass - bronze)		80	200				
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe)	70	150				
N	Gold, silver	(Ampco)	80	200				

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

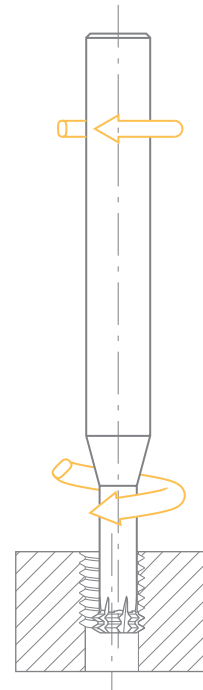
$$n \text{ [tr/min]} = \frac{V_c \text{ [m/min]} \times 1000}{\pi \times D_1 \text{ [mm]}}$$

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times z$$

Feed per tooth

f_z [mm]

$\emptyset D_1$ 0.20 - 0.60	$\emptyset D_1$ 0.60 - 1.20	$\emptyset D_1$ 1.20 - 2.00	$\emptyset D_1$ 2.00 - 3.00	$\emptyset D_1$ 3.00 - 5.00	$\emptyset D_1$ 5.00 - 8.00
0.001 - 0.006	0.004 - 0.016	0.010 - 0.026	0.017 - 0.04	0.03 - 0.06	0.04 - 0.10
0.001 - 0.006	0.004 - 0.015	0.009 - 0.024	0.015 - 0.04	0.02 - 0.06	0.04 - 0.09
0.001 - 0.005	0.003 - 0.013	0.008 - 0.022	0.014 - 0.03	0.02 - 0.05	0.03 - 0.08
0.001 - 0.005	0.003 - 0.013	0.008 - 0.022	0.014 - 0.03	0.02 - 0.05	0.03 - 0.08
0.001 - 0.004	0.003 - 0.011	0.007 - 0.018	0.011 - 0.03	0.02 - 0.04	0.03 - 0.06
0.002 - 0.011	0.007 - 0.026	0.017 - 0.044	0.028 - 0.07	0.04 - 0.10	0.07 - 0.16
0.002 - 0.008	0.005 - 0.020	0.013 - 0.033	0.021 - 0.05	0.03 - 0.08	0.05 - 0.12
0.002 - 0.008	0.005 - 0.020	0.013 - 0.033	0.021 - 0.05	0.03 - 0.08	0.05 - 0.12
0.001 - 0.003	0.002 - 0.007	0.004 - 0.011	0.007 - 0.02	0.01 - 0.03	0.02 - 0.04
0.001 - 0.007	0.004 - 0.017	0.011 - 0.028	0.018 - 0.04	0.03 - 0.07	0.04 - 0.10
0.002 - 0.011	0.007 - 0.026	0.017 - 0.044	0.028 - 0.07	0.04 - 0.10	0.07 - 0.16
0.001 - 0.007	0.004 - 0.017	0.011 - 0.028	0.018 - 0.04	0.03 - 0.07	0.04 - 0.10
0.002 - 0.008	0.005 - 0.020	0.013 - 0.033	0.021 - 0.05	0.03 - 0.08	0.05 - 0.12



Example for M2 x 0.40 in titanium, DIXI 1730 $\emptyset D_1 = 1.55$

❶ Tool rotation $n \text{ (min}^{-1}\text{)} = \frac{1000 \times V_c}{\pi \times \emptyset D_1}$

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

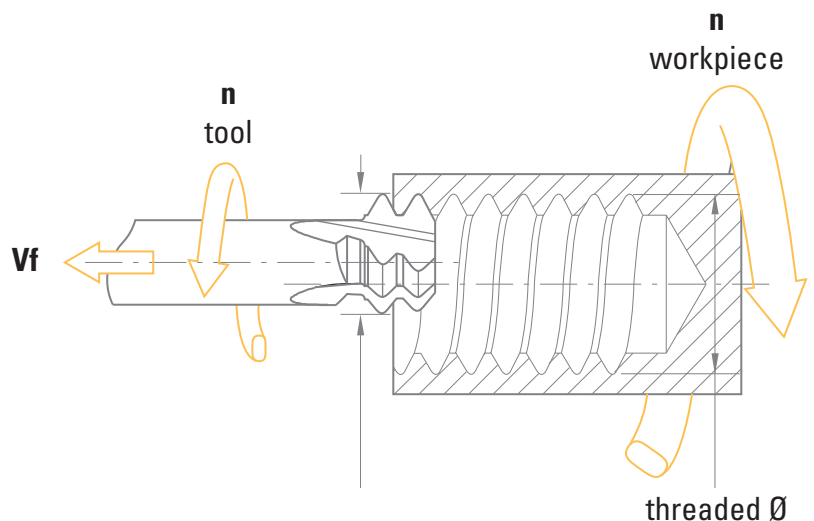
❷ Feed $V_f \text{ mm/min} = n \times f_z \times z$

$$19'000 \times 0.004 \times 3 = 223 \text{ mm/min}$$

❸ Piece rotation $\text{min}^{-1} = \frac{V_f}{\text{threaded } \emptyset \times \pi}$

