

**DORMER  PRAMET**

**THREADING**

**2024**



 **DORMER**



## THREADING – GENERAL CONTENT

### THREADING

Tools for basic manufacturing, construction, maintenance, repair, overhaul. Typically used with hand-held, power tools and conventional machines.  
Suitable for low cutting parameters.



Straight flute taps

M

MF

UNC

UNF

BSW  
BSF

BA  
PG

4



Spiral point taps

M

MF

UNC

UNF

BSW  
BSF

BA  
PG

54



Spiral flute taps

M

MF

UNC

UNF

BSW  
BSF

BA

61



Pipe thread taps

G

RC

NPT

NPTF

NPSF

NPSM

67



Specific purpose taps

DRILL TAPS

NUT TAPS

STI TAPS

79



Threading dies

M

MF

UNC

UNF

G

–

89



Sets & accessories

L119

L120

L110

L112

–

–

99

Tools for mixed manufacturing. Typically used with conventional machines and CNC.  
Suitable for moderate cutting parameters.



Straight flute taps

M

MF

UNC

UNC

G

–

105



Spiral point taps

M

MF

UNC

UNF

G

–

122



Spiral flute taps

M

MF

UNC

UNF

G

–

148



Threading dies

M

MF

UNC

BSW  
BSF

G  
NPT

PG

173



Sets & accessories

L113

L114

L115

L001

L002

–

185

Tools for process security and productivity. Typically used with CNC and automated manufacturing.  
Suitable for high cutting parameters.



SHARK

Straight flute taps

M

–

–

–

–

–

191



SHARK

Spiral point taps

M

MF

UNC

UNF

–

–

195



SHARK

Spiral flute taps

M

MF

UNC

UNF

G

–

210



Forming taps

M

MF

UNC

UNF

–

–

229



Carbide taps

M

–

–

–

–

–

241



Thread mills

M

MF

UNC

UNF

G  
NPT

–

245

### INSTRUCTIONS

How to read catalogue data? (ISO 13399, icons, navigation...)

258

Materials and coatings overview

263

Threading technical information

264

Hand and serial taps – nomenclature (NO1 – NO9)

268

Shark taps – additional information

269

Thread mills – technical information

270

Workpiece material groups (WMG)

274



## THREADING – CONTENT (ALPHABETICAL)

PRODUCT FAMILY		PRODUCT FAMILY		PRODUCT FAMILY		PRODUCT FAMILY	
<b>E</b>		<b>E303</b>	80	<b>E559N09(UNF)</b>	53	<b>F310</b>	91
<b>E000</b>	130	<b>E334</b>	200	<b>E570</b>	25	<b>F312</b>	97
<b>E000TIN</b>	132	<b>E335</b>	217	<b>E600</b>	110	<b>F320</b>	92
<b>E001</b>	131	<b>E382</b>	228	<b>E605</b>	159	<b>F330</b>	93
<b>E002</b>	156	<b>E383</b>	225	<b>E606</b>	133	<b>F370</b>	94
<b>E002TIN</b>	158	<b>E384</b>	207	<b>E620</b>	81	<b>J</b>	
<b>E003</b>	157	<b>E390</b>	194	<b>E621</b>	82	<b>J200</b>	246
<b>E011</b>	137	<b>E397(M)</b>	196	<b>E650</b>	83	<b>J205</b>	247
<b>E013</b>	163	<b>E397(MF)</b>	205	<b>E651</b>	84	<b>J210</b>	248
<b>E021</b>	140	<b>E397(UNC)</b>	208	<b>E653</b>	86	<b>J215</b>	249
<b>E023</b>	166	<b>E397(UNF)</b>	209	<b>E654</b>	85	<b>J220</b>	250
<b>E031</b>	143	<b>E398(M)</b>	212	<b>E708</b>	78	<b>J225</b>	251
<b>E033</b>	169	<b>E398(MF)</b>	223	<b>E709</b>	76	<b>J235</b>	252
<b>E041</b>	146	<b>E398(UNC)</b>	226	<b>E710</b>	72	<b>J245</b>	253
<b>E043</b>	172	<b>E398(UNF)</b>	227	<b>E711</b>	73	<b>J260</b>	254
<b>E100</b>	6	<b>E412</b>	214	<b>E712</b>	75	<b>J280</b>	255
<b>E101</b>	7	<b>E414</b>	220	<b>E714</b>	120	<b>L</b>	
<b>E102</b>	8	<b>E422</b>	128	<b>E720</b>	77	<b>L000</b>	188
<b>E105</b>	14	<b>E423</b>	129	<b>E721</b>	74	<b>L001</b>	187
<b>E108</b>	19	<b>E471</b>	203	<b>EP00TIN</b>	126	<b>L110</b>	102
<b>E111</b>	22	<b>E472</b>	204	<b>EP006G</b>	127	<b>L112</b>	102
<b>E115</b>	26	<b>E473</b>	221	<b>EP006H</b>	124	<b>L113</b>	186
<b>E119</b>	68	<b>E474</b>	222	<b>EP10</b>	134	<b>L114</b>	187
<b>E200</b>	106	<b>E500</b>	9	<b>EP10TIN</b>	136	<b>L115</b>	186
<b>E201</b>	192	<b>E501</b>	12	<b>EP11</b>	135	<b>L119</b>	100
<b>E207</b>	154	<b>E504</b>	13	<b>EP016H</b>	125	<b>L120</b>	101
<b>E225</b>	115	<b>E513</b>	15	<b>EP20</b>	138	<b>L126</b>	87
<b>E229</b>	117	<b>E515</b>	20	<b>EP21</b>	139	<b>T</b>	
<b>E237</b>	108	<b>E524</b>	23	<b>EP30</b>	141	<b>T200</b>	242
<b>E238</b>	218	<b>E531</b>	27	<b>EP31</b>	142	<b>T205</b>	244
<b>E239</b>	219	<b>E533</b>	63	<b>EP40</b>	144	<b>T210</b>	243
<b>E240</b>	201	<b>E534</b>	57	<b>EP41</b>	145	<b>T215</b>	234
<b>E241</b>	202	<b>E536</b>	29	<b>EX00TIN</b>	152		
<b>E242</b>	113	<b>E538</b>	64	<b>EX006G</b>	153		
<b>E243</b>	31	<b>E539</b>	58	<b>EX006H</b>	150		
<b>E250</b>	107	<b>E542</b>	30	<b>EX10</b>	160		
<b>E251</b>	109	<b>E544</b>	65	<b>EX10TIN</b>	162		
<b>E252</b>	193	<b>E545</b>	59	<b>EX11</b>	161		
<b>E255</b>	198	<b>E547</b>	69	<b>EX016H</b>	151		
<b>E256</b>	199	<b>E550</b>	71	<b>EX20</b>	164		
<b>E258</b>	155	<b>E556(M)</b>	56	<b>EX21</b>	165		
<b>E260</b>	215	<b>E557(M)</b>	62	<b>EX30</b>	167		
<b>E261</b>	216	<b>E559N01(M)</b>	34	<b>EX31</b>	168		
<b>E268</b>	111	<b>E559N01(MF)</b>	39	<b>EX40</b>	170		
<b>E275</b>	116	<b>E559N01(UNC)</b>	44	<b>EX41</b>	171		
<b>E278</b>	118	<b>E559N01(UNF)</b>	49	<b>F</b>			
<b>E282</b>	119	<b>E559N02(M)</b>	35	<b>F100</b>	174		
<b>E286</b>	239	<b>E559N02(MF)</b>	40	<b>F108</b>	184		
<b>E287</b>	238	<b>E559N02(UNC)</b>	45	<b>F110</b>	179		
<b>E288</b>	237	<b>E559N02(UNF)</b>	50	<b>F120</b>	181		
<b>E289</b>	233	<b>E559N03(M)</b>	36	<b>F130</b>	183		
<b>E290</b>	114	<b>E559N03(MF)</b>	41	<b>F140</b>	175		
<b>E292</b>	230	<b>E559N03(UNC)</b>	46	<b>F150</b>	177		
<b>E293</b>	231	<b>E559N03(UNF)</b>	51	<b>F170</b>	176		
<b>E294</b>	232	<b>E559N06(M)</b>	37	<b>F180</b>	178		
<b>E295</b>	235	<b>E559N06(MF)</b>	42	<b>F190</b>	180		
<b>E296</b>	236	<b>E559N06(UNC)</b>	47	<b>F201</b>	182		
<b>E297</b>	197	<b>E559N06(UNF)</b>	52	<b>F202</b>	95		
<b>E298</b>	213	<b>E559N08(M)</b>	38	<b>F272</b>	98		
<b>E299</b>	206	<b>E559N08(UNC)</b>	48	<b>F300</b>	90		
<b>E300</b>	224	<b>E559N09(MF)</b>	43	<b>F302</b>	96		



**TOOLS FOR BASIC MANUFACTURING, CONSTRUCTION,  
MAINTENANCE, REPAIR, OVERHAUL.  
TYPICALLY USED WITH HAND-HELD, POWER TOOLS AND CONVENTIONAL MACHINES.**

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Thread form (THFT)													
Basic standard group (BSG)	DIN 352	DIN 352	DIN 352	ISO 529	ISO 529	ISO 529	DIN 2181	ISO 529	DIN 352	ISO 529	DIN 2181	ISO 529	ISO 529
Thread tolerance class (TCTR)	6H	6H	6HX	6H	6H	6H	6H	6H	2B	2B	2B	2B	2B
Threading application													
Usable length (ULDR)	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D
Material code (BMC)	HSS	HSS	HSS-E	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Tap chamfer style (TCS)	C 2-3	C 2-3	C 2-3				C 2-3		C 2-3		C 2-3		C 2-3
Flute Geometry (FDC)													
Hand (Cutting direction)													
Coating	Bright	Bright	ST	Bright	Bright	TIN	Bright	Bright	Bright	Bright	Bright	Bright	Bright
Product Family Code	E100	E101	E102	E500	E501	E504	E105	E513	E108	E515	E111	E524	E570
PSF cutting diameters range	M1.6 – M52	M4 – M16	M3 – M30	M1 – M56	M3 – M24	M3 – M10	M2.5 – M50	M3 – M50	No.5 – 1"	No.1 – 2"	No.5 – 1"	No.0 – 1.1/2	1/4 – 1.5/16
<b>P</b>	P1	■	■	☑	■	■	■	■	■	■	■	■	■
	P2	■	■	☑	■	■	☑	■	■	■	☑	■	■
	P3	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	P4	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
<b>M</b>	M1			■									
	M2			☑									
	M3			■									
	M4			☑									
<b>K</b>	K1	☑	☑	■	☑	☑	■	☑	☑	☑	☑	☑	☑
	K2	☑	☑	■	☑	☑	■	☑	☑	☑	☑	☑	☑
	K3	☑	☑	■	☑	☑	■	☑	☑	☑	☑	☑	☑
	K4	☑	☑	■	☑	☑	■	☑	☑	☑	☑	☑	☑
	K5			■	☑	☑	■	☑	☑	☑	☑	☑	☑
<b>N</b>	N1	■	■		☑	☑	☑	■	☑	■	☑	■	☑
	N2	■	■		☑	☑	☑	■	☑	■	☑	■	☑
	N3	■	■		☑	☑	☑	■	■	■	■	■	■
	N4	■	■		☑	☑	☑	■	☑	■	■	■	☑
	N5												
<b>S</b>	S1			☑									
	S2			☑									
	S3			☑									
	S4			☑									
<b>H</b>	H1												
	H2												
	H3												
	H4												

■ Primary use ☑ Possible use



<b>BSW</b>	<b>BSW</b>	<b>BSF</b>	<b>BA</b>	<b>PG</b>
DIN 351	ISO 529	ISO 529	ISO 529	DIN 40432
Medium	Medium	Medium	Normal	Normal
1.5xD	1.5xD	1.5xD	1.5xD	1.5xD
HSS	HSS	HSS	HSS	HSS
C 2-3				
Bright	Bright	Bright	Bright	Bright



E115	E531	E536	E542	E243
1/8 - 1"	1/8 - 1"	3/16 - 1"	No.10 - No.0	No.7 - No.36
26	27	29	30	31

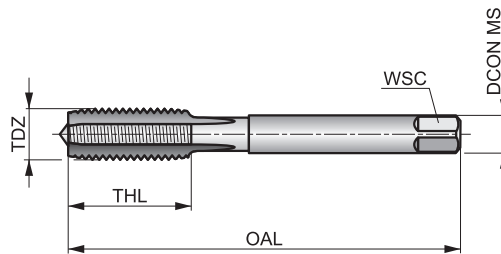
P1	■	■	■	■															
P2	■	■	■	■	■														
P3	■	■	■	■	■														
P4	■	■	■	■	■														
M1																			
M2																			
M3																			
M4																			
K1	■	■	■	■	■														
K2	■	■	■	■	■														
K3	■	■	■	■	■														
K4	■	■	■	■	■														
K5	■	■	■	■	■														
N1	■	■	■	■	■														
N2	■	■	■	■	■														
N3	■	■	■	■	■														
N4	■	■	■	■	■														
N5																			
S1																			
S2																			
S3																			
S4																			
H1																			
H2																			
H3																			
H4																			

# E100



## HSS Straight Flute Serial Hand Taps, Metric, DIN Standard, Bright Finish

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a set of three serial taps, which should be used one after the other to create the full thread. Bright finish.



	DIN 352	6H
	1.5xD	HSS

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K1.1	K1.2	K1.3	K2.1	K2.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
K3.1	K3.2	K4.1	K4.2	K5.1	K5.2	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
N3.3	N4.2	N4.3											
■	■	■											

Products from this series are also available in set of sizes or with dies. Please see L119 or L120.









Product	TDZ	TP	OAL	THL	DCON MS	WSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E100M1.6N08	1.6	0.35	32.0	7	2.50	2.10	3	1.25
E100M2N08	2	0.40	36.0	8	2.80	2.10	3	1.60
E100M2.5N08	2.5	0.45	40.0	9	2.80	2.10	3	2.05
E100M3N08	3	0.50	40.0	10	3.50	2.70	3	2.50
E100M3.5N08	3.5	0.60	45.0	10	4.00	3.00	3	2.90
E100M4N08	4	0.70	45.0	12	4.50	3.40	3	3.30
E100M5N08	5	0.80	50.0	14	6.00	4.90	3	4.20
E100M6N08	6	1.00	56.0	16	6.00	4.90	3	5.00
E100M7N08	7	1.00	56.0	16	6.00	4.90	3	6.00
E100M8N08	8	1.25	63.0	19	6.00	4.90	3	6.80
E100M9N08	9	1.25	63.0	20	7.00	5.50	3	7.80
E100M10N08	10	1.50	70.0	22	7.00	5.50	3	8.50
E100M12N08	12	1.75	75.0	25	9.00	7.00	4	10.30
E100M14N08	14	2.00	80.0	25	11.00	9.00	4	12.00
E100M16N08	16	2.00	80.0	25	12.00	9.00	4	14.00
E100M18N08	18	2.50	95.0	32	14.00	11.00	4	15.50
E100M20N08	20	2.50	95.0	32	16.00	12.00	4	17.50
E100M22N08	22	2.50	100.0	34	18.00	14.50	4	19.50
E100M24N08	24	3.00	110.0	38	18.00	14.50	4	21.00
E100M27N08	27	3.00	110.0	38	20.00	16.00	4	24.00
E100M30N08	30	3.50	125.0	45	22.00	18.00	4	26.50
E100M33N08	33	3.50	125.0	50	25.00	20.00	4	29.50
E100M36N08	36	4.00	150.0	56	28.00	22.00	4	32.00
E100M39N08	39	4.00	150.0	60	32.00	24.00	4	35.00
E100M42N08	42	4.50	150.0	60	32.00	24.00	4	37.50
E100M45N08	45	4.50	160.0	65	36.00	29.00	6	40.50
E100M48N08	48	5.00	180.0	70	36.00	29.00	6	43.00

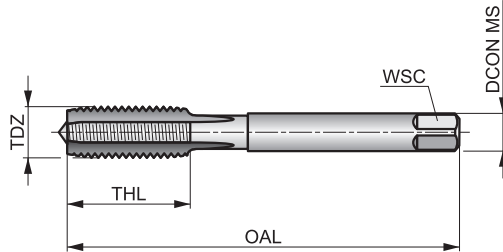
# E101



## HSS Straight Flute Serial Hand Taps, Metric, DIN Standard, Left-Handed

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a set of three serial taps, which should be used one after the other to create the full thread. Bright finish.



Workpiece material group suitability.

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P2.3</b>	<b>P3.1</b>	<b>P3.2</b>	<b>P4.1</b>	<b>K1.1</b>	<b>K1.2</b>	<b>K1.3</b>	<b>K2.1</b>	<b>K2.2</b>
■	■	■	■	■	☑	■	☑	☑	☑	☑	☑	☑	☑
<b>K3.1</b>	<b>K3.2</b>	<b>K4.1</b>	<b>K4.2</b>	<b>K5.1</b>	<b>K5.2</b>	<b>N1.1</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N2.1</b>	<b>N2.2</b>	<b>N2.3</b>	<b>N3.1</b>	<b>N3.2</b>
☑	☑	☑	☑	☑	☑	■	■	■	■	■	■	■	■
<b>N3.3</b>	<b>N4.2</b>	<b>N4.3</b>											
■	■	■											

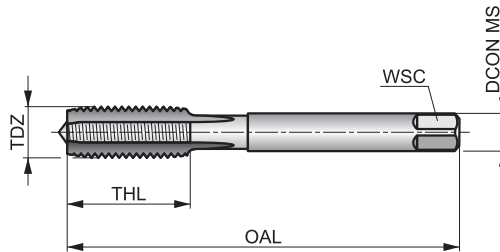
Product	TDZ	TP	OAL	THL	DCON MS	WSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)		
<b>E101M4N08</b>	4	0.70	45.0	12	4.50	3.40	3	3.30
<b>E101M5N08</b>	5	0.80	50.0	14	6.00	4.90	3	4.20
<b>E101M6N08</b>	6	1.00	56.0	16	6.00	4.90	3	5.00
<b>E101M8N08</b>	8	1.25	63.0	19	6.00	4.90	3	6.80
<b>E101M10N08</b>	10	1.50	70.0	22	7.00	5.50	3	8.50
<b>E101M12N08</b>	12	1.75	75.0	25	9.00	7.00	4	10.30
<b>E101M14N08</b>	14	2.00	80.0	25	11.00	9.00	4	12.00
<b>E101M16N08</b>	16	2.00	80.0	25	12.00	9.00	4	14.00

# E102



## HSS-E Straight Flute Serial Hand Taps, Metric, DIN Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a set of three serial taps, which should be used one after the other to create the full thread. Steam tempered surface acts to retain cutting fluid to improve lubrication and provide smoother cutting.



	DIN 352	6HX
	1.5xD	HSS-E
C 2-3		

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
M2.2	M3.1	M3.2	M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3
☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
K4.1	K4.2	K4.3	K5.1	K5.2	K5.3	S1.1	S2.1	S3.1	S4.1				
☑	☑	☑	☑	☑	☑	☑	☑	☑	☑				

No4 with pilot guide.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	NOF	PHD
E102M3N08	3	0.50	40.0	10	3.50	2.70	3	2.50
E102M4N08	4	0.70	45.0	12	4.50	3.40	3	3.30
E102M5N08	5	0.80	50.0	14	6.00	4.90	3	4.20
E102M6N08	6	1.00	56.0	16	6.00	4.90	3	5.00
E102M8N08	8	1.25	63.0	19	6.00	4.90	3	6.80
E102M10N08	10	1.50	70.0	22	7.00	5.50	3	8.50
E102M12N08	12	1.75	75.0	25	9.00	7.00	4	10.30
E102M14N08	14	2.00	80.0	25	11.00	9.00	4	12.00
E102M16N08	16	2.00	80.0	25	12.00	9.00	4	14.00
E102M18N08	18	2.50	95.0	32	14.00	11.00	4	15.50
E102M20N08	20	2.50	95.0	32	16.00	12.00	4	17.50
E102M24N08	24	3.00	110.0	38	18.00	14.50	4	21.00

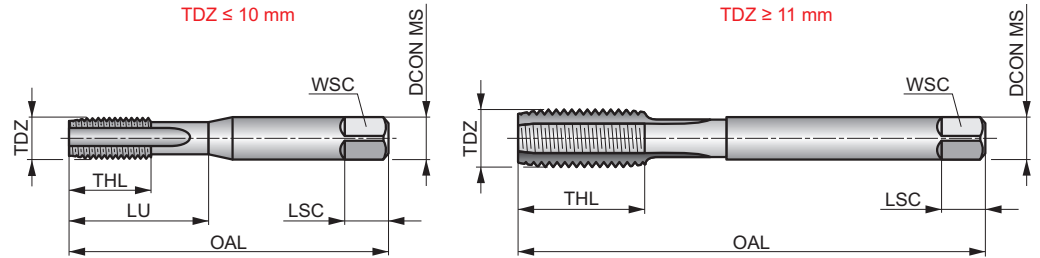


# E500



## Straight Flute Hand Taps, Metric, ISO Standard

A versatile tool, suitable for hand and machine tapping, with a straight flute design for both through and blind holes. As a hand tap set of three N06 or two N07 with different chamfer length, each producing a full thread.



	ISO 529	6H
	1.5xD	HSS
	R	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>P4.2</b> ■ 2	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12
<b>K2.2</b> ■ 10	<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5
<b>N4.2</b> ■ 5	<b>N4.3</b> ■ 3												

Products from this series are also available in sets with drills or dies. Please see L115, L000 or L120.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E500M1N01 <sup>1)</sup>	1	0.25	38.0	4.5	2.50	2.00	4	2	0.75	4.50
E500M1N02 <sup>1)</sup>	1	0.25	38.0	4.5	2.50	2.00	4	2	0.75	4.50
E500M1N03 <sup>1)</sup>	1	0.25	38.0	4.5	2.50	2.00	4	2	0.75	4.50
E500M1.2N01 <sup>1)</sup>	1.2	0.25	38.0	4.5	2.50	2.00	4	2	0.95	4.50
E500M1.2N02 <sup>1)</sup>	1.2	0.25	38.0	4.5	2.50	2.00	4	2	0.95	4.50
E500M1.2N03 <sup>1)</sup>	1.2	0.25	38.0	4.5	2.50	2.00	4	2	0.95	4.50
E500M1.4N01 <sup>1)</sup>	1.4	0.30	40.0	6	2.50	2.00	4	2	1.10	6.00
E500M1.4N02 <sup>1)</sup>	1.4	0.30	40.0	6	2.50	2.00	4	2	1.10	6.00
E500M1.4N03 <sup>1)</sup>	1.4	0.30	40.0	6	2.50	2.00	4	2	1.10	6.00
E500M1.6N01	1.6	0.35	41.0	8	2.50	2.00	4	2	1.25	8.00
E500M1.6N02	1.6	0.35	41.0	8	2.50	2.00	4	2	1.25	8.00
E500M1.6N03	1.6	0.35	41.0	8	2.50	2.00	4	2	1.25	8.00
E500M1.6N06	1.6	0.35	41.0	8	2.50	2.00	4	2	1.25	8.00
E500M1.7N01	1.7	0.35	41.0	8	2.50	2.00	4	2	1.35	8.00
E500M1.7N02	1.7	0.35	41.0	8	2.50	2.00	4	2	1.35	8.00
E500M1.7N03	1.7	0.35	41.0	8	2.50	2.00	4	2	1.35	8.00
E500M1.7N06	1.7	0.35	41.0	8	2.50	2.00	4	2	1.35	8.00
E500M1.8N01	1.8	0.35	41.0	8	2.50	2.00	4	2	1.45	8.00
E500M1.8N02	1.8	0.35	41.0	8	2.50	2.00	4	2	1.45	8.00
E500M1.8N03	1.8	0.35	41.0	8	2.50	2.00	4	2	1.45	8.00
E500M2N01	2	0.40	41.0	8	2.50	2.00	4	3	1.60	8.00
E500M2N02	2	0.40	41.0	8	2.50	2.00	4	3	1.60	8.00
E500M2N03	2	0.40	41.0	8	2.50	2.00	4	3	1.60	8.00
E500M2N06	2	0.40	41.0	8	2.50	2.00	4	3	1.60	8.00
E500M2.2N01	2.2	0.45	44.5	9.5	2.80	2.24	5	3	1.75	9.50
E500M2.2N02	2.2	0.45	44.5	9.5	2.80	2.24	5	3	1.75	9.50
E500M2.2N03	2.2	0.45	44.5	9.5	2.80	2.24	5	3	1.75	9.50

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E500M2.3N01	2.3	0.45	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E500M2.3N02	2.3	0.45	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E500M2.3N03	2.3	0.45	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E500M2.5N01	2.5	0.45	44.5	9.5	2.80	2.24	5	3	2.05	9.50
E500M2.5N02	2.5	0.45	44.5	9.5	2.80	2.24	5	3	2.05	9.50
E500M2.5N03	2.5	0.45	44.5	9.5	2.80	2.24	5	3	2.05	9.50
E500M2.5N06	2.5	0.45	44.5	9.5	2.80	2.24	5	3	2.05	9.50
E500M2.6N01	2.6	0.45	44.5	9.5	2.80	2.24	5	3	2.15	9.50
E500M2.6N02	2.6	0.45	44.5	9.5	2.80	2.24	5	3	2.15	9.50
E500M2.6N03	2.6	0.45	44.5	9.5	2.80	2.24	5	3	2.15	9.50
E500M3N01	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E500M3N02	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E500M3N03	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E500M3N06	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E500M3N07	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E500M3X.6N01	3	0.60	48.0	12.5	3.15	2.50	5	3	2.40	12.50
E500M3X.6N02	3	0.60	48.0	12.5	3.15	2.50	5	3	2.40	12.50
E500M3X.6N03	3	0.60	48.0	12.5	3.15	2.50	5	3	2.40	12.50
E500M3.5N01	3.5	0.60	50.0	14	3.55	2.80	5	3	2.90	14.00
E500M3.5N02	3.5	0.60	50.0	14	3.55	2.80	5	3	2.90	14.00
E500M3.5N03	3.5	0.60	50.0	14	3.55	2.80	5	3	2.90	14.00
E500M3.5N06	3.5	0.60	50.0	14	3.55	2.80	5	3	2.90	14.00
E500M4N01	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E500M4N02	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E500M4N03	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E500M4N06	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E500M4N07	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E500M4X.75N01	4	0.75	53.0	14	4.00	3.15	6	3	3.25	14.00
E500M4X.75N02	4	0.75	53.0	14	4.00	3.15	6	3	3.25	14.00
E500M4X.75N03	4	0.75	53.0	14	4.00	3.15	6	3	3.25	14.00
E500M4.5N01	4.5	0.75	53.0	9.5	4.50	3.55	6	3	3.80	18.00
E500M4.5N02	4.5	0.75	53.0	9.5	4.50	3.55	6	3	3.80	18.00
E500M4.5N03	4.5	0.75	53.0	9.5	4.50	3.55	6	3	3.80	18.00
E500M4.5N06	4.5	0.75	53.0	9.5	4.50	3.55	6	3	3.80	18.00
E500M5N01	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E500M5N02	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E500M5N03	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E500M5N06	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E500M5N07	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E500M5X.9N01	5	0.90	58.0	11	5.00	4.00	7	3	4.10	22.00
E500M5X.9N02	5	0.90	58.0	11	5.00	4.00	7	3	4.10	22.00
E500M5X.9N03	5	0.90	58.0	11	5.00	4.00	7	3	4.10	22.00
E500M5.5X.9N01	5.5	0.90	62.0	12	5.60	4.50	7	3	4.60	21.00
E500M5.5X.9N02	5.5	0.90	62.0	12	5.60	4.50	7	3	4.60	21.00
E500M5.5X.9N03	5.5	0.90	62.0	12	5.60	4.50	7	3	4.60	21.00
E500M6N01	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E500M6N02	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E500M6N03	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E500M6N06	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E500M6N07	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E500M7N01	7	1.00	66.0	13	7.10	5.60	8	3	6.00	26.00
E500M7N02	7	1.00	66.0	13	7.10	5.60	8	3	6.00	26.00
E500M7N03	7	1.00	66.0	13	7.10	5.60	8	3	6.00	26.00
E500M7N06	7	1.00	66.0	13	7.10	5.60	8	3	6.00	26.00
E500M8N01	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E500M8N02	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E500M8N03	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E500M8N06	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E500M8N07	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E500M9N01	9	1.25	72.0	16	9.00	7.10	10	3	7.80	29.00
E500M9N02	9	1.25	72.0	16	9.00	7.10	10	3	7.80	29.00
E500M9N03	9	1.25	72.0	16	9.00	7.10	10	3	7.80	29.00
E500M9N06	9	1.25	72.0	16	9.00	7.10	10	3	7.80	29.00
E500M10N01	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E500M10N02	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E500M10N03	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E500M10N06	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E500M10N07	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E500M11N01	11	1.50	85.0	19	8.00	6.30	9	3	9.50	-
E500M11N02	11	1.50	85.0	19	8.00	6.30	9	3	9.50	-
E500M11N03	11	1.50	85.0	19	8.00	6.30	9	3	9.50	-
E500M11N06	11	1.50	85.0	19	8.00	6.30	9	3	9.50	-
E500M12N01	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E500M12N02	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E500M12N03	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E500M12N06	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E500M12N07	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E500M14N01	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E500M14N02	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E500M14N03	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E500M14N06	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E500M14N07	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E500M16N01	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E500M16N02	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E500M16N03	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E500M16N06	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E500M16N07	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E500M18N01	18	2.50	112.0	29	14.00	11.20	14	4	15.50	-
E500M18N02	18	2.50	112.0	29	14.00	11.20	14	4	15.50	-
E500M18N03	18	2.50	112.0	29	14.00	11.20	14	4	15.50	-
E500M18N06	18	2.50	112.0	29	14.00	11.20	14	4	15.50	-
E500M20N01	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E500M20N02	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E500M20N03	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E500M20N06	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E500M20N07	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E500M22N01	22	2.50	118.0	29	16.00	12.50	16	4	19.50	-
E500M22N02	22	2.50	118.0	29	16.00	12.50	16	4	19.50	-
E500M22N03	22	2.50	118.0	29	16.00	12.50	16	4	19.50	-
E500M22N06	22	2.50	118.0	29	16.00	12.50	16	4	19.50	-
E500M24N01	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-
E500M24N02	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-
E500M24N03	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-
E500M24N06	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-
E500M24N07	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-
E500M27N01	27	3.00	135.0	35	20.00	16.00	20	4	24.00	-
E500M27N02	27	3.00	135.0	35	20.00	16.00	20	4	24.00	-
E500M27N03	27	3.00	135.0	35	20.00	16.00	20	4	24.00	-
E500M30N01	30	3.50	138.0	41	20.00	16.00	20	4	26.50	-
E500M30N02	30	3.50	138.0	41	20.00	16.00	20	4	26.50	-
E500M30N03	30	3.50	138.0	41	20.00	16.00	20	4	26.50	-
E500M33N01	33	3.50	151.0	41	22.40	18.00	22	4	29.50	-
E500M33N02	33	3.50	151.0	41	22.40	18.00	22	4	29.50	-
E500M33N03	33	3.50	151.0	41	22.40	18.00	22	4	29.50	-
E500M36N01	36	4.00	162.0	47	25.00	20.00	24	4	32.00	-
E500M36N02	36	4.00	162.0	47	25.00	20.00	24	4	32.00	-
E500M36N03	36	4.00	162.0	47	25.00	20.00	24	4	32.00	-
E500M39N01	39	4.00	170.0	47	28.00	22.40	26	4	35.00	-
E500M39N02	39	4.00	170.0	47	28.00	22.40	26	4	35.00	-
E500M39N03	39	4.00	170.0	47	28.00	22.40	26	4	35.00	-
E500M42N01	42	4.50	170.0	53	28.00	22.40	26	6	37.50	-
E500M42N02	42	4.50	170.0	53	28.00	22.40	26	6	37.50	-
E500M42N03	42	4.50	170.0	53	28.00	22.40	26	6	37.50	-
E500M45N01	45	4.50	187.0	54	31.50	25.00	28	6	40.50	-
E500M45N03	45	4.50	187.0	54	31.50	25.00	28	6	40.50	-
E500M48N01	48	5.00	187.0	60	31.50	25.00	28	6	43.00	-
E500M48N02	48	5.00	187.0	60	31.50	25.00	28	6	43.00	-
E500M48N03	48	5.00	187.0	60	31.50	25.00	28	6	43.00	-
E500M52N03	52	5.00	200.0	60	35.50	28.00	31	6	47.00	-
E500M56N03	56	5.50	200.0	60	35.50	28.00	31	6	50.50	-

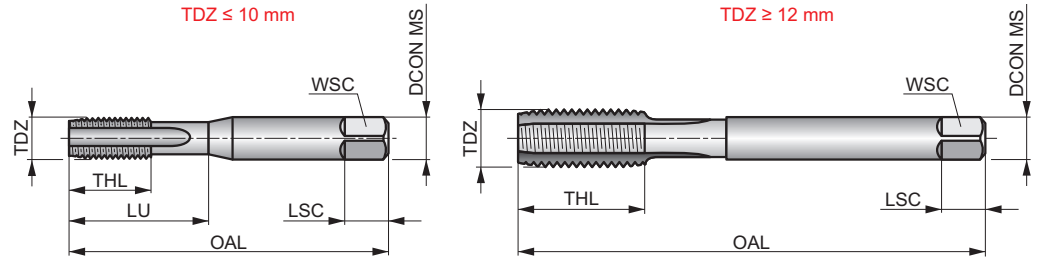
<sup>1)</sup> Supplied in 5H tolerance.

# E501



## HSS Straight Flute Hand Taps, Metric, ISO standard, Left-Handed

A versatile tool, suitable for hand and machine tapping. Available with taper lead NO1 for short through holes, plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes.



	ISO 529	6H
	1.5xD	HSS
	L	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>P4.2</b> ■ 2	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12
<b>K2.2</b> ■ 10	<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5
<b>N4.2</b> ■ 5	<b>N4.3</b> ■ 3												

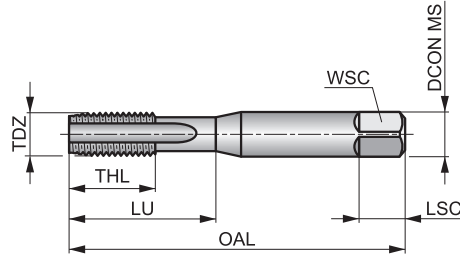
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E501M3N01	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E501M3N02	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E501M3N03	3	0.50	48.0	12.5	3.15	2.50	5	3	2.50	12.50
E501M4N01	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E501M4N02	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E501M4N03	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E501M5N02	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E501M5N03	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E501M6N01	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E501M6N02	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E501M6N03	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E501M8N01	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E501M8N02	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E501M8N03	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E501M10N01	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E501M10N02	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E501M10N03	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E501M12N01	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E501M12N02	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E501M12N03	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E501M14N01	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E501M14N02	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E501M14N03	14	2.00	95.0	24	11.20	9.00	12	4	12.00	-
E501M16N01	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E501M16N02	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E501M16N03	16	2.00	102.0	24	12.50	10.00	13	4	14.00	-
E501M20N01	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E501M20N02	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E501M20N03	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E501M24N02	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-
E501M24N03	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-





# E504



## HSS Straight Flute Hand Tap with TiN Coating, Metric, ISO Standard

A versatile tool, suitable for machine and also hand tapping, with a straight flute design and bottoming lead for blind and through holes. TiN coated to improve performance and extend tool life.



	ISO 529	6H
	1.5xD	HSS
	TiN	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 13	<b>P1.2</b> ■ 15	<b>P1.3</b> ■ 15	<b>P2.1</b> ■ 11	<b>P2.2</b> ■ 10	<b>P2.3</b> ▣ 9	<b>P3.1</b> ■ 9	<b>P3.2</b> ▣ 7	<b>P3.3</b> ▣ 6	<b>P4.1</b> ▣ 5	<b>P4.2</b> ▣ 4	<b>K1.1</b> ■ 18	<b>K1.2</b> ■ 13	<b>K1.3</b> ■ 10
<b>K2.1</b> ■ 27	<b>K2.2</b> ■ 22	<b>K3.1</b> ■ 24	<b>K3.2</b> ■ 18	<b>K4.1</b> ■ 22	<b>K4.2</b> ■ 17	<b>K5.1</b> ■ 25	<b>K5.2</b> ■ 19	<b>N1.3</b> ▣ 16	<b>N2.1</b> ▣ 22	<b>N2.2</b> ▣ 19	<b>N2.3</b> ▣ 14	<b>N3.1</b> ▣ 34	<b>N3.2</b> ▣ 20
<b>N3.3</b> ▣ 10	<b>N4.2</b> ▣ 10	<b>N4.3</b> ▣ 6											

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E504M4N03	4	0.70	53.0	14	4.00	3.15	6	3	3.30	14.00
E504M5N03	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E504M6N03	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E504M8N03	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E504M10N03	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00

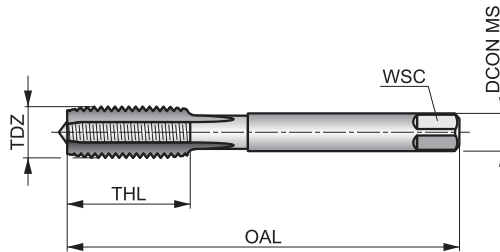


# E105



## HSS Straight Flute Serial Hand Tap, Metric-Fine, DIN Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a single finishing tap or as a set of two serial taps, which should be used one after the other to create the full thread.



	DIN 2181	6H
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K1.1	K1.2	K1.3	K2.1	K2.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
K3.1	K3.2	K4.1	K4.2	K5.1	K5.2	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
N3.3	N4.2	N4.3											
■	■	■											

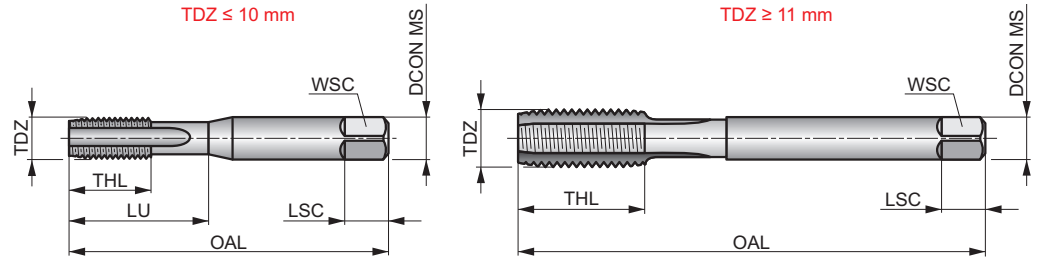
Product	TDZ	TP	OAL	THL	DCON MS	WSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)		
E105M4X.5N09	4	0.50	45.0	12	4.50	3.40	3	3.50
E105M5X.5N09	5	0.50	50.0	14	6.00	4.90	3	4.50
E105M6X.75N09	6	0.75	56.0	16	6.00	4.90	3	5.30
E105M8X.75N09	8	0.75	56.0	16	6.00	4.90	3	7.30
E105M8X1.0N09	8	1.00	63.0	19	6.00	4.90	3	7.00
E105M10X1.0N09	10	1.00	63.0	16	7.00	5.50	3	9.00
E105M10X1.25N09	10	1.25	70.0	22	7.00	5.50	3	8.80
E105M12X1.0N09	12	1.00	70.0	16	9.00	7.00	3	11.00
E105M12X1.25N09	12	1.25	70.0	16	9.00	7.00	3	10.80
E105M12X1.5N09	12	1.50	70.0	16	9.00	7.00	3	10.50
E105M14X1.0N09	14	1.00	70.0	16	11.00	9.00	4	13.00
E105M14X1.25N09	14	1.25	70.0	16	11.00	9.00	4	12.80
E105M14X1.5N09	14	1.50	70.0	16	11.00	9.00	4	12.50
E105M15X1.0N03	15	1.00	70.0	16	12.00	9.00	4	14.00
E105M15X1.0N09	15	1.00	70.0	16	12.00	9.00	4	14.00
E105M15X1.5N09	15	1.50	70.0	16	12.00	9.00	4	13.50
E105M16X1.5N09	16	1.50	70.0	16	12.00	9.00	4	14.50
E105M18X1.0N09	18	1.00	80.0	18	14.00	11.00	4	17.00
E105M18X1.5N09	18	1.50	80.0	18	14.00	11.00	4	16.50
E105M20X1.0N09	20	1.00	80.0	18	16.00	12.00	4	19.00
E105M20X1.5N09	20	1.50	80.0	18	16.00	12.00	4	18.50
E105M22X1.5N09	22	1.50	80.0	22	18.00	14.50	4	20.50
E105M24X1.5N09	24	1.50	90.0	22	18.00	14.50	4	22.50
E105M24X2.0N09	24	2.00	90.0	22	18.00	14.50	4	22.00
E105M27X1.5N09	27	1.50	90.0	22	20.00	16.00	4	25.50
E105M27X2.0N09	27	2.00	90.0	22	20.00	16.00	4	25.00
E105M30X1.5N09	30	1.50	90.0	22	22.00	18.00	4	28.50
E105M30X2.0N09	30	2.00	90.0	22	22.00	18.00	4	28.00
E105M40X1.5N09	40	1.50	110.0	25	32.00	24.00	4	38.50
E105M42X2.0N09	42	2.00	125.0	40	32.00	24.00	4	40.00
E105M42X3.0N09	42	3.00	125.0	40	32.00	24.00	4	39.00

# E513



## HSS Straight Flute Hand Tap, Metric Fine, ISO Standard

A versatile tool, suitable for hand and machine tapping, with a straight flute design for both through and blind holes. Available with taper lead NO1 for short through holes, plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes. Also, as a set NO7 with a plug lead and bottoming lead tap.