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

When necessary, convert in degrees $\text{nb}^\circ = \text{min}^{-1} \times 360^\circ \Rightarrow 36 \text{ min}^{-1} \times 360^\circ = 12960^\circ$



CUTTING CONDITIONS

Materials to be machined

			CARBIDE Vc [m/min]		CUTINOX Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	100	150	120	180
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	90	130	110	150
P	Lead alloyed cutting steel		100	180	120	200
P	High alloyed steel	700 – 1500 N/mm ²	40	70	50	80
M	Stainless steel	400 – 700 N/mm ²	50	80	60	110
M	DUPLEX stainless steel	> 800 N/mm ²	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

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

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times z$$

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 - 4.00	Ø D ₁ 4.00 - 6.00	Ø D ₁ 6.00 - 10.00	
0.004 - 0.013	0.006 - 0.020	0.009 - 0.026	0.012 - 0.039	0.011 - 0.044	0.022 - 0.054	0.031 - 0.070	
0.003 - 0.012	0.005 - 0.018	0.008 - 0.023	0.011 - 0.035	0.010 - 0.040	0.019 - 0.049	0.028 - 0.063	
0.004 - 0.016	0.007 - 0.023	0.011 - 0.031	0.014 - 0.047	0.014 - 0.053	0.026 - 0.065	0.037 - 0.084	
0.003 - 0.010	0.005 - 0.016	0.007 - 0.021	0.010 - 0.031	0.009 - 0.035	0.017 - 0.043	0.024 - 0.056	
0.003 - 0.010	0.005 - 0.016	0.007 - 0.021	0.010 - 0.031	0.009 - 0.035	0.017 - 0.043	0.024 - 0.056	
0.003 - 0.009	0.004 - 0.014	0.006 - 0.018	0.008 - 0.027	0.008 - 0.031	0.015 - 0.038	0.021 - 0.049	
0.005 - 0.016	0.008 - 0.024	0.011 - 0.033	0.015 - 0.049	0.014 - 0.055	0.027 - 0.068	0.038 - 0.088	
0.004 - 0.013	0.006 - 0.020	0.009 - 0.026	0.012 - 0.039	0.011 - 0.044	0.022 - 0.054	0.031 - 0.070	
0.004 - 0.013	0.006 - 0.020	0.009 - 0.026	0.012 - 0.039	0.011 - 0.044	0.022 - 0.054	0.031 - 0.070	
0.002 - 0.007	0.003 - 0.010	0.005 - 0.013	0.006 - 0.020	0.006 - 0.022	0.011 - 0.027	0.015 - 0.035	
0.004 - 0.013	0.006 - 0.020	0.009 - 0.026	0.012 - 0.039	0.011 - 0.044	0.022 - 0.054	0.031 - 0.070	
0.005 - 0.020	0.009 - 0.029	0.014 - 0.039	0.018 - 0.059	0.017 - 0.066	0.032 - 0.081	0.046 - 0.105	
0.005 - 0.017	0.008 - 0.025	0.012 - 0.034	0.016 - 0.051	0.015 - 0.057	0.028 - 0.070	0.040 - 0.091	
0.007 - 0.026	0.012 - 0.018	0.018 - 0.052	0.024 - 0.078	0.023 - 0.088	0.043 - 0.108	0.061 - 0.140	
0.005 - 0.020	0.009 - 0.014	0.014 - 0.039	0.018 - 0.059	0.017 - 0.066	0.032 - 0.081	0.046 - 0.105	
0.005 - 0.018	0.008 - 0.013	0.013 - 0.036	0.017 - 0.055	0.016 - 0.062	0.030 - 0.076	0.043 - 0.098	
0.005 - 0.018	0.008 - 0.013	0.013 - 0.036	0.017 - 0.055	0.016 - 0.062	0.030 - 0.076	0.043 - 0.098	
0.005 - 0.020	0.009 - 0.029	0.014 - 0.039	0.018 - 0.059	0.017 - 0.066	0.032 - 0.081	0.046 - 0.105	



DIXI 1742-TC

CUTTING CONDITIONS

Materials to be machined

			DAC	
			Vc [m/min]	
N	Copper alloys - easy to machine (brass - bronze)		200	
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	150	
N	Aluminium alloys	Si < 8%	250	
N	Cast aluminium	Si > 8%	200	
N	Graphite		200	
N	Plastic		250	
N	Gold, silver		200	

DIXI 1744-TC

CUTTING CONDITIONS

Materials to be machined

			CUTINOX	
			Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	150	
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	120	
P	Lead alloyed cutting steel		160	
P	High alloyed steel	700 – 1500 N/mm ²	70	
M	Stainless steel	400 – 700 N/mm ²	90	
M	DUPLEX stainless steel	> 800 N/mm ²	60	
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	200	
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	130	
K	Nodular ferritic cast iron / Malleable cast iron		110	
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	50	
S	Titanium, titanium alloys		60	



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

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times z$$

Feed at tool centre

Vf [mm/min]

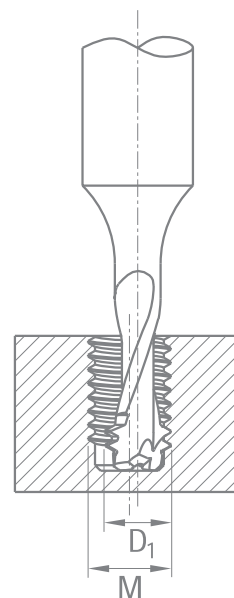
M5	M6	M8	M10	M12
1020	1275	1360	1360	1120
800	1000	1100	1100	990
1200	1500	1600	1600	1440
800	1000	1100	1100	990
800	1000	1100	1100	990
1200	1500	1600	1600	1440
800	1000	1100	1100	990

$$V_f \text{ tool centre} = V_f \times \left(1 - \frac{D_1}{M}\right)$$

Feed at tool centre

Vf [mm/min]

M5	M6	M8	M10	M12
800	600	500	500	450
600	500	350	350	300
1200	1000	800	800	700
450	400	250	250	200
500	450	350	350	280
400	300	200	200	150
1000	800	500	500	460
600	500	350	350	300
550	450	300	300	250
250	200	150	150	100
300	250	200	200	150



CUTTING CONDITIONS

Materials to be machined

			CARBIDE		TiALN	
			Vc [m/min]		Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²			70	90
P	Lead alloyed cutting steel		70	100	90	110
P	High alloyed steel	700 – 1500 N/mm ²			40	55
M	Stainless steel	400 – 700 N/mm ²	40	60	70	90
M	DUPLEX stainless steel	> 800 N/mm ²			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

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

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times z$$

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		TiALN	
			Vc [m/min]		Vc [m/min]	
P	Unalloyed steel / Low alloyed steel	< 600 N/mm ²	70	100	90	110
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm ²	40	60	70	90
P	Lead alloyed cutting steel		70	100	90	110
P	High alloyed steel	700 – 1500 N/mm ²	40	60	70	90
M	Stainless steel	400 – 700 N/mm ²	30	45	40	55
M	DUPLEX stainless steel	> 800 N/mm ²	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

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

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times z$$

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



CUTTING CONDITIONS

Materials to be machined

			CARBIDE		CUTINOX	
			Vc [m/min]		Vc [m/min]	
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	80	140	100	200
N	Copper alloys - easy to machine (brass - bronze)		100	250	150	350
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	100	250	150	350
N	Aluminium alloys	Si < 8%	100	200	150	350
N	Cast aluminium	Si > 8%			150	350

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

DRILLING

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f \text{ [mm]}$$

Feed per tooth (f)

$\emptyset D_1$ 3.00 - 7.00	$\emptyset D_1$ 7.00 - 14.00	$\emptyset D_1$ 3.00 - 7.00	$\emptyset D_1$ 7.00 - 14.00
0.08 - 0.24	0.18 - 0.40	0.03 - 0.07	0.05 - 0.12
0.08 - 0.18	0.14 - 0.30	0.04 - 0.07	0.06 - 0.15
0.14 - 0.28	0.18 - 0.40	0.04 - 0.07	0.05 - 0.15
0.14 - 0.28	0.18 - 0.40	0.03 - 0.07	0.06 - 0.15
0.14 - 0.28	0.18 - 0.40	0.03 - 0.07	0.06 - 0.15

THREADING

$$V_f \text{ [mm/min]} = n \text{ [tr/min]} \times f_z \text{ [mm]} \times z$$

Feed per tooth (fz)