	ISO 529	6H
	1.5xD	HSS
		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E513M3X.35N01	3	0.35	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E513M3X.35N02	3	0.35	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E513M3X.35N03	3	0.35	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E513M3.5X.35N03	3.5	0.35	48.0	12.5	3.15	2.50	5	3	3.20	12.50
E513M4X.5N01	4	0.50	53.0	14	4.00	3.15	6	3	3.50	14.00
E513M4X.5N02	4	0.50	53.0	14	4.00	3.15	6	3	3.50	14.00
E513M4X.5N03	4	0.50	53.0	14	4.00	3.15	6	3	3.50	14.00
E513M5X.5N01	5	0.50	58.0	11	5.00	4.00	7	3	4.50	22.00
E513M5X.5N02	5	0.50	58.0	11	5.00	4.00	7	3	4.50	22.00
E513M5X.5N03	5	0.50	58.0	11	5.00	4.00	7	3	4.50	22.00
E513M5X.75N01	5	0.75	58.0	11	5.00	4.00	7	3	4.30	22.00
E513M5X.75N02	5	0.75	58.0	11	5.00	4.00	7	3	4.30	22.00
E513M5X.75N03	5	0.75	58.0	11	5.00	4.00	7	3	4.30	22.00
E513M6X.5N01	6	0.50	66.0	13	6.30	5.00	8	3	5.50	26.00
E513M6X.5N02	6	0.50	66.0	13	6.30	5.00	8	3	5.50	26.00
E513M6X.5N03	6	0.50	66.0	13	6.30	5.00	8	3	5.50	26.00
E513M6X.75N01	6	0.75	66.0	13	6.30	5.00	8	3	5.30	26.00
E513M6X.75N02	6	0.75	66.0	13	6.30	5.00	8	3	5.30	26.00
E513M6X.75N03	6	0.75	66.0	13	6.30	5.00	8	3	5.30	26.00
E513M7X.75N01	7	0.75	66.0	13	7.10	5.60	8	3	6.30	26.00
E513M7X.75N02	7	0.75	66.0	13	7.10	5.60	8	3	6.30	26.00
E513M7X.75N03	7	0.75	66.0	13	7.10	5.60	8	3	6.30	26.00
E513M8X.5N01	8	0.50	72.0	16	8.00	6.30	9	3	7.50	29.00
E513M8X.5N02	8	0.50	72.0	16	8.00	6.30	9	3	7.50	29.00
E513M8X.5N03	8	0.50	72.0	16	8.00	6.30	9	3	7.50	29.00
E513M8X.75N01	8	0.75	72.0	16	8.00	6.30	9	3	7.30	29.00
E513M8X.75N02	8	0.75	72.0	16	8.00	6.30	9	3	7.30	29.00
E513M8X.75N03	8	0.75	72.0	16	8.00	6.30	9	3	7.30	29.00

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E513M8X1.0N01	8	1.00	72.0	16	8.00	6.30	9	3	7.00	29.00
E513M8X1.0N02	8	1.00	72.0	16	8.00	6.30	9	3	7.00	29.00
E513M8X1.0N03	8	1.00	72.0	16	8.00	6.30	9	3	7.00	29.00
E513M8X1.0N07	8	1.00	72.0	16	8.00	6.30	9	3	7.00	29.00
E513M9X.75N03	9	0.75	72.0	16	9.00	7.10	10	3	8.30	29.00
E513M9X1.0N01	9	1.00	72.0	16	9.00	7.10	10	3	8.00	29.00
E513M9X1.0N02	9	1.00	72.0	16	9.00	7.10	10	3	8.00	29.00
E513M9X1.0N03	9	1.00	72.0	16	9.00	7.10	10	3	8.00	29.00
E513M10X.5N03	10	0.50	80.0	18	10.00	8.00	11	3	9.50	34.00
E513M10X.75N01	10	0.75	80.0	18	10.00	8.00	11	3	9.30	34.00
E513M10X.75N02	10	0.75	80.0	18	10.00	8.00	11	3	9.30	34.00
E513M10X.75N03	10	0.75	80.0	18	10.00	8.00	11	3	9.30	34.00
E513M10X1.0N01	10	1.00	80.0	18	10.00	8.00	11	3	9.00	34.00
E513M10X1.0N02	10	1.00	80.0	18	10.00	8.00	11	3	9.00	34.00
E513M10X1.0N03	10	1.00	80.0	18	10.00	8.00	11	3	9.00	34.00
E513M10X1.0N06	10	1.00	80.0	18	10.00	8.00	11	3	9.00	34.00
E513M10X1.0N07	10	1.00	80.0	18	10.00	8.00	11	3	9.00	34.00
E513M10X1.25N01	10	1.25	80.0	18	10.00	8.00	11	3	8.80	34.00
E513M10X1.25N02	10	1.25	80.0	18	10.00	8.00	11	3	8.80	34.00
E513M10X1.25N03	10	1.25	80.0	18	10.00	8.00	11	3	8.80	34.00
E513M10X1.25N06	10	1.25	80.0	18	10.00	8.00	11	3	8.80	34.00
E513M10X1.25N07	10	1.25	80.0	18	10.00	8.00	11	3	8.80	34.00
E513M11X.75N01	11	0.75	85.0	19	8.00	6.30	9	3	10.30	-
E513M11X.75N02	11	0.75	85.0	19	8.00	6.30	9	3	10.30	-
E513M11X.75N03	11	0.75	85.0	19	8.00	6.30	9	3	10.30	-
E513M11X1.0N01	11	1.00	85.0	19	8.00	6.30	9	3	10.00	-
E513M11X1.0N02	11	1.00	85.0	19	8.00	6.30	9	3	10.00	-
E513M11X1.0N03	11	1.00	85.0	19	8.00	6.30	9	3	10.00	-
E513M11X1.25N03	11	1.25	85.0	19	8.00	6.30	9	3	9.80	-
E513M12X.75N03	12	0.75	89.0	22	9.00	7.10	10	3	11.30	-
E513M12X1.0N01	12	1.00	89.0	22	9.00	7.10	10	3	11.00	-
E513M12X1.0N02	12	1.00	89.0	22	9.00	7.10	10	3	11.00	-
E513M12X1.0N03	12	1.00	89.0	22	9.00	7.10	10	3	11.00	-
E513M12X1.0N07	12	1.00	89.0	22	9.00	7.10	10	3	11.00	-
E513M12X1.25N01	12	1.25	89.0	22	9.00	7.10	10	3	10.80	-
E513M12X1.25N02	12	1.25	89.0	22	9.00	7.10	10	3	10.80	-
E513M12X1.25N03	12	1.25	89.0	22	9.00	7.10	10	3	10.80	-
E513M12X1.25N06	12	1.25	89.0	22	9.00	7.10	10	3	10.80	-
E513M12X1.25N07	12	1.25	89.0	22	9.00	7.10	10	3	10.80	-
E513M12X1.5N01	12	1.50	89.0	22	9.00	7.10	10	3	10.50	-
E513M12X1.5N02	12	1.50	89.0	22	9.00	7.10	10	3	10.50	-
E513M12X1.5N03	12	1.50	89.0	22	9.00	7.10	10	3	10.50	-
E513M12X1.5N06	12	1.50	89.0	22	9.00	7.10	10	3	10.50	-
E513M12X1.5N07	12	1.50	89.0	22	9.00	7.10	10	3	10.50	-
E513M13X1.5N03	13	1.50	89.0	22	9.00	7.10	10	3	11.50	-
E513M14X1.0N01	14	1.00	95.0	24	11.20	9.00	12	4	13.00	-
E513M14X1.0N02	14	1.00	95.0	24	11.20	9.00	12	4	13.00	-
E513M14X1.0N03	14	1.00	95.0	24	11.20	9.00	12	4	13.00	-
E513M14X1.25N01	14	1.25	95.0	24	11.20	9.00	12	4	12.80	-
E513M14X1.25N02	14	1.25	95.0	24	11.20	9.00	12	4	12.80	-
E513M14X1.25N03	14	1.25	95.0	24	11.20	9.00	12	4	12.80	-
E513M14X1.25N06	14	1.25	95.0	24	11.20	9.00	12	4	12.80	-
E513M14X1.5N01	14	1.50	95.0	24	11.20	9.00	12	4	12.50	-
E513M14X1.5N02	14	1.50	95.0	24	11.20	9.00	12	4	12.50	-
E513M14X1.5N03	14	1.50	95.0	24	11.20	9.00	12	4	12.50	-
E513M14X1.5N06	14	1.50	95.0	24	11.20	9.00	12	4	12.50	-
E513M14X1.5N07	14	1.50	95.0	24	11.20	9.00	12	4	12.50	-
E513M15X1.5N02	15	1.50	95.0	24	11.20	9.00	12	4	13.50	-
E513M15X1.5N03	15	1.50	95.0	24	11.20	9.00	12	4	13.50	-
E513M16X1.0N01	16	1.00	102.0	24	12.50	10.00	13	4	15.00	-
E513M16X1.0N02	16	1.00	102.0	24	12.50	10.00	13	4	15.00	-
E513M16X1.0N03	16	1.00	102.0	24	12.50	10.00	13	4	15.00	-

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E513M16X1.0N07	16	1.00	102.0	24	12.50	10.00	13	4	15.00	–
E513M16X1.25N03	16	1.25	102.0	24	12.50	10.00	13	4	14.80	–
E513M16X1.5N01	16	1.50	102.0	24	12.50	10.00	13	4	14.50	–
E513M16X1.5N02	16	1.50	102.0	24	12.50	10.00	13	4	14.50	–
E513M16X1.5N03	16	1.50	102.0	24	12.50	10.00	13	4	14.50	–
E513M16X1.5N06	16	1.50	102.0	24	12.50	10.00	13	4	14.50	–
E513M16X1.5N07	16	1.50	102.0	24	12.50	10.00	13	4	14.50	–
E513M18X1.0N01	18	1.00	112.0	29	14.00	11.20	14	4	17.00	–
E513M18X1.0N02	18	1.00	112.0	29	14.00	11.20	14	4	17.00	–
E513M18X1.0N03	18	1.00	112.0	29	14.00	11.20	14	4	17.00	–
E513M18X1.5N01	18	1.50	112.0	29	14.00	11.20	14	4	16.50	–
E513M18X1.5N02	18	1.50	112.0	29	14.00	11.20	14	4	16.50	–
E513M18X1.5N03	18	1.50	112.0	29	14.00	11.20	14	4	16.50	–
E513M18X1.5N06	18	1.50	112.0	29	14.00	11.20	14	4	16.50	–
E513M18X1.5N07	18	1.50	112.0	29	14.00	11.20	14	4	16.50	–
E513M18X2.0N01	18	2.00	112.0	29	14.00	11.20	14	4	16.00	–
E513M18X2.0N02	18	2.00	112.0	29	14.00	11.20	14	4	16.00	–
E513M18X2.0N03	18	2.00	112.0	29	14.00	11.20	14	4	16.00	–
E513M20X1.0N02	20	1.00	112.0	29	14.00	11.20	14	4	19.00	–
E513M20X1.0N03	20	1.00	112.0	29	14.00	11.20	14	4	19.00	–
E513M20X1.5N01	20	1.50	112.0	29	14.00	11.20	14	4	18.50	–
E513M20X1.5N02	20	1.50	112.0	29	14.00	11.20	14	4	18.50	–
E513M20X1.5N03	20	1.50	112.0	29	14.00	11.20	14	4	18.50	–
E513M20X1.5N06	20	1.50	112.0	29	14.00	11.20	14	4	18.50	–
E513M20X1.5N07	20	1.50	112.0	29	14.00	11.20	14	4	18.50	–
E513M20X2.0N01	20	2.00	112.0	29	14.00	11.20	14	4	18.00	–
E513M20X2.0N02	20	2.00	112.0	29	14.00	11.20	14	4	18.00	–
E513M20X2.0N03	20	2.00	112.0	29	14.00	11.20	14	4	18.00	–
E513M20X2.0N07	20	2.00	112.0	29	14.00	11.20	14	4	18.00	–
E513M22X1.0N02	22	1.00	118.0	29	16.00	12.50	16	4	21.00	–
E513M22X1.0N03	22	1.00	118.0	29	16.00	12.50	16	4	21.00	–
E513M22X1.0N07	22	1.00	118.0	29	16.00	12.50	16	4	21.00	–
E513M22X1.5N01	22	1.50	118.0	29	16.00	12.50	16	4	20.50	–
E513M22X1.5N02	22	1.50	118.0	29	16.00	12.50	16	4	20.50	–
E513M22X1.5N03	22	1.50	118.0	29	16.00	12.50	16	4	20.50	–
E513M22X1.5N07	22	1.50	118.0	29	16.00	12.50	16	4	20.50	–
E513M22X2.0N01	22	2.00	118.0	29	16.00	12.50	16	4	20.00	–
E513M22X2.0N02	22	2.00	118.0	29	16.00	12.50	16	4	20.00	–
E513M22X2.0N03	22	2.00	118.0	29	16.00	12.50	16	4	20.00	–
E513M22X2.0N07	22	2.00	118.0	29	16.00	12.50	16	4	20.00	–
E513M24X1.0N02	24	1.00	130.0	35	18.00	14.00	18	4	23.00	–
E513M24X1.0N03	24	1.00	130.0	35	18.00	14.00	18	4	23.00	–
E513M24X1.5N01	24	1.50	130.0	35	18.00	14.00	18	4	22.50	–
E513M24X1.5N02	24	1.50	130.0	35	18.00	14.00	18	4	22.50	–
E513M24X1.5N03	24	1.50	130.0	35	18.00	14.00	18	4	22.50	–
E513M24X1.5N07	24	1.50	130.0	35	18.00	14.00	18	4	22.50	–
E513M24X2.0N01	24	2.00	130.0	35	18.00	14.00	18	4	22.00	–
E513M24X2.0N02	24	2.00	130.0	35	18.00	14.00	18	4	22.00	–
E513M24X2.0N03	24	2.00	130.0	35	18.00	14.00	18	4	22.00	–
E513M24X2.0N07	24	2.00	130.0	35	18.00	14.00	18	4	22.00	–
E513M25X1.5N01	25	1.50	130.0	35	18.00	14.00	18	4	23.50	–
E513M25X1.5N02	25	1.50	130.0	35	18.00	14.00	18	4	23.50	–
E513M25X1.5N03	25	1.50	130.0	35	18.00	14.00	18	4	23.50	–
E513M25X1.5N06	25	1.50	130.0	35	18.00	14.00	18	4	23.50	–
E513M25X1.5N07	25	1.50	130.0	35	18.00	14.00	18	4	23.50	–
E513M26X1.5N02	26	1.50	130.0	35	18.00	14.00	18	4	24.50	–
E513M26X1.5N03	26	1.50	130.0	35	18.00	14.00	18	4	24.50	–
E513M27X1.5N02	27	1.50	135.0	35	20.00	16.00	20	4	25.50	–
E513M27X1.5N03	27	1.50	135.0	35	20.00	16.00	20	4	25.50	–
E513M27X2.0N03	27	2.00	135.0	35	20.00	16.00	20	4	25.00	–
E513M28X1.5N02	28	1.50	138.0	35	20.00	16.00	20	4	26.50	–
E513M28X1.5N03	28	1.50	138.0	35	20.00	16.00	20	4	26.50	–

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E513M30X1.5N02	30	1.50	138.0	41	20.00	16.00	20	4	28.50	—
E513M30X1.5N03	30	1.50	138.0	41	20.00	16.00	20	4	28.50	—
E513M30X2.0N02	30	2.00	138.0	41	20.00	16.00	20	4	28.00	—
E513M30X2.0N03	30	2.00	138.0	41	20.00	16.00	20	4	28.00	—
E513M32X1.5N01	32	1.50	151.0	41	22.40	18.00	22	4	30.50	—
E513M32X1.5N02	32	1.50	151.0	41	22.40	18.00	22	4	30.50	—
E513M32X1.5N03	32	1.50	151.0	41	22.40	18.00	22	4	30.50	—
E513M33X2.0N02	33	2.00	151.0	41	22.40	18.00	22	4	31.00	—
E513M33X2.0N03	33	2.00	151.0	41	22.40	18.00	22	4	31.00	—
E513M35X1.5N02	35	1.50	162.0	47	25.00	20.00	24	4	33.50	—
E513M35X1.5N03	35	1.50	162.0	47	25.00	20.00	24	4	33.50	—
E513M36X1.5N03	36	1.50	162.0	47	25.00	20.00	24	4	34.50	—
E513M36X2.0N02	36	2.00	162.0	47	25.00	20.00	24	4	34.00	—
E513M36X2.0N03	36	2.00	162.0	47	25.00	20.00	24	4	34.00	—
E513M36X3.0N02	36	3.00	162.0	47	25.00	20.00	24	4	33.00	—
E513M36X3.0N03	36	3.00	162.0	47	25.00	20.00	24	4	33.00	—
E513M39X3.0N03	39	3.00	170.0	47	28.00	22.40	26	4	36.00	—
E513M40X1.5N02	40	1.50	170.0	53	28.00	22.40	26	6	38.50	—
E513M40X1.5N03	40	1.50	170.0	53	28.00	22.40	26	6	38.50	—
E513M42X1.5N02	42	1.50	170.0	53	28.00	22.40	26	6	40.50	—
E513M42X1.5N03	42	1.50	170.0	53	28.00	22.40	26	6	40.50	—
E513M42X3.0N03	42	3.00	170.0	53	28.00	22.40	26	6	39.00	—
E513M45X1.5N02	45	1.50	187.0	54	31.50	25.00	28	6	43.50	—
E513M45X1.5N03	45	1.50	187.0	54	31.50	25.00	28	6	43.50	—
E513M48X1.5N03	48	1.50	187.0	60	31.50	25.00	28	6	46.50	—
E513M48X2.0N03	48	2.00	187.0	60	31.50	25.00	28	6	46.00	—
E513M48X3.0N03	48	3.00	187.0	60	31.50	25.00	28	6	45.00	—
E513M50X1.5N02	50	1.50	187.0	60	31.50	25.00	28	6	48.50	—
E513M50X1.5N03	50	1.50	187.0	60	31.50	25.00	28	6	48.50	—

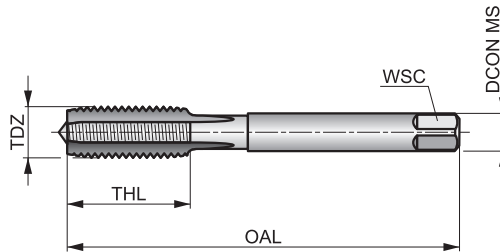


# E108



## HSS Straight Flute Serial Hand Tap, UNC, DIN Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a set of three serial taps, which should be used one after the other to create the full thread.



	DIN 352	2B
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K1.1	K1.2	K1.3	K2.1	K2.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
K3.1	K3.2	K4.1	K4.2	K5.1	K5.2	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
N3.3	N4.2	N4.3											
■	■	■											

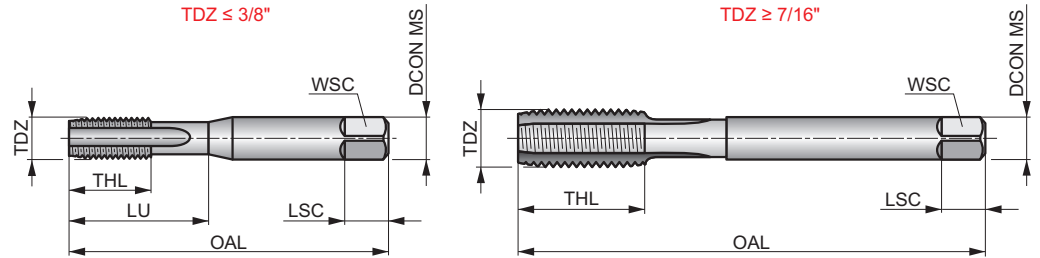
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD
			(mm)	(mm)	(mm)				
E1085-40N08	5	40	3.18	45.0	13	4.00	3.00	3	2.65
E1086-32N08	6	32	3.51	45.0	10	4.00	3.00	3	2.85
E1088-32N08	8	32	4.17	50.0	14	6.00	4.90	3	3.50
E10810-24N08	10	24	4.83	50.0	14	6.00	4.90	3	3.90
E10812-24N08	12	24	5.49	56.0	16	6.00	4.90	3	4.50
E1081/4N08	1/4	20	6.35	56.0	17	6.00	4.90	3	5.10
E1085/16N08	5/16	18	7.94	63.0	19	6.00	4.90	3	6.60
E1083/8N08	3/8	16	9.53	70.0	22	7.00	5.50	3	8.00
E1087/16N08	7/16	14	11.11	75.0	30	8.00	6.20	3	9.40
E1081/2N08	1/2	13	12.70	75.0	27	9.00	7.00	3	10.80
E1089/16N08	9/16	12	14.29	80.0	30	11.00	9.00	4	12.20
E1085/8N08	5/8	11	15.88	80.0	32	12.00	9.00	4	13.50
E1083/4N08	3/4	10	19.05	95.0	34	14.00	11.00	4	16.50
E1087/8N08	7/8	9	22.23	110.0	38	18.00	14.50	4	19.50
E1081N08	1"	8	25.40	110.0	38	20.00	16.00	4	22.25

# E515



## HSS Straight Flute Hand Tap, UNC, ISO Standard

A versatile tool, suitable for hand and machine tapping. With a straight flute design for both through and blind holes. Available as a set of three NO6 or as separate taps with taper lead NO1 for short through holes, plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes.



	ISO 529	2B
	1.5xD	HSS
	R	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Products from this series are also available in set with dies. Please see L120.

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E5151-64N03	1	64	1.85	41.0	8	2.50	2.00	4	2	1.55	8.00
E5152-56N01	2	56	2.18	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E5152-56N02	2	56	2.18	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E5152-56N03	2	56	2.18	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E5152-56N06	2	56	2.18	44.5	9.5	2.80	2.24	5	3	1.85	9.50
E5153-48N03	3	48	2.52	44.5	9.5	2.80	2.24	5	3	2.10	9.50
E5153-48N06	3	48	2.52	44.5	9.5	2.80	2.24	5	3	2.10	9.50
E5154-40N01	4	40	2.85	48.0	12.5	3.15	2.50	5	3	2.35	12.50
E5154-40N02	4	40	2.85	48.0	12.5	3.15	2.50	5	3	2.35	12.50
E5154-40N03	4	40	2.85	48.0	12.5	3.15	2.50	5	3	2.35	12.50
E5154-40N06	4	40	2.85	48.0	12.5	3.15	2.50	5	3	2.35	12.50
E5155-40N01	5	40	3.17	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E5155-40N02	5	40	3.17	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E5155-40N03	5	40	3.17	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E5155-40N06	5	40	3.17	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E5156-32N01	6	32	3.50	50.0	14	3.55	2.80	5	3	2.85	14.00
E5156-32N02	6	32	3.50	50.0	14	3.55	2.80	5	3	2.85	14.00
E5156-32N03	6	32	3.50	50.0	14	3.55	2.80	5	3	2.85	14.00
E5156-32N06	6	32	3.50	50.0	14	3.55	2.80	5	3	2.85	14.00
E5158-32N01	8	32	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E5158-32N02	8	32	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E5158-32N03	8	32	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E5158-32N06	8	32	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E51510-24N01	10	24	4.83	58.0	11	5.00	4.00	7	3	3.90	20.00
E51510-24N02	10	24	4.83	58.0	11	5.00	4.00	7	3	3.90	20.00
E51510-24N03	10	24	4.83	58.0	11	5.00	4.00	7	3	3.90	20.00
E51510-24N06	10	24	4.83	58.0	11	5.00	4.00	7	3	3.90	20.00

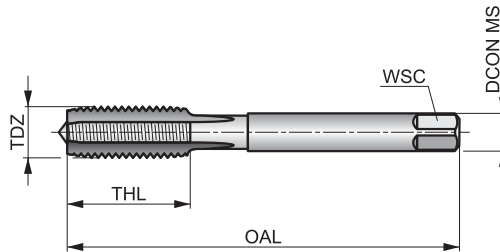
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	
E51512-24N01	12	24	5.49	62.0	12	5.60	4.50	7	3	4.50	21.00
E51512-24N02	12	24	5.49	62.0	12	5.60	4.50	7	3	4.50	21.00
E51512-24N03	12	24	5.49	62.0	12	5.60	4.50	7	3	4.50	21.00
E51512-24N06	12	24	5.49	62.0	12	5.60	4.50	7	3	4.50	21.00
E5151/4N01	1/4	20	6.35	66.0	13	6.30	5.00	8	3	5.10	26.00
E5151/4N02	1/4	20	6.35	66.0	13	6.30	5.00	8	3	5.10	26.00
E5151/4N03	1/4	20	6.35	66.0	13	6.30	5.00	8	3	5.10	26.00
E5151/4N06	1/4	20	6.35	66.0	13	6.30	5.00	8	3	5.10	26.00
E5155/16N01	5/16	18	7.94	72.0	16	8.00	6.30	9	3	6.60	29.00
E5155/16N02	5/16	18	7.94	72.0	16	8.00	6.30	9	3	6.60	29.00
E5155/16N03	5/16	18	7.94	72.0	16	8.00	6.30	9	3	6.60	29.00
E5155/16N06	5/16	18	7.94	72.0	16	8.00	6.30	9	3	6.60	29.00
E5153/8N01	3/8	16	9.53	80.0	18	10.00	8.00	11	3	8.00	32.00
E5153/8N02	3/8	16	9.53	80.0	18	10.00	8.00	11	3	8.00	32.00
E5153/8N03	3/8	16	9.53	80.0	18	10.00	8.00	11	3	8.00	32.00
E5153/8N06	3/8	16	9.53	80.0	18	10.00	8.00	11	3	8.00	32.00
E5157/16N01	7/16	14	11.11	85.0	19	8.00	6.30	9	3	9.40	-
E5157/16N02	7/16	14	11.11	85.0	19	8.00	6.30	9	3	9.40	-
E5157/16N03	7/16	14	11.11	85.0	19	8.00	6.30	9	3	9.40	-
E5157/16N06	7/16	14	11.11	85.0	19	8.00	6.30	9	3	9.40	-
E5151/2N01	1/2	13	12.70	89.0	22	9.00	7.10	10	3	10.80	-
E5151/2N02	1/2	13	12.70	89.0	22	9.00	7.10	10	3	10.80	-
E5151/2N03	1/2	13	12.70	89.0	22	9.00	7.10	10	3	10.80	-
E5151/2N06	1/2	13	12.70	89.0	22	9.00	7.10	10	3	10.80	-
E5159/16N01	9/16	12	14.29	95.0	24	11.20	9.00	12	4	12.20	-
E5159/16N02	9/16	12	14.29	95.0	24	11.20	9.00	12	4	12.20	-
E5159/16N03	9/16	12	14.29	95.0	24	11.20	9.00	12	4	12.20	-
E5159/16N06	9/16	12	14.29	95.0	24	11.20	9.00	12	4	12.20	-
E5155/8N01	5/8	11	15.88	102.0	24	12.50	10.00	13	4	13.50	-
E5155/8N02	5/8	11	15.88	102.0	24	12.50	10.00	13	4	13.50	-
E5155/8N03	5/8	11	15.88	102.0	24	12.50	10.00	13	4	13.50	-
E5155/8N06	5/8	11	15.88	102.0	24	12.50	10.00	13	4	13.50	-
E5153/4N01	3/4	10	19.05	112.0	29	14.00	11.20	14	4	16.50	-
E5153/4N02	3/4	10	19.05	112.0	29	14.00	11.20	14	4	16.50	-
E5153/4N03	3/4	10	19.05	112.0	29	14.00	11.20	14	4	16.50	-
E5153/4N06	3/4	10	19.05	112.0	29	14.00	11.20	14	4	16.50	-
E5157/8N01	7/8	9	22.23	118.0	29	16.00	12.50	16	4	19.50	-
E5157/8N02	7/8	9	22.23	118.0	29	16.00	12.50	16	4	19.50	-
E5157/8N03	7/8	9	22.23	118.0	29	16.00	12.50	16	4	19.50	-
E5157/8N06	7/8	9	22.23	118.0	29	16.00	12.50	16	4	19.50	-
E5151N03	1"	8	25.40	130.0	35	18.00	14.00	18	4	22.25	-
E5151N01	1"	8	25.40	130.0	35	18.00	14.00	18	4	22.25	-
E5151N02	1"	8	25.40	130.0	35	18.00	14.00	18	4	22.25	-
E5151N06	1"	8	25.40	130.0	35	18.00	14.00	18	4	22.25	-
E5151.1/8N01	1.1/8	7	28.57	138.0	35	20.00	16.00	20	4	25.00	-
E5151.1/8N02	1.1/8	7	28.57	138.0	35	20.00	16.00	20	4	25.00	-
E5151.1/8N03	1.1/8	7	28.57	138.0	35	20.00	16.00	20	4	25.00	-
E5151.1/4N01	1.1/4	7	31.75	151.0	41	22.40	18.00	22	4	28.00	-
E5151.1/4N02	1.1/4	7	31.75	151.0	41	22.40	18.00	22	4	28.00	-
E5151.1/4N03	1.1/4	7	31.75	151.0	41	22.40	18.00	22	4	28.00	-
E5151.3/8N01	1.3/8	6	34.92	162.0	47	25.00	20.00	24	4	30.75	-
E5151.3/8N02	1.3/8	6	34.92	162.0	47	25.00	20.00	24	4	30.75	-
E5151.3/8N03	1.3/8	6	34.92	162.0	47	25.00	20.00	24	4	30.75	-
E5151.1/2N01	1.1/2	6	38.10	170.0	47	28.00	22.40	26	4	34.00	-
E5151.1/2N02	1.1/2	6	38.10	170.0	47	28.00	22.40	26	4	34.00	-
E5151.1/2N03	1.1/2	6	38.10	170.0	47	28.00	22.40	26	4	34.00	-
E5151.3/4N01	1.3/4	5	44.45	187.0	54	31.50	25.00	28	6	39.50	-
E5151.3/4N02	1.3/4	5	44.45	187.0	54	31.50	25.00	28	6	39.50	-
E5151.3/4N03	1.3/4	5	44.45	187.0	54	31.50	25.00	28	6	39.50	-
E5152N01	2"	4.5	50.80	200.0	60	35.50	28.00	31	6	45.00	-
E5152N02	2"	4.5	50.80	200.0	60	35.50	28.00	31	6	45.00	-

# E111



## HSS Straight Flute Serial Hand Tap, UNF, DIN Standard

Ideal for hand tapping tough materials. The straight flute design makes it suited for both through and blind holes. Available as a set of two serial taps, which should be used one after the other to create the full thread.



	DIN 2181	2B
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K1.1	K1.2	K1.3	K2.1	K2.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
K3.1	K3.2	K4.1	K4.2	K5.1	K5.2	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
N3.3	N4.2	N4.3											
■	■	■											

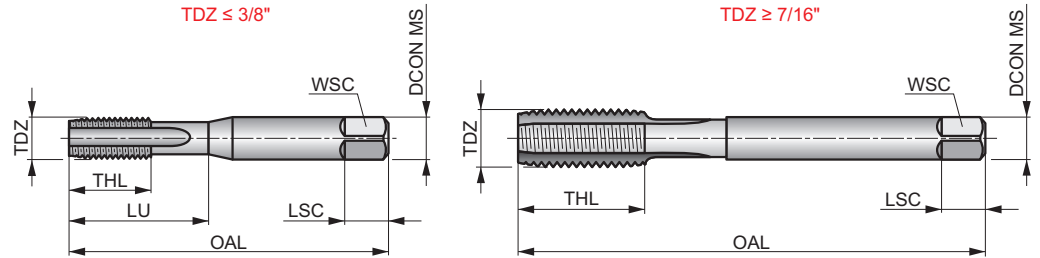
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD
			(mm)	(mm)	(mm)				
E1115-44N09	5	44	3.18	45.0	13	4.00	3.00	3	2.70
E1116-40N09	6	40	3.51	45.0	10	4.00	3.00	3	2.95
E1118-36N09	8	36	4.17	50.0	14	6.00	4.90	3	3.50
E11110-32N09	10	32	4.82	50.0	14	6.00	4.90	3	4.10
E1111/4N09	1/4	28	6.35	56.0	17	6.00	4.90	3	5.50
E1115/16N09	5/16	24	7.94	63.0	19	6.00	4.90	3	6.90
E1113/8N09	3/8	24	9.53	63.0	16	7.00	5.50	3	8.50
E1117/16N09	7/16	20	11.11	63.0	15	8.00	6.20	3	9.90
E1111/2N09	1/2	20	12.70	70.0	22	9.00	7.00	3	11.50
E1119/16N09	9/16	18	14.29	70.0	16	11.00	9.00	4	12.90
E1115/8N09	5/8	18	15.88	70.0	16	12.00	9.00	4	14.50
E1113/4N09	3/4	16	19.05	80.0	22	14.00	11.00	4	17.50
E1117/8N09	7/8	14	22.23	90.0	22	18.00	14.50	4	20.40
E1111N09	1"	12	25.40	90.0	22	20.00	16.00	4	23.25

# E524



## HSS Straight Flute Hand Tap, UNF, ISO Standard

A versatile tool, suitable for hand and machine tapping. With a straight flute design for both through and blind holes. Available as a set of three NO6 or as separate taps with taper lead NO1 for short through holes, plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes.



	ISO 529	2B
	1.5xD	HSS
	R	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Products from this series are also available in set with dies. Please see L120.

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E5240-80N01	0	80	1.52	41.0	7	2.50	2.00	4	2	1.25	7.00
E5240-80N02	0	80	1.52	41.0	7	2.50	2.00	4	2	1.25	7.00
E5240-80N03	0	80	1.52	41.0	7	2.50	2.00	4	2	1.25	7.00
E5241-72N02	1	72	1.85	41.0	8	2.50	2.00	4	2	1.55	8.00
E5241-72N03	1	72	1.85	41.0	8	2.50	2.00	4	2	1.55	8.00
E5242-64N01	2	64	2.18	44.5	9.5	2.80	2.24	5	3	1.90	9.50
E5242-64N02	2	64	2.18	44.5	9.5	2.80	2.24	5	3	1.90	9.50
E5242-64N03	2	64	2.18	44.5	9.5	2.80	2.24	5	3	1.90	9.50
E5244-48N01	4	48	2.85	48.0	12.5	3.15	2.50	5	3	2.40	12.50
E5244-48N02	4	48	2.85	48.0	12.5	3.15	2.50	5	3	2.40	12.50
E5244-48N03	4	48	2.85	48.0	12.5	3.15	2.50	5	3	2.40	12.50
E5245-44N01	5	44	3.17	48.0	12.5	3.15	2.50	5	3	2.70	12.50
E5245-44N02	5	44	3.17	48.0	12.5	3.15	2.50	5	3	2.70	12.50
E5245-44N03	5	44	3.17	48.0	12.5	3.15	2.50	5	3	2.70	12.50
E5246-40N01	6	40	3.50	50.0	14	3.55	2.80	5	3	2.95	14.00
E5246-40N02	6	40	3.50	50.0	14	3.55	2.80	5	3	2.95	14.00
E5246-40N03	6	40	3.50	50.0	14	3.55	2.80	5	3	2.95	14.00
E5248-36N01	8	36	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E5248-36N02	8	36	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E5248-36N03	8	36	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E52410-32N01	10	32	4.83	58.0	11	5.00	4.00	7	3	4.10	20.00
E52410-32N02	10	32	4.83	58.0	11	5.00	4.00	7	3	4.10	20.00
E52410-32N03	10	32	4.83	58.0	11	5.00	4.00	7	3	4.10	20.00
E52410-32N06	10	32	4.83	58.0	11	5.00	4.00	7	3	4.10	20.00
E52412-28N01	12	28	5.49	62.0	12	5.60	4.50	7	3	4.70	21.00
E52412-28N02	12	28	5.49	62.0	12	5.60	4.50	7	3	4.70	21.00
E52412-28N03	12	28	5.49	62.0	12	5.60	4.50	7	3	4.70	21.00



Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E52412-28N06	12	28	5.49	62.0	12	5.60	4.50	7	3	4.70	21.00
E5241/4N01	1/4	28	6.35	66.0	13	6.30	5.00	8	3	5.50	26.00
E5241/4N02	1/4	28	6.35	66.0	13	6.30	5.00	8	3	5.50	26.00
E5241/4N03	1/4	28	6.35	66.0	13	6.30	5.00	8	3	5.50	26.00
E5241/4N06	1/4	28	6.35	66.0	13	6.30	5.00	8	3	5.50	26.00
E5245/16N01	5/16	24	7.94	72.0	16	8.00	6.30	9	3	6.90	29.00
E5245/16N02	5/16	24	7.94	72.0	16	8.00	6.30	9	3	6.90	29.00
E5245/16N03	5/16	24	7.94	72.0	16	8.00	6.30	9	3	6.90	29.00
E5245/16N06	5/16	24	7.94	72.0	16	8.00	6.30	9	3	6.90	29.00
E5243/8N01	3/8	24	9.53	80.0	18	10.00	8.00	11	3	8.50	32.00
E5243/8N02	3/8	24	9.53	80.0	18	10.00	8.00	11	3	8.50	32.00
E5243/8N03	3/8	24	9.53	80.0	18	10.00	8.00	11	3	8.50	32.00
E5243/8N06	3/8	24	9.53	80.0	18	10.00	8.00	11	3	8.50	32.00
E5247/16N01	7/16	20	11.11	85.0	19	8.00	6.30	9	3	9.90	-
E5247/16N02	7/16	20	11.11	85.0	19	8.00	6.30	9	3	9.90	-
E5247/16N03	7/16	20	11.11	85.0	19	8.00	6.30	9	3	9.90	-
E5247/16N06	7/16	20	11.11	85.0	19	8.00	6.30	9	3	9.90	-
E5241/2N01	1/2	20	12.70	89.0	22	9.00	7.10	10	3	11.50	-
E5241/2N02	1/2	20	12.70	89.0	22	9.00	7.10	10	3	11.50	-
E5241/2N03	1/2	20	12.70	89.0	22	9.00	7.10	10	3	11.50	-
E5241/2N06	1/2	20	12.70	89.0	22	9.00	7.10	10	3	11.50	-
E5249/16N01	9/16	18	14.29	95.0	24	11.20	9.00	12	4	12.90	-
E5249/16N02	9/16	18	14.29	95.0	24	11.20	9.00	12	4	12.90	-
E5249/16N03	9/16	18	14.29	95.0	24	11.20	9.00	12	4	12.90	-
E5249/16N06	9/16	18	14.29	95.0	24	11.20	9.00	12	4	12.90	-
E5245/8N01	5/8	18	15.88	102.0	24	12.50	10.00	13	4	14.50	-
E5245/8N02	5/8	18	15.88	102.0	24	12.50	10.00	13	4	14.50	-
E5245/8N03	5/8	18	15.88	102.0	24	12.50	10.00	13	4	14.50	-
E5245/8N06	5/8	18	15.88	102.0	24	12.50	10.00	13	4	14.50	-
E5243/4N01	3/4	16	19.05	112.0	29	14.00	11.20	14	4	17.50	-
E5243/4N02	3/4	16	19.05	112.0	29	14.00	11.20	14	4	17.50	-
E5243/4N03	3/4	16	19.05	112.0	29	14.00	11.20	14	4	17.50	-
E5243/4N06	3/4	16	19.05	112.0	29	14.00	11.20	14	4	17.50	-
E5247/8N02	7/8	14	22.23	118.0	29	16.00	12.50	16	4	20.40	-
E5247/8N03	7/8	14	22.23	118.0	29	16.00	12.50	16	4	20.40	-
E5247/8N06	7/8	14	22.23	118.0	29	16.00	12.50	16	4	20.40	-
E5241N01	1"	12	25.40	130.0	35	18.00	14.00	18	4	23.25	-
E5241N02	1"	12	25.40	130.0	35	18.00	14.00	18	4	23.25	-
E5241N03	1"	12	25.40	130.0	35	18.00	14.00	18	4	23.25	-
E5241N06	1"	12	25.40	130.0	35	18.00	14.00	18	4	23.25	-
E5241.1/8N01	1.1/8	12	28.57	138.0	35	20.00	16.00	20	4	26.50	-
E5241.1/8N02	1.1/8	12	28.57	138.0	35	20.00	16.00	20	4	26.50	-
E5241.1/8N03	1.1/8	12	28.57	138.0	35	20.00	16.00	20	4	26.50	-
E5241.1/4N01	1.1/4	12	31.75	151.0	41	22.40	18.00	22	4	29.50	-
E5241.1/4N02	1.1/4	12	31.75	151.0	41	22.40	18.00	22	4	29.50	-
E5241.1/4N03	1.1/4	12	31.75	151.0	41	22.40	18.00	22	4	29.50	-
E5241.3/8N01	1.3/8	12	34.92	162.0	47	25.00	20.00	24	4	32.75	-
E5241.3/8N02	1.3/8	12	34.92	162.0	47	25.00	20.00	24	4	32.75	-
E5241.3/8N03	1.3/8	12	34.92	162.0	47	25.00	20.00	24	4	32.75	-
E5241.1/2N01	1.1/2	12	38.10	170.0	47	28.00	22.40	26	4	36.00	-
E5241.1/2N02	1.1/2	12	38.10	170.0	47	28.00	22.40	26	4	36.00	-
E5241.1/2N03	1.1/2	12	38.10	170.0	47	28.00	22.40	26	4	36.00	-

# E570

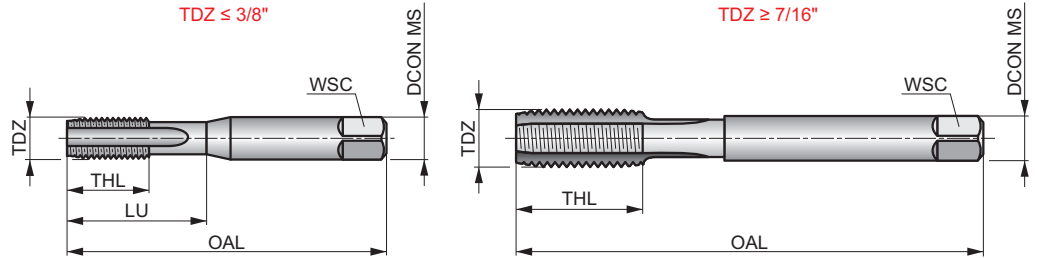


## HSS Straight Flute Hand Tap, UN, ISO Standard

A versatile tool, suitable for machine and also hand tapping. With a straight flute design and bottoming lead for blind and through holes.



	ISO 529	2B
	1.5xD	HSS



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

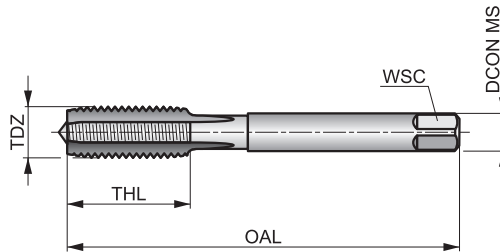
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)					
E5701/4X32N03	1/4	32	6.35	66.0	13	6.30	5.00	3	5.60	26.00
E5701/4X36N03	1/4	36	6.35	66.0	13	6.30	5.00	3	5.70	26.00
E5701/4X40N03	1/4	40	6.35	66.0	13	6.30	5.00	3	5.70	26.00
E5705/16X32N03	5/16	32	7.94	72.0	16	8.00	6.30	3	7.20	29.00
E5703/8X32N03	3/8	32	9.53	80.0	18	10.00	8.00	3	8.80	32.00
E5707/16X24N03	7/16	24	11.11	85.0	19	8.00	6.30	3	10.00	-
E5707/16X28N03	7/16	28	11.11	85.0	19	8.00	6.30	3	10.20	-
E5701/2X28N03	1/2	28	12.70	89.0	22	9.00	7.10	3	11.80	-
E5709/16X24N03	9/16	24	14.29	95.0	24	11.20	9.00	4	13.25	-
E5705/8X24N03	5/8	24	15.88	102.0	24	12.50	10.00	4	14.80	-
E5703/4X20N03	3/4	20	19.05	112.0	29	14.00	11.20	4	17.80	-
E5707/8X20N03	7/8	20	22.23	118.0	30	16.00	12.50	4	21.00	-
E5701X14N03	1"	14	25.40	130.0	36	18.00	14.00	4	23.50	-
E5701.1/16X12N03	1.1/16	12	26.99	127.0	37	20.00	16.00	4	24.75	-
E5701.1/8X8N03	1.1/8	8	28.57	138.0	35	20.00	16.00	4	25.50	-
E5701.3/16X12N03	1.3/16	12	30.16	137.0	37	22.40	18.00	4	28.00	-
E5701.1/4X8N03	1.1/4	8	31.75	151.0	41	22.40	18.00	4	28.50	-
E5701.5/16X12N03	1.5/16	12	33.34	137.0	37	22.40	18.00	4	31.25	-

# E115



## HSS Straight Flute Serial Hand Tap, BSW, DIN352 Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a set of three serial taps, which should be used one after the other to create the full thread.



	DIN 351	Medium
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K1.1	K1.2	K1.3	K2.1	K2.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
K3.1	K3.2	K4.1	K4.2	K5.1	K5.2	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2
■	■	■	■	■	■	■	■	■	■	■	■	■	■
N3.3	N4.2	N4.3											
■	■	■											

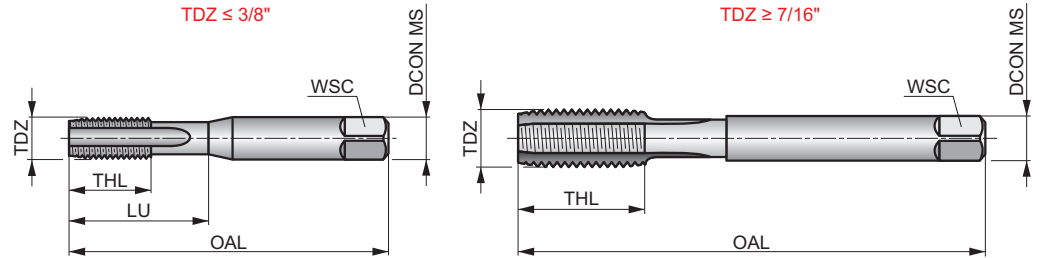
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)		
E1151/8N08	1/8	40	3.17	40.0	10	3.50	2.70	3	2.55
E1155/32N08	5/32	32	3.97	45.0	12	4.50	3.40	3	3.20
E1153/16N08	3/16	24	4.76	50.0	16	5.50	4.30	3	3.70
E1151/4N08	1/4	20	6.35	56.0	17	6.00	4.90	3	5.10
E1155/16N08	5/16	18	7.94	63.0	25	6.00	4.90	3	6.50
E1153/8N08	3/8	16	9.53	70.0	22	7.00	5.50	3	7.90
E1157/16N08	7/16	14	11.11	75.0	30	8.00	6.20	3	9.20
E1151/2N08	1/2	12	12.70	80.0	30	9.00	7.00	3	10.50
E1159/16N08	9/16	12	14.29	80.0	30	11.00	9.00	4	12.00
E1155/8N08	5/8	11	15.88	90.0	36	12.00	9.00	4	13.50
E1153/4N08	3/4	10	19.05	105.0	40	14.00	11.00	4	16.50
E1157/8N08	7/8	9	22.23	110.0	45	18.00	14.50	4	19.25
E1151N08	1"	8	25.40	110.0	50	20.00	16.00	4	22.00

# E531



## HSS Straight Flute Hand Tap, BSW, ISO Standard

A versatile tool, suitable for hand and machine tapping, with a straight flute design for both through and blind holes. Available as a set of three NO6 or as separate taps with taper lead NO1 for short through holes, plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes.



	ISO 529	Medium
	1.5xD	HSS
	R	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)					
E5311/8N01	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5311/8N02	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5311/8N03	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5311/8N06	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5315/32N01	5/32	32	3.97	53.0	14	4.00	3.15	3	3.20	14.00
E5315/32N02	5/32	32	3.97	53.0	14	4.00	3.15	3	3.20	14.00
E5315/32N03	5/32	32	3.97	53.0	14	4.00	3.15	3	3.20	14.00
E5315/32N06	5/32	32	3.97	53.0	14	4.00	3.15	3	3.20	14.00
E5313/16N01	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5313/16N02	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5313/16N03	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5313/16N06	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5311/4N01	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5311/4N02	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5311/4N03	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5311/4N06	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5315/16N01	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	29.00
E5315/16N02	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	29.00
E5315/16N03	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	29.00
E5315/16N06	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	29.00
E5313/8N01	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	32.00
E5313/8N02	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	32.00
E5313/8N03	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	32.00
E5313/8N06	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	32.00
E5317/16N01	7/16	14	11.11	85.0	19	8.00	6.30	3	9.20	-
E5317/16N02	7/16	14	11.11	85.0	19	8.00	6.30	3	9.20	-
E5317/16N03	7/16	14	11.11	85.0	19	8.00	6.30	3	9.20	-
E5317/16N06	7/16	14	11.11	85.0	19	8.00	6.30	3	9.20	-

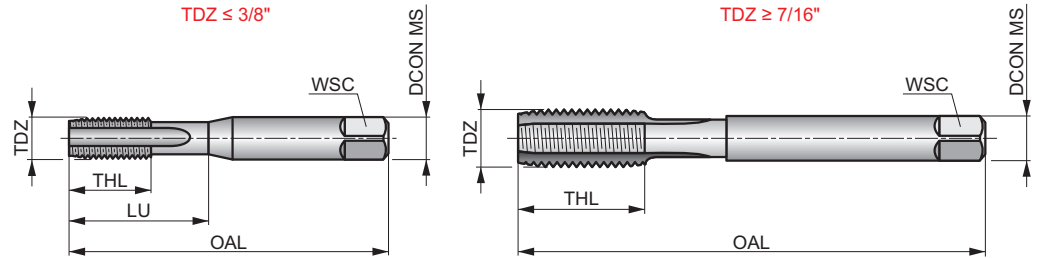
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
<b>E5311/2N01</b>	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	–
<b>E5311/2N02</b>	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	–
<b>E5311/2N03</b>	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	–
<b>E5311/2N06</b>	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	–
<b>E5315/8N01</b>	5/8	11	15.88	102.0	24	12.50	10.00	4	13.50	–
<b>E5315/8N02</b>	5/8	11	15.88	102.0	24	12.50	10.00	4	13.50	–
<b>E5315/8N03</b>	5/8	11	15.88	102.0	24	12.50	10.00	4	13.50	–
<b>E5315/8N06</b>	5/8	11	15.88	102.0	24	12.50	10.00	4	13.50	–
<b>E5313/4N01</b>	3/4	10	19.05	112.0	29	14.00	11.20	4	16.50	–
<b>E5313/4N02</b>	3/4	10	19.05	112.0	29	14.00	11.20	4	16.50	–
<b>E5313/4N03</b>	3/4	10	19.05	112.0	29	14.00	11.20	4	16.50	–
<b>E5313/4N06</b>	3/4	10	19.05	112.0	29	14.00	11.20	4	16.50	–
<b>E5311N01</b>	1"	8	25.40	130.0	35	18.00	14.00	4	22.00	–
<b>E5311N02</b>	1"	8	25.40	130.0	35	18.00	14.00	4	22.00	–
<b>E5311N03</b>	1"	8	25.40	130.0	35	18.00	14.00	4	22.00	–
<b>E5311N06</b>	1"	8	25.40	130.0	35	18.00	14.00	4	22.00	–

# E536



## HSS Straight Flute Hand Tap, BSF, ISO Standard

A versatile tool, suitable for hand and machine tapping, with a straight flute design for both through and blind holes. Available as a bottoming lead N03 for blind holes.



	ISO 529	Medium
	1.5xD	HSS
	R	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

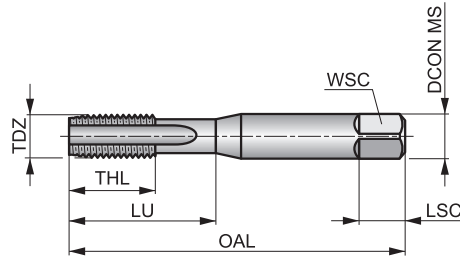
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E5363/16N03	3/16	32	4.76	58.0	12	5.00	4.00	3	4.00	20.00
E5361/4N03	1/4	26	6.35	66.0	14	6.30	5.00	3	5.30	26.00
E5365/16N03	5/16	22	7.94	72.0	18	8.00	6.30	3	6.80	29.00
E5363/8N03	3/8	20	9.53	80.0	20	10.00	8.00	3	8.30	32.00
E5367/16N03	7/16	18	11.11	85.0	20	8.00	6.30	3	9.70	-
E5361/2N03	1/2	16	12.70	89.0	23	9.00	7.10	3	11.00	-
E5369/16N03	9/16	16	14.28	95.0	25	11.20	9.00	4	12.70	-
E5365/8N03	5/8	14	15.88	102.0	25	12.50	10.00	4	14.00	-
E5363/4N03	3/4	12	19.05	112.0	30	14.00	11.20	4	17.00	-
E5361N03	1"	10	25.40	130.0	36	18.00	14.00	4	22.75	-

# E542



## HSS Straight Flute Hand Tap, BA, ISO Standard

A versatile tool, suitable for hand and machine tapping, available as a bottoming lead N03 with a straight flute design for both through and blind holes.



	ISO 529	Normal
	1.5xD	HSS
		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Product	TDZ	TP	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E542BA10N03	BA10	0.35	1.70	41.0	7	2.50	2.00	4	2	1.30	7.00
E542BA5N03	BA 5	0.59	3.20	48.0	14.5	3.15	2.50	5	3	2.65	14.50
E542BA4N03	BA 4	0.66	3.60	50.0	16.5	3.55	2.80	5	3	3.00	16.50
E542BA3N03	BA 3	0.73	4.10	53.0	10	4.50	3.50	6	3	3.40	17.00
E542BA2N03	BA 2	0.81	4.70	58.0	12	5.00	4.00	7	3	4.00	20.00
E542BA0N03	BA 0	1.00	6.00	66.0	14	6.30	5.00	8	3	5.10	26.00

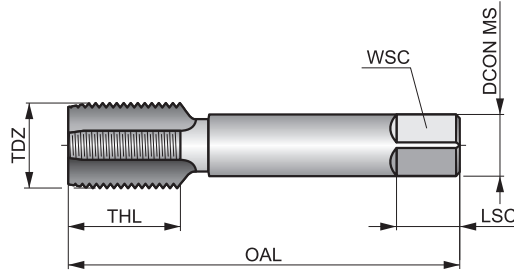


# E243



## HSS Straight Flute Hand Tap, PG Conduit Thread, DIN Standard

A versatile tool, suitable for hand and machine tapping, with a straight flute design for both through and blind holes. Available tap with plug lead NO2 for through holes or bottoming lead NO3 for blind holes.



	DIN 40432	Normal
	1.5xD	HSS
		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 6	<b>K1.2</b> ■ 4	<b>K1.3</b> ■ 3	<b>K2.1</b> ■ 7	<b>K2.2</b> ■ 6
<b>K3.1</b> ■ 7	<b>K3.2</b> ■ 5	<b>K4.1</b> ■ 6	<b>K4.2</b> ■ 5	<b>K5.1</b> ■ 7	<b>K5.2</b> ■ 5	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
E243PG7N02	7	20	12.50	70.0	22	9.00	7.00	10	4	11.40
E243PG7N03	7	20	12.50	70.0	22	9.00	7.00	10	4	11.40
E243PG9N02	9	18	15.20	70.0	22	12.00	9.00	12	4	13.90
E243PG9N03	9	18	15.20	70.0	22	12.00	9.00	12	4	13.90
E243PG11N02	11	18	18.60	80.0	22	14.00	11.00	14	4	17.25
E243PG11N03	11	18	18.60	80.0	22	14.00	11.00	14	4	17.25
E243PG13.5N02	13.5	18	20.40	80.0	22	16.00	12.00	15	4	19.00
E243PG13.5N03	13.5	18	20.40	80.0	22	16.00	12.00	15	4	19.00
E243PG16N02	16	18	22.50	80.0	22	18.00	14.50	17	4	21.25
E243PG16N03	16	18	22.50	80.0	22	18.00	14.50	17	4	21.25
E243PG21N02	21	16	28.30	90.0	22	22.00	18.00	21	4	27.00
E243PG21N03	21	16	28.30	90.0	22	22.00	18.00	21	4	27.00
E243PG29N02	29	16	37.00	100.0	25	28.00	22.00	25	6	35.50
E243PG29N03	29	16	37.00	100.0	25	28.00	22.00	25	6	35.50
E243PG36N02	36	16	47.00	140.0	32	36.00	29.00	32	6	45.50
E243PG36N03	36	16	47.00	140.0	32	36.00	29.00	32	6	45.50

Thread form (THFT)										
Basic standard group (BSG)	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529
Thread tolerance class (TCTR)	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H
Threading application										
Usable length (ULDR)	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D
Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Tap chamfer style (TCS)	A 6-8	B 3.5-5	C 2-3	A 6-8 B 3.5-5 C 2-3		A 6-8	B 3.5-5	C 2-3	A 6-8 B 3.5-5 C 2-3	
Flute Geometry (FDC)										
Flute helix angle (FHA)	λ 0°	λ 0°	λ 0°	λ 0°	λ 0°	λ 0°	λ 0°	λ 0°	λ 0°	λ 0°
Hand (Cutting direction)										
Coating										
	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>
Product Family Code	E559 NO1(M)	E559 NO2(M)	E559 NO3(M)	E559 NO6(M)	E559 NO8(M)	E559 NO1(MF)	E559 NO2(MF)	E559 NO3(MF)	E559 NO6(MF)	E559 NO9(MF)
PSF cutting diameters range	M3 – M20	M3 – M20	M3 – M20	M3 – M20	M3 – M20	M8 – M16	M8 – M16	M8 – M16	M8 – M16	M8 – M16
<b>P</b>	P1	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	■	■	■	■
	P4	▣	▣	▣	▣	▣	▣	▣	▣	▣
<b>M</b>	M1									
	M2									
	M3									
	M4									
<b>K</b>	K1									
	K2	▣	▣	▣	▣	▣	▣	▣	▣	▣
	K3	▣	▣	▣	▣	▣	▣	▣	▣	▣
	K4									
	K5									
<b>N</b>	N1	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N2	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N3	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N4									
	N5									
<b>S</b>	S1									
	S2									
	S3									
	S4									
<b>H</b>	H1									
	H2									
	H3									
	H4									

	UNC	UNC	UNC	UNC	UNC	UNF	UNF	UNF	UNF	UNF
	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529	ISO 529
	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B
	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD
	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
	A 6-8	B 3.5-5	C 2-3	A 6-8 B 3.5-5 C 2-3	A 6-8	B 3.5-5	C 2-3	A 6-8 B 3.5-5 C 2-3	A 6-8 B 3.5-5 C 2-3	A 6-8 B 3.5-5 C 2-3
	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°	$\lambda$ 0°
	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright
	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>
	E559 NO1(UNC)	E559 NO2(UNC)	E559 NO3(UNC)	E559 NO6(UNC)	E559 NO8(UNC)	E559 NO1(UNF)	E559 NO2(UNF)	E559 NO3(UNF)	E559 NO6(UNF)	E559 NO9(UNF)
	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"	No.10 – 1/2"
	44	45	46	47	48	49	50	51	52	53
P1	■	■	■	■	■	■	■	■	■	■
P2	■	■	■	■	■	■	■	■	■	■
P3	■	■	■	■	■	■	■	■	■	■
P4	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
M1										
M2										
M3										
M4										
K1										
K2	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
K3	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
K4										
K5										
N1	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
N2	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
N3	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
N4										
N5										
S1										
S2										
S3										
S4										
H1										
H2										
H3										
H4										

# E559N01(M)

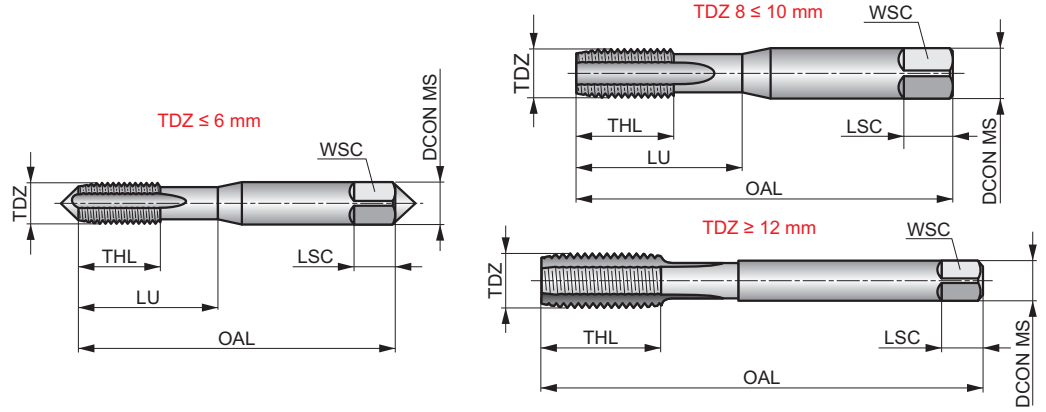


## Straight Flute Taper Lead Hand Tap, Metric, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a taper lead chamfer which produces the thinnest chips providing a very gradual and smooth cutting action. Considered to be the best choice for producing short through holes up to 1.5xD.



	ISO 529	6H
	1.5xD	HSS
A 6-8		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M3N01	3	0.50	48.0	3.00	11	3.15	2.50	5	3	2.50	18.00
E559M4N01	4	0.70	53.0	4.00	13	4.00	3.15	6	3	3.30	21.00
E559M5N01	5	0.80	58.0	5.00	16	5.00	4.00	7	3	4.20	25.00
E559M6N01	6	1.00	66.0	6.00	19	6.00	5.00	8	3	5.00	30.00
E559M8N01	8	1.25	72.0	8.00	22	8.00	6.30	9	4	6.80	35.00
E559M10N01	10	1.50	80.0	10.00	24	10.00	8.00	11	4	8.50	39.00
E559M12N01	12	1.75	89.0	12.00	29	9.00	7.10	10	4	10.20	-
E559M14N01	14	2.00	95.0	14.00	30	11.20	9.00	12	4	12.00	-
E559M16N01	16	2.00	102.0	16.00	32	12.50	10.00	13	4	14.00	-
E559M20N01	20	2.50	112.0	20.00	37	14.00	11.20	14	4	17.50	-

# E559N02(M)

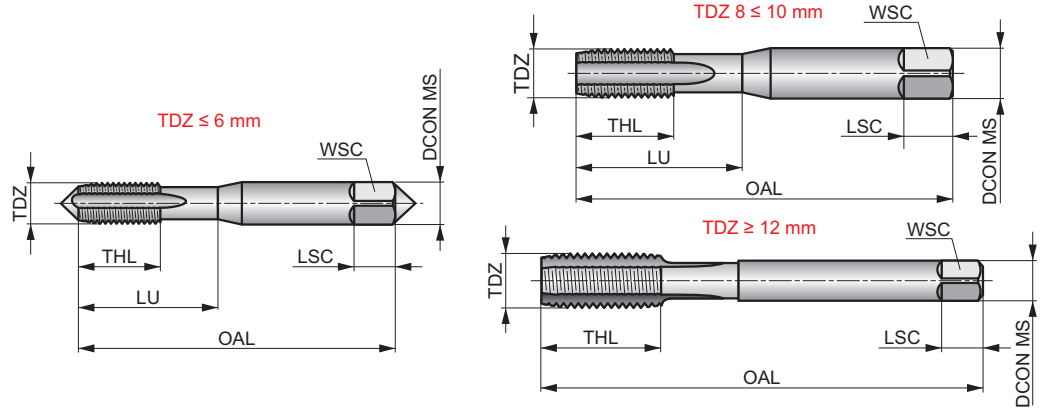
**DORMER**

## Straight Flute Plug Lead Hand Tap, Metric, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a plug lead chamfer which gives the tap a gradual cutting action. Great for producing through holes, as they are almost as easy as taper lead taps to start, yet also offer a more complete set of threads.



	ISO 529	6H
	1.5xD	HSS
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M3N02	3	0.50	48.0	3.00	11	3.15	2.50	5	3	2.50	18.00
E559M4N02	4	0.70	53.0	4.00	13	4.00	3.15	6	3	3.30	21.00
E559M5N02	5	0.80	58.0	5.00	16	5.00	4.00	7	3	4.20	25.00
E559M6N02	6	1.00	66.0	6.00	19	6.00	5.00	8	3	5.00	30.00
E559M8N02	8	1.25	72.0	8.00	22	8.00	6.30	9	4	6.80	35.00
E559M10N02	10	1.50	80.0	10.00	24	10.00	8.00	11	4	8.50	39.00
E559M12N02	12	1.75	89.0	12.00	29	9.00	7.10	10	4	10.20	–
E559M14N02	14	2.00	95.0	14.00	30	11.20	9.00	12	4	12.00	–
E559M16N02	16	2.00	102.0	16.00	32	12.50	10.00	13	4	14.00	–
E559M20N02	20	2.50	112.0	20.00	37	14.00	11.20	14	4	17.50	–

# E559N03(M)

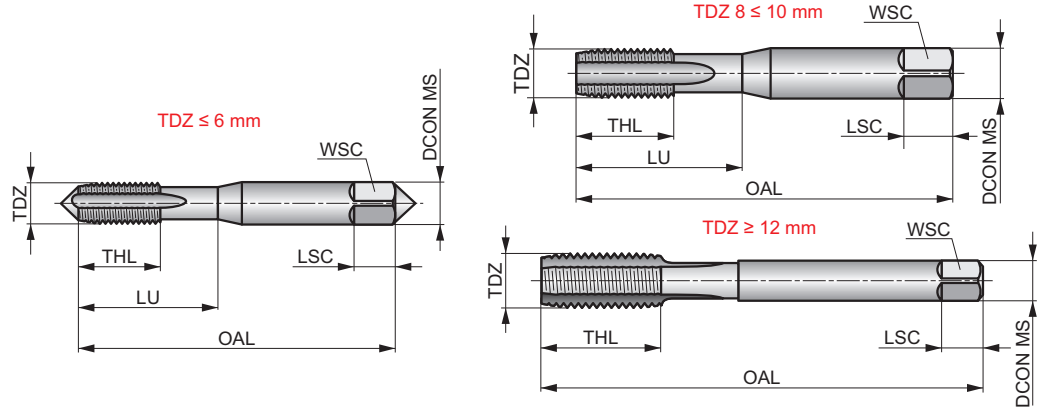
**DORMER**

## Straight Flute Bottoming Lead Hand Tap, Metric, ISO Standard

Versatile tap for medium strength carbon and alloy steel. With bottoming lead, which though it is hard to start threading with is capable of cutting thread almost all of the way to the bottom of a blind hole. Best used as machine tap or if by hand in sequence after taper and plug lead or starter and intermediate serial tap.



	ISO 529	6H
	1.5xD	HSS



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M3N03	3	0.50	48.0	3.00	11	3.15	2.50	5	3	2.50	18.00
E559M4N03	4	0.70	53.0	4.00	13	4.00	3.15	6	3	3.30	21.00
E559M5N03	5	0.80	58.0	5.00	16	5.00	4.00	7	3	4.20	25.00
E559M6N03	6	1.00	66.0	6.00	19	6.00	5.00	8	3	5.00	30.00
E559M8N03	8	1.25	72.0	8.00	22	8.00	6.30	9	4	6.80	35.00
E559M10N03	10	1.50	80.0	10.00	24	10.00	8.00	11	4	8.50	39.00
E559M12N03	12	1.75	89.0	12.00	29	9.00	7.10	10	4	10.20	–
E559M14N03	14	2.00	95.0	14.00	30	11.20	9.00	12	4	12.00	–
E559M16N03	16	2.00	102.0	16.00	32	12.50	7.10	10	4	14.00	–
E559M20N03	20	2.50	112.0	20.00	37	14.00	11.20	14	4	17.50	–

# E559N06(M)

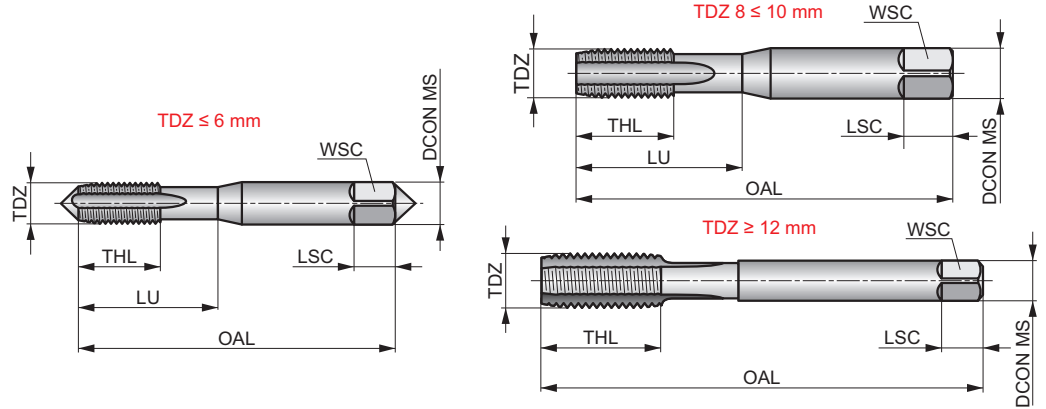
**DORMER**



## Set of 3 Straight Flute Hand Taps, Metric, ISO Standard

The most versatile taps for hand use or machine tapping through or blind holes in medium strength, medium carbon and alloy steel. Set including taps with 3 different chamfer lengths; taper lead which is ideally for short through holes, plug perfect for deeper through holes and bottoming best suited for blind holes.

	ISO 529	6H
	1.5xD	HSS
A 6-8 B 3.5-5 C 2-3		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

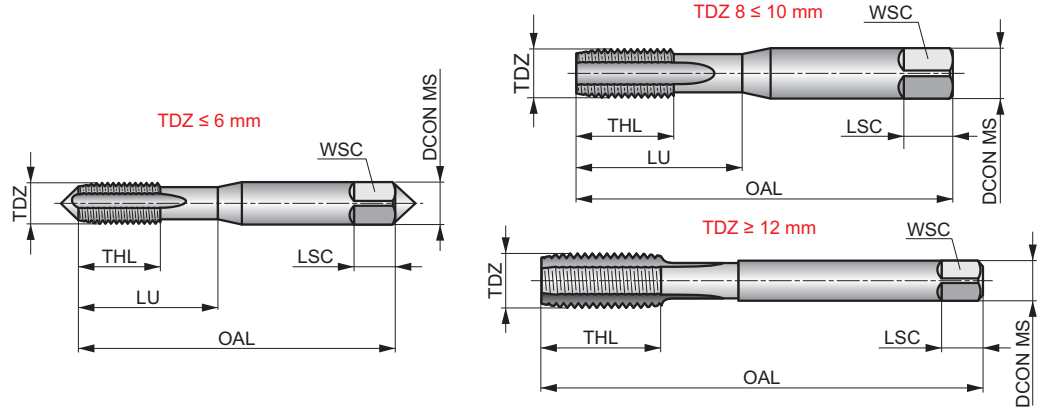
Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M3N06	3	0.50	48.0	3.00	11	3.15	2.50	5	3	2.50	18.00
E559M4N06	4	0.70	53.0	4.00	13	4.00	3.15	6	3	3.30	21.00
E559M5N06	5	0.80	58.0	5.00	16	5.00	4.00	7	3	4.20	25.00
E559M6N06	6	1.00	66.0	6.00	19	6.30	5.00	8	3	5.00	30.00
E559M8N06	8	1.25	72.0	8.00	22	8.00	6.30	9	4	6.80	35.00
E559M10N06	10	1.50	80.0	10.00	24	10.00	8.00	11	4	8.50	39.00
E559M12N06	12	1.75	89.0	12.00	29	9.00	7.10	10	4	10.20	–
E559M14N06	14	2.00	95.0	14.00	30	11.20	9.00	12	4	12.00	–
E559M16N06	16	2.00	102.0	16.00	32	12.50	10.00	13	4	14.00	–
E559M20N06	20	2.50	112.0	20.00	37	14.00	11.20	14	4	17.50	–

# E559N08(M)

**DORMER**

## Set of 3 Straight Flute Serial Hand Taps, Metric, ISO Standard

Ideal for hand tapping tough materials. The straight flute design makes it suitable for both through and blind holes. Set of 3 taps to be used in sequence, first the starter tap to make a roughing cut, second the intermediate to cut the thread a little fuller and third the finisher for smoothing the thread and making it exact.



	ISO 529	6H
	1.5×D	HSS
		Bright

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K2.1	K2.2	K3.1	K3.2	N1.3
■	■	■	▣	■	▣	▣	■	▣	▣	▣	▣	▣	▣
N2.3	N3.1	N3.2	N3.3										
▣	▣	▣	▣										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M3N08	3	0.50	48.0	3.00	11	3.15	2.50	5	3	2.50	18.00
E559M4N08	4	0.70	53.0	4.00	13	4.00	3.15	6	3	3.30	21.00
E559M5N08	5	0.80	58.0	5.00	16	5.00	4.00	7	3	4.20	25.00
E559M6N08	6	1.00	66.0	6.00	19	6.00	5.00	8	3	5.00	30.00
E559M8N08	8	1.25	72.0	8.00	22	8.00	6.30	9	4	6.80	35.00
E559M10N08	10	1.50	80.0	10.00	24	10.00	8.00	11	4	8.50	39.00
E559M12N08	12	1.75	89.0	12.00	29	9.00	7.10	10	4	10.20	–
E559M14N08	14	2.00	95.0	14.00	30	11.20	9.00	12	4	12.00	–
E559M16N08	16	2.00	102.0	16.00	32	12.50	10.00	13	4	14.00	–
E559M20N08	20	2.50	112.0	20.00	37	14.00	11.20	14	4	17.50	–



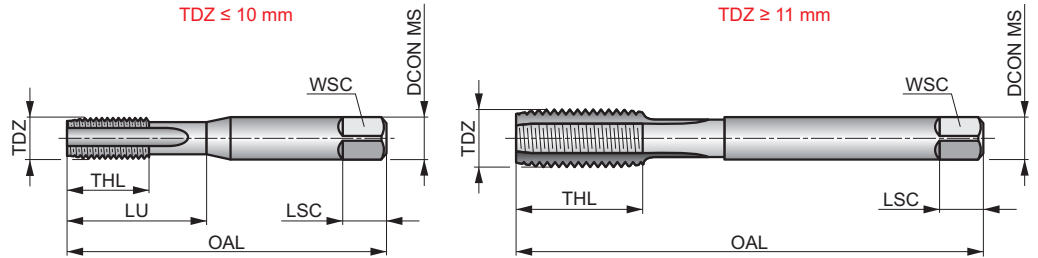
# E559N01(MF)



## Straight Flute Taper Lead Hand Tap, Metric-Fine, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a taper lead chamfer which produces the thinnest chips providing a very gradual and smooth cutting action. Considered to be the best choice for producing short through holes up to 1.5xD.

	ISO 529	6H
	1.5xD	HSS
A 6-8		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M8X1.0N01	8	1.00	69.0	8.00	19	8.00	6.30	9	4	7.00	32.00
E559M10X1.0N01	10	1.00	76.0	10.00	20	10.00	8.00	11	4	9.00	35.00
E559M10X1.25N01	10	1.25	76.0	10.00	20	10.00	8.00	11	4	8.75	35.00
E559M12X1.0N01	12	1.00	80.0	12.00	20	9.00	7.10	10	4	11.00	-
E559M12X1.25N01	12	1.25	84.0	12.00	24	9.00	7.10	10	4	10.75	-
E559M12X1.5N01	12	1.50	89.0	12.00	29	9.00	7.10	10	4	10.50	-
E559M14X1.5N01	14	1.50	95.0	14.00	30	11.20	9.00	12	4	12.50	-
E559M16X1.5N01	16	1.50	102.0	16.00	32	12.50	10.00	13	4	14.50	-

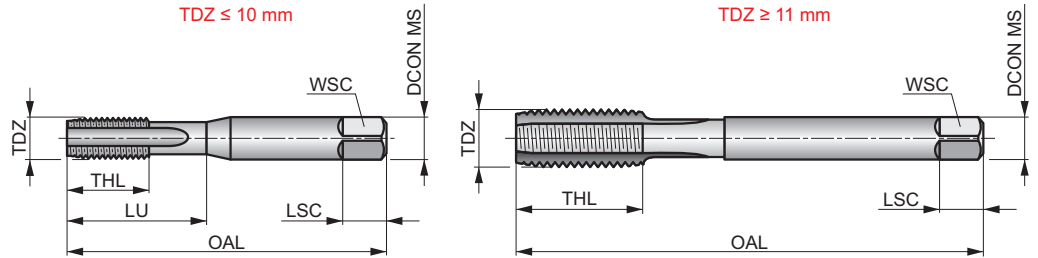
# E559N02(MF)



## Straight Flute Plug Lead Hand Tap, Metric-Fine, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a plug lead chamfer which gives the tap a gradual cutting action. Great for producing through holes, as they are almost as easy as taper lead taps to start, yet also offer a more complete set of threads.

	ISO 529	6H
	1.5xD	HSS
B 3.5-5		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M8X1.0N02	8	1.00	69.0	8.00	19	8.00	6.30	9	4	7.00	32.00
E559M10X1.0N02	10	1.00	76.0	10.00	20	10.00	8.00	11	4	9.00	35.00
E559M10X1.25N02	10	1.25	76.0	10.00	20	10.00	8.00	11	4	8.75	35.00
E559M12X1.0N02	12	1.00	80.0	12.00	20	9.00	7.10	10	4	11.00	-
E559M12X1.25N02	12	1.25	84.0	12.00	24	9.00	7.10	10	4	10.75	-
E559M12X1.5N02	12	1.50	89.0	12.00	29	9.00	7.10	10	4	10.50	-
E559M14X1.5N02	14	1.50	95.0	14.00	30	11.20	9.00	12	4	12.50	-
E559M16X1.5N02	16	1.50	102.0	16.00	32	12.50	10.00	13	4	14.50	-

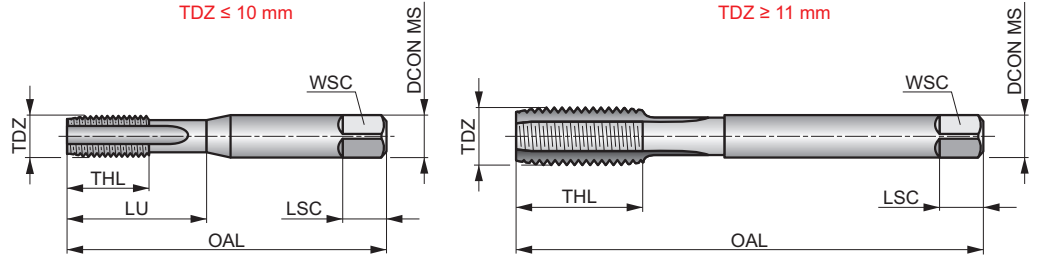
# E559N03(MF)



## Straight Flute Bottoming Lead Hand Tap, Metric-Fine, ISO Standard

Versatile tap for medium strength carbon and alloy steel. With bottoming lead, which though it is hard to start threading with is capable of cutting thread almost all of the way to the bottom of a blind hole. Best used as machine tap or if by hand in sequence after taper and plug lead or starter and intermediate serial tap.

	ISO 529	6H
	1.5xD	HSS



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M8X1.0N03	8	1.00	69.0	8.00	19	8.00	6.30	9	4	7.00	32.00
E559M10X1.0N03	10	1.00	76.0	10.00	20	10.00	8.00	11	4	9.00	35.00
E559M10X1.25N03	10	1.25	76.0	10.00	20	10.00	8.00	11	4	8.75	35.00
E559M12X1.0N03	12	1.00	80.0	12.00	20	9.00	7.10	10	4	11.00	-
E559M12X1.25N03	12	1.25	84.0	12.00	24	9.00	7.10	10	4	10.75	-
E559M12X1.5N03	12	1.50	89.0	12.00	29	9.00	7.10	10	4	10.50	-
E559M14X1.5N03	14	1.50	95.0	14.00	30	11.20	9.00	12	4	12.50	-
E559M16X1.5N03	16	1.50	102.0	16.00	32	12.50	10.00	13	4	14.50	-

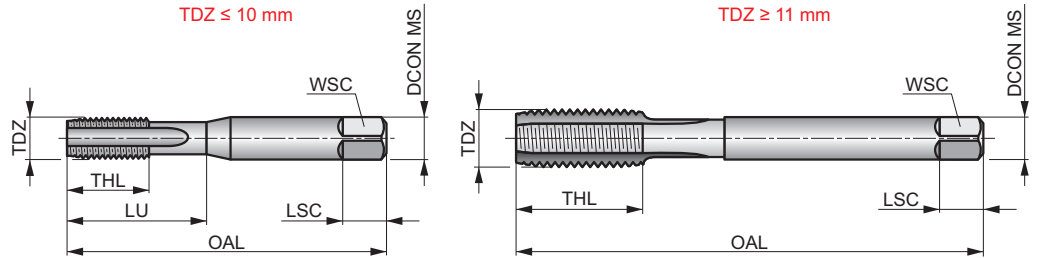
# E559NO6(MF)



## Set of 3 Straight Flute Hand Taps, Metric-Fine, ISO Standard

The most versatile taps for hand use or machine tapping through or blind holes in medium strength, medium carbon and alloy steel. Set including taps with 3 different chamfer lengths; taper lead which is ideally for short through holes, plug perfect for deeper through holes and bottoming best suited for blind holes.

	ISO 529	6H
	1.5xD	HSS
A 6-8 B 3.5-5 C 2-3		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

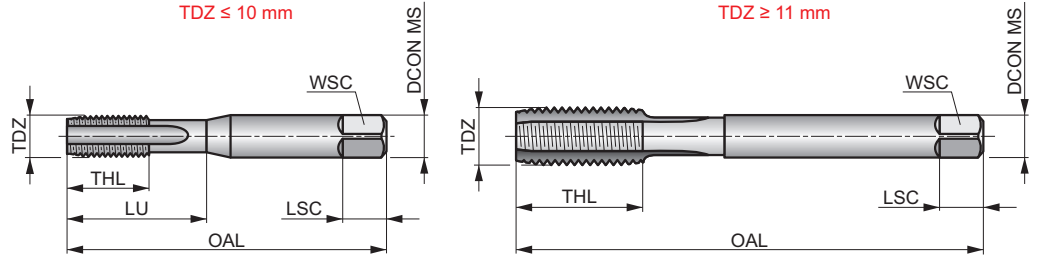
Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M8X1.0N06	8	1.00	69.0	8.00	19	8.00	6.30	9	3	7.00	32.00
E559M10X1.0N06	10	1.00	76.0	10.00	20	10.00	8.00	11	4	9.00	35.00
E559M10X1.25N06	10	1.25	76.0	10.00	20	10.00	8.00	11	4	8.75	35.00
E559M12X1.0N06	12	1.00	80.0	12.00	20	9.00	7.10	10	4	11.00	-
E559M12X1.25N06	12	1.25	84.0	12.00	24	9.00	7.10	10	4	10.75	-
E559M12X1.5N06	12	1.50	89.0	12.00	29	9.00	7.10	10	4	10.50	-
E559M14X1.5N06	14	1.50	95.0	14.00	30	11.20	9.00	12	4	12.50	-
E559M16X1.5N06	16	1.50	102.0	16.00	32	12.50	10.00	13	4	14.50	-

# E559N09(MF)



## Set of 2 Straight Flute Serial Hand Taps, Metric-Fine, ISO Standard

Ideal for hand tapping tough materials. The straight flute design makes it suitable for both through and blind holes. Set of 2 taps to be used in sequence, first the starter tap to make a roughing cut and a finisher for smoothing the thread and making it exact.



	ISO 529	6H
	1.5×D	HSS
		Bright

Workpiece material group suitability.

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P2.3</b>	<b>P3.1</b>	<b>P3.2</b>	<b>P4.1</b>	<b>K2.1</b>	<b>K2.2</b>	<b>K3.1</b>	<b>K3.2</b>	<b>N1.3</b>
■	■	■	▣	■	▣	▣	■	▣	▣	▣	▣	▣	▣
<b>N2.3</b>	<b>N3.1</b>	<b>N3.2</b>	<b>N3.3</b>										
▣	▣	▣	▣										

Product	TDZ	TP	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E559M8X1.0N09	8	1.00	69.0	8.00	19	8.00	6.30	9	3	7.00	32.00
E559M10X1.0N09	10	1.00	76.0	10.00	20	10.00	8.00	11	4	9.00	35.00
E559M10X1.25N09	10	1.25	76.0	10.00	20	10.00	8.00	11	4	8.75	35.00
E559M12X1.0N09	12	1.00	80.0	12.00	20	9.00	7.10	10	4	11.00	–
E559M12X1.25N09	12	1.25	84.0	12.00	24	9.00	7.10	10	4	10.75	–
E559M12X1.5N09	12	1.50	89.0	12.00	29	9.00	7.10	10	4	10.50	–
E559M14X1.5N09	14	1.50	95.0	14.00	30	11.20	9.00	12	4	12.50	–
E559M16X1.5N09	16	1.50	102.0	16.00	32	12.50	10.00	13	4	14.50	–

# E559NO1(UNC)

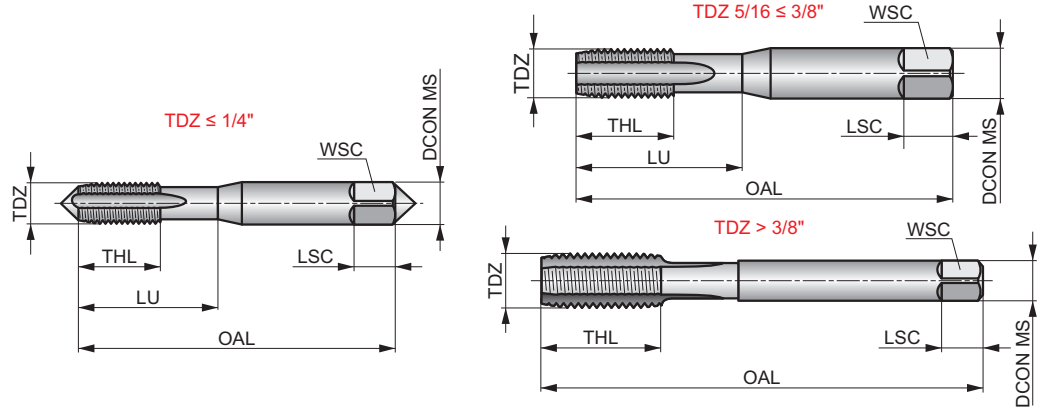


## Straight Flute Taper Lead Hand Tap, UNC, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a taper lead chamfer which produces the thinnest chips providing a very gradual and smooth cutting action. Considered to be the best choice for producing short through holes up to 1.5xD.



	ISO 529	2B
	1.5xD	HSS
A 6-8		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
<b>E559UNC10X24N01</b>	No.10	24	58.0	4.83	16	5.00	4.00	7	3	3.90	25.00
<b>E559UNC1/4N01</b>	1/4	20	66.0	6.35	19	6.30	5.00	8	3	5.10	30.00
<b>E559UNC5/16N01</b>	5/16	18	72.0	7.94	22	8.00	6.30	9	4	6.60	35.00
<b>E559UNC3/8N01</b>	3/8	16	80.0	9.53	24	10.00	8.00	11	4	8.00	39.00
<b>E559UNC1/2N01</b>	1/2	12	89.0	12.70	29	9.00	7.10	10	4	10.80	-

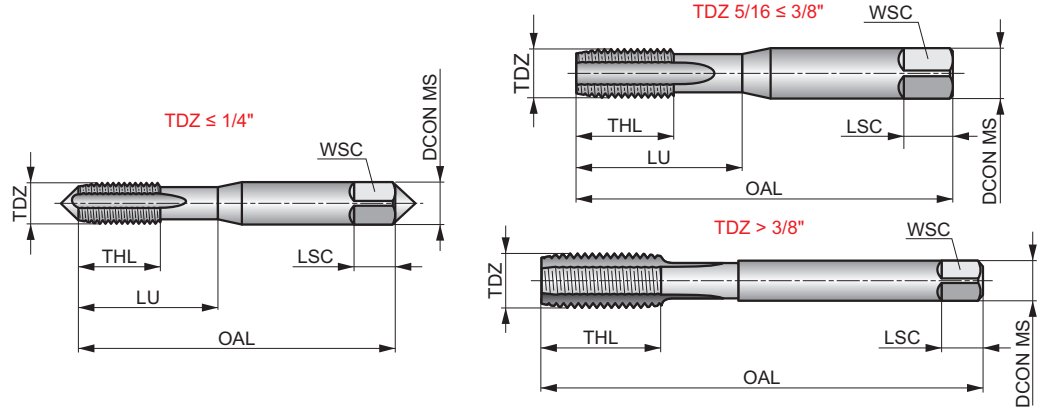
# E559NO2(UNC)



## Straight Flute Plug Lead Hand Tap, UNC, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a plug lead chamfer which gives the tap a gradual cutting action. Great for producing through holes, as they are almost as easy as taper lead taps to start, yet also offer a more complete set of threads.

	ISO 529	2B
	1.5xD	HSS
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
<b>E559UNC10X24N02</b>	No.10	24	58.0	4.83	16	5.00	4.00	7	3	3.90	25.00
<b>E559UNC1/4N02</b>	1/4	20	66.0	6.35	19	6.30	5.00	8	3	5.10	30.00
<b>E559UNC5/16N02</b>	5/16	18	72.0	7.94	22	8.00	6.30	9	4	6.60	35.00
<b>E559UNC3/8N02</b>	3/8	16	80.0	9.53	24	10.00	8.00	11	4	8.00	39.00
<b>E559UNC1/2N02</b>	1/2	13	89.0	12.70	29	9.00	7.10	10	4	10.80	-

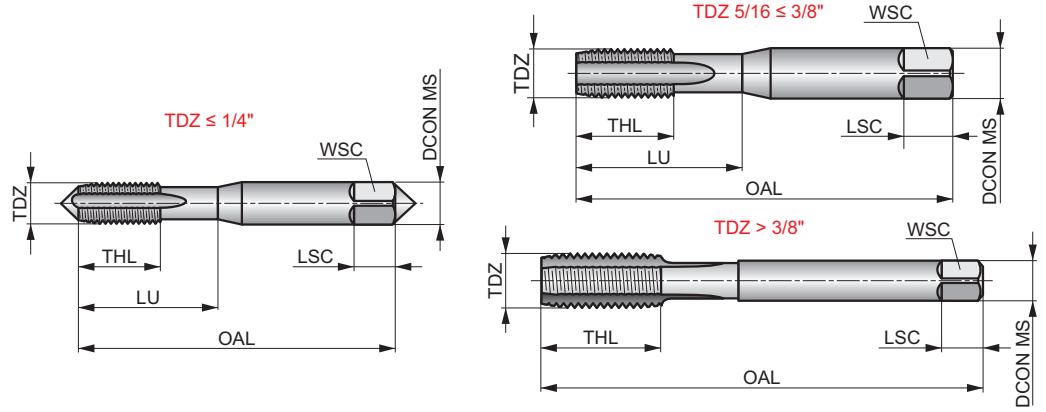
# E559N03(UNC)



## Straight Flute Bottoming Lead Hand Tap, UNC, ISO Standard

Versatile tap for medium strength carbon and alloy steel. With bottoming lead, which though it is hard to start threading with is capable of cutting thread almost all of the way to the bottom of a blind hole. Best used as machine tap or if by hand in sequence after taper and plug lead or starter and intermediate serial tap.

	ISO 529	2B
	1.5xD	HSS
	C 2-3	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
E559UNC10X24N03	No.10	24	58.0	4.83	16	5.00	4.00	7	3	3.90	25.00
E559UNC1/4N03	1/4	20	66.0	6.35	19	6.30	5.00	8	3	5.10	30.00
E559UNC5/16N03	5/16	18	72.0	7.94	22	8.00	6.30	9	4	6.60	35.00
E559UNC3/8N03	3/8	16	80.0	9.53	24	10.00	8.00	11	4	8.00	39.00
E559UNC1/2N03	1/2	13	89.0	12.70	29	9.00	7.10	10	4	10.80	-



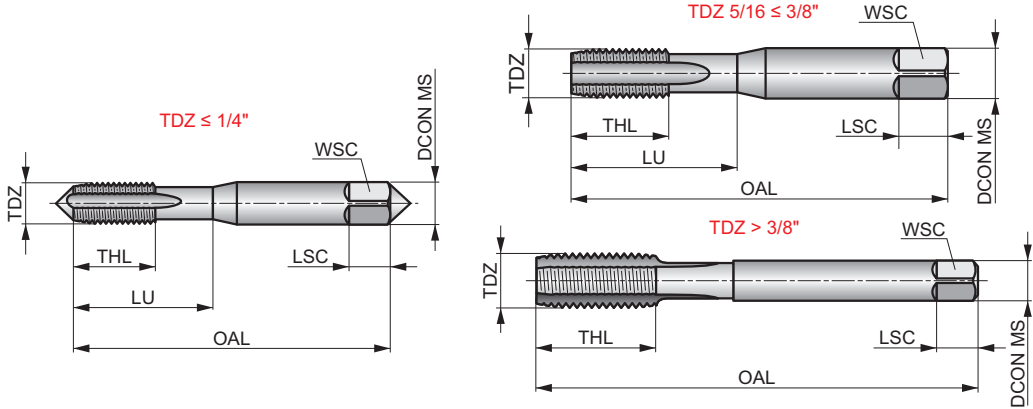
# E559N06(UNC)



## Set of 3 Straight Flute Hand Taps, UNC, ISO Standard

The most versatile taps for hand use or machine tapping through or blind holes in medium strength, medium carbon and alloy steel. Set including taps with 3 different chamfer lengths; taper lead which is ideally for short through holes, plug perfect for deeper through holes and bottoming best suited for blind holes.

	ISO 529	2B
	1.5xD	HSS
A 6-8 B 3.5-5 C 2-3		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
<b>E559UNC10X24N06</b>	No.10	24	58.0	4.83	16	5.00	4.00	7	3	3.90	25.00
<b>E559UNC1/4N06</b>	1/4	20	66.0	6.35	19	6.30	5.00	8	3	5.10	30.00
<b>E559UNC5/16N06</b>	5/16	18	72.0	7.94	22	8.00	6.30	9	4	6.60	35.00
<b>E559UNC3/8N06</b>	3/8	16	80.0	9.53	24	10.00	8.00	11	4	8.00	39.00
<b>E559UNC1/2N06</b>	1/2	13	89.0	12.70	29	9.00	7.10	10	4	10.80	-

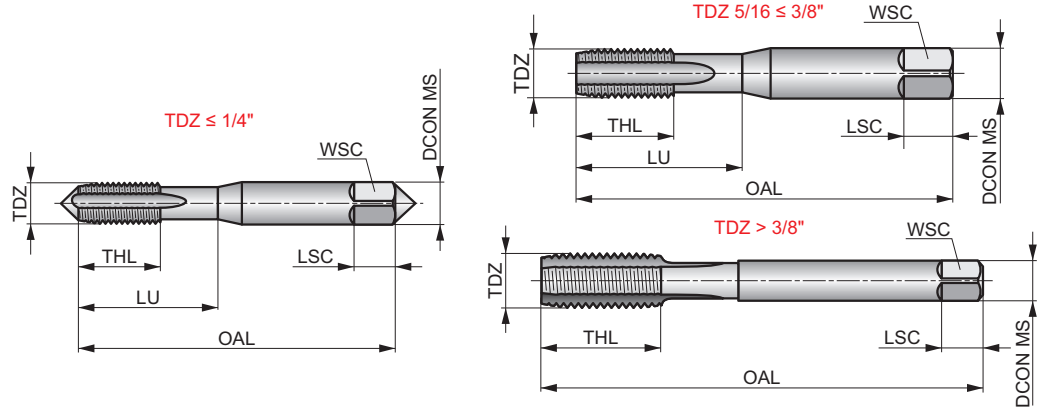
# E559N08(UNC)



## Set of 3 Straight Flute Serial Hand Taps, UNC, ISO Standard

Ideal for hand tapping tough materials. The straight flute design makes it suitable for both through and blind holes. Set of 3 taps to be used in sequence, first the starter tap to make a roughing cut, second the intermediate to cut the thread a little fuller and third the finisher for smoothing the thread and making it exact.

	ISO 529	2B
	1.5xD	HSS
	R	Bright



Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K2.1	K2.2	K3.1	K3.2	N1.3
■	■	■	▣	■	▣	▣	■	▣	▣	▣	▣	▣	▣
N2.3	N3.1	N3.2	N3.3										
▣	▣	▣	▣										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
E559UNC10X24N08	No.10	24	58.0	4.83	16	5.00	4.00	7	3	3.90	25.00
E559UNC1/4N08	1/4	20	66.0	6.35	19	6.30	5.00	8	3	5.10	30.00
E559UNC5/16N08	5/16	18	72.0	7.94	22	8.00	6.30	9	4	6.60	35.00
E559UNC3/8N08	3/8	16	80.0	9.53	24	10.00	8.00	11	4	8.00	39.00
E559UNC1/2N08	1/2	13	89.0	12.70	29	9.00	7.10	10	4	10.80	-

# E559NO1(UNF)

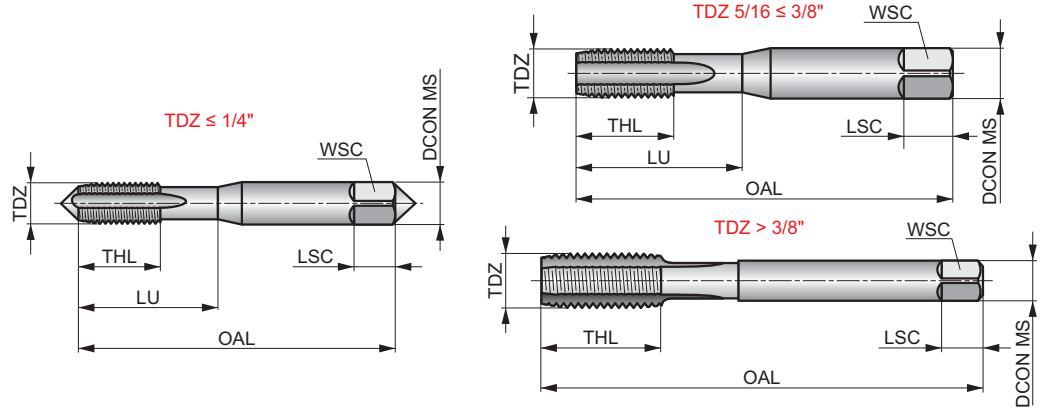
**DORMER**

## Straight Flute Taper Lead Hand Tap, UNF, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a taper lead chamfer which produces the thinnest chips providing a very gradual and smooth cutting action. Considered to be the best choice for producing short through holes up to 1.5xD.



	ISO 529	2B
	1.5xD	HSS
A 6-8		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
<b>E559UNF10X32N01</b>	No.10	32	58.0	4.83	16	5.00	4.00	7	3	4.10	25.00
<b>E559UNF1/4N01</b>	1/4	28	66.0	6.35	19	6.30	5.00	8	3	5.50	30.00
<b>E559UNF5/16N01</b>	5/16	24	72.0	7.94	22	8.00	6.30	9	3	6.90	35.00
<b>E559UNF3/8N01</b>	3/8	24	80.0	9.53	24	10.00	8.00	11	4	8.50	39.00
<b>E559UNF1/2N01</b>	1/2	20	89.0	12.70	29	9.00	7.10	10	4	11.50	-

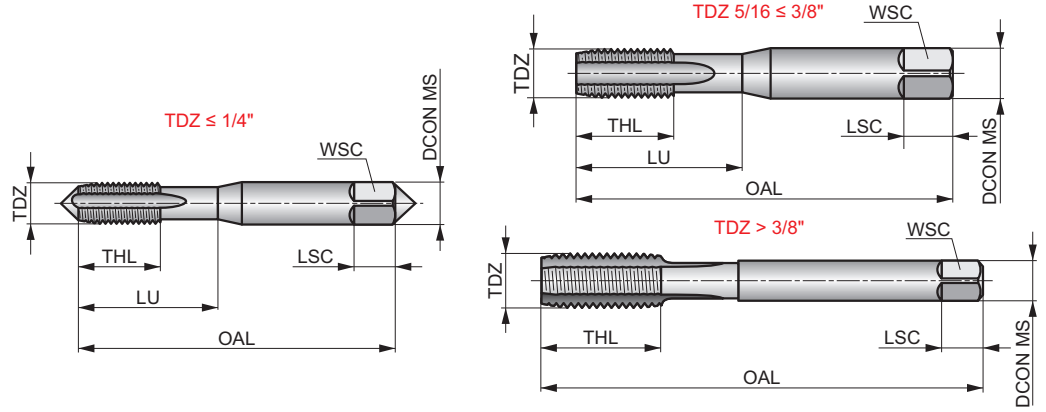
# E559NO2(UNF)



## Straight Flute Plug Lead Hand Tap, UNF, ISO Standard

Versatile tap design for hand use or machine tapping in medium strength, medium carbon and alloy steel. With a plug lead chamfer which gives the tap a gradual cutting action. Great for producing through holes, as they are almost as easy as taper lead taps to start, yet also offer a more complete set of threads.

	ISO 529	2B
	1.5xD	HSS
B 3.5-5		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
E559UNF10X32N02	No.10	32	58.0	4.83	16	5.00	4.00	7	3	4.10	25.00
E559UNF1/4N02	1/4	28	66.0	6.35	19	6.30	5.00	8	3	5.50	30.00
E559UNF5/16N02	5/16	24	72.0	7.94	22	8.00	6.30	9	3	6.90	35.00
E559UNF3/8N02	3/8	24	80.0	9.53	24	10.00	8.00	11	4	8.50	39.00
E559UNF1/2N02	1/2	20	89.0	12.70	29	9.00	7.10	10	4	11.50	-

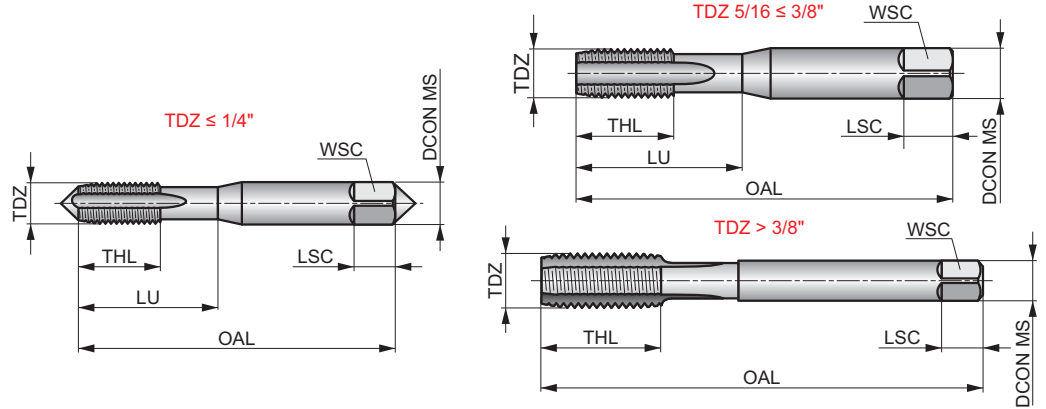
# E559NO3(UNF)



## Straight Flute Bottoming Lead Hand Tap, UNF, ISO Standard

Versatile tap for medium strength carbon and alloy steel. With bottoming lead, which though it is hard to start threading with is capable of cutting thread almost all of the way to the bottom of a blind hole. Best used as machine tap or if by hand in sequence after taper and plug lead or starter and intermediate serial tap.

	ISO 529	2B
	1.5xD	HSS
	C 2-3	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
<b>E559UNF10X32NO3</b>	No.10	32	58.0	4.83	16	5.00	4.00	7	3	4.10	25.00
<b>E559UNF1/4NO3</b>	1/4	28	66.0	6.35	19	6.30	5.00	8	3	5.50	30.00
<b>E559UNF5/16NO3</b>	5/16	24	72.0	7.94	22	8.00	6.30	9	4	6.90	35.00
<b>E559UNF3/8NO3</b>	3/8	24	80.0	9.53	24	10.00	8.00	11	4	8.50	39.00
<b>E559UNF1/2NO3</b>	1/2	20	89.0	12.70	29	9.00	7.10	10	4	11.50	-

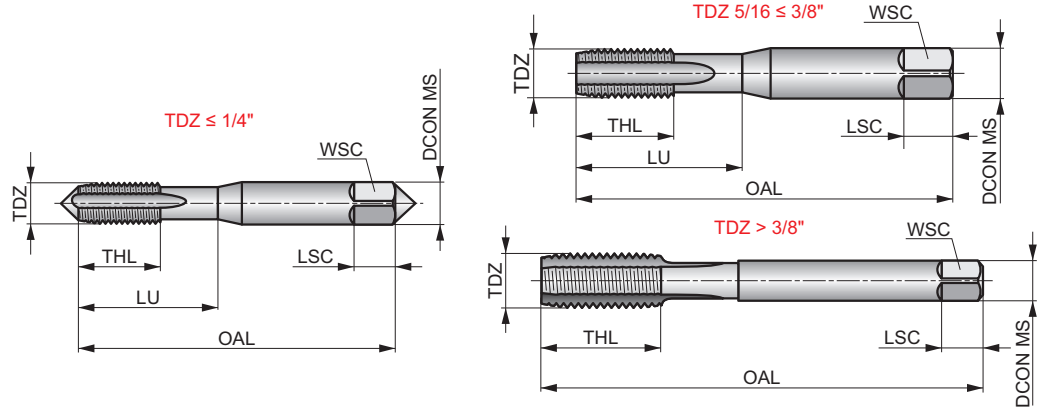
# E559NO6(UNF)



## Set of 3 Straight Flute Hand Taps, UNF, ISO Standard

The most versatile taps for hand use or machine tapping through or blind holes in medium strength, medium carbon and alloy steel. Set including taps with 3 different chamfer lengths; taper lead which is ideally for short through holes, plug perfect for deeper through holes and bottoming best suited for blind holes.

	ISO 529	2B
	1.5xD	HSS
A 6-8 B 3.5-5 C 2-3		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 6	<b>P1.2</b> ■ 6	<b>P1.3</b> ■ 6	<b>P2.1</b> ▣ 5	<b>P2.2</b> ■ 4	<b>P2.3</b> ▣ 3	<b>P3.1</b> ▣ 3	<b>P3.2</b> ■ 3	<b>P4.1</b> ▣ 2	<b>K2.1</b> ▣ 10	<b>K2.2</b> ▣ 8	<b>K3.1</b> ▣ 9	<b>K3.2</b> ▣ 6	<b>N1.3</b> ▣ 6
<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 14	<b>N3.2</b> ▣ 8	<b>N3.3</b> ▣ 4										

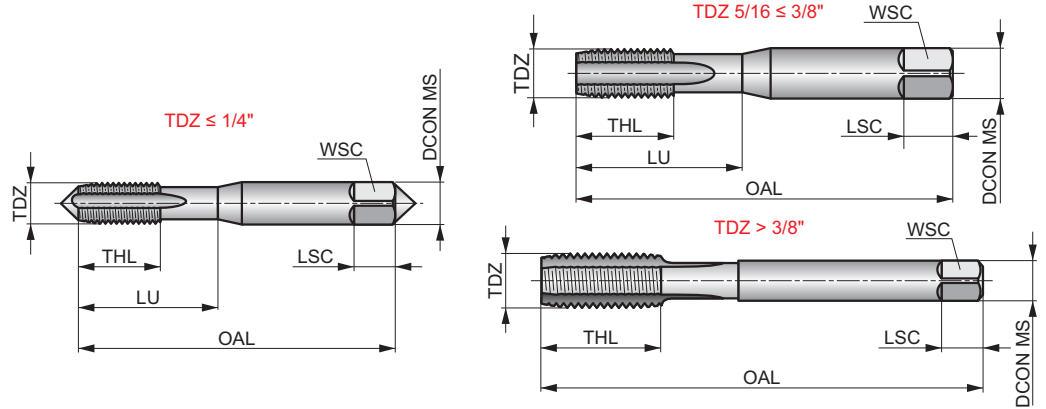
Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
<b>E559UNF10X32N06</b>	No.10	32	58.0	4.83	16	5.00	4.00	7	3	4.10	24.00
<b>E559UNF1/4N06</b>	1/4	28	66.0	6.35	19	6.30	5.00	8	3	5.50	30.00
<b>E559UNF5/16N06</b>	5/16	24	72.0	7.94	22	8.00	6.30	9	4	6.90	35.00
<b>E559UNF3/8N06</b>	3/8	24	80.0	9.53	24	10.00	8.00	11	4	8.50	39.00
<b>E559UNF1/2N06</b>	1/2	20	89.0	12.70	29	9.00	7.10	10	4	11.50	-

# E559N09(UNF)

**DORMER**

## Set of 2 Straight Flute Serial Hand Taps, UNF, ISO Standard

Ideal for hand tapping tough materials. The straight flute design makes it suitable for both through and blind holes. Set of 2 taps to be used in sequence, first the starter tap to make a roughing cut and a finisher for smoothing the thread and making it exact.



	ISO 529	2B
	1.5xD	HSS
	R	Bright

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P4.1	K2.1	K2.2	K3.1	K3.2	N1.3
■	■	■	▣	■	▣	▣	■	▣	▣	▣	▣	▣	▣
N2.3	N3.1	N3.2	N3.3										
▣	▣	▣	▣										

Product	TDZ	TPI	OAL	TD	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)						
E559UNF10X32N09	No.10	32	58.0	4.83	16	5.00	4.00	7	3	4.10	24.00
E559UNF1/4N09	1/4	28	66.0	6.35	19	6.30	5.00	8	3	5.50	30.00
E559UNF5/16N09	5/16	24	72.0	7.94	22	8.00	6.30	9	4	6.90	35.00
E559UNF3/8N09	3/8	24	80.0	9.53	24	10.00	8.00	11	4	8.50	39.00
E559UNF1/2N09	1/2	20	89.0	12.70	29	9.00	7.10	10	4	11.50	-

Thread form (THFT)																			
Basic standard group (BSG)	ISO 529	ISO 529	ISO 529	ISO 529															
Thread tolerance class (TCTR)	6H	Medium	Medium	Normal															
Threading application																			
Usable length (ULDR)	2×D	2.5×D	2.5×D	2.5×D															
Material code (BMC)	HSS	HSS	HSS	HSS															
Tap chamfer style (TCS)	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5															
Flute Geometry (FDC)																			
Hand (Cutting direction)																			
Coating	Bright	ST	ST	ST															



Product Family Code	<b>E556(M)</b>	<b>E534</b>	<b>E539</b>	<b>E545</b>															
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PSF cutting diameters range		1/8 – 3/4	1/4 – 1/2	No.10 – No.2															
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	56	57	58	59															
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<b>P</b>	P1	■	☒	☒	☒														
	P2	■	☒	■	■														
	P3	☒	■	■	■														
	P4		☒	☒	☒														
<b>M</b>	M1		☒	■	■														
	M2		☒	☒	☒														
	M3		☒	■	■														
	M4		☒	☒	☒														
<b>K</b>	K1		☒	☒	☒														
	K2		☒	☒	☒														
	K3		☒	☒	☒														
	K4		☒	☒	☒														
	K5		☒	☒	☒														
<b>N</b>	N1																		
	N2																		
	N3																		
	N4																		
	N5																		
<b>S</b>	S1																		
	S2																		
	S3																		
	S4																		
<b>H</b>	H1																		
	H2																		
	H3																		
	H4																		



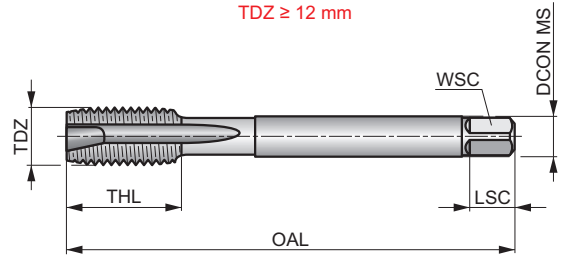
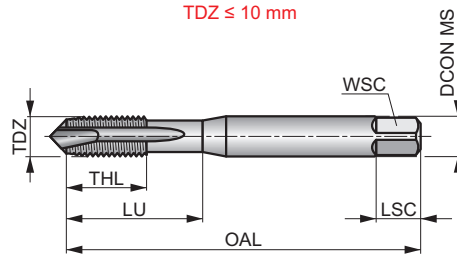
# E556(M)



## HSS Spiral Point Power Tool Tap, Metric, ISO Standard

Ideal for hand held tapping with the use of Power Tools. Suited for through holes only the spiral point propel the chips ahead of the cutting zone, thus reducing loading and clogging in the flutes. The bright finish improve the chip flow in soft and non-ferrous materials.

	ISO 529	6H
	2xD	HSS
B 3.5-5		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P3.1</b>	<b>P3.2</b>
■ 14	■ 15	■ 16	■ 11	■ 9	■ 8	■ 5

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E556M3	3	0.50	48.0	11	3.15	2.50	5	3	2.50	18.00
E556M4	4	0.70	53.0	13	4.00	3.15	6	3	3.30	21.00
E556M5	5	0.80	58.0	16	5.00	4.00	7	3	4.20	25.00
E556M6	6	1.00	66.0	19	6.30	5.00	8	3	5.00	30.00
E556M8	8	1.25	72.0	22	8.00	6.30	9	3	6.80	35.00
E556M10	10	1.50	80.0	24	10.00	8.00	11	3	8.50	39.00
E556M12	12	1.75	89.0	29	9.00	7.10	10	3	10.30	-

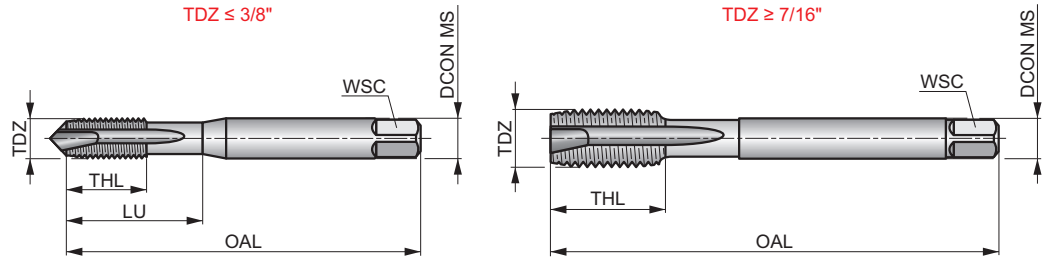
# E534



## HSS Spiral Point Machine Tap, BSW, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	Medium
	2.5xD	HSS
B 3.5-5		
ST		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ▣ 12	<b>P1.3</b> ▣ 14	<b>P2.1</b> ▣ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ▣ 8	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 5	<b>P4.2</b> ▣ 4	<b>M1.1</b> ■ 7	<b>M1.2</b> ▣ 6	<b>M2.1</b> ▣ 6	<b>M2.2</b> ▣ 5
<b>M3.1</b> ■ 5	<b>M3.2</b> ▣ 4	<b>M3.3</b> ▣ 3	<b>M4.1</b> ▣ 2	<b>K1.1</b> ▣ 9	<b>K1.2</b> ▣ 6	<b>K1.3</b> ▣ 4	<b>K2.1</b> ▣ 12	<b>K2.2</b> ▣ 9	<b>K3.1</b> ▣ 10	<b>K3.2</b> ▣ 6	<b>K4.1</b> ▣ 9	<b>K4.2</b> ▣ 5	<b>K5.1</b> ▣ 11
<b>K5.2</b> ▣ 7													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)			
E5341/8	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5345/32	5/32	32	3.97	53.0	14	4.00	3.15	3	3.20	14.00
E5343/16	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5341/4	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5345/16	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	29.00
E5343/8	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	32.00
E5347/16	7/16	14	11.11	85.0	19	8.00	6.30	3	9.20	-
E5341/2	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	-
E5345/8	5/8	11	15.88	102.0	24	12.50	10.00	3	13.50	-
E5343/4	3/4	10	19.05	112.0	29	14.00	11.20	4	16.50	-

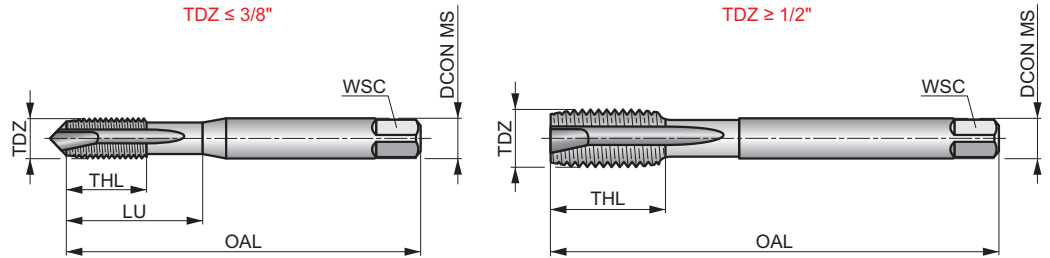
# E539



## HSS Spiral Point Machine Tap, BSF, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	Medium
	2.5xD	HSS
B 3.5-5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■11	<b>P1.2</b> ■12	<b>P1.3</b> ■14	<b>P2.1</b> ■9	<b>P2.2</b> ■8	<b>P2.3</b> ■7	<b>P3.1</b> ■8	<b>P3.2</b> ■6	<b>P4.1</b> ■5	<b>P4.2</b> ■4	<b>M1.1</b> ■7	<b>M1.2</b> ■6	<b>M2.1</b> ■6	<b>M2.2</b> ■5
<b>M3.1</b> ■5	<b>M3.2</b> ■4	<b>M3.3</b> ■3	<b>M4.1</b> ■2	<b>K1.1</b> ■9	<b>K1.2</b> ■6	<b>K1.3</b> ■4	<b>K2.1</b> ■12	<b>K2.2</b> ■9	<b>K3.1</b> ■10	<b>K3.2</b> ■6	<b>K4.1</b> ■9	<b>K4.2</b> ■5	<b>K5.1</b> ■11
<b>K5.2</b> ■7													

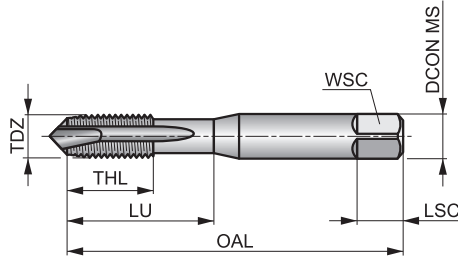
Product	TDZ	TPI	TD (mm)	OAL (mm)	THL (mm)	DCON MS (mm)	WSC (mm)	NOF	PHD (mm)	LU (mm)
E5391/4	1/4	26	6.35	66.0	14	6.30	5.00	3	5.30	26.00
E5395/16	5/16	22	7.94	72.0	18	8.00	6.30	3	6.80	29.00
E5393/8	3/8	20	9.53	80.0	20	10.00	8.00	3	8.30	32.00
E5391/2	1/2	16	12.70	89.0	23	9.00	7.10	3	11.00	-

# E545



## HSS Spiral Point Machine Tap, BA, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.



	ISO 529	Normal
	2.5xD	HSS
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■11	<b>P1.2</b> ■12	<b>P1.3</b> ■14	<b>P2.1</b> ■9	<b>P2.2</b> ■8	<b>P2.3</b> ■7	<b>P3.1</b> ■8	<b>P3.2</b> ■6	<b>P4.1</b> ■5	<b>P4.2</b> ■4	<b>M1.1</b> ■7	<b>M1.2</b> ■6	<b>M2.1</b> ■4	<b>M2.2</b> ■5
<b>M3.1</b> ■5	<b>M3.2</b> ■4	<b>M3.3</b> ■3	<b>M4.1</b> ■2	<b>K1.1</b> ■9	<b>K1.2</b> ■6	<b>K1.3</b> ■4	<b>K2.1</b> ■12	<b>K2.2</b> ■9	<b>K3.1</b> ■10	<b>K3.2</b> ■6	<b>K4.1</b> ■9	<b>K4.2</b> ■5	<b>K5.1</b> ■11
<b>K5.2</b> ■7													

Product	TDZ	TP	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E545BA10	BA10	0.35	1.70	41.0	7	2.50	2.00	4	2	1.30	7.00
E545BA8	BA 8	0.43	2.20	44.5	9.5	2.80	2.20	5	3	1.80	9.50
E545BA6	BA 6	0.53	2.80	44.5	9.5	2.80	2.20	5	3	2.30	9.50
E545BA4	BA 4	0.66	3.60	50.0	16.5	3.55	2.80	5	3	3.00	16.50
E545BA2	BA 2	0.81	4.70	58.0	12	5.00	4.00	7	3	4.00	20.00

Thread form (THFT)										
Basic standard group (BSG)	ISO 529	ISO 529	ISO 529	ISO 529						
Thread tolerance class (TCTR)	6H	Medium	Medium	Normal						
Threading application										
Usable length (ULDR)	2xD	2xD	2xD	2xD						
Material code (BMC)	HSS	HSS	HSS	HSS						
Tap chamfer style (TCS)	C 2-3	C 2-3	C 2-3	C 2-3						
Flute Geometry (FDC)										
Flute helix angle (FHA)	$\lambda$ 35°	$\lambda$ 40°	$\lambda$ 40°	$\lambda$ 40°						
Hand (Cutting direction)										
Coating	Bright	Bright ST	Bright ST	Bright ST						

Product Family Code	<b>E557(M)</b>	<b>E533</b>	<b>E538</b>	<b>E544</b>						
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PSF cutting diameters range		1/8 – 3/4	1/4 – 1/2	No.8 – No.2						
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<b>P</b>	P1	■	■	■	■					
	P2	■	■	■	■					
	P3	▣	▣	▣	▣					
	P4		▣	▣	▣					
<b>M</b>	M1		▣	▣	▣					
	M2		▣	▣	▣					
	M3		▣	▣	▣					
	M4		▣	▣	▣					
<b>K</b>	K1									
	K2									
	K3									
	K4									
	K5									
<b>N</b>	N1			▣	▣					
	N2		▣	▣	▣					
	N3									
	N4									
	N5									
<b>S</b>	S1									
	S2									
	S3									
	S4									
<b>H</b>	H1									
	H2									
	H3									
	H4									

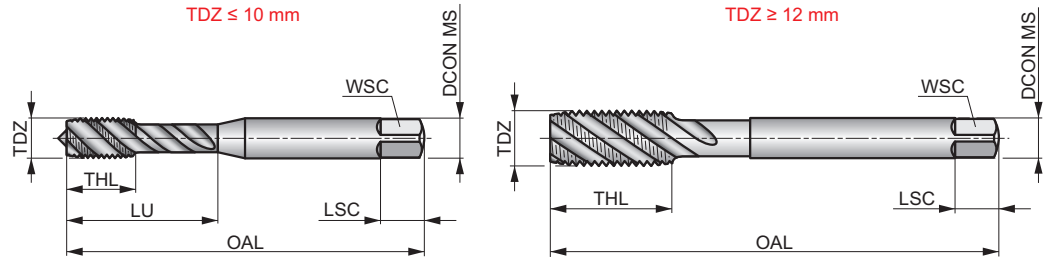
# E557(M)



## HSS Spiral Flute Power Tool Tap, Metric, ISO Standard

Ideal for hand held tapping with the use of Power Tools. Tapping typically produce long stringy chips which, when not evacuated properly, can cause serious problems especially when threading blind holes. The spiral flute design counters this problem as it draws chips from the hole being tapped.

	ISO 529	6H
	2xD	HSS
		$\lambda$ 35°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P3.1</b>	<b>P3.2</b>
■ 14	■ 15	■ 16	■ 11	■ 9	■ 8	■ 5

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E557M3	3	0.50	48.0	6	3.15	2.50	5	3	2.50	18.00
E557M4	4	0.70	53.0	8	4.00	3.15	6	3	3.30	21.00
E557M5	5	0.80	58.0	10	5.00	4.00	7	3	4.20	25.00
E557M6	6	1.00	66.0	12	6.30	5.00	8	3	5.00	30.00
E557M8	8	1.25	72.0	15	8.00	6.30	9	3	6.80	35.00
E557M10	10	1.50	80.0	18	10.00	8.00	11	3	8.50	39.00
E557M12	12	1.75	89.0	21	9.00	7.10	10	3	10.30	-

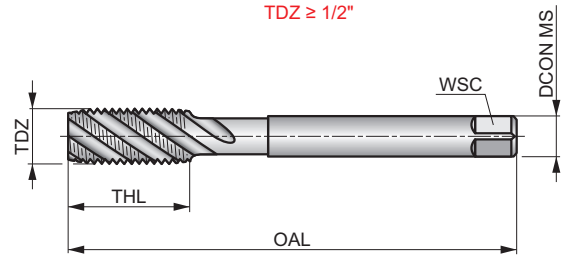
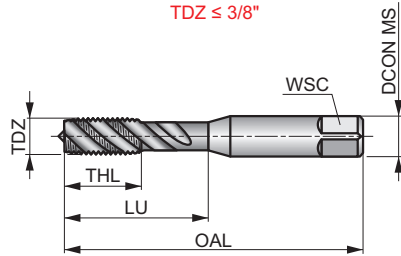
# E533



## HSS Spiral Flute Machine Tap, BSW, ISO Standard

Machine tap with spiral flute suited for blind holes. Available with bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges or BLUE finish with steam tempered surface, which acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	Medium
	2xD	HSS
C 2-3		$\lambda$ 40°
	Bright ST	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 10	<b>P1.2</b> ■ 11	<b>P1.3</b> ■ 13	<b>P2.1</b> ■ 8	<b>P2.2</b> ■ 7	<b>P2.3</b> ■ 6	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 5	<b>P3.3</b> ■ 4	<b>P4.1</b> ■ 4	<b>P4.2</b> ■ 3	<b>M1.1</b> ■ 6	<b>M1.2</b> ■ 5	<b>M2.1</b> ■ 4
<b>M2.2</b> ■ 5	<b>M2.3</b> ■ 5	<b>M3.1</b> ■ 5	<b>M3.2</b> ■ 4	<b>M3.3</b> ■ 3	<b>M4.1</b> ■ 2	<b>N1.3</b> ■ 5	<b>N2.1</b> ■ 12	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 8				

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)					
E5331/8 <sup>1)</sup>	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5331/8BLUE	1/8	40	3.17	48.0	12.5	3.15	2.50	3	2.55	12.50
E5333/16 <sup>1)</sup>	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5333/16BLUE	3/16	24	4.76	58.0	11	5.00	4.00	3	3.70	20.00
E5331/4 <sup>1)</sup>	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5331/4BLUE	1/4	20	6.35	66.0	13	6.30	5.00	3	5.10	26.00
E5335/16 <sup>1)</sup>	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	31.00
E5335/16BLUE	5/16	18	7.94	72.0	16	8.00	6.30	3	6.50	31.00
E5333/8 <sup>1)</sup>	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	34.00
E5333/8BLUE	3/8	16	9.53	80.0	18	10.00	8.00	3	7.90	34.00
E5331/2 <sup>1)</sup>	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	—
E5331/2BLUE	1/2	12	12.70	89.0	22	9.00	7.10	3	10.50	—
E5335/8 <sup>1)</sup>	5/8	11	15.88	102.0	24	12.50	10.00	3	13.50	—
E5335/8BLUE	5/8	11	15.88	102.0	24	12.50	10.00	3	13.50	—
E5333/4 <sup>1)</sup>	3/4	10	19.05	112.0	29	14.00	11.20	3	16.50	—
E5333/4BLUE	3/4	10	19.05	112.0	29	14.00	11.20	3	16.50	—

<sup>1)</sup> Bright Finish.

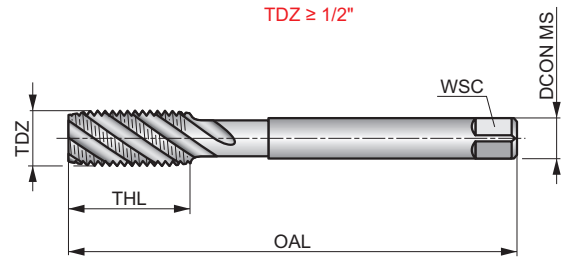
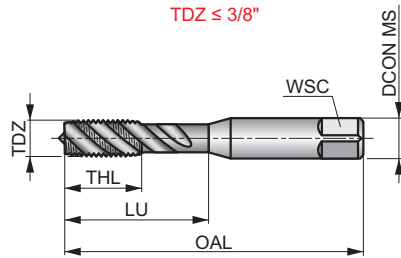
# E538



## HSS Spiral Flute Machine Tap, BSF, ISO Standard

Machine tap with spiral flute suited for blind holes. Available with bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges or BLUE finish with steam tempered surface, which acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	Medium
	2xD	HSS
C 2-3		$\lambda$ 40°
	Bright ST	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 10	<b>P1.2</b> ■ 11	<b>P1.3</b> ■ 13	<b>P2.1</b> ■ 8	<b>P2.2</b> ■ 7	<b>P2.3</b> ■ 6	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 5	<b>P3.3</b> ■ 4	<b>P4.1</b> ■ 4	<b>P4.2</b> ■ 3	<b>M1.1</b> ■ 6	<b>M1.2</b> ■ 5	<b>M2.1</b> ■ 4
<b>M2.2</b> ■ 5	<b>M2.3</b> ■ 5	<b>M3.1</b> ■ 5	<b>M3.2</b> ■ 4	<b>M3.3</b> ■ 3	<b>M4.1</b> ■ 2	<b>N1.3</b> ■ 5	<b>N2.1</b> ■ 12	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 8				

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E5381/4 <sup>1)</sup>	1/4	26	6.35	66.0	13	6.30	5.00	3	5.30	26.00
E5381/4BLUE	1/4	26	6.35	66.0	13	6.30	5.00	3	5.30	26.00
E5385/16 <sup>1)</sup>	5/16	22	7.94	72.0	16	8.00	6.30	3	6.80	31.00
E5385/16BLUE	5/16	22	7.94	72.0	16	8.00	6.30	3	6.80	31.00
E5383/8 <sup>1)</sup>	3/8	20	9.53	80.0	18	10.00	8.00	3	8.30	34.00
E5383/8BLUE	3/8	20	9.53	80.0	18	10.00	8.00	3	8.30	34.00
E5381/2 <sup>1)</sup>	1/2	16	12.70	89.0	22	9.00	7.10	3	11.00	-
E5381/2BLUE	1/2	16	12.70	89.0	22	9.00	7.10	3	11.00	-

<sup>1)</sup> Bright Finish.

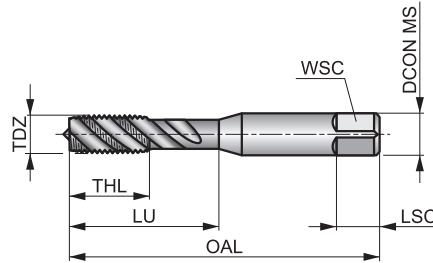


# E544



## HSS Spiral Flute Machine Tap, BA, ISO Standard

Machine tap with spiral flute suited for blind holes. Available with bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges or BLUE finish with steam tempered surface, which acts to retain cutting fluid and prevent chip to tool welding.



	ISO 529	Normal
	2xD	HSS
		$\lambda$ 40°
	Bright ST	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 10	<b>P1.2</b> ■ 11	<b>P1.3</b> ■ 13	<b>P2.1</b> ■ 8	<b>P2.2</b> ■ 7	<b>P2.3</b> ■ 6	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 5	<b>P3.3</b> ■ 4	<b>P4.1</b> ■ 4	<b>P4.2</b> ■ 3	<b>M1.1</b> ■ 6	<b>M1.2</b> ■ 5	<b>M2.1</b> ■ 4
<b>M2.2</b> ■ 5	<b>M2.3</b> ■ 5	<b>M3.1</b> ■ 5	<b>M3.2</b> ■ 4	<b>M3.3</b> ■ 3	<b>M4.1</b> ■ 2	<b>N1.3</b> ■ 5	<b>N2.1</b> ■ 12	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 8				

Product	TDZ	TP	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
<b>E544BA8</b> <sup>1)</sup>	BA 8	0.43	2.20	44.5	9.5	2.80	2.20	5	2	1.80	9.50
<b>E544BA8BLUE</b>	BA 8	0.43	2.20	44.5	9.5	2.80	2.20	5	2	1.80	9.50
<b>E544BA6</b> <sup>1)</sup>	BA 6	0.53	2.80	44.5	9.5	2.80	2.20	5	2	2.30	9.50
<b>E544BA4</b> <sup>1)</sup>	BA 4	0.66	3.60	50.0	16.5	3.55	2.80	5	3	3.00	16.50
<b>E544BA4BLUE</b>	BA 4	0.66	3.60	50.0	16.5	3.55	2.80	5	3	3.00	16.50
<b>E544BA2</b> <sup>1)</sup>	BA 2	0.81	4.70	58.0	12	5.00	4.00	7	3	4.00	20.00
<b>E544BA2BLUE</b>	BA 2	0.81	4.70	58.0	12	5.00	4.00	7	3	4.00	20.00

<sup>1)</sup> Bright Finish.

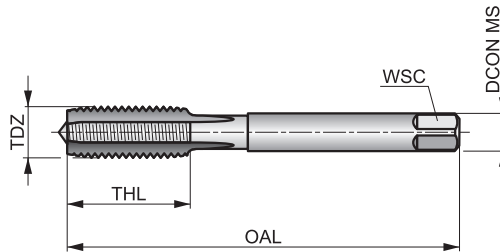
Thread form (THFT)										
Basic standard group (BSG)	DIN 5157	ISO 2284	ISO 2284	ANSI B94.9	ANSI B94.9	ANSI B94.9	ANSI B94.9	ANSI B94.9	ANSI B94.9	ANSI B94.9
Thread tolerance class (TCTR)	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Threading application										
Usable length (ULDR)	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D
Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Tap chamfer style (TCS)	C 2-3		C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
Flute Geometry (FDC)										
Hand (Cutting direction)										
Coating	Bright	Bright	Bright	Bright	Bright	TIN	Bright	Bright	TIN	Bright
Product Family Code	E119	E547	E550	E710	E711	E721	E712	E709	E720	E708
PSF cutting diameters range	1/8 – 3"	1/8 – 2"	1/8 – 2"	1/16 – 2"	1/8 – 1.1/2	1/8 – 1"	1/16 – 1.1/4	1/8 – 3/4	1/8 – 3/4	1/8 – 1"
<b>P</b>	P1	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	■	■	■	■
	P4	■	■	■	■	■	■	■	■	■
<b>M</b>	M1			■						
	M2			■						
	M3			■						
	M4			■						
<b>K</b>	K1	■	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■	■
	K3	■	■	■	■	■	■	■	■	■
	K4	■	■	■	■	■	■	■	■	■
	K5	■	■	■	■	■	■	■	■	■
<b>N</b>	N1	■	■	■						
	N2	■	■	■	■	■	■	■	■	■
	N3	■	■	■	■	■	■	■	■	■
	N4	■	■	■	■	■	■	■	■	■
	N5									
<b>S</b>	S1									
	S2									
	S3									
	S4									
<b>H</b>	H1									
	H2									
	H3									
	H4									

# E119



## HSS Straight Flute Serial Hand Tap, G(BSP), DIN Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a set of two serial taps, which should be used one after the other to create the full thread.



	DIN 5157	Normal
	1.5xD	HSS

Workpiece material group suitability.

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P2.3</b>	<b>P3.1</b>	<b>P3.2</b>	<b>P4.1</b>	<b>K1.1</b>	<b>K1.2</b>	<b>K1.3</b>	<b>K2.1</b>	<b>K2.2</b>
■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>K3.1</b>	<b>K3.2</b>	<b>K4.1</b>	<b>K4.2</b>	<b>K5.1</b>	<b>K5.2</b>	<b>N1.1</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N2.1</b>	<b>N2.2</b>	<b>N2.3</b>	<b>N3.1</b>	<b>N3.2</b>
■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>N3.3</b>	<b>N4.2</b>	<b>N4.3</b>											
■	■	■											

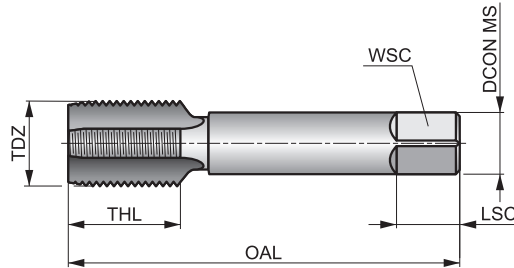
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)		
<b>E1191/8N09</b>	1/8	28	9.73	63.0	15	7.00	5.50	3	8.80
<b>E1191/4N09</b>	1/4	19	13.16	70.0	16	11.00	9.00	4	11.80
<b>E1193/8N09</b>	3/8	19	16.66	70.0	16	12.00	9.00	4	15.25
<b>E1191/2N09</b>	1/2	14	20.96	80.0	18	16.00	12.00	4	19.00
<b>E1195/8N09</b>	5/8	14	22.91	80.0	22	18.00	14.50	4	21.00
<b>E1193/4N09</b>	3/4	14	26.44	90.0	22	20.00	16.00	4	24.50
<b>E1197/8N09</b>	7/8	14	30.20	90.0	22	22.00	18.00	6	28.25
<b>E1191N09</b>	1"	11	33.25	100.0	25	25.00	20.00	6	30.75
<b>E1191.1/8N09</b>	1.1/8	11	37.90	125.0	40	28.00	22.00	6	35.00
<b>E1191.1/4N09</b>	1.1/4	11	41.91	125.0	40	32.00	24.00	6	39.50
<b>E1191.1/2N09</b>	1.1/2	11	47.80	140.0	40	36.00	29.00	6	45.00
<b>E1191.3/4N09</b>	1.3/4	11	53.75	140.0	40	40.00	32.00	6	51.00
<b>E1192N09</b>	2"	11	59.61	160.0	40	45.00	35.00	6	57.00
<b>E1192.1/2N09</b>	2.1/2	11	75.18	160.0	40	50.00	39.00	6	72.50
<b>E1193N09</b>	3"	11	87.88	160.0	40	50.00	39.00	8	85.50

# E547



## HSS Straight Flute Hand Tap G(BSP), ISO Standard

A versatile tool, suitable for hand and machine tapping, with a straight flute design for both through and blind holes. Available with taper lead NO1 for short through holes, plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes. Also, as set NO7 with a plug lead and bottoming lead tap.



	ISO 2284	Normal
	1.5xD	HSS
	R	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■7	<b>P1.2</b> ■7	<b>P1.3</b> ■8	<b>P2.1</b> ■6	<b>P2.2</b> ■5	<b>P2.3</b> ■4	<b>P3.1</b> ■4	<b>P3.2</b> ■4	<b>P4.1</b> ■3	<b>K1.1</b> ■12	<b>K1.2</b> ■9	<b>K1.3</b> ■7	<b>K2.1</b> ■12	<b>K2.2</b> ■10
<b>K3.1</b> ■11	<b>K3.2</b> ■8	<b>K4.1</b> ■10	<b>K4.2</b> ■8	<b>K5.1</b> ■11	<b>K5.2</b> ■9	<b>N1.3</b> ■8	<b>N2.1</b> ■11	<b>N2.2</b> ■10	<b>N2.3</b> ■7	<b>N3.1</b> ■17	<b>N3.2</b> ■10	<b>N3.3</b> ■5	<b>N4.2</b> ■5
<b>N4.3</b> ■3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
E5471/8N01	1/8	28	9.73	59.0	15	8.00	8.00	9	4	8.80
E5471/8N02	1/8	28	9.73	59.0	15	8.00	6.30	9	4	8.80
E5471/8N03	1/8	28	9.73	59.0	15	8.00	6.30	9	4	8.80
E5471/8N07	1/8	28	9.73	59.0	15	8.00	6.30	9	4	8.80
E5471/4N01	1/4	19	13.16	67.0	19	10.00	8.00	11	4	11.80
E5471/4N02	1/4	19	13.16	67.0	19	10.00	8.00	11	4	11.80
E5471/4N03	1/4	19	13.16	67.0	19	10.00	8.00	11	4	11.80
E5471/4N07	1/4	19	13.16	67.0	19	10.00	8.00	11	4	11.80
E5473/8N01	3/8	19	16.66	75.0	21	12.50	10.00	13	4	15.25
E5473/8N02	3/8	19	16.66	75.0	21	12.50	10.00	13	4	15.25
E5473/8N03	3/8	19	16.66	75.0	21	12.50	10.00	13	4	15.25
E5473/8N07	3/8	19	16.66	75.0	21	12.50	10.00	13	4	15.25
E5471/2N01	1/2	14	20.95	87.0	26	16.00	12.50	16	4	19.00
E5471/2N02	1/2	14	20.95	87.0	26	16.00	12.50	16	4	19.00
E5471/2N03	1/2	14	20.95	87.0	26	16.00	12.50	16	4	19.00
E5471/2N07	1/2	14	20.95	87.0	26	16.00	12.50	16	4	19.00
E5475/8N01	5/8	14	22.91	91.0	26	18.00	14.00	18	4	21.00
E5475/8N02	5/8	14	22.91	91.0	26	18.00	14.00	18	4	21.00
E5475/8N03	5/8	14	22.91	91.0	26	18.00	14.00	18	4	21.00
E5475/8N07	5/8	14	22.91	91.0	26	18.00	14.00	18	4	21.00
E5473/4N01	3/4	14	26.44	96.0	28	20.00	16.00	20	4	24.50
E5473/4N02	3/4	14	26.44	96.0	28	20.00	16.00	20	4	24.50
E5473/4N03	3/4	14	26.44	96.0	28	20.00	16.00	20	4	24.50
E5473/4N07	3/4	14	26.44	96.0	28	20.00	16.00	20	4	24.50
E5477/8N01	7/8	14	30.20	102.0	29	22.40	18.00	22	4	28.25
E5477/8N02	7/8	14	30.20	102.0	29	22.40	18.00	22	4	28.25
E5477/8N03	7/8	14	30.20	102.0	29	22.40	18.00	22	4	28.25
E5471N01	1"	11	33.25	109.0	33	25.00	20.00	24	4	30.75



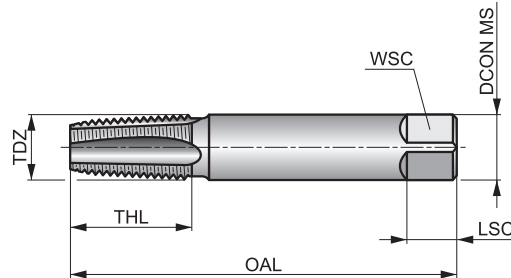
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
<b>E5471N02</b>	1"	11	33.25	109.0	33	25.00	20.00	24	4	30.75
<b>E5471N03</b>	1"	11	33.25	109.0	33	25.00	20.00	24	4	30.75
<b>E5471.1/4N01</b>	1.1/4	11	41.91	119.0	36	31.50	25.00	28	6	39.50
<b>E5471.1/4N02</b>	1.1/4	11	41.91	119.0	36	31.50	25.00	28	6	39.50
<b>E5471.1/4N03</b>	1.1/4	11	41.91	119.0	36	31.50	25.00	28	6	39.50
<b>E5471.1/2N01</b>	1.1/2	11	47.80	125.0	37	35.50	28.00	31	6	45.00
<b>E5471.1/2N02</b>	1.1/2	11	47.80	125.0	37	35.50	28.00	31	6	45.00
<b>E5471.1/2N03</b>	1.1/2	11	47.80	125.0	37	35.50	28.00	31	6	45.00
<b>E5472N01</b>	2"	11	59.61	140.0	41	40.00	31.50	34	6	57.00
<b>E5472N02</b>	2"	11	59.61	140.0	41	40.00	31.50	34	6	57.00
<b>E5472N03</b>	2"	11	59.61	140.0	41	40.00	31.50	34	6	57.00

# E550



## HSS Straight Flute Serial Hand Tap, Rc(BSPT), ISO Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a single finishing tap or as a set of two serial taps, which should be used one after the other to create the full thread.



	ISO 2284	Normal
	1.5xD	HSS

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■7	<b>P1.2</b> ■7	<b>P1.3</b> ■8	<b>P2.1</b> ■6	<b>P2.2</b> ■5	<b>P2.3</b> ■4	<b>P3.1</b> ■4	<b>P3.2</b> ■4	<b>P4.1</b> ■3	<b>M1.1</b> ■5	<b>M1.2</b> ■4	<b>M2.1</b> ■5	<b>M2.2</b> ■4	<b>M3.1</b> ■5
<b>M3.2</b> ■4	<b>M3.3</b> ■3	<b>M4.1</b> ■3	<b>K1.1</b> ■6	<b>K1.2</b> ■4	<b>K1.3</b> ■3	<b>K2.1</b> ■7	<b>K2.2</b> ■6	<b>K3.1</b> ■7	<b>K3.2</b> ■5	<b>K4.1</b> ■6	<b>K4.2</b> ■5	<b>K5.1</b> ■7	<b>K5.2</b> ■5
<b>N1.3</b> ■8	<b>N2.1</b> ■11	<b>N2.2</b> ■10	<b>N2.3</b> ■7	<b>N3.1</b> ■17	<b>N3.2</b> ■10	<b>N3.3</b> ■5	<b>N4.2</b> ■5	<b>N4.3</b> ■3					

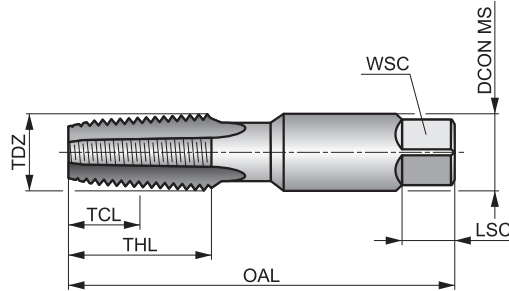
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
E5501/8	1/8	28	9.73	59.0	15	8.00	6.30	9	3	8.40
E5501/8N07	1/8	28	9.73	59.0	15	8.00	6.30	9	3	8.40
E5501/4	1/4	19	13.16	67.0	19	10.00	8.00	11	3	11.20
E5501/4N07	1/4	19	13.16	67.0	19	10.00	8.00	11	3	11.20
E5503/8	3/8	19	16.66	75.0	21	12.50	10.00	13	3	14.75
E5503/8N07	3/8	19	16.66	75.0	21	12.50	10.00	13	3	14.75
E5501/2	1/2	14	20.95	87.0	26	16.00	12.50	16	5	18.25
E5501/2N07	1/2	14	20.95	87.0	26	16.00	12.50	16	5	18.25
E5503/4	3/4	14	26.44	96.0	28	20.00	16.00	20	5	23.75
E5503/4N07	3/4	14	26.44	96.0	28	20.00	16.00	20	5	23.75
E5501	1"	11	33.25	109.0	33	25.00	20.00	24	5	30.00
E5501.1/4	1.1/4	11	41.91	119.0	36	31.50	25.00	28	5	38.50
E5501.1/2	1.1/2	11	47.80	125.0	37	35.50	28.00	31	7	44.50
E5502	2"	11	59.61	140.0	41	40.00	31.50	34	7	56.00

# E710



## HSS Straight Flute Serial Hand Tap, NPT, ANSI Standard

Ideal for hand tapping tough materials. The straight flute design makes it ideal for both through and blind holes. Available as a single finishing tap or as a set of two serial taps, which should be used one after the other to create the full thread.



	ANSI B94.9	Normal
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■7	<b>P1.2</b> ■7	<b>P1.3</b> ■8	<b>P2.1</b> ■6	<b>P2.2</b> ■5	<b>P2.3</b> ■4	<b>P3.1</b> ■4	<b>P3.2</b> ■4	<b>P4.1</b> ■3	<b>K1.1</b> ■6	<b>K1.2</b> ■4	<b>K1.3</b> ■3	<b>K2.1</b> ■7	<b>K2.2</b> ■6
<b>K3.1</b> ■7	<b>K3.2</b> ■5	<b>K4.1</b> ■6	<b>K4.2</b> ■5	<b>K5.1</b> ■7	<b>K5.2</b> ■5	<b>N1.3</b> ■8	<b>N2.1</b> ■11	<b>N2.2</b> ■10	<b>N2.3</b> ■7	<b>N3.1</b> ■17	<b>N3.2</b> ■10	<b>N3.3</b> ■5	<b>N4.2</b> ■5
<b>N4.3</b> ■3													

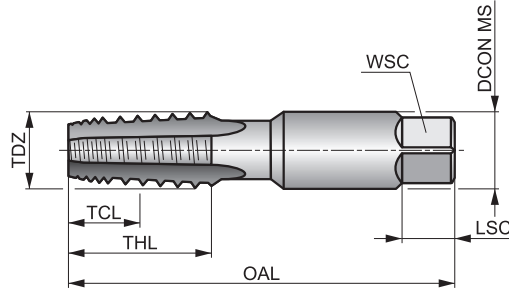
Product	TDZ	TPI	TD	OAL	THL	TCL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7101/16N03	1/16	27	7.94	65.0	17	11.70	8.10	6.00	8	4	6.30
E7101/8	1/8	27	10.29	70.0	19	11.90	11.10	8.30	10	4	8.50
E7101/8N07	1/8	27	10.29	70.0	19	11.90	11.10	8.30	10	4	8.50
E7101/4	1/4	18	13.72	75.0	27	17.60	14.30	10.70	11	4	11.00
E7101/4N07	1/4	18	13.72	75.0	27	17.60	14.30	10.70	11	4	11.00
E7103/8	3/8	18	17.15	80.0	27	19.50	17.80	13.50	13	4	14.50
E7103/8N07	3/8	18	17.15	80.0	27	19.50	17.80	13.50	13	4	14.50
E7101/2	1/2	14	21.34	100.0	35	22.70	17.50	13.10	16	4	18.00
E7101/2N07	1/2	14	21.34	100.0	35	22.70	17.50	13.10	16	4	18.00
E7103/4	3/4	14	26.67	105.0	35	24.40	23.00	17.20	17	5	23.00
E7103/4N07	3/4	14	26.67	105.0	35	24.40	23.00	17.20	17	5	23.00
E7101	1"	11.5	33.40	115.0	43	29.40	28.60	21.40	21	5	29.00
E7101.1/4	1.1/4	11.5	42.16	125.0	43	27.70	33.30	25.00	24	5	38.00
E7101.1/2	1.1/2	11.5	48.26	135.0	43	28.90	38.10	28.60	25	7	44.00
E7102	2"	11.5	60.33	145.0	43	26.60	47.60	35.70	29	7	56.00

# E711



## HSS Straight Flute Interrupted Thread Hand Tap, NPT, ANSI Standard

A versatile tool, suitable for machine and also hand tapping. Interrupted threads lessen the damaging effects of chip wedging on both forward and reverse rotation and reduce friction, permit better lubrication and allow more space for the passage of chips. The reduced shank increases the reach of the tap.



	ANSI B94.9	Normal
	1.5xD	HSS

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣7	<b>P1.2</b> ▣7	<b>P1.3</b> ▣8	<b>P2.1</b> ▣6	<b>P2.2</b> ▣5	<b>P2.3</b> ▣4	<b>P3.1</b> ▣4	<b>P3.2</b> ▣4	<b>P4.1</b> ▣3	<b>K1.1</b> ▣6	<b>K1.2</b> ▣4	<b>K1.3</b> ▣3	<b>K2.1</b> ▣7	<b>K2.2</b> ▣6
<b>K3.1</b> ▣7	<b>K3.2</b> ▣5	<b>K4.1</b> ▣6	<b>K4.2</b> ▣5	<b>K5.1</b> ▣7	<b>K5.2</b> ▣5	<b>N1.3</b> ▣8	<b>N2.1</b> ▣11	<b>N2.2</b> ▣10	<b>N2.3</b> ▣7	<b>N3.1</b> ▣17	<b>N3.2</b> ▣10	<b>N3.3</b> ▣5	<b>N4.2</b> ▣5
<b>N4.3</b> ▣3													

Product	TDZ	TPI	TD	OAL	THL	TCL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7111/8	1/8	27	10.29	70.0	19	11.90	11.10	8.30	10	5	8.50
E7111/4	1/4	18	13.72	75.0	27	17.60	14.30	10.70	11	5	11.00
E7113/8	3/8	18	17.15	80.0	27	19.50	17.80	13.50	13	5	14.50
E7111/2	1/2	14	21.33	100.0	35	22.70	17.50	13.10	16	5	18.00
E7113/4	3/4	14	26.67	105.0	35	24.40	23.00	17.20	17	5	23.00
E7111	1"	11.5	33.40	115.0	43	29.40	28.60	21.40	21	5	29.00
E7111.1/2	1.1/2	11.5	48.26	135.0	43	28.90	38.10	28.60	25	7	44.00

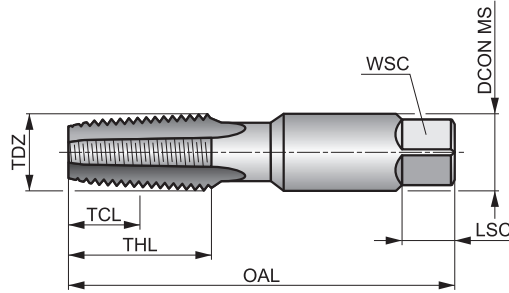


# E721



## HSS Straight Flute Hand Tap with TiN Coating, NPT, ANSI Standard

A versatile tool, suitable for machine and also hand tapping. With a straight flute design and bottoming lead for blind and through holes. TiN coated to improve performance and extend tool life.



	ANSI B94.9	Normal
	1.5xD	HSS

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 13	<b>P2.1</b> ■ 12	<b>P2.2</b> ■ 11	<b>P2.3</b> ■ 9	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P3.3</b> ■ 4	<b>P4.1</b> ■ 5	<b>P4.2</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7
<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10	<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 10	<b>N2.1</b> ■ 17	<b>N2.2</b> ■ 15	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 19	<b>N3.2</b> ■ 11
<b>N3.3</b> ■ 6	<b>N4.2</b> ■ 7	<b>N4.3</b> ■ 5											

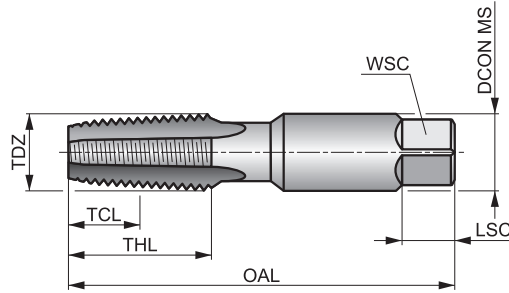
Product	TDZ	TPI	TD	OAL	THL	TCL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7211/8	1/8	27	10.29	70.0	19	11.90	11.10	8.30	10	4	8.50
E7211/4	1/4	18	13.72	75.0	27	17.60	14.30	10.70	11	4	11.00
E7213/8	3/8	18	17.15	80.0	27	19.50	17.80	13.50	13	4	14.50
E7211/2	1/2	14	21.34	100.0	35	22.70	17.50	13.10	16	4	18.00
E7213/4	3/4	14	26.67	105.0	35	24.40	23.00	17.20	17	5	23.00
E7211	1"	11.5	33.40	115.0	43	29.40	28.60	21.40	21	5	29.00

# E712



## HSS Straight Flute Hand Tap, NPTF, ANSI Standard

A versatile tool, suitable for machine and also hand tapping. With a straight flute design and bottoming lead for blind and through holes. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges.



	ANSI B94.9	Normal
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■7	<b>P1.2</b> ■7	<b>P1.3</b> ■8	<b>P2.1</b> ■6	<b>P2.2</b> ■5	<b>P2.3</b> ■4	<b>P3.1</b> ■4	<b>P3.2</b> ■4	<b>P4.1</b> ■3	<b>K1.1</b> ■6	<b>K1.2</b> ■4	<b>K1.3</b> ■3	<b>K2.1</b> ■7	<b>K2.2</b> ■6
<b>K3.1</b> ■7	<b>K3.2</b> ■5	<b>K4.1</b> ■6	<b>K4.2</b> ■5	<b>K5.1</b> ■7	<b>K5.2</b> ■5	<b>N1.3</b> ■8	<b>N2.1</b> ■11	<b>N2.2</b> ■10	<b>N2.3</b> ■7	<b>N3.1</b> ■17	<b>N3.2</b> ■10	<b>N3.3</b> ■5	<b>N4.2</b> ■5
<b>N4.3</b> ■3													

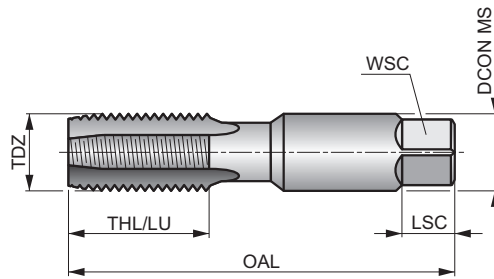
Product	TDZ	TPI	TD	OAL	THL	TCL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7121/16	1/16	27	7.94	65.0	17	11.70	8.10	6.00	8	4	6.20
E7121/8	1/8	27	10.29	70.0	19	11.90	11.10	8.30	10	4	8.40
E7121/4	1/4	18	13.72	75.0	27	17.60	14.30	10.70	11	4	10.90
E7123/8	3/8	18	17.15	80.0	27	19.50	17.80	13.50	13	4	14.25
E7121/2	1/2	14	21.34	100.0	35	22.70	17.50	13.10	16	4	17.75
E7123/4	3/4	14	26.67	105.0	35	24.40	23.00	17.20	17	5	23.00
E7121	1"	11.5	33.40	115.0	43	29.40	28.60	21.40	21	5	29.00
E7121.1/4	1.1/4	11.5	42.16	125.0	43	27.70	33.40	24.90	23	5	37.75

# E709



## HSS Straight Flute Machine Tap, NPSF, ANSI Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges.



	ANSI B94.9	Normal
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ▣ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ▣ 4	<b>P4.1</b> ▣ 3	<b>K1.1</b> ▣ 6	<b>K1.2</b> ▣ 4	<b>K1.3</b> ▣ 3	<b>K2.1</b> ▣ 7	<b>K2.2</b> ▣ 6
<b>K3.1</b> ▣ 7	<b>K3.2</b> ▣ 5	<b>K4.1</b> ▣ 6	<b>K4.2</b> ▣ 5	<b>K5.1</b> ▣ 7	<b>K5.2</b> ▣ 5	<b>N1.3</b> ▣ 8	<b>N2.1</b> ▣ 11	<b>N2.2</b> ▣ 10	<b>N2.3</b> ▣ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ▣ 5	<b>N4.2</b> ▣ 5
<b>N4.3</b> ▣ 3													

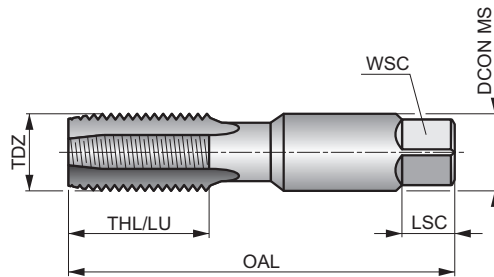
Product	TDZ	TPI	TD	OAL	THL	LU	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7091/8	1/8	27	10.29	70.0	19	19.00	11.10	8.30	10	4	8.70
E7091/4	1/4	18	13.72	75.0	27	27.00	14.30	10.70	11	4	11.30
E7093/8	3/8	18	17.15	80.0	27	27.00	17.80	13.50	13	4	14.75
E7091/2	1/2	14	21.34	100.0	35	-	17.50	13.10	16	4	18.25
E7093/4	3/4	14	26.67	105.0	35	-	23.00	17.20	17	5	23.50

# E720



## HSS Straight Flute Machine Tap with TiN Coating, NPSF, ANSI Standard

General purpose straight flute machine tap for through and blind holes. TiN coated to improve performance and extend tool life.



	ANSI B94.9	Normal
	1.5xD	HSS
C 2-3		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 8	<b>P1.2</b> ■ 9	<b>P1.3</b> ■ 9	<b>P2.1</b> ■ 7	<b>P2.2</b> ■ 6	<b>P2.3</b> ■ 5	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P3.3</b> ■ 3	<b>P4.1</b> ■ 3	<b>P4.2</b> ■ 2	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7
<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10	<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 10	<b>N2.1</b> ■ 17	<b>N2.2</b> ■ 15	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 19	<b>N3.2</b> ■ 11
<b>N3.3</b> ■ 6	<b>N4.2</b> ■ 7	<b>N4.3</b> ■ 5											

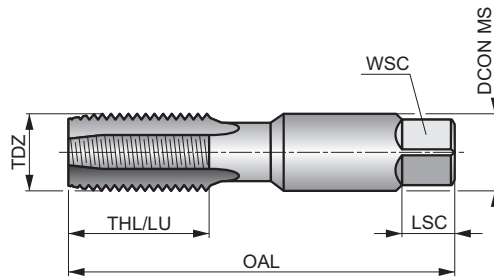
Product	TDZ	TPI	TD	OAL	THL	LU	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7201/8N03	1/8	27	10.29	70.0	19	19.00	11.10	8.30	10	4	8.70
E7201/4N03	1/4	18	13.72	75.0	27	27.00	14.30	10.70	11	4	11.30
E7203/8N03	3/8	18	17.15	80.0	27	27.00	17.80	13.50	13	4	14.75
E7201/2N03	1/2	14	21.34	100.0	35	-	17.50	13.10	13	4	18.25
E7203/4N03	3/4	14	26.67	105.0	35	-	23.00	17.20	17	5	23.50

# E708



## HSS Straight Flute Machine Tap, NPSM, ANSI Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges.



	ANSI B94.9	Normal
	1.5xD	HSS
C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ▣ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ▣ 4	<b>P4.1</b> ▣ 3	<b>K1.1</b> ▣ 6	<b>K1.2</b> ▣ 4	<b>K1.3</b> ▣ 3	<b>K2.1</b> ▣ 7	<b>K2.2</b> ▣ 6
<b>K3.1</b> ▣ 7	<b>K3.2</b> ▣ 5	<b>K4.1</b> ▣ 6	<b>K4.2</b> ▣ 5	<b>K5.1</b> ▣ 7	<b>K5.2</b> ▣ 5	<b>N1.3</b> ▣ 8	<b>N2.1</b> ▣ 11	<b>N2.2</b> ▣ 10	<b>N2.3</b> ▣ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ▣ 5	<b>N4.2</b> ▣ 5
<b>N4.3</b> ▣ 3													

Product	TDZ	TPI	TD	OAL	THL	LU	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)					
E7081/8	1/8	27	10.29	70.0	19	19.00	11.10	8.30	10	4	9.10
E7081/4	1/4	18	13.72	75.0	27	27.00	14.30	10.70	11	4	12.00
E7083/8	3/8	18	17.15	80.0	27	27.00	17.80	13.50	13	4	15.50
E7081/2	1/2	14	21.33	100.0	35	–	17.50	13.10	16	4	19.00
E7083/4	3/4	14	26.67	105.0	35	–	23.00	17.20	17	5	24.50
E7081	1"	11.5	33.40	115.0	43	–	28.60	21.40	21	5	30.50

Thread form (THFT)												
Basic standard group (BSG)	DIN 357	ISO DORNER	ISO DORNER	ISO DORNER	DIN DORNER	DIN DORNER	ANSI	ISO DORNER				
Thread tolerance class (TCTR)	6H	6H	6H	6H	2B	Medium	Normal	6H				
Threading application												
Usable length (ULDR)	2×D	1.5×D	2×D	1.5×D	1.5×D	1.5×D	1.5×D	1.5×D				
Material code (BMC)	HSS-E	HSS	HSS	HSS	HSS	HSS	HSS	HSS				
Tap chamfer style (TCS)												
Flute Geometry (FDC)												
Flute helix angle (FHA)			$\lambda$ 40°	$\lambda$ 30°	$\lambda$ 30°	$\lambda$ 30°	$\lambda$ 27°	$\lambda$ 30°				
Hand (Cutting direction)												
Coating	Bright	Bright	Bright	ST	ST	ST	Bright	ST				

Product Family Code	E303	E620	E621	E650	E651	E654	E653	L126				
PSF cutting diameters range	M3 – M20	M3 – M16	M3 – M16	M3 – M16	No.6 – 5/8	No.8 – 5/8	1/8 – 1"	Set				
	80	81	82	83	84	85	86	87				

P	P1	■	■	■	■	■	■					
	P2	▣	■	■	▣	▣	▣					
	P3	▣	▣	▣	▣	▣	▣					
	P4	▣	▣	▣								
M	M1											
	M2											
	M3											
	M4											
K	K1	▣	▣									
	K2	▣	▣									
	K3	▣	▣									
	K4	▣	▣									
	K5	▣	▣									
N	N1	▣	▣		▣	▣	▣	▣				
	N2	▣	▣	▣								
	N3	▣	▣		▣	▣	▣	▣				
	N4	▣	▣		▣	▣	▣	▣				
	N5											
S	S1											
	S2											
	S3											
	S4											
H	H1											
	H2											
	H3											
	H4											

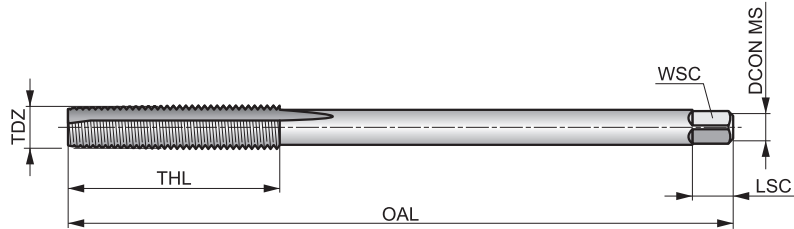
# E303



## HSS-E Straight Flute Nut Taps Metric, DIN Standard

Designed for efficient small production runs in conventional tapping machines, with either extra-long taper lead NO1 to reduce torque or with short bottoming lead NO3 to reduce cycle times.

	DIN 357	6H
	2xD	HSS-E
C 2-3 D 18-20		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 9	<b>P1.2</b> ■ 10	<b>P1.3</b> ■ 10	<b>P2.1</b> ▣ 7	<b>P2.2</b> ▣ 6	<b>P2.3</b> ▣ 5	<b>P3.1</b> ■ 6	<b>P3.2</b> ▣ 5	<b>P4.1</b> ▣ 4	<b>K1.1</b> ▣ 11	<b>K1.2</b> ▣ 8	<b>K1.3</b> ▣ 6	<b>K2.1</b> ▣ 11	<b>K2.2</b> ▣ 9
<b>K3.1</b> ▣ 10	<b>K3.2</b> ▣ 7	<b>K4.1</b> ▣ 9	<b>K4.2</b> ▣ 7	<b>K5.1</b> ▣ 10	<b>K5.2</b> ▣ 8	<b>N1.3</b> ▣ 7	<b>N2.1</b> ▣ 10	<b>N2.2</b> ▣ 9	<b>N2.3</b> ▣ 6	<b>N3.1</b> ▣ 16	<b>N3.2</b> ▣ 9	<b>N4.2</b> ▣ 5	

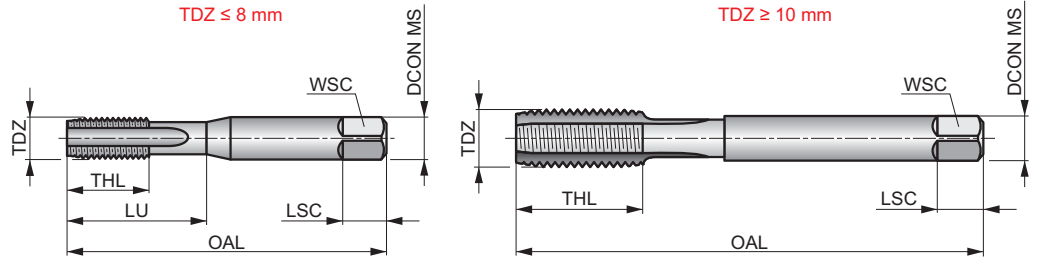
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
E303M3N01	3	0.50	70.0	22	2.20	2.10	5	3	2.50
E303M4N01	4	0.70	90.0	25	2.80	2.10	5	3	3.30
E303M5N01	5	0.80	100.0	28	3.50	2.70	6	3	4.20
E303M5N03	5	0.80	100.0	28	3.50	2.70	6	3	4.20
E303M6N01	6	1.00	110.0	32	4.50	3.40	6	3	5.00
E303M6N03	6	1.00	110.0	32	4.50	3.40	6	3	5.00
E303M8N01	8	1.25	125.0	40	6.00	4.90	8	3	6.80
E303M8N03	8	1.25	125.0	40	6.00	4.90	8	3	6.80
E303M10N01	10	1.50	140.0	45	7.00	5.50	8	3	8.50
E303M10N03	10	1.50	140.0	45	7.00	5.50	8	3	8.50
E303M12N01	12	1.75	180.0	50	9.00	7.00	10	3	10.30
E303M12N03	12	1.75	180.0	50	9.00	7.00	10	3	10.30
E303M14N01	14	2.00	200.0	56	11.00	9.00	12	3	12.00
E303M14N03	14	2.00	200.0	56	11.00	9.00	12	3	12.00
E303M16N01	16	2.00	200.0	63	12.00	9.00	12	3	14.00
E303M16N03	16	2.00	200.0	63	12.00	9.00	12	3	14.00
E303M20N01	20	2.50	250.0	70	16.00	12.00	15	3	17.50
E303M20N03	20	2.50	250.0	70	16.00	12.00	15	3	17.50

# E620



## HSS Straight Flute Machine Tap, Metric for Helicoil Insert, ISO Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads for Screw-Thread-Inserts. These STIs are inserted into the threaded hole, produced with this tap, to reinforce the original thread or repair damaged ones.

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 7	<b>P1.2</b> ■ 7	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 6	<b>P2.2</b> ■ 5	<b>P2.3</b> ■ 4	<b>P3.1</b> ■ 4	<b>P3.2</b> ■ 4	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Product	TDZ	TP	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E620M3	3	0.50	3.65	53.0	14	4.00	3.15	6	3	3.20	14.00
E620M4	4	0.70	4.91	58.0	11	5.00	4.00	7	3	4.20	20.00
E620M5	5	0.80	6.04	66.0	13	6.30	5.00	8	3	5.20	26.00
E620M6	6	1.00	7.30	72.0	16	8.00	6.30	9	3	6.30	29.00
E620M8	8	1.25	9.62	80.0	18	10.00	8.00	11	3	8.40	32.00
E620M10	10	1.50	11.95	89.0	22	9.00	7.10	10	3	10.50	–
E620M12	12	1.75	14.27	95.0	24	11.20	9.00	12	4	12.50	–
E620M16	16	2.00	18.60	112.0	29	14.00	11.20	14	4	16.50	–

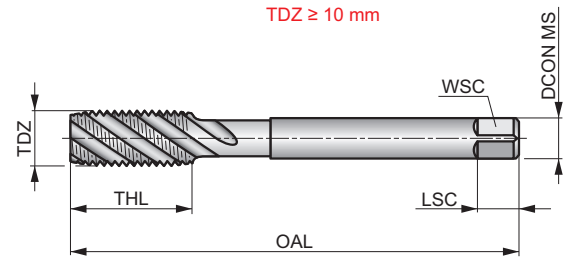
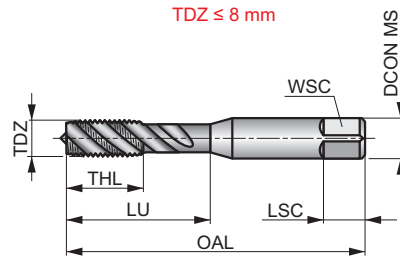


# E621



## HSS Spiral Flute Machine Tap, Metric for Helicoil Insert, ISO Standard

Machine tap with spiral flute suited for blind holes. Bright finish to produce more accurate and cleaner threads for Screw-Thread-Inserts. These STIs are inserted into the threaded hole, produced with this tap, to reinforce the original thread or repair damaged ones.

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 10	<b>P1.2</b> ■ 11	<b>P1.3</b> ■ 13	<b>P2.1</b> ■ 8	<b>P2.2</b> ■ 7	<b>P2.3</b> ■ 6	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 5	<b>P4.1</b> ■ 4	<b>N1.3</b> ■ 5	<b>N2.1</b> ■ 12	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 8
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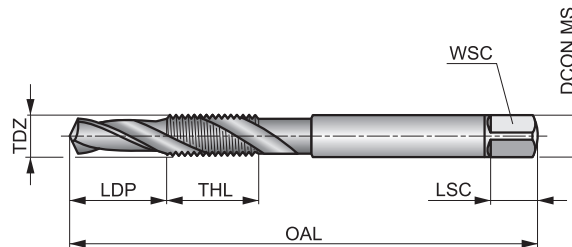
Product	TDZ	TP	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E621M3	3	0.50	3.65	53.0	14	4.00	3.15	6	3	3.20	14.00
E621M4	4	0.70	4.91	58.0	11	5.00	4.00	7	3	4.20	20.00
E621M5	5	0.80	6.04	66.0	13	6.30	5.00	8	3	5.20	26.00
E621M6	6	1.00	7.30	72.0	16	8.00	6.30	9	3	6.30	31.00
E621M8	8	1.25	9.62	80.0	18	10.00	8.00	11	3	8.40	34.00
E621M10	10	1.50	11.95	89.0	22	9.00	7.10	10	3	10.50	–
E621M12	12	1.75	14.27	95.0	24	11.20	9.00	12	3	12.50	–
E621M14	14	2.00	16.60	112.0	29	14.00	11.20	14	3	14.50	–
E621M16	16	2.00	18.60	112.0	29	14.00	11.20	14	3	16.50	–

# E650



## HSS Drill-Tap Combination Tool with 30° Spiral Flute, Metric, ISO Standard

Combination of a core-hole drill and tap to produce a thread in one pass. This significantly reduces the time needed to produce the thread on site with the use of a hand-held power tool. There is no need for a tap wrench or tool change. Steam tempered surface acts to retain the lubricant and provide smoother cutting.



	ISO DORMER	6H
	1.5×D	HSS
C 2-3		λ 30°
R	ST	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 18	<b>P1.2</b> ■ 20	<b>P1.3</b> ■ 22	<b>P2.1</b> ■ 20	<b>P2.2</b> ■ 18	<b>P3.1</b> ■ 15	<b>P3.2</b> ■ 12	<b>N1.2</b> ■ 14	<b>N1.3</b> ■ 9	<b>N3.1</b> ■ 20	<b>N3.2</b> ■ 15	<b>N4.1</b> ■ 25
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Products from this series are also available in set. Please see L126.

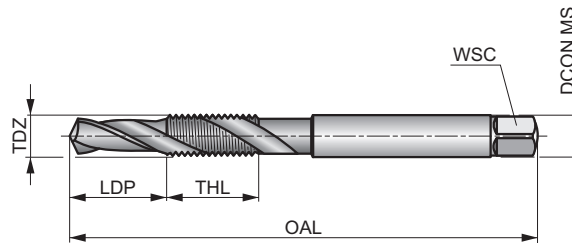
Product	TDZ	TP	TD	OAL	THL	LDP	DCON MS	WSC	LSC	NOF
		(mm)	(mm)							
E650M3	3	0.50	2.50	56.0	10	6.00	3.15	2.50	5	2
E650M4	4	0.70	3.30	65.0	12	8.00	4.00	3.15	6	2
E650M5	5	0.80	4.20	69.0	15	10.00	5.00	4.00	7	2
E650M6	6	1.00	5.00	84.0	18	12.00	6.30	5.00	8	2
E650M8	8	1.25	6.80	96.0	21	16.00	8.00	6.30	9	2
E650M10	10	1.50	8.50	108.0	22	20.00	10.00	8.00	11	2
E650M12	12	1.75	10.20	113.0	29	24.00	9.00	7.10	10	2
E650M14	14	2.00	12.00	123.0	30	28.00	11.20	9.00	12	2
E650M16	16	2.00	14.00	134.0	32	32.00	12.50	10.00	13	2

# E651



## HSS Drill-Tap Combination Tool with 30° Spiral Flute, UNC, DIN Standard

Combination of a core-hole drill and tap to produce a thread in one pass. This significantly reduces the time needed to produce the thread on site with the use of a hand-held power tool. There is no need for a tap wrench or tool change. Steam tempered surface acts to retain the lubricant and provide smoother cutting.




Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P3.1</b>	<b>P3.2</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N3.1</b>	<b>N3.2</b>	<b>N4.1</b>
■ 18	■ 20	■ 22	■ 20	▣ 18	▣ 15	▣ 12	▣ 14	▣ 9	▣ 20	▣ 15	▣ 25

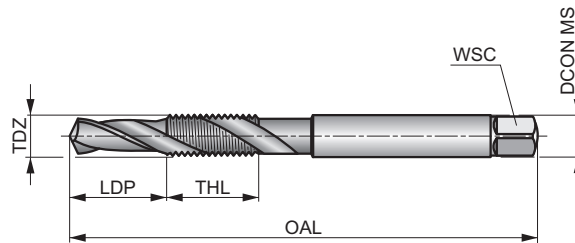
Product	TDZ	TPI	TD	OAL	THL	LDP	DCON MS	WSC	NOF
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
E6516-32	6	32	2.85	56.9	12	6.00	3.50	2.90	2
E6518-32	8	32	3.50	64.0	12	8.00	4.50	3.55	2
E65110-24	10	24	3.90	72.0	15	10.00	5.00	4.00	2
E65112-24	12	24	4.50	77.0	15	11.00	5.60	4.50	2
E6511/4	1/4	20	5.10	83.0	17	13.00	6.30	5.00	2
E6515/16	5/16	18	6.60	94.0	21	16.00	8.00	6.30	2
E6513/8	3/8	16	8.00	107.0	23	19.00	10.00	8.00	2
E6517/16	7/16	14	9.40	107.0	25	22.00	8.00	6.30	2
E6511/2	1/2	13	10.80	114.0	29	25.00	9.00	7.10	2
E6515/8	5/8	11	13.50	134.0	31	32.50	12.50	10.00	2

# E654



## HSS Drill-Tap Combination Tool with 30° Spiral Flute, UNF, DIN Standard

Combination of a core-hole drill and tap to produce a thread in one pass. This significantly reduces the time needed to produce the thread on site with the use of a hand-held power tool. There is no need for a tap wrench or tool change. Steam tempered surface acts to retain the lubricant and provide smoother cutting.



		Medium
	1.5xD	HSS
		λ 30°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 18	<b>P1.2</b> ■ 20	<b>P1.3</b> ■ 22	<b>P2.1</b> ■ 20	<b>P2.2</b> ■ 18	<b>P3.1</b> ■ 15	<b>P3.2</b> ■ 12	<b>N1.2</b> ■ 14	<b>N1.3</b> ■ 9	<b>N3.1</b> ■ 20	<b>N3.2</b> ■ 15	<b>N4.1</b> ■ 25
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Product	TDZ	TPI	TD	OAL	THL	LDP	DCON MS	WSC	NOF
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
E6548-36	8	36	3.50	64.0	13	8.00	4.50	3.55	2
E65410-32	10	32	4.10	72.0	16	10.00	5.00	4.00	2
E65412-28	12	28	4.70	77.0	17	11.00	5.60	4.50	2
E6541/4	1/4	28	5.50	83.0	19	13.00	6.30	5.00	2
E6545/16	5/16	24	6.90	94.0	22	16.00	8.00	6.30	2
E6543/8	3/8	24	8.50	104.0	24	19.00	10.00	8.00	2
E6547/16	7/16	20	9.90	107.0	25	22.00	8.00	6.30	2
E6541/2	1/2	20	11.50	114.0	29	25.00	9.00	7.10	2
E6545/8	5/8	18	14.50	134.0	32	32.00	12.50	10.00	2

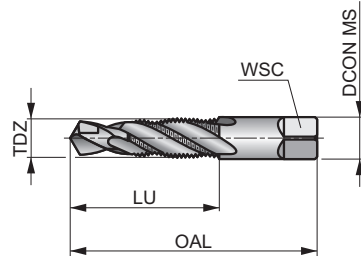
# E653



## HSS Drill-Tap Combination Tool with 27° Spiral Flute, NPT, ANSI Standard

Combination of a core-hole drill and tap to produce a thread in one pass. This significantly reduces the time needed to produce the thread on site with the use of a hand-held power tool. There is no need for a tap wrench or tool change. Bright finish to prevent the work-material from sticking to the cutting edges.

	ANSI	Normal
	1.5×D	HSS
	λ 27°	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>P3.1</b>	<b>P3.2</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N3.1</b>	<b>N3.2</b>	<b>N4.1</b>
■ 18	■ 20	■ 22	■ 20	▣ 18	▣ 15	▣ 12	▣ 14	▣ 9	▣ 20	▣ 15	▣ 25












Product	TDZ	TPI	TD	OAL	LU	DCON MS	WSC	NOF
			(inch)	(inch)	(inch)	(inch)	(inch)	
E6531/8	1/8	27	0.335	2.7/8	3/4	0.437	0.328	4
E6531/4	1/4	18	0.433	3.5/16	1.1/16	0.562	0.421	4
E6533/8	3/8	18	0.571	3.1/2	1.1/16	0.700	0.531	4
E6531/2	1/2	14	0.709	4.3/8	1.3/8	0.687	0.515	4
E6533/4	3/4	14	0.905	4.9/16	1.3/8	0.906	0.679	6
E6531	1"	11.5	1.142	5.3/8	1.3/4	1.125	0.843	6

# L126



### HSS Drill-Taps with 30° Spiral Flute, Set of 6 pieces, Metric, ISO Standard

Metal cassette containing six drill-taps to produce threads in one pass. This significantly reduces the time needed to produce the thread on site with the use of a hand-held power tool. There is no need for a tap wrench or tool change. Steam tempered surface acts to retain the lubricant and provide smoother cutting.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set

Product	Nr.	A	B	C
L126650	650	E650	6	E650M4, E650M5, E650M6, E650M8, E650M10, E650M12

Thread form (THFT)									
Basic standard group (BSG)	BS 1127:1950	BS 1127:1950	BS 1127:1950	BS 1127:1950	BS 1127:1950	DIN 382	BS 1127:1950	BS 1127:1950	DIN 382
Thread tolerance class (TCTR)						6g	6g	6g	Class A
Die chamfer to pitch ratio (DCPR)	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP
Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Hand (Cutting direction)									
Coating	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright

Product Family Code	<b>F300</b>	<b>F310</b>	<b>F320</b>	<b>F330</b>	<b>F370</b>	<b>F202</b>	<b>F302</b>	<b>F312</b>	<b>F272</b>
PSF cutting diameters range	M2 – M36	M3 – M30	No.4 – 1.1/4	No.4 – 1.1/2	1/8 – 1.1/2	M3 – M36	M3 – M36	M8 – M24	1/8 – 1.1/2

<b>P</b>	P1	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■
	P3	▣	▣	▣	▣	▣	▣	▣	▣
	P4	▣	▣	▣	▣	▣	▣	▣	▣
<b>M</b>	M1	■	■	■	■	■	■	■	■
	M2	▣	▣	▣	▣	▣	▣	▣	▣
	M3								
	M4								
<b>K</b>	K1	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■
	K3	■	■	■	■	■	■	■	■
	K4								
	K5	■	■	■	■	■	■	■	■
<b>N</b>	N1	▣	▣	▣	▣	▣	▣	▣	▣
	N2	▣	▣	▣	▣	▣	▣	▣	▣
	N3	▣	▣	▣	▣	▣	▣	▣	▣
	N4	▣	▣	▣	▣	▣	▣	▣	▣
	N5								
<b>S</b>	S1								
	S2								
	S3								
	S4								
<b>H</b>	H1								
	H2								
	H3								
	H4								

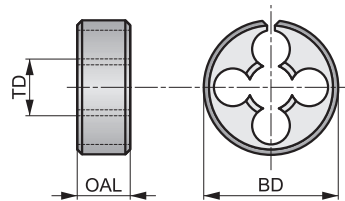
# F300

**DORMER**



## HSS Adjustable Split Hand Die, Metric, Right Hand

Split die to produce external thread by hand in multiple passes, adjusting each pass. By tightening the die stock holder, different classes of thread fit can be achieved - tight, regular or loose fit. Slightly tightened in the holder, it can be used to clean up or produce a partial thread.



	BS 1127:1950	1.75 XP
HSS		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▣ 8	<b>P3.1</b> ▣ 8	<b>P3.2</b> ▣ 7	<b>P4.1</b> ▣ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▣ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▣ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▣ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▣ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▣ 6	<b>N1.1</b> ▣ 20	<b>N1.2</b> ▣ 15	<b>N1.3</b> ▣ 10
<b>N2.1</b> ▣ 10	<b>N2.2</b> ▣ 9	<b>N2.3</b> ▣ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▣ 6	<b>N3.3</b> ▣ 3	<b>N4.1</b> ▣ 11	<b>N4.2</b> ▣ 4	<b>N4.3</b> ▣ 4					

Products from this series are also available in set with taps. Please see L120.

Product	TD (mm)	TP (mm)	BD (inch)	OAL (inch)
F300M2X13/16	2.00	0.40	13/16	1/4
F300M2.5X13/16	2.50	0.45	13/16	1/4
F300M3X13/16	3.00	0.50	13/16	1/4
F300M3.5X13/16	3.50	0.60	13/16	1/4
F300M4X13/16	4.00	0.70	13/16	1/4
F300M5X13/16	5.00	0.80	13/16	1/4
F300M6X13/16	6.00	1.00	13/16	1/4
F300M6X1	6.00	1.00	1"	3/8
F300M7X13/16	7.00	1.00	13/16	1/4
F300M7X1	7.00	1.00	1"	3/8
F300M8X1	8.00	1.25	1"	3/8
F300M8X1.5/16	8.00	1.25	1.5/16	7/16
F300M9X1	9.00	1.25	1"	3/8
F300M9X1.5/16	9.00	1.25	1.5/16	7/16

Product	TD (mm)	TP (mm)	BD (inch)	OAL (inch)
F300M10X1	10.00	1.50	1"	3/8
F300M10X1.5/16	10.00	1.50	1.5/16	7/16
F300M11X1.5/16	11.00	1.50	1.5/16	7/16
F300M12X1.5/16	12.00	1.75	1.5/16	7/16
F300M14X1.5/16	14.00	2.00	1.5/16	7/16
F300M16X1.1/2	16.00	2.00	1.1/2	1/2
F300M18X1.1/2	18.00	2.50	1.1/2	1/2
F300M20X1.1/2	20.00	2.50	1.1/2	1/2
F300M22X2	22.00	2.50	2"	5/8
F300M24X2	24.00	3.00	2"	5/8
F300M27X3	27.00	3.00	3"	7/8
F300M30X3	30.00	3.50	3"	7/8
F300M36X3	36.00	4.00	3"	7/8

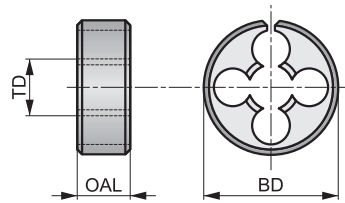


# F310



## HSS Adjustable Split Hand Die, Metric Fine, Right Hand

Split die to produce external thread by hand in multiple passes, adjusting each pass. By tightening the die stock holder, different classes of thread fit can be achieved - tight, regular or loose fit. Slightly tightened in the holder, it can be used to clean up or produce a partial thread.



<b>MF</b>	BS 1127:1950	1.75 XP
HSS	<b>R</b>	Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

Product	TD (mm)	TP (mm)	BD (inch)	OAL (inch)
F310M3X.35X13/16	3.00	0.35	13/16	1/4
F310M4X.5X13/16	4.00	0.50	13/16	1/4
F310M4X.75X13/16	4.00	0.75	13/16	1/4
F310M5X.5X13/16	5.00	0.50	13/16	1/4
F310M5X.9X13/16	5.00	0.90	13/16	1/4
F310M6X.75X13/16	6.00	0.75	13/16	1/4
F310M8X.75X1	8.00	0.75	1"	3/8
F310M8X1.0X1	8.00	1.00	1"	3/8
F310M9X1.0X1	9.00	1.00	1"	3/8
F310M10X.75X1	10.00	0.75	1"	3/8
F310M10X1.0X1	10.00	1.00	1"	3/8
F310M10X1.25X1	10.00	1.25	1"	3/8
F310M10X1.25X1.5/16	10.00	1.25	1.5/16	7/16
F310M12X1.0X1.5/16	12.00	1.00	1.5/16	7/16
F310M12X1.25X1.5/16	12.00	1.25	1.5/16	7/16

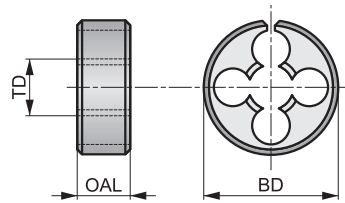
Product	TD (mm)	TP (mm)	BD (inch)	OAL (inch)
F310M12X1.5X1.5/16	12.00	1.50	1.5/16	7/16
F310M14X1.25X1.5/16	14.00	1.25	1.5/16	7/16
F310M14X1.5X1.5/16	14.00	1.50	1.5/16	7/16
F310M16X1.0X1.1/2	16.00	1.00	1.1/2	1/2
F310M16X1.5X1.1/2	16.00	1.50	1.1/2	1/2
F310M18X1.5X1.1/2	18.00	1.50	1.1/2	1/2
F310M20X1.0X1.1/2	20.00	1.00	1.1/2	1/2
F310M20X1.5X2	20.00	1.50	2"	5/8
F310M20X2.0X1.1/2	20.00	2.00	1.1/2	1/2
F310M22X1.5X2	22.00	1.50	2"	5/8
F310M24X1.5X2	24.00	1.50	2"	5/8
F310M24X2.0X2	24.00	2.00	2"	5/8
F310M25X1.5X2	25.00	1.50	2"	5/8
F310M27X2.0X2.1/4	27.00	2.00	2.1/4	11/16
F310M30X2.0X2.1/4	30.00	2.00	2.1/4	11/16

# F320



## HSS Adjustable Split Hand Die, UNC, Right Hand

Split die to produce external thread by hand in multiple passes, adjusting each pass. By tightening the die stock holder, different classes of thread fit can be achieved - tight, regular or loose fit. Slightly tightened in the holder it can be used to clean up or produce a partial thread.



	BS 1127:1950	1.75 XP
HSS		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

Products from this series are also available in set with taps. Please see L120.

Product	TDZ	TPI	TD	BD	OAL
			(mm)	(inch)	(inch)
F3204-40X13/16	4	40	2.85	13/16	1/4
F3205-40X13/16	5	40	3.18	13/16	1/4
F3206-32X13/16	6	32	3.51	13/16	1/4
F3208-32X13/16	8	32	4.17	13/16	1/4
F3208-32X1	8	32	4.17	1"	3/8
F32010-24X13/16	10	24	4.83	13/16	1/4
F32010-24X1	10	24	4.83	1"	3/8
F32012-24X13/16	12	24	5.49	13/16	1/4
F3201/4X13/16	1/4	20	6.35	13/16	1/4
F3201/4X1	1/4	20	6.35	1"	3/8
F3201/4X1.5/16	1/4	20	6.35	1.5/16	7/16
F3201/4X1.1/2	1/4	20	6.35	1.1/2	1/2
F3205/16X1	5/16	18	7.94	1"	3/8
F3205/16X1.1/2	5/16	18	7.94	1.1/2	1/2
F3203/8X1	3/8	16	9.53	1"	3/8
F3203/8X1.5/16	3/8	16	9.53	1.5/16	7/16

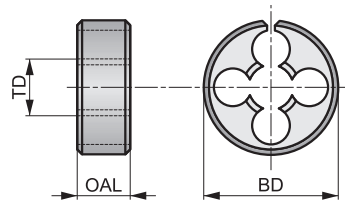
Product	TDZ	TPI	TD	BD	OAL
			(mm)	(inch)	(inch)
F3203/8X1.1/2	3/8	16	9.53	1.1/2	1/2
F3207/16X1.5/16	7/16	14	11.11	1.5/16	7/16
F3207/16X1.1/2	7/16	14	11.11	1.1/2	1/2
F3201/2X1.5/16	1/2	13	12.70	1.5/16	7/16
F3201/2X1.1/2	1/2	13	12.70	1.1/2	1/2
F3201/2X2	1/2	13	12.70	2"	5/8
F3209/16X1.1/2	9/16	12	14.29	1.1/2	1/2
F3205/8X1.1/2	5/8	11	15.88	1.1/2	1/2
F3205/8X2	5/8	11	15.88	2"	5/8
F3203/4X1.1/2	3/4	10	19.05	1.1/2	1/2
F3203/4X2	3/4	10	19.05	2"	5/8
F3207/8X2	7/8	9	22.23	2"	5/8
F3201X2	1"	8	25.40	2"	5/8
F3201.1/8X3	1.1/8	7	28.58	3"	7/8
F3201.1/4X3	1.1/4	7	31.75	3"	7/8

# F330



## HSS Adjustable Split Hand Die, UNF, Right Hand

Split die to produce external thread by hand in multiple passes, adjusting each pass. By tightening the die stock holder, different classes of thread fit can be achieved - tight, regular or loose fit. Slightly tightened in the holder it can be used to clean up or produce a partial thread.



	BS 1127:1950	1.75 XP
HSS		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

Products from this series are also available in set with taps. Please see L120.

Product	TDZ	TPI	TD	BD	OAL
			(mm)	(inch)	(inch)
F3304-48X13/16	4	48	2.85	13/16	1/4
F3305-44X13/16	5	44	3.18	13/16	1/4
F3306-40X13/16	6	40	3.51	13/16	1/4
F3308-36X13/16	8	36	4.17	13/16	1/4
F33010-32X13/16	10	32	4.83	13/16	1/4
F33010-32X1	10	32	4.83	1"	3/8
F33012-28X13/16	12	28	5.49	13/16	1/4
F3301/4X13/16	1/4	28	6.35	13/16	1/4
F3301/4X1	1/4	28	6.35	1"	3/8
F3301/4X1.1/2	1/4	28	6.35	1.1/2	1/2
F3305/16X1	5/16	24	7.94	1"	3/8
F3305/16X1.5/16	5/16	24	7.94	1.5/16	7/16
F3305/16X1.1/2	5/16	24	7.94	1.1/2	1/2
F3303/8X1	3/8	24	9.53	1"	3/8
F3303/8X1.5/16	3/8	24	9.53	1.5/16	7/16
F3303/8X1.1/2	3/8	24	9.53	1.1/2	1/2

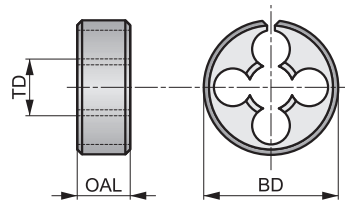
Product	TDZ	TPI	TD	BD	OAL
			(mm)	(inch)	(inch)
F3307/16X1	7/16	20	11.11	1"	3/8
F3307/16X1.5/16	7/16	20	11.11	1.5/16	7/16
F3307/16X1.1/2	7/16	20	11.11	1.1/2	1/2
F3301/2X1.5/16	1/2	20	12.70	1.5/16	7/16
F3301/2X1.1/2	1/2	20	12.70	1.1/2	1/2
F3309/16X1.5/16	9/16	18	14.29	1.5/16	7/16
F3309/16X1.1/2	9/16	18	14.29	1.1/2	1/2
F3305/8X1.1/2	5/8	18	15.88	1.1/2	1/2
F3305/8X2	5/8	18	15.88	2"	5/8
F3303/4X1.1/2	3/4	16	19.05	1.1/2	1/2
F3303/4X2	3/4	16	19.05	2"	5/8
F3307/8X2	7/8	14	22.23	2"	5/8
F3301X2	1"	12	25.40	2"	5/8
F3301.1/8X3	1.1/8	12	28.58	3"	7/8
F3301.1/4X3	1.1/4	12	31.75	3"	7/8
F3301.1/2X3	1.1/2	12	38.10	3"	7/8

# F370



## HSS Adjustable Split Hand Die, G(BSP) Right Hand

Split die to produce external thread by hand in multiple passes, adjusting each pass. By tightening the die stock holder, different classes of thread fit can be achieved - tight, regular or loose fit. Slightly tightened in the holder it can be used to clean up or produce a partial thread.



	BS 1127:1950	1.75 XP
HSS		Bright

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

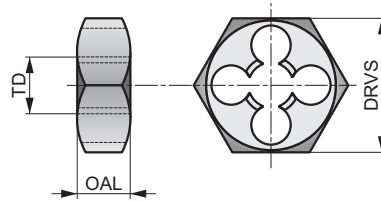
Product	TDZ	TPI	TD		BD		OAL
			(mm)	(inch)	(inch)	(inch)	
F3701/8X1	1/8	28	9.73		1"		3/8
F3701/4X1.5/16	1/4	19	13.16		1.5/16		7/16
F3703/8X1.1/2	3/8	19	16.66		1.1/2		1/2
F3701/2X2	1/2	14	20.96		2"		5/8
F3705/8X2	5/8	14	22.91		2"		5/8
F3703/4X2	3/4	14	26.44		2"		5/8
F3707/8X2.1/4	7/8	14	30.20		2.1/4		11/16
F3701X2.1/4	1"	11	33.25		2.1/4		11/16
F3701.1/4X3	1.1/4	11	41.91		3"		7/8
F3701.1/2X4	1.1/2	11	47.80		4"		1"

# F202



## HSS Die Nut Metric, Right Hand

Hexagon die nut designed to repair or clean out damaged external threads by re-cutting the original thread form by hand. A wrench or spanner can be used to rotate the die nut around the outside of the bolt, thus it can be used in difficult to access locations.



<b>M</b>	DIN 382	6g
1.75 XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

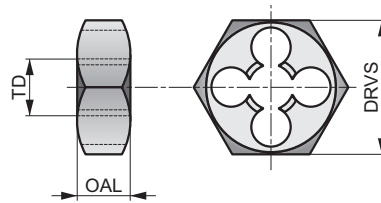
Product	TD (mm)	TP (mm)	DRVS (mm)	OAL (mm)
F202M3	3.00	0.50	19.00	5.0
F202M4	4.00	0.70	19.00	5.0
F202M5	5.00	0.80	19.00	7.0
F202M6	6.00	1.00	19.00	7.0
F202M8	8.00	1.25	22.00	9.0
F202M10	10.00	1.50	27.00	11.0
F202M12	12.00	1.75	36.00	14.0
F202M14	14.00	2.00	36.00	14.0
F202M16	16.00	2.00	41.00	18.0
F202M18	18.00	2.50	41.00	18.0
F202M20	20.00	2.50	41.00	18.0
F202M22	22.00	2.50	50.00	22.0
F202M24	24.00	3.00	50.00	22.0
F202M27	27.00	3.00	60.00	25.0
F202M30	30.00	3.50	60.00	25.0
F202M36	36.00	4.00	60.00	25.0

# F302



## HSS Die Nut Metric, Right Hand

Hexagon die nut designed to repair or clean out damaged external threads by re-cutting the original thread form by hand. A wrench or spanner can be used to rotate the die nut around the outside of the bolt, thus it can be used in difficult to access locations.



<b>M</b>	BS 1127:1950	6g
1.75 XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

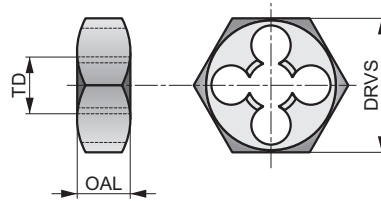
Product	TD	TP	DRVS	OAL
	(mm)	(mm)	(inch)	(inch)
F302M3	3.00	0.50	0.7100	1/4
F302M4	4.00	0.70	0.7100	1/4
F302M5	5.00	0.80	0.7100	1/4
F302M6	6.00	1.00	0.7100	1/4
F302M7	7.00	1.00	0.8200	5/16
F302M8	8.00	1.25	0.8200	5/16
F302M10	10.00	1.50	0.9200	3/8
F302M11	11.00	1.50	1.0100	7/16
F302M12	12.00	1.75	1.1000	1/2
F302M14	14.00	2.00	1.3000	5/8
F302M16	16.00	2.00	1.3000	5/8
F302M18	18.00	2.50	1.4800	11/16
F302M20	20.00	2.50	1.4800	11/16
F302M22	22.00	2.50	1.6700	13/16
F302M24	24.00	3.00	2.0500	15/16
F302M27	27.00	3.00	2.2200	1.1/16
F302M30	30.00	3.50	2.2200	1.1/16
F302M33	33.00	3.50	2.5800	1.1/8
F302M36	36.00	4.00	2.7600	1.1/4

# F312



## HSS Die Nut Metric Fine, Right Hand

Hexagon die nut designed to repair or clean out damaged external threads by re-cutting the original thread form by hand. A wrench or spanner can be used to rotate the die nut around the outside of the bolt, thus it can be used in difficult to access locations.



<b>MF</b>	BS 1127:1950	6g
1.75 XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 7	<b>P4.1</b> ■ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ■ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ■ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ■ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ■ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ■ 6	<b>N1.1</b> ■ 20	<b>N1.2</b> ■ 15	<b>N1.3</b> ■ 10
<b>N2.1</b> ■ 10	<b>N2.2</b> ■ 9	<b>N2.3</b> ■ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ■ 6	<b>N3.3</b> ■ 3	<b>N4.1</b> ■ 11	<b>N4.2</b> ■ 4	<b>N4.3</b> ■ 4					

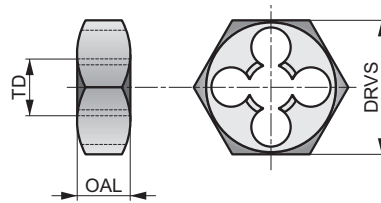
Product	TD	TP	DRVS	OAL
	(mm)	(mm)	(inch)	(inch)
F312M8X.75	8.00	0.75	0.8200	5/16
F312M8X1.0	8.00	1.00	0.8200	5/16
F312M10X1.0	10.00	1.00	0.9200	3/8
F312M10X1.25	10.00	1.25	0.9200	3/8
F312M12X1.0	12.00	1.00	1.0100	7/16
F312M12X1.25	12.00	1.25	1.0100	7/16
F312M12X1.5	12.00	1.50	1.0100	7/16
F312M14X1.5	14.00	1.50	1.3000	5/8
F312M16X1.5	16.00	1.50	1.3000	5/8
F312M18X1.5	18.00	1.50	1.4800	11/16
F312M20X1.5	20.00	1.50	1.4800	11/16
F312M22X1.5	22.00	1.50	1.6700	13/16
F312M24X1.5	24.00	1.50	2.0500	15/16
F312M24X2.0	24.00	2.00	2.0500	15/16

# F272



## HSS Die Nut G(BSP) Right Hand

Hexagon die nut designed to repair or clean out damaged external threads by re-cutting the original thread form by hand. A wrench or spanner can be used to rotate the die nut around the outside of the bolt, thus it can be used in difficult to access locations.



	DIN 382	Class A
1.75 XP	HSS	
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

Product	TDZ	TPI	TD		DRVS		OAL
			(mm)	(mm)	(mm)	(mm)	
F2721/8	1/8	28	9.73		27.00		11.0
F2721/4	1/4	19	13.16		36.00		10.0
F2723/8	3/8	19	16.66		41.00		14.0
F2721/2	1/2	14	20.96		41.00		14.0
F2723/4	3/4	14	26.44		60.00		18.0
F2721	1"	11	33.25		60.00		18.0
F2721.1/4	1.1/4	11	41.91		70.00		20.0
F2721.1/2	1.1/2	11	47.80		85.00		22.0













Thread form (THFT)									
Basic standard group (BSG)									
Thread tolerance class (TCTR)									
Threading application									
Usable length (ULDR)									
Material code (BMC)									
Tap chamfer style (TCS)									
Flute Geometry (FDC)									
Flute helix angle (FHA)									
Hand (Cutting direction)									
Coating									
Product Family Code	<b>L119</b>	<b>L120</b>	<b>L110</b>	<b>L112</b>					
PSF cutting diameters range	Set	Set	16.00 – 4"	BT1 – No.7					
	100	101	102	102					
<b>P</b>	P1								
	P2								
	P3								
	P4								
<b>M</b>	M1								
	M2								
	M3								
	M4								
<b>K</b>	K1								
	K2								
	K3								
	K4								
	K5								
<b>N</b>	N1								
	N2								
	N3								
	N4								
	N5								
<b>S</b>	S1								
	S2								
	S3								
	S4								
<b>H</b>	H1								
	H2								
	H3								
	H4								

# L119



## HSS Straight Flute Serial Hand Tap, Set of 21 Pieces, Metric, DIN Standard

Metal cassette containing seven sets of serial hand taps according to DIN standard. Ideal for hand tapping tough materials. The straight flute design makes it suitable for both through and blind holes. Each set of three serial taps should be used one after the other to create the full thread.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set

Product	Nr.	A	B	C
L11917	Nr.17	E100	21	E100M3N08, E100M4N08, E100M5N08, E100M6N08, E100M8N08, E100M10N08, E100M12N08

# L120



## Set of Taps, Dies and Tap Wrenches, Various Sizes

Threading kit for either ISO-Metric thread. Containing sets of hand or serial hand taps, dies, tap wrenches and die stocks, all together in a smart metal case with carry handle and latch-lock fasteners.

Nr. = Set number, A = No. in Set, B = Styles in Set, C = Diameters in set.

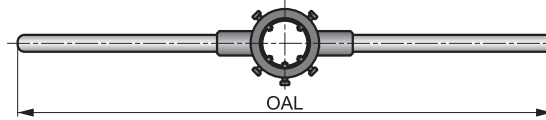
Product	Nr.	A	B	C
L12021	21	21	E100	E100M3N08, E100M4N08, E100M5N08, E100M6N08, E100M8N08, E100M10N08, E100M12N08
			F100	F100M3, F100M4, F100M5, F100M6, F100M8, F100M10, F100M12
			L112	L112N01.1/2, L112N03
			L110	L1102A, L1102B, L1103, L1104, L1105
L12030	30	30	E100	E100M3N08, E100M4N08, E100M5N08, E100M6N08, E100M8N08, E100M10N08, E100M12N08, E100M14N08, E100M16N08, E100M18N08, E100M20N08
			F100	F100M3, F100M4, F100M5, F100M6, F100M8, F100M10, F100M12, F100M14, F100M16, F100M18, F100M20
			L112	L112N01.1/2, L112N04
			L110	L1102A, L1102B, L1103, L1104, L1105, L1106
L1202M	HS-2M	23	E500	E500M2N01, E500M2N03, E500M2.5N01, E500M2.5N03, E500M3N01, E500M3N03, E500M3.5N01, E500M3.5N03, E500M4N01, E500M4N03, E500M5N01, E500M5N03, E500M6N01, E500M6N03
			F300	F300M2X13/16, F300M2.5X13/16, F300M3X13/16, F300M3.5X13/16, F300M4X13/16, F300M5X13/16, F300M6X13/16
			L112	L112BT1
			L110	L11013/16
L1204M	HS-4M	32	E500	E500M5N01, E500M5N03, E500M6N01, E500M6N03, E500M7N01, E500M7N03, E500M8N01, E500M8N03, E500M9N01, E500M9N03, E500M10N01, E500M10N03, E500M11N01, E500M11N03, E500M12N01, E500M12N03
			F300	F300M5X13/16, F300M6X13/16, F300M7X13/16, F300M8X1.5/16, F300M9X1.5/16, F300M10X1.5/16, F300M11X1.5/16, F300M12X1.5/16, F300M5X13/16, F300M6X13/16, F300M7X13/16, F300M8X1.5/16, F300M9X1.5/16
			L112	L112BT2
			L110	L11013/16, L1101.5/16
L1208M	HS-8M	17	E500	E500M2N01, E500M2N03, E500M3N01, E500M3N03, E500M4N01, E500M4N03, E500M5N01, E500M5N03, E500M6N01, E500M6N03
			F300	F300M2X13/16, F300M3X13/16, F300M4X13/16, F300M5X13/16, F300M6X13/16
			L112	L112BT1
			L110	L11013/16
L12010M	HS-10M	27	E500	E500M3N01, E500M3N03, E500M4N01, E500M4N03, E500M5N01, E500M5N03, E500M6N01, E500M6N03, E500M7N01, E500M7N03, E500M8N01, E500M8N03, E500M9N01, E500M9N03, E500M10N01, E500M10N03
			F300	F300M3X13/16, F300M4X13/16, F300M5X13/16, F300M6X1, F300M7X1, F300M8X1, F300M9X1, F300M10X1
			L112	L112BT2
			L110	L11013/16, L1101INCH
L12012M	HS-12M	35	E500	E500M2N01, E500M2N03, E500M3N01, E500M3N03, E500M4N01, E500M4N03, E500M5N01, E500M5N03, E500M6N01, E500M6N03, E500M7N01, E500M7N03, E500M8N01, E500M8N03, E500M9N01, E500M9N03, E500M10N01, E500M10N03, E500M12N01, E500M12N03
			F300	F300M2X13/16, F300M3X13/16, F300M4X13/16, F300M5X13/16, F300M6X13/16, F300M7X13/16, F300M8X1, F300M9X1, F300M10X1, F300M12X1.5/16
			L112	L112BT1, L112BT2
			L110	L11013/16, L1101INCH, L1101.5/16
L12014M	HS-14M	34	E500	E500M6N01, E500M6N03, E500M7N01, E500M7N03, E500M8N01, E500M8N03, E500M9N01, E500M9N03, E500M10N01, E500M10N03, E500M12N01, E500M12N03, E500M14N01, E500M14N03, E500M16N01, E500M16N03, E500M18N01, E500M18N03, E500M20N01, E500M20N03
			F300	F300M6X1, F300M7X1, F300M8X1, F300M9X1, F300M10X1, F300M12X1.5/16, F300M14X1.5/16, F300M16X1.1/2, F300M18X1.1/2, F300M20X1.1/2
			L112	L112N03
			L110	L1101INCH, L1101.5/16, L1101.1/2

# L110



## Die Stock

The die stock is an accessory to make it easy to use dies by hand. The die is held securely in the metal ring, whilst the arms at either end are used to rotate the die around the outside of the metal cylinder to be threaded. The L110 series comes in an extensive range to hold all sizes of round dies.



Products from this series are also available in set with taps and dies. Please see L120.

Product	Nr.	OAL (mm)	Die BD × Die OAL (mm)
L1101	1"	160.0	16 × 5
L1102A	2a	200.0	20 × 5
L1102B	2b	200.0	20 × 7
L1103	3	224.0	25 × 9
L1104	4"	280.0	30 × 11
L1105	5	315.0	38 × 14
L1105F	5f	315.0	38 × 10
L1106	6	450.0	45 × 18
L1106F	6f	450.0	45 × 14
L1107	7	560.0	55 × 22
L1107F	7f	560.0	55 × 16
L1108	8	630.0	65 × 25
L1108F	8f	630.0	65 × 18

Product	Nr.	OAL (mm)	Die BD × Die OAL (mm)
L1109	9	800.0	75 × 30
L1109F	9f	800.0	75 × 20
L11010	10	900.0	90 × 36
L11010F	10f	900.0	90 × 22
L11013/16	–	200.0	13/16 × 1/4
L1101INCH	–	224.0	1 × 3/8
L1101.5/16	–	270.0	1.5/16 × 7/16
L1101.1/2	–	315.0	1.1/2 × 1/2
L1102INCH	–	560.0	2 × 5/8
L1102.1/4	–	560.0	2.1/4 × 11/16
L1103INCH	–	900.0	3 × 7/8
L1104INCH	–	1000.0	4 × 1

# L112

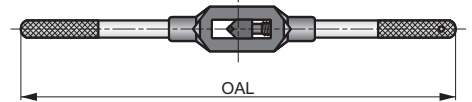
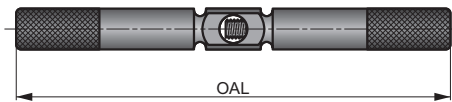


## Tap Wrench

Adjustable, so one tap wrench can be used to hold several different tap sizes. The square end of the tap is inserted into the wrench which is then tightened to hold the tap securely. The two metal bars on either side of the wrench are used to rotate the tap in the hole of the workpiece to create the thread.

BT1-BT2

NO0-NO7



Products from this series are also available in set with taps and dies. Please see L120.

Product	Nr.	OAL (mm)	WSCN (mm)	WSCX (mm)	WSCN (inch)	WSCX (inch)	Tap Range (M)	Tap Range (Inch)
L112BT1	BT1	105.0	1.00	6.50	0.0394	0.2559	M1 – M8	No. 0 – 5/16
L112BT2	BT2	162.0	1.00	10.00	0.0394	0.3937	M1 – M14	No. 0 – 5/8
L112N00	No. 0	130.0	2.00	5.00	0.0787	0.1969	M1 – M5	No. 0 – 1/4
L112N01.1/2	No. 1.1/2	205.0	2.10	8.00	0.0827	0.3150	M2.2 – M12	No. 0 – 1/2
L112N03	No. 3	380.0	4.90	12.00	0.1929	0.4724	M5 – M20	5/16 – 3/4
L112N04	No. 4	500.0	5.50	16.00	0.2165	0.6299	M7 – M30	5/16 – 1"
L112N06	No. 6	1000.0	11.00	24.00	0.4331	0.9449	M18 – M42	3/4 – 1.1/2
L112N07	No. 7	1250.0	16.00	32.00	0.6299	1.2598	M27 – M48	1.1/8 – 2"



ISO  
13399



PMK  
NSH



**TOOLS FOR MIXED MANUFACTURING.  
TYPICALLY USED WITH CONVENTIONAL MACHINES AND CNC.**

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Thread form (THFT)														
Basic standard group (BSG)	DIN 371	DIN 376	DIN 371	DIN 376	ISO 2283	DIN 374	DIN 371	DIN 374	DIN 371	DIN 376	DIN 371	DIN 374	DIN 5156	ANSI DORNER
Thread tolerance class (TCTR)	6H	6H	6H	6H	6H	6H	6H	6H	2B	2B	2B	2B	Normal	Normal
Threading application														
Usable length (ULDR)	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD	1.5xD
Material code (BMC)	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
Tap chamfer style (TCS)	A 6-8 C 2-3	A 6-8 C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
Flute Geometry (FDC)														
Hand (Cutting direction)														
Coating	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright
Product Family Code	<b>E200</b>	<b>E250</b>	<b>E237</b>	<b>E251</b>	<b>E600</b>	<b>E268</b>	<b>E242</b>	<b>E290</b>	<b>E225</b>	<b>E275</b>	<b>E229</b>	<b>E278</b>	<b>E282</b>	<b>E714</b>
PSF cutting diameters range	M2 – M10	M3 – M52	M3 – M10	M12 – M24	M3 – M20	M4 – M50	M8 – M10	M12 – M24	No.4 – 1/4	5/16 – 1.1/2	No.2 – 1/4	5/16 – 1.1/2	1/8 – 1.1/2	1/8 – 1"
<b>P</b>	P1	■	■	■	■	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	■	■	■	■	■	■	■	■
	P4	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>M</b>	M1													
	M2													
	M3													
	M4													
<b>K</b>	K1	■	■	■	■	■	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■	■	■	■	■	■
	K3	■	■	■	■	■	■	■	■	■	■	■	■	■
	K4	■	■	■	■	■	■	■	■	■	■	■	■	■
	K5	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>N</b>	N1	■	■	■	■	■	■	■	■	■	■	■	■	■
	N2	■	■	■	■	■	■	■	■	■	■	■	■	■
	N3	■	■	■	■	■	■	■	■	■	■	■	■	■
	N4	■	■	■	■	■	■	■	■	■	■	■	■	■
	N5	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>S</b>	S1													
	S2													
	S3													
	S4													
<b>H</b>	H1													
	H2													
	H3													
	H4													

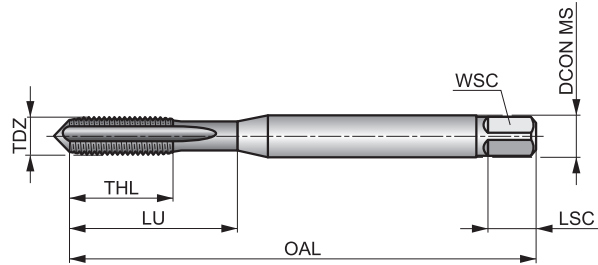
# E200



## HSS-E-PM Straight Flute Machine Tap, Metric, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reinforced shank increases strength against torsional twist.

	DIN 371	6H
	1.5xD	HSS-E PM
A 6-8 C 2-3		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 12	<b>K3.2</b> ■ 9	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E200M2 <sup>1)</sup>	2	0.40	45.0	6	2.80	2.10	5	3	1.60	9.00
E200M2.5 <sup>1)</sup>	2.5	0.45	50.0	8	2.80	2.10	5	3	2.05	12.50
E200M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E200M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E200M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E200M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E200M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E200M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00

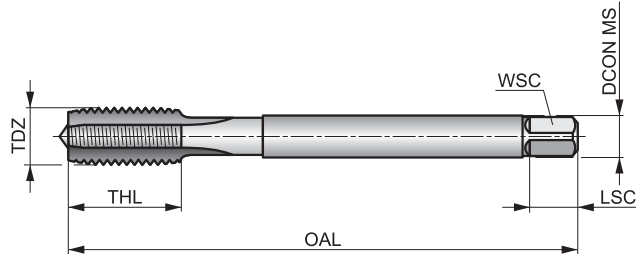
<sup>1)</sup> HSS-E.

# E250



## HSS-E-PM Straight Flute Machine Tap, Metric, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 376	6H
	1.5xD	HSS-E PM
A 6-8 C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 12	<b>K3.2</b> ■ 9	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E250M4	4	0.70	63.0	12	2.80	2.10	5	3	3.30
E250M5	5	0.80	70.0	13	3.50	2.70	6	3	4.20
E250M6	6	1.00	80.0	15	4.50	3.40	6	3	5.00
E250M8	8	1.25	90.0	18	6.00	4.90	8	3	6.80
E250M10	10	1.50	100.0	20	7.00	5.50	8	3	8.50
E250M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30
E250M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00
E250M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00
E250M18	18	2.50	125.0	30	14.00	11.00	14	3	15.50
E250M20	20	2.50	140.0	30	16.00	12.00	15	3	17.50
E250M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50
E250M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00
E250M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00
E250M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50
E250M33	33	3.50	180.0	50	25.00	20.00	23	4	29.50
E250M36	36	4.00	200.0	55	28.00	22.00	25	4	32.00
E250M39	39	4.00	200.0	60	32.00	24.00	27	4	35.00
E250M42 <sup>1)</sup>	42	4.50	200.0	60	32.00	24.00	27	4	37.50
E250M45 <sup>1)</sup>	45	4.50	220.0	65	36.00	29.00	32	6	40.50
E250M48 <sup>1)</sup>	48	5.00	250.0	70	36.00	29.00	32	6	43.00
E250M52 <sup>1)</sup>	52	5.00	250.0	70	40.00	32.00	35	6	47.00

<sup>1)</sup> HSS-E.

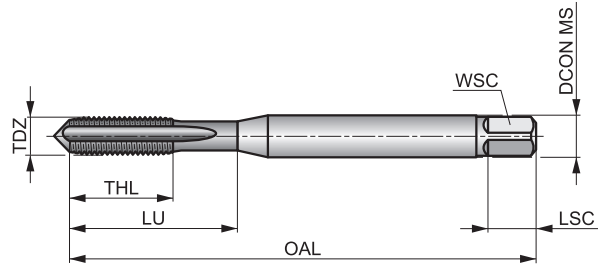


# E237



## HSS-E-PM Straight Flute Machine Tap, Metric, DIN Standard, Left-Handed

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reinforced shank increases strength against torsional twist.



	DIN 371	6H
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

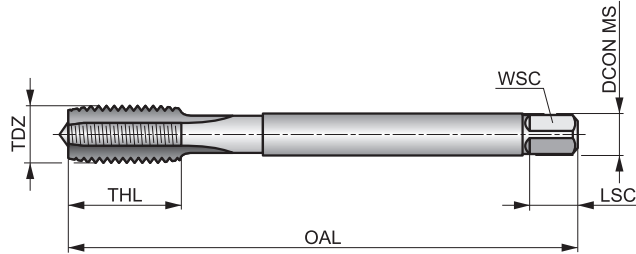
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E237M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E237M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E237M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E237M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E237M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E237M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00

# E251



## HSS-E-PM Straight flute Machine tap, Metric, DIN Standard, Left-handed

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 376	6H
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 12	<b>K3.2</b> ■ 9	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
E251M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30
E251M14	14	2.00	110.0	25	11.00	9.00	12	4	12.00
E251M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00
E251M18	18	2.50	125.0	30	14.00	11.00	14	4	15.50
E251M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50
E251M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50
E251M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00

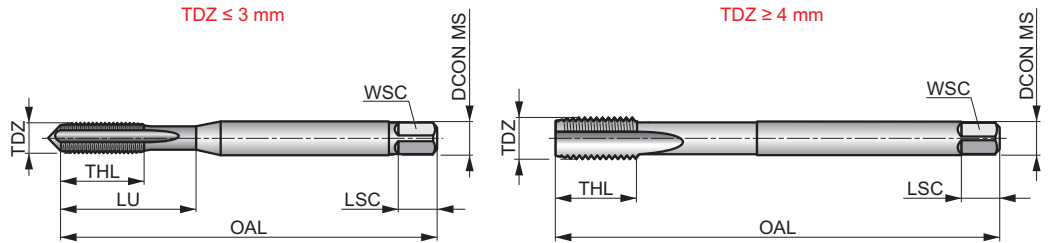
# E600



## HSS-E-PM Straight Flute Long Series Machine Tap, Metric, ISO Standard

General purpose straight flute machine tap with plug lead NO2 for deeper through holes or bottoming lead NO3 for blind holes. Bright finish to prevent material from sticking to the cutting edges. Longer design for extra reach when threading difficult to access holes.

	ISO 2283	6H
	1.5xD	HSS-E PM



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 9	<b>P1.2</b> ■ 8	<b>P1.3</b> ■ 8	<b>P2.1</b> ■ 7	<b>P2.2</b> ■ 6	<b>P2.3</b> ■ 5	<b>P3.1</b> ■ 6	<b>P3.2</b> ■ 5	<b>P4.1</b> ■ 3	<b>K1.1</b> ■ 12	<b>K1.2</b> ■ 9	<b>K1.3</b> ■ 7	<b>K2.1</b> ■ 12	<b>K2.2</b> ■ 10
<b>K3.1</b> ■ 11	<b>K3.2</b> ■ 8	<b>K4.1</b> ■ 10	<b>K4.2</b> ■ 8	<b>K5.1</b> ■ 11	<b>K5.2</b> ■ 9	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 11	<b>N2.2</b> ■ 10	<b>N2.3</b> ■ 7	<b>N3.1</b> ■ 17	<b>N3.2</b> ■ 10	<b>N3.3</b> ■ 5	<b>N4.2</b> ■ 5
<b>N4.3</b> ■ 3													

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E600M3N03	3	0.50	66.0	9	3.15	2.50	5	3	2.50	18.00
E600M4N02	4	0.70	73.0	12	3.15	2.50	5	3	3.30	—
E600M4N03	4	0.70	73.0	12	3.15	2.50	5	3	3.30	—
E600M5N02	5	0.80	79.0	12	4.00	3.15	6	3	4.20	—
E600M5N03	5	0.80	79.0	12	4.00	3.15	6	3	4.20	—
E600M6N02	6	1.00	89.0	14	4.50	3.55	6	3	5.00	—
E600M6N03	6	1.00	89.0	14	4.50	3.55	6	3	5.00	—
E600M8N02	8	1.25	97.0	17	6.30	5.00	8	3	6.80	—
E600M8N03	8	1.25	97.0	17	6.30	5.00	8	3	6.80	—
E600M10N02	10	1.50	108.0	19	8.00	6.30	9	3	8.50	—
E600M10N03	10	1.50	108.0	19	8.00	6.30	9	3	8.50	—
E600M12N02	12	1.75	119.0	23	9.00	7.10	10	3	10.30	—
E600M12N03	12	1.75	119.0	23	9.00	7.10	10	3	10.30	—
E600M16N03	16	2.00	137.0	25	12.50	10.00	13	4	14.00	—
E600M20N03	20	2.50	149.0	30	14.00	11.20	14	4	17.50	—

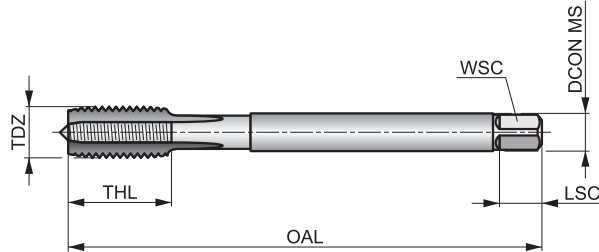
# E268

**DORMER**



## HSS-E-PM Straight Flute Machine Tap, Metric-Fine, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 374	6H
	1.5xD	HSS-E PM
C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E268M4X.5	4	0.50	63.0	10	2.80	2.10	5	3	3.50
E268M5X.5	5	0.50	70.0	13	3.50	2.70	6	3	4.50
E268M6X.75	6	0.75	80.0	15	4.50	3.40	6	3	5.30
E268M7X.75	7	0.75	80.0	15	5.50	4.30	7	3	6.30
E268M8X.75	8	0.75	80.0	15	6.00	4.90	8	3	7.30
E268M8X1.0	8	1.00	90.0	18	6.00	4.90	8	3	7.00
E268M9X1.0	9	1.00	90.0	18	6.00	4.90	8	3	8.00
E268M10X.75	10	0.75	90.0	20	7.00	5.50	8	3	9.30
E268M10X1.0	10	1.00	90.0	20	7.00	5.50	8	3	9.00
E268M10X1.25	10	1.25	100.0	20	7.00	5.50	8	3	8.80
E268M11X1.0	11	1.00	90.0	20	8.00	6.20	9	3	10.00
E268M12X1.0	12	1.00	100.0	21	9.00	7.00	10	4	11.00
E268M12X1.25	12	1.25	100.0	21	9.00	7.00	10	4	10.80
E268M12X1.5	12	1.50	100.0	21	9.00	7.00	10	4	10.50
E268M14X1.0	14	1.00	100.0	21	11.00	9.00	12	4	13.00
E268M14X1.25	14	1.25	100.0	21	11.00	9.00	12	4	12.80
E268M14X1.5	14	1.50	100.0	21	11.00	9.00	12	4	12.50
E268M15X1.5	15	1.50	100.0	21	12.00	9.00	12	4	13.50
E268M16X1.0	16	1.00	100.0	21	12.00	9.00	12	4	15.00
E268M16X1.5	16	1.50	100.0	21	12.00	9.00	12	4	14.50
E268M18X1.0	18	1.00	110.0	24	14.00	11.00	14	4	17.00
E268M18X1.5	18	1.50	110.0	24	14.00	11.00	14	4	16.50
E268M20X1.0	20	1.00	125.0	24	16.00	12.00	15	4	19.00
E268M20X1.5	20	1.50	125.0	24	16.00	12.00	15	4	18.50
E268M22X1.0	22	1.00	125.0	25	18.00	14.50	17	4	21.00
E268M22X1.5	22	1.50	125.0	25	18.00	14.50	17	4	20.50
E268M24X1.0	24	1.00	140.0	28	18.00	14.50	17	4	23.00
E268M24X1.5	24	1.50	140.0	28	18.00	14.50	17	4	22.50
E268M24X2.0	24	2.00	140.0	28	18.00	14.50	17	4	22.00
E268M25X1.5	25	1.50	140.0	28	18.00	14.50	17	4	23.50

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
E268M25X2.0	25	2.00	140.0	28	18.00	14.50	17	4	23.00
E268M26X1.5	26	1.50	140.0	28	18.00	14.50	17	4	24.50
E268M26X2.0	26	2.00	140.0	28	18.00	14.50	17	4	24.00
E268M27X1.5	27	1.50	140.0	28	20.00	16.00	19	4	25.50
E268M27X2.0	27	2.00	140.0	28	20.00	16.00	19	4	25.00
E268M28X1.5	28	1.50	140.0	28	20.00	16.00	19	4	26.50
E268M28X2.0	28	2.00	140.0	28	20.00	16.00	19	4	26.00
E268M30X1.5	30	1.50	150.0	28	22.00	18.00	21	4	28.50
E268M30X2.0	30	2.00	150.0	28	22.00	18.00	21	4	28.00
E268M32X1.5	32	1.50	150.0	28	22.00	18.00	21	4	30.50
E268M32X2.0	32	2.00	150.0	28	22.00	18.00	21	4	30.00
E268M33X1.5	33	1.50	160.0	30	25.00	20.00	23	4	31.50
E268M34X1.5	34	1.50	170.0	30	28.00	22.00	25	4	32.50
E268M35X1.5	35	1.50	170.0	30	28.00	22.00	25	4	33.50
E268M36X1.5	36	1.50	170.0	30	28.00	22.00	25	4	34.50
E268M36X2.0	36	2.00	170.0	30	28.00	22.00	25	4	34.00
E268M36X3.0	36	3.00	200.0	55	28.00	22.00	25	4	33.00
E268M40X1.5 <sup>1)</sup>	40	1.50	170.0	30	32.00	24.00	27	4	38.50
E268M40X2.0 <sup>1)</sup>	40	2.00	170.0	30	32.00	24.00	27	4	38.00
E268M42X1.5 <sup>1)</sup>	42	1.50	170.0	30	32.00	24.00	27	4	40.50
E268M42X2.0 <sup>1)</sup>	42	2.00	170.0	30	32.00	24.00	27	4	40.00
E268M42X3.0 <sup>1)</sup>	42	3.00	200.0	60	32.00	24.00	27	4	39.00
E268M45X1.5 <sup>1)</sup>	45	1.50	180.0	32	36.00	29.00	32	6	43.50
E268M45X2.0 <sup>1)</sup>	45	2.00	180.0	32	36.00	29.00	32	6	43.00
E268M45X3.0 <sup>1)</sup>	45	3.00	200.0	42	36.00	29.00	32	6	42.00
E268M48X1.5 <sup>1)</sup>	48	1.50	190.0	32	36.00	29.00	32	6	46.50
E268M48X2.0 <sup>1)</sup>	48	2.00	190.0	32	36.00	29.00	32	6	46.00
E268M48X3.0 <sup>1)</sup>	48	3.00	225.0	50	36.00	29.00	32	6	45.00
E268M50X1.5 <sup>1)</sup>	50	1.50	190.0	32	36.00	29.00	32	6	48.50
E268M50X2.0 <sup>1)</sup>	50	2.00	190.0	30	36.00	29.00	32	6	48.00

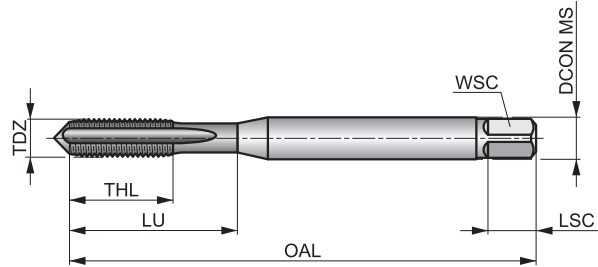
<sup>1)</sup> HSS-E.

# E242



## HSS-E-PM Straight Flute Machine Tap, Metric Fine, DIN Left-Handed

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reinforced shank increases strength against torsional twist.



	DIN 371	6H
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ▣ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ▣ 6	<b>P4.1</b> ▣ 4	<b>K1.1</b> ▣ 13	<b>K1.2</b> ▣ 10	<b>K1.3</b> ▣ 8	<b>K2.1</b> ▣ 14	<b>K2.2</b> ▣ 11
<b>K3.1</b> ▣ 13	<b>K3.2</b> ▣ 10	<b>K4.1</b> ▣ 12	<b>K4.2</b> ▣ 9	<b>K5.1</b> ▣ 12	<b>K5.2</b> ▣ 10	<b>N1.3</b> ▣ 12	<b>N2.1</b> ▣ 15	<b>N2.2</b> ▣ 14	<b>N2.3</b> ▣ 11	<b>N3.1</b> ▣ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ▣ 8	

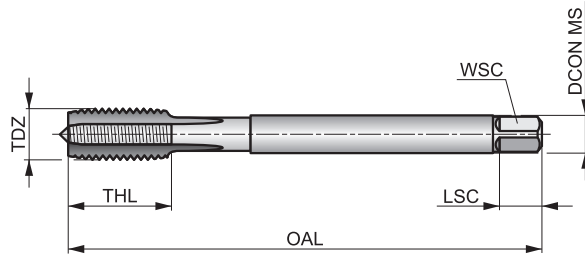
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
<b>E242M8X1.0</b>	8	1.00	90.0	18	8.00	6.20	9	3	7.00	35.00
<b>E242M10X1.0</b>	10	1.00	100.0	20	10.00	8.00	11	3	9.00	39.00

# E290



## HSS-E-PM Straight Flute Machine Tap Metric Fine, DIN Left-Handed

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 374	6H
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

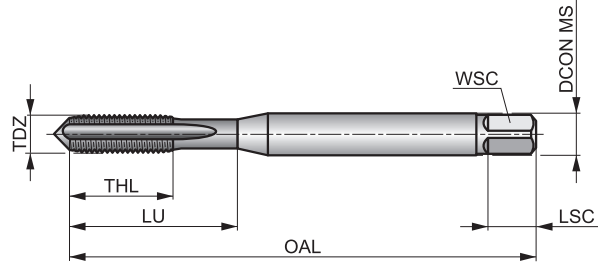
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E290M12X1.0	12	1.00	100.0	21	9.00	7.00	10	4	11.00
E290M12X1.5	12	1.50	100.0	21	9.00	7.00	10	4	10.50
E290M14X1.0	14	1.00	100.0	21	11.00	9.00	12	4	13.00
E290M14X1.5	14	1.50	100.0	21	11.00	9.00	12	4	12.50
E290M16X1.0	16	1.00	100.0	21	12.00	9.00	12	4	15.00
E290M16X1.5	16	1.50	100.0	21	12.00	9.00	12	4	14.50
E290M18X1.5	18	1.50	110.0	24	14.00	11.00	14	4	16.50
E290M20X1.5	20	1.50	125.0	24	16.00	12.00	15	4	18.50
E290M22X1.5	22	1.50	125.0	25	18.00	14.50	17	4	20.50
E290M24X1.5	24	1.50	140.0	28	18.00	14.50	17	4	22.50

# E225



## HSS-E-PM Straight Flute Machine Tap, UNC, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reinforced shank increases strength against torsional twist.



	DIN 371	2B
	1.5xD	HSS-E PM
C 2-3		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E2254-40	4	40	2.85	56.0	9	3.50	2.70	6	3	2.35	18.00
E2255-40	5	40	3.17	56.0	10	3.50	2.70	6	3	2.65	18.00
E2256-32	6	32	3.50	56.0	11	4.00	3.00	6	3	2.85	20.00
E2258-32	8	32	4.17	63.0	12	4.50	3.40	8	3	3.50	21.00
E22510-24	10	24	4.83	70.0	13	6.00	4.90	8	3	3.90	25.00
E22512-24	12	24	5.49	80.0	15	6.00	4.90	8	3	4.50	30.00
E2251/4	1/4	20	6.35	80.0	16	7.00	5.50	8	3	5.10	30.00

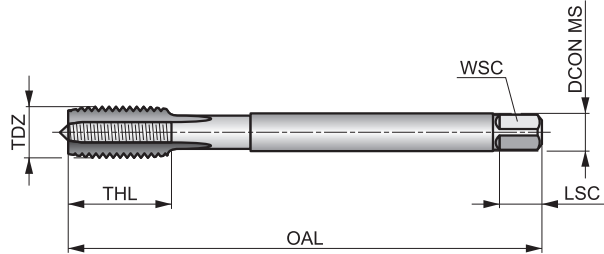


# E275



## HSS-E-PM Straight Flute Machine Tap, UNC, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 376	2B
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

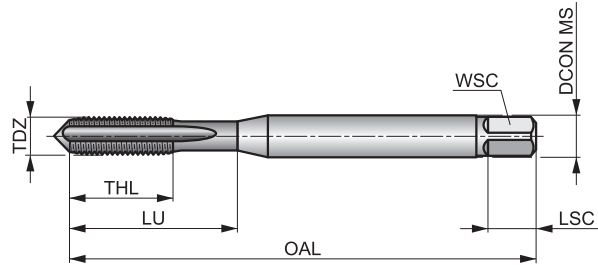
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
E2755/16	5/16	18	7.94	90.0	18	6.00	4.90	8	3	6.60
E2753/8	3/8	16	9.53	100.0	24	7.00	5.50	8	3	8.00
E2757/16	7/16	14	11.11	110.0	23	9.00	7.00	10	3	9.40
E2751/2	1/2	13	12.70	110.0	23	9.00	7.00	10	3	10.80
E2759/16	9/16	12	14.29	110.0	25	11.00	9.00	12	3	12.20
E2755/8	5/8	11	15.88	110.0	25	12.00	9.00	12	4	13.50
E2753/4	3/4	10	19.05	140.0	34	14.00	11.00	14	4	16.50
E2757/8	7/8	9	22.23	140.0	34	18.00	14.50	17	4	19.50
E2751	1"	8	25.40	160.0	38	20.00	16.00	19	4	22.25
E2751.1/8	1.1/8	7	28.58	180.0	45	22.00	18.00	21	4	25.00
E2751.1/4	1.1/4	7	31.75	180.0	50	25.00	20.00	23	4	28.00
E2751.1/2	1.1/2	6	38.10	200.0	60	32.00	24.00	27	4	34.00

# E229



## HSS-E-PM Straight Flute Machine Tap, UNF, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reinforced shank increases strength against torsional twist.



	DIN 371	2B
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

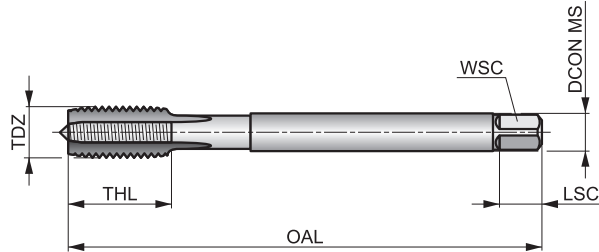
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E2292-64	2	64	2.18	45.0	7	2.80	2.10	5	3	1.90	12.00
E2293-56	3	56	2.52	50.0	8	2.80	2.10	5	3	2.15	12.50
E2294-48	4	48	2.85	56.0	9	3.50	2.70	6	3	2.40	18.00
E2295-44	5	44	3.17	56.0	10	3.50	2.70	6	3	2.70	18.00
E2296-40	6	40	3.50	56.0	11	4.00	3.00	6	3	2.95	20.00
E2298-36	8	36	4.17	63.0	12	4.50	3.40	6	3	3.50	21.00
E22910-32	10	32	4.83	70.0	13	6.00	4.90	8	3	4.10	25.00
E22912-28	12	28	5.49	80.0	15	6.00	4.90	8	3	4.70	30.00
E2291/4	1/4	28	6.35	80.0	15	7.00	5.50	8	3	5.50	30.00

# E278



## HSS-E-PM Straight Flute Machine Tap, UNF, DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 374	2B
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
E2785/16	5/16	24	7.94	90.0	18	6.00	4.90	8	3	6.90
E2783/8	3/8	24	9.53	100.0	24	7.00	5.50	8	3	8.50
E2787/16	7/16	20	11.11	100.0	22	9.00	7.00	10	3	9.90
E2781/2	1/2	20	12.70	100.0	21	9.00	7.00	10	3	11.50
E2789/16	9/16	18	14.29	100.0	21	11.00	9.00	12	4	12.90
E2785/8	5/8	18	15.88	100.0	21	12.00	9.00	12	4	14.50
E2783/4	3/4	16	19.05	125.0	25	14.00	11.00	14	4	17.50
E2787/8	7/8	14	22.23	140.0	28	18.00	14.50	17	4	20.40
E2781	1"	12	25.40	140.0	26	18.00	14.50	17	4	23.25
E2781.1/8	1.1/8	12	28.58	150.0	28	22.00	18.00	21	4	26.50
E2781.1/4	1.1/4	12	31.75	150.0	28	25.00	20.00	23	4	29.50
E2781.3/8	1.3/8	12	34.93	170.0	30	28.00	22.00	25	4	32.75
E2781.1/2 <sup>1)</sup>	1.1/2	12	38.10	170.0	30	32.00	24.00	27	4	36.00

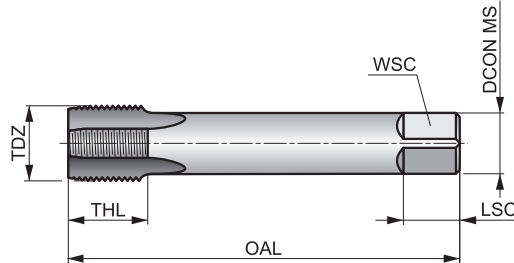
<sup>1)</sup> HSS-E.

# E282



## HSS-E-PM Straight Flute Machine Tap G(BSP), DIN Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 5156	Normal
	1.5xD	HSS-E PM

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 12	<b>P1.3</b> ■ 12	<b>P2.1</b> ■ 9	<b>P2.2</b> ■ 8	<b>P2.3</b> ■ 7	<b>P3.1</b> ■ 7	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>K1.1</b> ■ 13	<b>K1.2</b> ■ 10	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 14	<b>K2.2</b> ■ 11
<b>K3.1</b> ■ 13	<b>K3.2</b> ■ 10	<b>K4.1</b> ■ 12	<b>K4.2</b> ■ 9	<b>K5.1</b> ■ 12	<b>K5.2</b> ■ 10	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 15	<b>N2.2</b> ■ 14	<b>N2.3</b> ■ 11	<b>N3.1</b> ■ 21	<b>N3.2</b> ■ 14	<b>N4.2</b> ■ 8	

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
E2821/8	1/8	28	9.73	90.0	20	7.00	5.50	8	3	8.80
E2821/4	1/4	19	13.16	100.0	21	11.00	9.00	12	4	11.80
E2823/8	3/8	19	16.66	100.0	21	12.00	9.00	12	4	15.25
E2821/2	1/2	14	20.96	125.0	24	16.00	12.00	15	4	19.00
E2823/4	3/4	14	26.44	140.0	28	20.00	16.00	19	4	24.50
E2821	1"	11	33.25	160.0	30	25.00	20.00	23	4	30.75
E2821.1/4 <sup>1)</sup>	1.1/4	11	41.91	170.0	30	32.00	24.00	27	4	39.50
E2821.1/2 <sup>1)</sup>	1.1/2	11	47.80	190.0	32	36.00	29.00	32	6	45.00

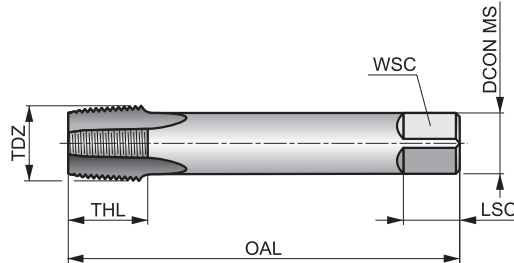
<sup>1)</sup> HSS-E.

# E714



## HSS-E-PM Straight Flute Machine Tap, NPT, ANSI Standard

General purpose straight flute machine tap for through and blind holes. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges.



		Normal

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 8	<b>P1.2</b> ■ 9	<b>P1.3</b> ■ 9	<b>P2.1</b> ■ 7	<b>P2.2</b> ■ 6	<b>P2.3</b> ▣ 5	<b>P3.1</b> ▣ 4	<b>P3.2</b> ▣ 4	<b>P3.3</b> ▣ 3	<b>P4.1</b> ■ 3	<b>P4.2</b> ▣ 2	<b>K1.1</b> ▣ 6	<b>K1.2</b> ▣ 4	<b>K1.3</b> ▣ 3
<b>K2.1</b> ▣ 7	<b>K2.2</b> ▣ 6	<b>K3.1</b> ▣ 7	<b>K3.2</b> ▣ 5	<b>K4.1</b> ▣ 6	<b>K4.2</b> ▣ 5	<b>K5.1</b> ▣ 7	<b>K5.2</b> ▣ 5	<b>N1.3</b> ▣ 9	<b>N2.1</b> ▣ 12	<b>N2.2</b> ▣ 11	<b>N2.3</b> ▣ 8	<b>N3.1</b> ■ 18	<b>N3.2</b> ■ 11

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
<b>E7141/8</b>	1/8	27	10.23	90.0	14	11.00	9.00	12	3	8.50
<b>E7141/4</b>	1/4	18	13.60	100.0	20	14.00	11.00	14	3	11.00
<b>E7143/8</b>	3/8	18	17.04	110.0	20	16.00	12.00	15	4	14.50
<b>E7141/2</b>	1/2	14	21.20	125.0	26	18.00	14.50	17	4	18.00
<b>E7143/4</b>	3/4	14	26.54	140.0	26	22.00	18.00	21	5	23.00
<b>E7141</b>	1"	11.5	33.20	150.0	31	28.00	22.00	25	5	29.00

Thread form (THFT)													
Basic standard group (BSG)	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371	DIN 376	ISO 529	ISO 529	ISO 529	ISO 2283	DIN 374	DIN 374	DIN 374
Thread tolerance class (TCTR)	6H	6H	6H	6G	6H	6H	6H	6H	6H	6H	6H	6H	6H
Threading application													
Usable length (ULDR)	2.5xD	2.5xD	2.5xD	2.5xD	3xD	3xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD
Material code (BMC)	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
Tap chamfer style (TCS)	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5
Flute Geometry (FDC)													
Hand (Cutting direction)													
Coating	Bright	ST	TIN	Bright	TIN	TIN	Bright	ST	TIN	Bright	Bright	ST	TIN
Product Family Code	EP006H	EP016H	EP00TIN	EP006G	E422	E423	E000	E001	E000TIN	E606	EP10	EP11	EP10TIN
PSF cutting diameters range	M2 – M30	M2 – M30	M3 – M30	M3 – M20	M3 – M10	M12 – M24	M1.6 – M24	M1.6 – M24	M3 – M20	M3 – M24	M4 – M30	M4 – M30	M8 – M20
<b>P</b>	P1	■	■	■	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	■	■	■	■	■	■	■
	P4	■	■	■	■	■	■	■	■	■	■	■	■
<b>M</b>	M1	■	■	■	■	■	■	■	■	■	■	■	■
	M2	■	■	■	■	■	■	■	■	■	■	■	■
	M3	■	■	■	■	■	■	■	■	■	■	■	■
	M4	■	■	■	■	■	■	■	■	■	■	■	■
<b>K</b>	K1	■	■	■	■	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■	■	■	■	■
	K3	■	■	■	■	■	■	■	■	■	■	■	■
	K4	■	■	■	■	■	■	■	■	■	■	■	■
	K5	■	■	■	■	■	■	■	■	■	■	■	■
<b>N</b>	N1	■	■	■	■	■	■	■	■	■	■	■	■
	N2	■	■	■	■	■	■	■	■	■	■	■	■
	N3	■	■	■	■	■	■	■	■	■	■	■	■
	N4	■	■	■	■	■	■	■	■	■	■	■	■
	N5	■	■	■	■	■	■	■	■	■	■	■	■
<b>S</b>	S1	■	■	■	■	■	■	■	■	■	■	■	■
	S2	■	■	■	■	■	■	■	■	■	■	■	■
	S3	■	■	■	■	■	■	■	■	■	■	■	■
	S4	■	■	■	■	■	■	■	■	■	■	■	■
<b>H</b>	H1	■	■	■	■	■	■	■	■	■	■	■	■
	H2	■	■	■	■	■	■	■	■	■	■	■	■
	H3	■	■	■	■	■	■	■	■	■	■	■	■
	H4	■	■	■	■	■	■	■	■	■	■	■	■

	MF	UNC	UNC	UNC	UNF	UNF	UNF	G	G	G								
	ISO 529	DIN 2184-1	DIN 2184-1	ISO 529	DIN 2184-1	DIN 2184-1	ISO 529	DIN 5156	DIN 5156	ISO DORMER								
	6H	2B	2B	2B	2B	2B	2B	Normal	Normal	Normal								
	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD								
	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM								
	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	C 2-3	C 2-3	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5								
	ST	Bright	ST	ST	Bright	ST	ST	Bright	ST	ST								
	E011	EP20	EP21	E021	EP30	EP31	E031	EP40	EP41	E041								
	M4 – M24	No.4 – 1"	No.4 – 1"	No.2 – 1"	No.8 – 1"	No.8 – 1"	No.8 – 1"	1/8 – 1"	1/8 – 1"	1/8 – 3/4								
	137	138	139	140	141	142	143	144	145	146								
P1	■	■	■	■	■	■	■	■	■	■								
P2	■	■	■	■	■	■	■	■	■	■								
P3	■	■	■	■	■	■	■	■	■	■								
P4	■	■	■	■	■	■	■	■	■	■								
M1	■	■	■	■	■	■	■	■	■	■								
M2	■	■	■	■	■	■	■	■	■	■								
M3	■	■	■	■	■	■	■	■	■	■								
M4	■	■	■	■	■	■	■	■	■	■								
K1	■	■	■	■	■	■	■	■	■	■								
K2	■	■	■	■	■	■	■	■	■	■								
K3	■	■	■	■	■	■	■	■	■	■								
K4	■	■	■	■	■	■	■	■	■	■								
K5	■	■	■	■	■	■	■	■	■	■								
N1	■	■	■	■	■	■	■	■	■	■								
N2	■	■	■	■	■	■	■	■	■	■								
N3	■	■	■	■	■	■	■	■	■	■								
N4	■	■	■	■	■	■	■	■	■	■								
N5	■	■	■	■	■	■	■	■	■	■								
S1	■	■	■	■	■	■	■	■	■	■								
S2	■	■	■	■	■	■	■	■	■	■								
S3	■	■	■	■	■	■	■	■	■	■								
S4	■	■	■	■	■	■	■	■	■	■								
H1	■	■	■	■	■	■	■	■	■	■								
H2	■	■	■	■	■	■	■	■	■	■								
H3	■	■	■	■	■	■	■	■	■	■								
H4	■	■	■	■	■	■	■	■	■	■								

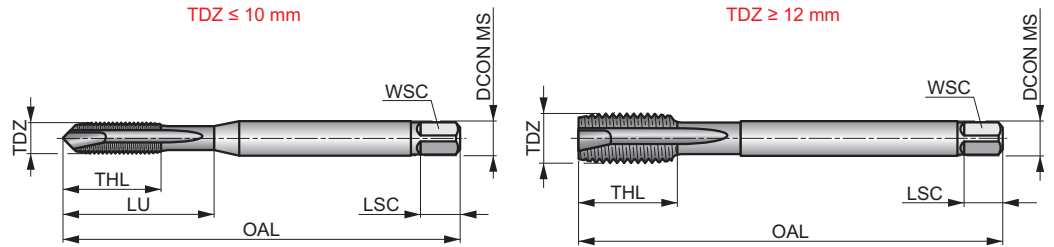
# EP006H



## HSS-E-PM Spiral Point Machine Tap, Metric, DIN Standard

Machine tap to produce normal fit threads within 6H tolerance. The spiral point is suited for through holes only. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ■ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ■ 10	<b>P4.1</b> ■ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ■ 27	<b>N3.3</b> ■ 13	<b>N4.1</b> ■ 22									

Products from this series are also available in set with drills. Please see L114 or L001.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EP00M2 <sup>1)</sup>	2	0.40	50.0	6	2.80	2.10	5	2	1.60	9.00
EP00M2.5 <sup>1)</sup>	2.5	0.45	50.0	8	2.80	2.10	5	2	2.10	12.50
EP00M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
EP00M3DIN376	3	0.50	56.0	10	2.20	1.80	4	3	2.50	18.00
EP00M3.5	3.5	0.60	56.0	11	4.00	3.00	6	3	2.90	20.00
EP00M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
EP00M4DIN376	4	0.70	63.0	12	2.80	2.10	5	3	3.30	21.00
EP00M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
EP00M5DIN376	5	0.80	70.0	13	3.50	2.70	6	3	4.20	25.00
EP00M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
EP00M6DIN376	6	1.00	80.0	15	4.50	3.40	6	3	5.00	30.00
EP00M7	7	1.00	80.0	15	7.00	5.50	8	3	6.00	30.00
EP00M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
EP00M8DIN376	8	1.25	90.0	18	6.00	4.90	8	3	6.80	35.00
EP00M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
EP00M10DIN376	10	1.50	100.0	20	7.00	5.50	8	3	8.50	-
EP00M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
EP00M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00	-
EP00M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
EP00M18	18	2.50	125.0	30	14.00	11.00	14	4	15.50	-
EP00M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-
EP00M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50	-
EP00M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	-
EP00M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00	-
EP00M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50	-

<sup>1)</sup> HSS-E.

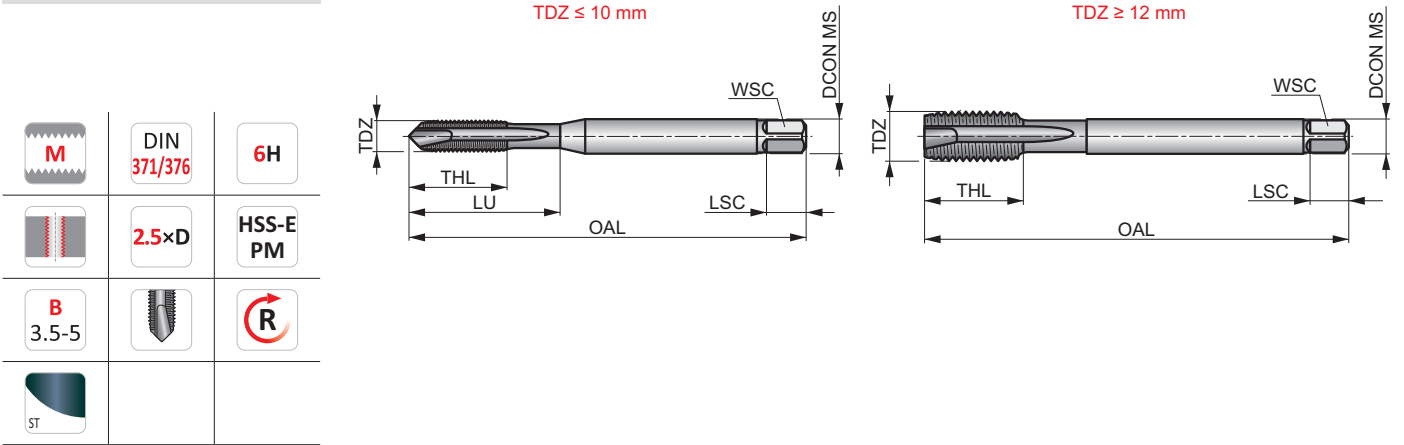


# EP016H



## HSS-E-PM Spiral Point Machine Tap, Metric, DIN Standard

Machine tap to produce normal fit threads within 6H tolerance. The spiral point is suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.



	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣22	<b>P2.2</b> ▣16	<b>P2.3</b> ▣14	<b>P3.2</b> ▣10	<b>P3.3</b> ▣9	<b>P4.1</b> ▣8	<b>P4.2</b> ▣6	<b>M1.1</b> ▣10	<b>M1.2</b> ▣8	<b>M2.1</b> ▣9	<b>M2.2</b> ▣7	<b>M3.1</b> ▣7	<b>M3.2</b> ▣6	<b>M3.3</b> ▣5
<b>M4.1</b> ▣4	<b>K1.1</b> ▣13	<b>K1.2</b> ▣10	<b>K1.3</b> ▣7	<b>K2.1</b> ▣16	<b>K2.2</b> ▣13	<b>K3.1</b> ▣14	<b>K3.2</b> ▣10	<b>K4.1</b> ▣13	<b>K4.2</b> ▣9	<b>K5.1</b> ▣15	<b>K5.2</b> ▣11		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
EP01M2 <sup>1)</sup>	2	0.40	50.0	6	2.80	2.10	5	2	1.60	9.00
EP01M2.5 <sup>1)</sup>	2.5	0.45	50.0	8	2.80	2.10	5	2	2.10	12.50
EP01M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
EP01M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
EP01M4DIN376	4	0.70	63.0	12	2.80	2.10	5	3	3.30	21.00
EP01M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
EP01M5DIN376	5	0.80	70.0	13	3.50	2.70	6	3	4.20	25.00
EP01M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
EP01M6DIN376	6	1.00	80.0	15	4.50	3.40	6	3	5.00	30.00
EP01M7	7	1.00	80.0	15	7.00	5.50	8	3	6.00	30.00
EP01M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
EP01M8DIN376	8	1.25	90.0	18	6.00	4.90	8	3	6.80	35.00
EP01M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
EP01M10DIN376	10	1.50	100.0	20	7.00	5.50	8	3	8.50	-
EP01M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
EP01M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00	-
EP01M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
EP01M18	18	2.50	125.0	30	14.00	11.00	14	4	15.50	-
EP01M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-
EP01M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50	-
EP01M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	-
EP01M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00	-
EP01M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50	-

<sup>1)</sup> HSS-E.

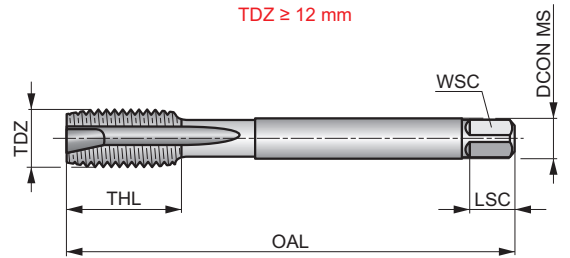
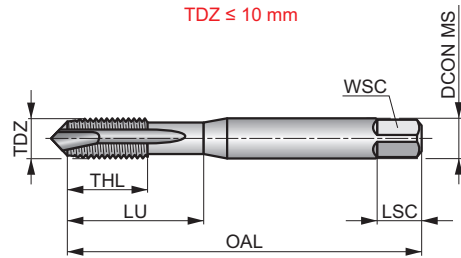
# EPOOTIN



## HSS-E-PM Spiral Point Machine Tap with TiN Coating, Metric, DIN Standard

High performance machine tap with spiral point for through holes only. Suited for a broad range of workpiece materials. TiN coated to allow higher cutting speeds, improve performance and extend tool life.

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 34	<b>P1.2</b> ■ 38	<b>P1.3</b> ■ 40	<b>P2.1</b> ■ 29	<b>P2.2</b> ■ 24	<b>P2.3</b> ■ 20	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 14	<b>P3.3</b> ▧ 12	<b>P4.1</b> ■ 10	<b>P4.2</b> ▧ 9	<b>M1.1</b> ■ 11	<b>M1.2</b> ■ 9	<b>M2.1</b> ■ 10
<b>M2.2</b> ■ 8	<b>M3.1</b> ■ 8	<b>M3.2</b> ■ 7	<b>M3.3</b> ▧ 6	<b>M4.1</b> ▧ 5	<b>K1.1</b> ▧ 21	<b>K1.2</b> ▧ 16	<b>K1.3</b> ▧ 12	<b>K2.1</b> ▧ 30	<b>K2.2</b> ▧ 24	<b>K3.1</b> ▧ 26	<b>K3.2</b> ▧ 20	<b>K4.1</b> ▧ 24	<b>K4.2</b> ▧ 18
<b>K5.1</b> ▧ 28	<b>K5.2</b> ▧ 20	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 37	<b>N2.2</b> ■ 34	<b>N2.3</b> ■ 24	<b>N3.1</b> ▧ 160	<b>N3.2</b> ▧ 36	<b>N4.1</b> ▧ 26					

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
EPOOTINM3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
EPOOTINM4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
EPOOTINM5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
EPOOTINM6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
EPOOTINM8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
EPOOTINM10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
EPOOTINM12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
EPOOTINM14	14	2.00	110.0	25	11.00	9.00	12	3	12.00	-
EPOOTINM16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
EPOOTINM18	18	2.50	125.0	30	14.00	11.00	14	4	15.50	-
EPOOTINM20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-
EPOOTINM22	22	2.50	140.0	34	18.00	14.50	17	4	19.50	-
EPOOTINM24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	-
EPOOTINM27	27	3.00	160.0	38	20.00	16.00	19	4	24.00	-
EPOOTINM30	30	3.50	180.0	45	22.00	18.00	21	4	26.50	-

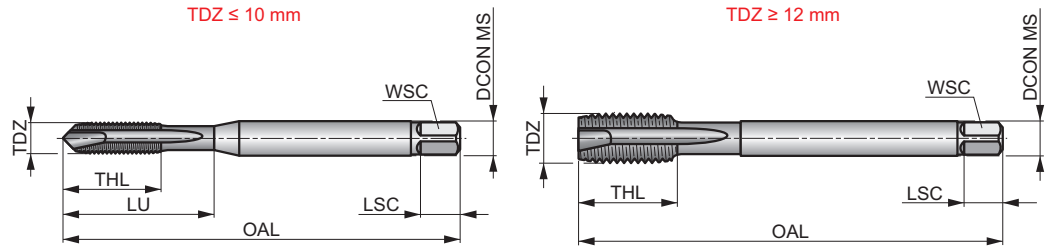
# EP006G



## HSS-E-PM Spiral Point Machine Tap, Metric, DIN Standard

Machine tap to produce threads within 6G tolerance for a fit with large allowance. The spiral point is suited for through holes only. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 371/376	6G
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ▣ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ▣ 10	<b>P4.1</b> ▣ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ▣ 27	<b>N3.3</b> ▣ 13	<b>N4.1</b> ▣ 22									

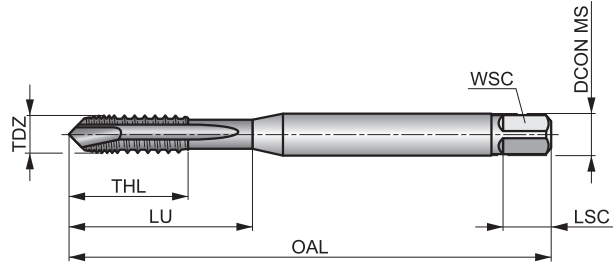
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EP006GM3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
EP006GM4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
EP006GM5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
EP006GM6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
EP006GM8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
EP006GM10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
EP006GM12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
EP006GM16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
EP006GM20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-

# E422



## HSS-E-PM Spiral Point Interrupted Thread Machine Tap, Metric, DIN Standard

High performance spiral point tap for through holes only. Interrupted threads to lessen the damaging effects of chip wedging, reduce friction, permit better lubrication and allow more space for the passage of chips. The reinforced shank increases the strength and TiN coating enables higher cutting speeds and performance.



	DIN 371	6H
	3xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 37	<b>P1.2</b> ■ 42	<b>P1.3</b> ■ 43	<b>P2.1</b> ■ 32	<b>P2.2</b> ■ 28	<b>P2.3</b> ▣ 25	<b>P3.1</b> ■ 15	<b>P3.2</b> ▣ 12	<b>P4.1</b> ▣ 9	<b>N1.1</b> ■ 25	<b>N1.2</b> ■ 19	<b>N1.3</b> ▣ 13	<b>N2.1</b> ▣ 46	<b>N2.2</b> ▣ 42
<b>N2.3</b> ▣ 30	<b>N3.1</b> ■ 76	<b>N3.2</b> ▣ 45	<b>N3.3</b> ■ 23	<b>N4.1</b> ▣ 30									

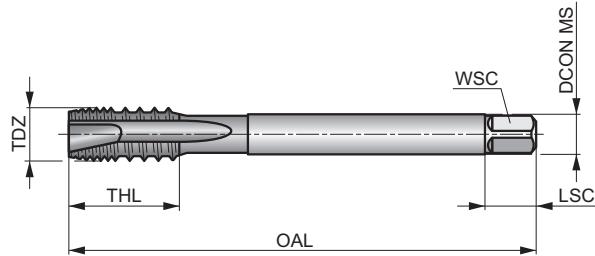
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
E422M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E422M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E422M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E422M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E422M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E422M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00

# E423



## HSS-E-PM Spiral Point Interrupted Thread Machine Tap, Metric, DIN Standard

High performance spiral point tap for through holes only. Interrupted threads to lessen the damaging effects of chip wedging, reduce friction, permit better lubrication and allow more space for the passage of chips. The reduced shank increases the reach and TiN coating enables higher cutting speeds and performance.



	DIN 376	6H
	3xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 37	<b>P1.2</b> ■ 42	<b>P1.3</b> ■ 43	<b>P2.1</b> ■ 32	<b>P2.2</b> ■ 28	<b>P2.3</b> ■ 25	<b>P3.1</b> ■ 15	<b>P3.2</b> ■ 12	<b>P4.1</b> ■ 9	<b>N1.1</b> ■ 25	<b>N1.2</b> ■ 19	<b>N1.3</b> ■ 13	<b>N2.1</b> ■ 46	<b>N2.2</b> ■ 42
<b>N2.3</b> ■ 30	<b>N3.1</b> ■ 76	<b>N3.2</b> ■ 45	<b>N3.3</b> ■ 23	<b>N4.1</b> ■ 30									

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E423M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30
E423M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00
E423M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00
E423M20	20	2.50	140.0	30	16.00	12.00	15	3	17.50
E423M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00

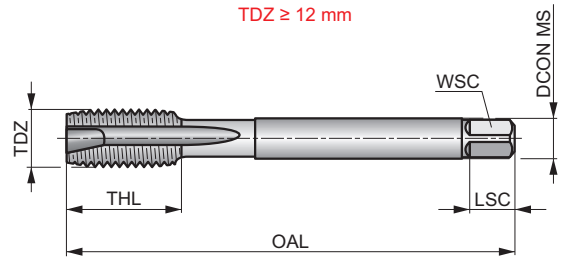
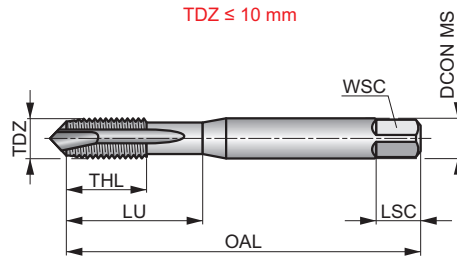
# E000



## HSS-E-PM Spiral Point Machine Tap, Metric, ISO Standard

Machine tap with spiral point suited for through holes only. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	ISO 529	6H
	2.5xD	HSS-E PM
	B 3.5-5	
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ■ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ■ 10	<b>P4.1</b> ■ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ■ 27	<b>N3.3</b> ■ 13	<b>N4.1</b> ■ 22									

Products from this series are also available in set with drills. Please see L113 or L002.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E000M1.6	1.6	0.35	41.0	7	2.50	2.00	4	2	1.25	7.00
E000M2	2	0.40	41.0	8	2.50	2.00	4	2	1.60	8.00
E000M2.5	2.5	0.45	44.5	9.5	2.80	2.24	5	2	2.05	9.50
E000M3	3	0.50	48.0	15	3.15	2.50	5	3	2.50	15.00
E000M3.5	3.5	0.60	50.0	16	3.55	2.80	5	3	2.90	16.00
E000M4	4	0.70	53.0	17	4.00	3.15	6	3	3.30	17.00
E000M5	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E000M6	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E000M8	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E000M10	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E000M12	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E000M14	14	2.00	95.0	24	11.20	9.00	12	3	12.00	-
E000M16	16	2.00	102.0	24	12.50	10.00	13	3	14.00	-
E000M20	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E000M24	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-

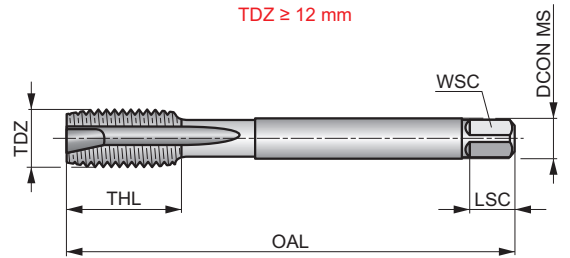
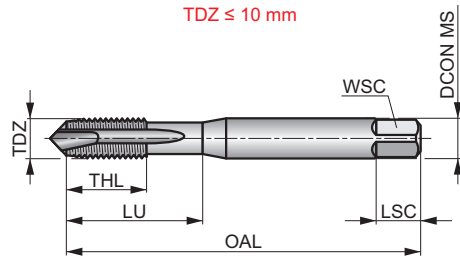
# E001



## HSS-E-PM Spiral Point Machine Tap, Metric, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	6H
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣22	<b>P2.2</b> ▣16	<b>P2.3</b> ▣14	<b>P3.2</b> ▣10	<b>P3.3</b> ▣9	<b>P4.1</b> ▣8	<b>P4.2</b> ▣6	<b>M1.1</b> ▣10	<b>M1.2</b> ▣8	<b>M2.1</b> ▣9	<b>M2.2</b> ▣7	<b>M3.1</b> ▣7	<b>M3.2</b> ▣6	<b>M3.3</b> ▣5
<b>M4.1</b> ▣4	<b>K1.1</b> ▣13	<b>K1.2</b> ▣10	<b>K1.3</b> ▣7	<b>K2.1</b> ▣16	<b>K2.2</b> ▣13	<b>K3.1</b> ▣14	<b>K3.2</b> ▣10	<b>K4.1</b> ▣13	<b>K4.2</b> ▣9	<b>K5.1</b> ▣15	<b>K5.2</b> ▣11		

Products from this series are also available in set with drills. Please see L113.

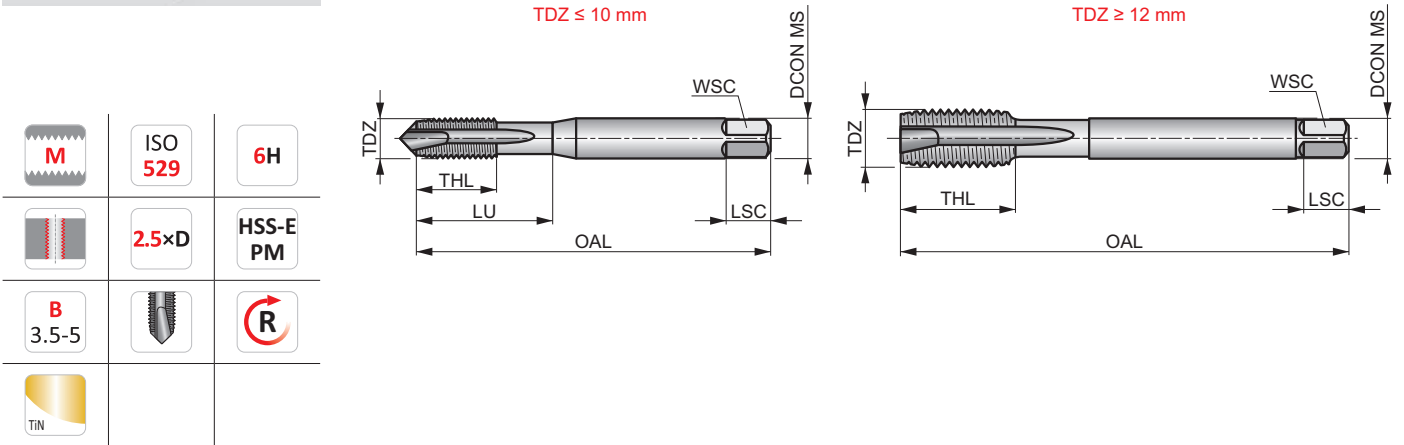
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E001M1.6	1.6	0.35	41.0	7	2.50	2.00	4	2	1.25	7.00
E001M2	2	0.40	41.0	8	2.50	2.00	4	2	1.60	8.00
E001M2.5	2.5	0.45	44.5	9.5	2.80	2.24	5	2	2.05	9.50
E001M3	3	0.50	48.0	15	3.15	2.50	5	3	2.50	15.00
E001M4	4	0.70	53.0	17	4.00	3.15	6	3	3.30	17.00
E001M5	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E001M6	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E001M8	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E001M10	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E001M12	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E001M14	14	2.00	95.0	24	11.20	9.00	12	3	12.00	-
E001M16	16	2.00	102.0	24	12.50	10.00	13	3	14.00	-
E001M18	18	2.50	112.0	29	14.00	11.20	14	4	15.50	-
E001M20	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-
E001M22	22	2.50	118.0	29	16.00	12.50	16	4	19.50	-
E001M24	24	3.00	130.0	35	18.00	14.00	18	4	21.00	-

# E000TIN



## HSS-E-PM Spiral Point Machine Tap with TiN Coating, Metric, ISO Standard

High performance machine tap with spiral point for through holes only. Suited for a broad range of workpiece materials. TiN coated to allow higher cutting speeds, improve performance and extend tool life.



	ISO 529	6H
	2.5xD	HSS-E PM
	B 3.5-5	
	TIN	

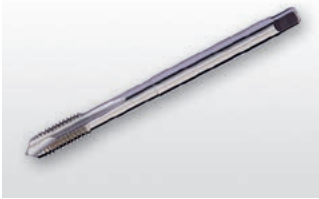
Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 34	<b>P1.2</b> ■ 38	<b>P1.3</b> ■ 40	<b>P2.1</b> ■ 29	<b>P2.2</b> ■ 24	<b>P2.3</b> ■ 20	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 14	<b>P3.3</b> ■ 12	<b>P4.1</b> ■ 10	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 11	<b>M1.2</b> ■ 9	<b>M2.1</b> ■ 10
<b>M2.2</b> ■ 8	<b>M3.1</b> ■ 8	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 5	<b>K1.1</b> ■ 21	<b>K1.2</b> ■ 16	<b>K1.3</b> ■ 12	<b>K2.1</b> ■ 30	<b>K2.2</b> ■ 24	<b>K3.1</b> ■ 26	<b>K3.2</b> ■ 20	<b>K4.1</b> ■ 24	<b>K4.2</b> ■ 18
<b>K5.1</b> ■ 28	<b>K5.2</b> ■ 20	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 37	<b>N2.2</b> ■ 34	<b>N2.3</b> ■ 24	<b>N3.1</b> ■ 60	<b>N3.2</b> ■ 36	<b>N4.1</b> ■ 26					

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E000TINM3	3	0.50	48.0	15	3.15	2.50	5	3	2.50	15.00
E000TINM4	4	0.70	53.0	17	4.00	3.15	6	3	3.30	17.00
E000TINM5	5	0.80	58.0	11	5.00	4.00	7	3	4.20	22.00
E000TINM6	6	1.00	66.0	13	6.30	5.00	8	3	5.00	26.00
E000TINM8	8	1.25	72.0	16	8.00	6.30	9	3	6.80	29.00
E000TINM10	10	1.50	80.0	18	10.00	8.00	11	3	8.50	34.00
E000TINM12	12	1.75	89.0	22	9.00	7.10	10	3	10.30	-
E000TINM16	16	2.00	102.0	24	12.50	10.00	13	3	14.00	-
E000TINM20	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-



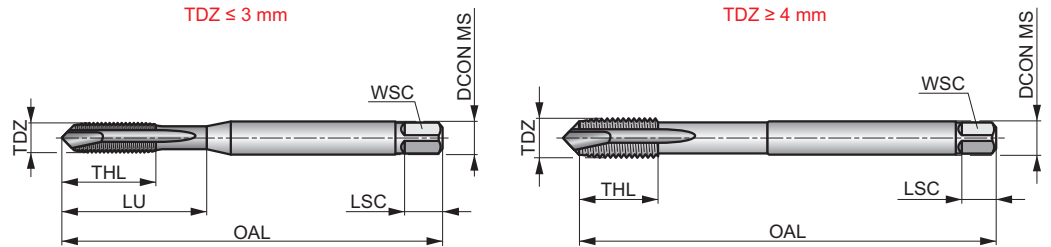
# E606



## HSS-E-PM Spiral Point Long Series Machine Tap, Metric, ISO Standard

Longer design for extra reach when threading difficult to access holes. The spiral point drives the swarf forward ahead of the cutting edges for a safe and reliable process. Suited for through holes only.

	ISO 2283	6H
	2.5xD	HSS-E PM
	B 3.5-5	
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 14	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 11	<b>P2.2</b> ■ 10	<b>P2.3</b> ■ 9	<b>P3.1</b> ■ 9	<b>P3.2</b> ■ 6	<b>P4.1</b> ■ 4	<b>N1.1</b> ■ 10	<b>N1.2</b> ■ 8	<b>N1.3</b> ■ 5	<b>N2.1</b> ■ 20	<b>N2.2</b> ■ 18
<b>N2.3</b> ■ 13	<b>N3.1</b> ■ 33	<b>N3.3</b> ■ 10	<b>N4.1</b> ■ 20										

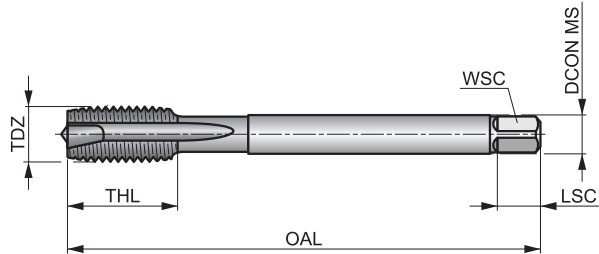
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E606M3	3	0.50	66.0	9	3.15	2.50	5	3	2.50	18.00
E606M4	4	0.70	73.0	12	3.15	2.50	5	3	3.30	-
E606M5	5	0.80	79.0	12	4.00	3.15	6	3	4.20	-
E606M6	6	1.00	89.0	14	4.50	3.55	6	3	5.00	-
E606M8	8	1.25	97.0	17	6.30	5.00	8	3	6.80	-
E606M10	10	1.50	108.0	19	8.00	6.30	9	3	8.50	-
E606M12	12	1.75	119.0	23	9.00	7.10	10	3	10.30	-
E606M16	16	2.00	137.0	25	12.50	10.00	13	3	14.00	-

# EP10



## HSS-E-PM Spiral Point Machine Tap, Metric Fine, DIN Standard

Machine tap with spiral point suited for through holes only. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 374	6H
	2.5xD	HSS-E PM
B 3.5-5		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ■ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ■ 10	<b>P4.1</b> ■ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ■ 27	<b>N3.3</b> ■ 13	<b>N4.1</b> ■ 22									

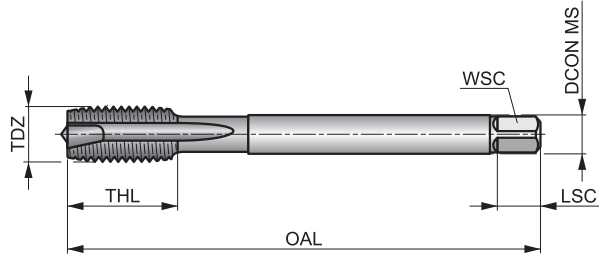
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
EP10M4X.5	4	0.50	63.0	12	2.80	2.10	5	3	3.50
EP10M5X.5	5	0.50	70.0	13	3.50	2.70	6	3	4.50
EP10M6X.75	6	0.75	80.0	15	4.50	3.40	6	3	5.30
EP10M8X.75	8	0.75	80.0	15	6.00	4.90	8	3	7.30
EP10M8X1.0	8	1.00	90.0	18	6.00	4.90	8	3	7.00
EP10M10X.75	10	0.75	90.0	18	7.00	5.50	8	3	9.30
EP10M10X1.0	10	1.00	90.0	18	7.00	5.50	8	3	9.00
EP10M10X1.25	10	1.25	100.0	20	7.00	5.50	8	3	8.80
EP10M12X1.0	12	1.00	100.0	21	9.00	7.00	10	3	11.00
EP10M12X1.25	12	1.25	100.0	21	9.00	7.00	10	3	10.80
EP10M12X1.5	12	1.50	100.0	21	9.00	7.00	10	3	10.50
EP10M14X1.0	14	1.00	100.0	21	11.00	9.00	12	3	13.00
EP10M14X1.25	14	1.25	100.0	21	11.00	9.00	12	3	13.00
EP10M14X1.5	14	1.50	100.0	21	11.00	9.00	12	3	12.50
EP10M16X1.0	16	1.00	100.0	21	12.00	9.00	12	3	15.00
EP10M16X1.5	16	1.50	100.0	21	12.00	9.00	12	3	14.50
EP10M18X1.0	18	1.00	110.0	24	14.00	11.00	14	4	17.00
EP10M18X1.5	18	1.50	110.0	24	14.00	11.00	14	4	16.50
EP10M20X1.0	20	1.00	125.0	24	16.00	12.00	15	4	19.00
EP10M20X1.5	20	1.50	125.0	24	16.00	12.00	15	4	18.50
EP10M22X1.5	22	1.50	125.0	25	18.00	14.50	17	4	20.50
EP10M24X1.5	24	1.50	140.0	28	18.00	14.50	17	4	22.50
EP10M24X2.0	24	2.00	140.0	28	18.00	14.50	17	4	22.00
EP10M25X1.5	25	1.50	140.0	28	18.00	14.50	17	4	23.50
EP10M26X1.5	26	1.50	140.0	28	18.00	14.50	17	4	24.50
EP10M27X1.5	27	1.50	140.0	28	20.00	16.00	19	4	25.50
EP10M27X2.0	27	2.00	140.0	28	20.00	16.00	19	4	25.00
EP10M28X1.5	28	1.50	140.0	28	20.00	16.00	19	4	26.50
EP10M30X1.5	30	1.50	150.0	28	22.00	18.00	21	4	28.50
EP10M30X2.0	30	2.00	150.0	28	22.00	18.00	21	4	28.00

# EP11



## HSS-E-PM Spiral Point Machine Tap, Metric Fine, DIN Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding. The reduced shank increases the reach of the tap.



	DIN 374	6H
	2.5xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> □22	<b>P2.2</b> □16	<b>P2.3</b> ■14	<b>P3.2</b> ■10	<b>P3.3</b> □9	<b>P4.1</b> ■8	<b>P4.2</b> □6	<b>M1.1</b> □10	<b>M1.2</b> □8	<b>M2.1</b> □9	<b>M2.2</b> □7	<b>M3.1</b> □7	<b>M3.2</b> □6	<b>M3.3</b> □5
<b>M4.1</b> □4	<b>K1.1</b> □13	<b>K1.2</b> □10	<b>K1.3</b> □7	<b>K2.1</b> □16	<b>K2.2</b> □13	<b>K3.1</b> □14	<b>K3.2</b> □10	<b>K4.1</b> □13	<b>K4.2</b> □9	<b>K5.1</b> □15	<b>K5.2</b> □11		

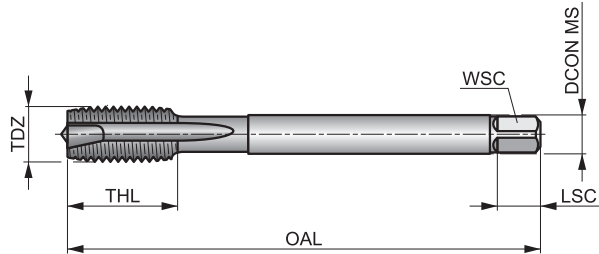
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
EP11M4X.5	4	0.50	63.0	12	2.80	2.10	5	3	3.50
EP11M5X.5	5	0.50	70.0	13	3.50	2.70	6	3	4.50
EP11M6X.75	6	0.75	80.0	15	4.50	3.40	6	3	5.30
EP11M8X.75	8	0.75	80.0	15	6.00	4.90	8	3	7.30
EP11M8X1.0	8	1.00	90.0	18	6.00	4.90	8	3	7.00
EP11M10X.75	10	0.75	90.0	18	7.00	5.50	8	3	9.30
EP11M10X1.0	10	1.00	90.0	18	7.00	5.50	8	3	9.00
EP11M10X1.25	10	1.25	100.0	20	7.00	5.50	8	3	8.80
EP11M12X1.0	12	1.00	100.0	21	9.00	7.00	10	3	11.00
EP11M12X1.25	12	1.25	100.0	21	9.00	7.00	10	3	10.80
EP11M12X1.5	12	1.50	100.0	21	9.00	7.00	10	3	10.50
EP11M14X1.0	14	1.00	100.0	21	11.00	9.00	12	3	13.00
EP11M14X1.25	14	1.25	100.0	21	11.00	9.00	12	3	13.00
EP11M14X1.5	14	1.50	100.0	21	11.00	9.00	12	3	12.50
EP11M16X1.0	16	1.00	100.0	21	12.00	9.00	12	3	15.00
EP11M16X1.5	16	1.50	100.0	21	12.00	9.00	12	3	14.50
EP11M18X1.0	18	1.00	110.0	24	14.00	11.00	14	4	17.00
EP11M18X1.5	18	1.50	110.0	24	14.00	11.00	14	4	16.50
EP11M20X1.0	20	1.00	125.0	24	16.00	12.00	15	4	19.00
EP11M20X1.5	20	1.50	125.0	24	16.00	12.00	15	4	18.50
EP11M22X1.5	22	1.50	125.0	25	18.00	14.50	17	4	20.50
EP11M24X1.5	24	1.50	140.0	28	18.00	14.50	17	4	22.50
EP11M24X2.0	24	2.00	140.0	28	18.00	14.50	17	4	22.00
EP11M25X1.5	25	1.50	140.0	28	18.00	14.50	17	4	23.50
EP11M26X1.5	26	1.50	140.0	28	18.00	14.50	17	4	24.50
EP11M27X1.5	27	1.50	140.0	28	20.00	16.00	19	4	25.50
EP11M27X2.0	27	2.00	140.0	28	20.00	16.00	19	4	25.00
EP11M28X1.5	28	1.50	140.0	28	20.00	16.00	19	4	26.50
EP11M30X1.5	30	1.50	150.0	28	22.00	18.00	21	4	28.50
EP11M30X2.0	30	2.00	150.0	28	22.00	18.00	21	4	28.00

# EP10TIN



## HSS-E-PM Spiral Point Machine Tap, Metric Fine, TiN Coating, DIN Standard

High performance machine tap with spiral point for through holes only. Suited for a broad range of workpiece materials. TiN coating allows higher cutting speeds, improves performance and extends tool life. The reduced shank increases the reach of the tap.



	DIN 374	6H
	2.5xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 34	<b>P1.2</b> ■ 38	<b>P1.3</b> ■ 40	<b>P2.1</b> ■ 29	<b>P2.2</b> ■ 24	<b>P2.3</b> ■ 20	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 14	<b>P3.3</b> ▧ 12	<b>P4.1</b> ■ 10	<b>P4.2</b> ▧ 9	<b>M1.1</b> ■ 11	<b>M1.2</b> ■ 9	<b>M2.1</b> ■ 10
<b>M2.2</b> ■ 8	<b>M3.1</b> ■ 8	<b>M3.2</b> ■ 7	<b>M3.3</b> ▧ 6	<b>M4.1</b> ▧ 5	<b>K1.1</b> ▧ 21	<b>K1.2</b> ▧ 16	<b>K1.3</b> ▧ 12	<b>K2.1</b> ▧ 30	<b>K2.2</b> ▧ 24	<b>K3.1</b> ▧ 26	<b>K3.2</b> ▧ 20	<b>K4.1</b> ▧ 24	<b>K4.2</b> ▧ 18
<b>K5.1</b> ▧ 28	<b>K5.2</b> ▧ 20	<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 37	<b>N2.2</b> ■ 34	<b>N2.3</b> ■ 24	<b>N3.1</b> ■ 60	<b>N3.2</b> ▧ 36	<b>N4.1</b> ▧ 26					

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
EP10TINM8X1.0	8	1.00	90.0	18	6.00	4.90	8	3	7.00
EP10TINM10X1.0	10	1.00	90.0	18	7.00	5.50	8	3	9.00
EP10TINM10X1.25	10	1.25	100.0	20	7.00	5.50	8	3	8.80
EP10TINM12X1.0	12	1.00	100.0	21	9.00	7.00	10	3	11.00
EP10TINM12X1.25	12	1.25	100.0	21	9.00	7.00	10	3	10.80
EP10TINM12X1.5	12	1.50	100.0	21	9.00	7.00	10	3	10.50
EP10TINM14X1.5	14	1.50	100.0	21	11.00	9.00	12	3	12.50
EP10TINM16X1.5	16	1.50	100.0	21	12.00	9.00	12	3	14.50
EP10TINM18X1.5	18	1.50	110.0	24	14.00	11.00	14	4	16.50
EP10TINM20X1.5	20	1.50	125.0	24	16.00	12.00	15	4	18.50

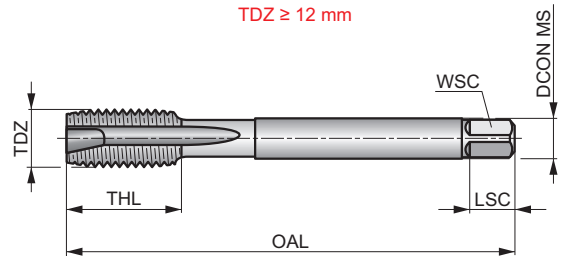
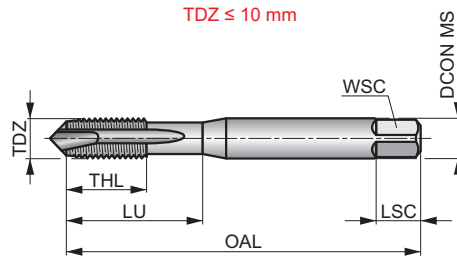
# E011



## HSS-E-PM Spiral Point Machine Tap, Metric Fine, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	6H
	2.5xD	HSS-E PM
B 3.5-5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣22	<b>P2.2</b> ▣16	<b>P2.3</b> ▣14	<b>P3.2</b> ▣10	<b>P3.3</b> ▣9	<b>P4.1</b> ▣8	<b>P4.2</b> ▣6	<b>M1.1</b> ▣10	<b>M1.2</b> ▣8	<b>M2.1</b> ▣9	<b>M2.2</b> ▣7	<b>M3.1</b> ▣7	<b>M3.2</b> ▣6	<b>M3.3</b> ▣5
<b>M4.1</b> ▣4	<b>K1.1</b> ▣13	<b>K1.2</b> ▣10	<b>K1.3</b> ▣7	<b>K2.1</b> ▣16	<b>K2.2</b> ▣13	<b>K3.1</b> ▣14	<b>K3.2</b> ▣10	<b>K4.1</b> ▣13	<b>K4.2</b> ▣9	<b>K5.1</b> ▣15	<b>K5.2</b> ▣11		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E011M4X.5	4	0.50	53.0	17	4.00	3.15	6	3	3.50	17.00
E011M5X.5	5	0.50	58.0	11	5.00	4.00	7	3	4.50	22.00
E011M6X.5	6	0.50	66.0	13	6.30	5.00	8	3	5.50	26.00
E011M6X.75	6	0.75	66.0	13	6.30	5.00	8	3	5.30	26.00
E011M8X.75	8	0.75	72.0	16	8.00	6.30	9	3	7.30	29.00
E011M8X1.0	8	1.00	72.0	16	8.00	6.30	9	3	7.00	29.00
E011M10X1.0	10	1.00	80.0	18	10.00	8.00	11	3	9.00	34.00
E011M10X1.25	10	1.25	80.0	18	10.00	8.00	11	3	8.80	34.00
E011M12X1.0	12	1.00	89.0	22	9.00	7.10	10	3	11.00	-
E011M12X1.25	12	1.25	89.0	22	9.00	7.10	10	3	10.80	-
E011M12X1.5	12	1.50	89.0	22	9.00	7.10	10	3	10.50	-
E011M14X1.0	14	1.00	95.0	24	11.20	9.00	12	3	13.00	-
E011M14X1.25	14	1.25	95.0	24	11.20	9.00	12	3	12.80	-
E011M14X1.5	14	1.50	95.0	24	11.20	9.00	12	3	12.50	-
E011M16X1.0	16	1.00	102.0	24	12.50	10.00	13	3	15.00	-
E011M16X1.5	16	1.50	102.0	24	12.50	10.00	13	3	14.50	-
E011M18X1.0	18	1.00	112.0	29	14.00	11.20	14	4	17.00	-
E011M18X1.5	18	1.50	112.0	29	14.00	11.20	14	4	16.50	-
E011M20X1.0	20	1.00	112.0	29	14.00	11.20	14	4	19.00	-
E011M20X1.5	20	1.50	112.0	29	14.00	11.20	14	4	18.50	-
E011M20X2.0	20	2.00	112.0	29	14.00	11.20	14	4	18.00	-
E011M22X1.5	22	1.50	118.0	29	16.00	12.50	16	4	20.50	-
E011M24X1.5	24	1.50	130.0	35	18.00	14.00	18	4	22.50	-
E011M24X2.0	24	2.00	130.0	35	18.00	14.00	18	4	22.00	-

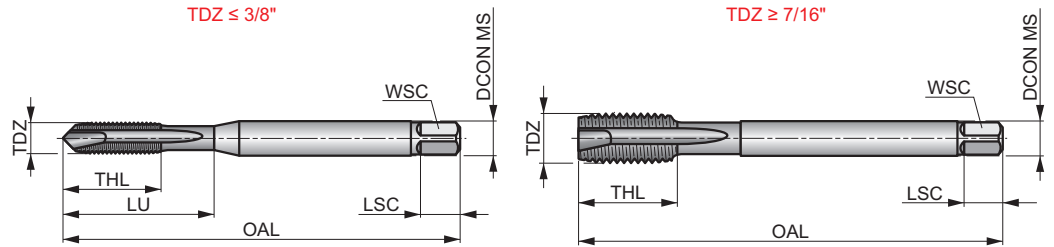
# EP20



## HSS-E-PM Spiral Point Machine Tap, UNC, DIN Standard

Machine tap with spiral point suited for through holes only. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 2184-1	2B
	2.5xD	HSS-E PM
B 3.5-5		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ■ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ■ 10	<b>P4.1</b> ■ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ■ 27	<b>N3.3</b> ■ 13	<b>N4.1</b> ■ 22									

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EP204-40	4	40	2.85	56.0	9	3.50	2.70	6	3	2.35	18.00
EP205-40	5	40	3.17	56.0	10	3.50	2.70	6	3	2.65	18.00
EP206-32	6	32	3.50	56.0	11	4.00	3.00	6	3	2.85	20.00
EP208-32	8	32	4.17	63.0	12	4.50	3.40	8	3	3.50	21.00
EP2010-24	10	24	4.83	70.0	13	6.00	4.90	8	3	3.90	25.00
EP2012-24	12	24	5.49	80.0	15	6.00	4.90	8	3	4.50	30.00
EP201/4	1/4	20	6.35	80.0	15	7.00	5.50	8	3	5.10	30.00
EP205/16	5/16	18	7.94	90.0	18	8.00	6.20	9	3	6.60	35.00
EP203/8	3/8	16	9.53	100.0	20	10.00	8.00	11	3	8.00	39.00
EP207/16	7/16	14	11.11	100.0	20	8.00	6.20	9	3	9.40	—
EP201/2	1/2	13	12.70	110.0	23	9.00	7.00	10	3	10.80	—
EP205/8	5/8	11	15.88	110.0	25	12.00	9.00	12	3	13.50	—
EP203/4	3/4	10	19.05	125.0	30	14.00	11.00	14	4	16.50	—
EP207/8	7/8	9	22.23	140.0	34	18.00	14.50	17	4	19.50	—
EP201	1"	8	25.40	160.0	38	18.00	14.50	17	4	22.25	—

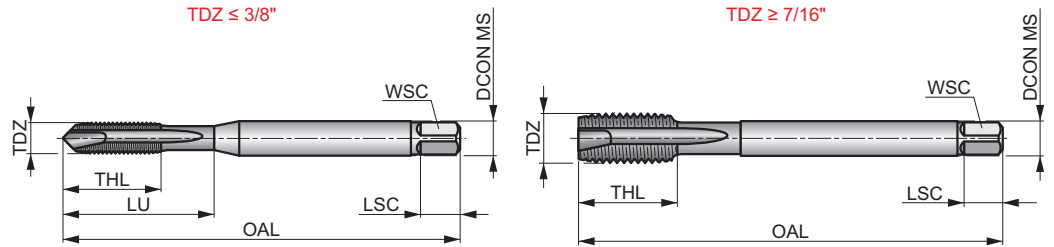
# EP21



## HSS-E-PM Spiral Point Machine Tap, UNC, DIN Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	DIN 2184-1	2B
	2.5xD	HSS-E PM
B 3.5-5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> 12	<b>P2.2</b> 16	<b>P2.3</b> 14	<b>P3.2</b> 10	<b>P3.3</b> 19	<b>P4.1</b> 8	<b>P4.2</b> 6	<b>M1.1</b> 10	<b>M1.2</b> 8	<b>M2.1</b> 9	<b>M2.2</b> 7	<b>M3.1</b> 7	<b>M3.2</b> 6	<b>M3.3</b> 5
<b>M4.1</b> 4	<b>K1.1</b> 13	<b>K1.2</b> 10	<b>K1.3</b> 7	<b>K2.1</b> 16	<b>K2.2</b> 13	<b>K3.1</b> 14	<b>K3.2</b> 10	<b>K4.1</b> 13	<b>K4.2</b> 9	<b>K5.1</b> 15	<b>K5.2</b> 11		

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EP214-40	4	40	2.85	56.0	9	3.50	2.70	6	3	2.35	18.00
EP215-40	5	40	3.17	56.0	10	3.50	2.70	6	3	2.65	18.00
EP216-32	6	32	3.50	56.0	11	4.00	3.00	6	3	2.85	20.00
EP218-32	8	32	4.17	63.0	12	4.50	3.40	8	3	3.50	21.00
EP2110-24	10	24	4.83	70.0	13	6.00	4.90	8	3	3.90	25.00
EP211/4	1/4	20	6.35	80.0	15	7.00	5.50	8	3	5.10	30.00
EP215/16	5/16	18	7.94	90.0	18	8.00	6.20	9	3	6.60	35.00
EP213/8	3/8	16	9.53	100.0	20	10.00	8.00	11	3	8.00	39.00
EP217/16	7/16	14	11.11	100.0	20	8.00	6.20	9	3	9.40	-
EP211/2	1/2	13	12.70	110.0	23	9.00	7.00	10	3	10.80	-
EP215/8	5/8	11	15.88	110.0	25	12.00	9.00	12	3	13.50	-
EP213/4	3/4	10	19.05	125.0	30	14.00	11.00	14	4	16.50	-
EP217/8	7/8	9	22.23	140.0	34	18.00	14.50	17	4	19.50	-
EP211	1"	8	25.40	160.0	38	18.00	14.50	17	4	22.25	-

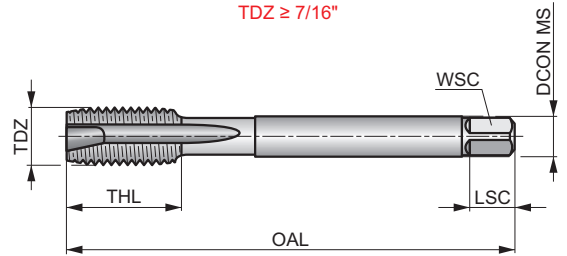
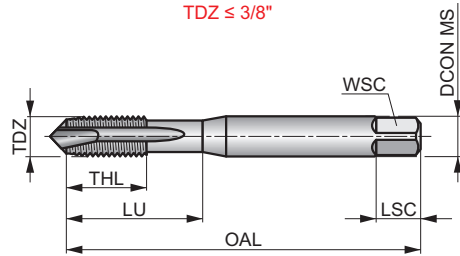
# E021



## HSS-E-PM Spiral Point Machine Tap, UNC, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	2B
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣22	<b>P2.2</b> ▣16	<b>P2.3</b> ▣14	<b>P3.2</b> ▣10	<b>P3.3</b> ▣9	<b>P4.1</b> ▣8	<b>P4.2</b> ▣6	<b>M1.1</b> ▣10	<b>M1.2</b> ▣8	<b>M2.1</b> ▣9	<b>M2.2</b> ▣7	<b>M3.1</b> ▣7	<b>M3.2</b> ▣6	<b>M3.3</b> ▣5
<b>M4.1</b> ▣4	<b>K1.1</b> ▣13	<b>K1.2</b> ▣10	<b>K1.3</b> ▣7	<b>K2.1</b> ▣16	<b>K2.2</b> ▣13	<b>K3.1</b> ▣14	<b>K3.2</b> ▣10	<b>K4.1</b> ▣13	<b>K4.2</b> ▣9	<b>K5.1</b> ▣15	<b>K5.2</b> ▣11		

ISO shank and square dimensions will necessitate metric holders

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E0212-56	2	56	2.18	44.5	9.5	2.80	2.24	5	2	1.85	9.50
E0214-40	4	40	2.85	48.0	14	3.15	2.50	5	3	2.35	14.00
E0215-40	5	40	3.17	48.0	12.5	3.15	2.50	5	3	2.65	12.50
E0216-32	6	32	3.50	50.0	16	3.55	2.80	5	3	2.85	16.00
E0218-32	8	32	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E02110-24	10	24	4.83	58.0	11	5.00	4.00	7	3	3.90	20.00
E02112-24	12	24	5.49	62.0	12	5.60	4.50	7	3	4.50	21.00
E0211/4	1/4	20	6.35	66.0	13	6.30	5.00	8	3	5.10	26.00
E0215/16	5/16	18	7.94	72.0	16	8.00	6.30	9	3	6.60	29.00
E0213/8	3/8	16	9.53	80.0	18	10.00	8.00	11	3	8.00	32.00
E0217/16	7/16	14	11.11	85.0	19	8.00	6.30	9	3	9.40	-
E0211/2	1/2	13	12.70	89.0	22	9.00	7.10	10	3	10.80	-
E0215/8	5/8	11	15.88	102.0	24	12.50	10.00	13	3	13.50	-
E0213/4	3/4	10	19.05	112.0	29	14.00	11.20	14	4	16.50	-
E0217/8	7/8	9	22.23	118.0	29	16.00	12.50	16	4	19.50	-
E0211	1"	8	25.40	130.0	35	18.00	14.00	18	4	22.25	-



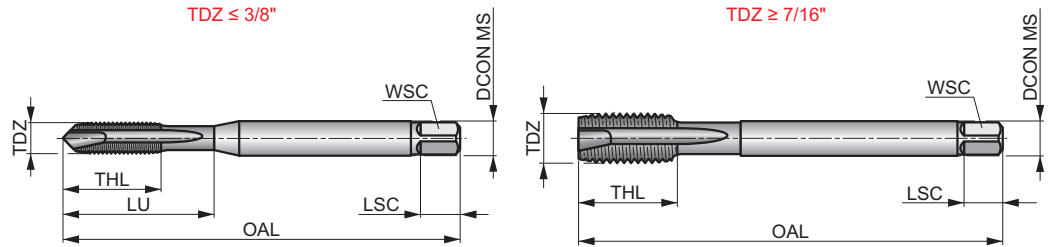
# EP30



## HSS-E-PM Spiral Point Machine Tap, UNF, DIN Standard

Machine tap with spiral point suited for through holes only. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 2184-1	2B
	2.5xD	HSS-E PM



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ■ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ■ 10	<b>P4.1</b> ■ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ■ 27	<b>N3.3</b> ■ 13	<b>N4.1</b> ■ 22									

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
EP308-36	8	36	4.17	63.0	12	4.50	3.40	8	3	3.50	21.00
EP3010-32	10	32	4.83	70.0	13	6.00	4.90	8	3	4.10	25.00
EP301/4	1/4	28	6.35	80.0	15	7.00	5.50	8	3	5.50	30.00
EP305/16	5/16	24	7.94	90.0	18	8.00	6.20	9	3	6.90	35.00
EP303/8	3/8	24	9.53	100.0	20	10.00	8.00	11	3	8.50	39.00
EP307/16	7/16	20	11.11	100.0	20	8.00	6.20	9	3	9.90	–
EP301/2	1/2	20	12.70	110.0	23	9.00	7.00	10	3	11.50	–
EP305/8	5/8	18	15.88	110.0	25	12.00	9.00	12	3	14.50	–
EP303/4	3/4	16	19.05	125.0	30	14.00	11.00	14	4	17.50	–
EP307/8	7/8	14	22.23	140.0	34	18.00	14.50	17	4	20.40	–
EP301	1"	12	25.40	160.0	38	18.00	14.50	17	4	23.25	–

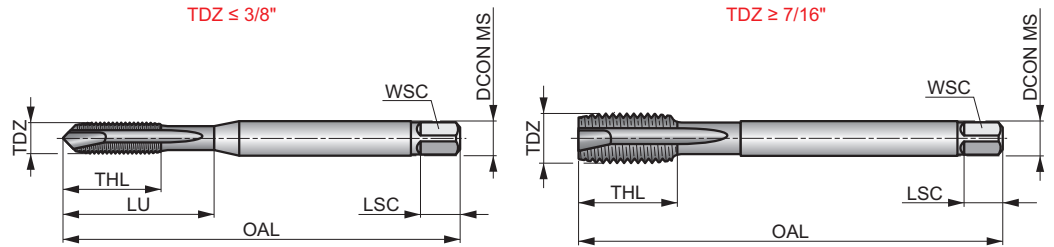
# EP31



## HSS-E-PM Spiral Point Machine Tap, UNF, DIN Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	DIN 2184-1	2B
	2.5xD	HSS-E PM



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣22	<b>P2.2</b> ▣16	<b>P2.3</b> ▣14	<b>P3.2</b> ▣10	<b>P3.3</b> ▣19	<b>P4.1</b> ▣8	<b>P4.2</b> ▣6	<b>M1.1</b> ▣10	<b>M1.2</b> ▣8	<b>M2.1</b> ▣9	<b>M2.2</b> ▣7	<b>M3.1</b> ▣7	<b>M3.2</b> ▣6	<b>M3.3</b> ▣5
<b>M4.1</b> ▣4	<b>K1.1</b> ▣13	<b>K1.2</b> ▣10	<b>K1.3</b> ▣7	<b>K2.1</b> ▣16	<b>K2.2</b> ▣13	<b>K3.1</b> ▣14	<b>K3.2</b> ▣10	<b>K4.1</b> ▣13	<b>K4.2</b> ▣9	<b>K5.1</b> ▣15	<b>K5.2</b> ▣11		

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EP318-36	8	36	4.17	63.0	12	4.50	3.40	8	3	3.50	21.00
EP3110-32	10	32	4.83	70.0	13	6.00	4.90	8	3	4.10	25.00
EP311/4	1/4	28	6.35	80.0	15	7.00	5.50	8	3	5.50	30.00
EP315/16	5/16	24	7.94	90.0	18	8.00	6.20	9	3	6.90	35.00
EP313/8	3/8	24	9.53	100.0	20	10.00	8.00	11	3	8.50	39.00
EP317/16	7/16	20	11.11	100.0	20	8.00	6.20	9	3	9.90	-
EP311/2	1/2	20	12.70	110.0	23	9.00	7.00	10	3	11.50	-
EP315/8	5/8	18	15.88	110.0	25	12.00	9.00	12	3	14.50	-
EP313/4	3/4	16	19.05	125.0	30	14.00	11.00	14	4	17.50	-
EP317/8	7/8	14	22.23	140.0	34	18.00	14.50	17	4	20.40	-
EP311	1"	12	25.40	160.0	38	18.00	14.50	17	4	23.25	-

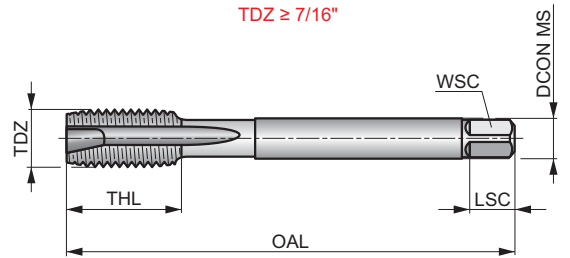
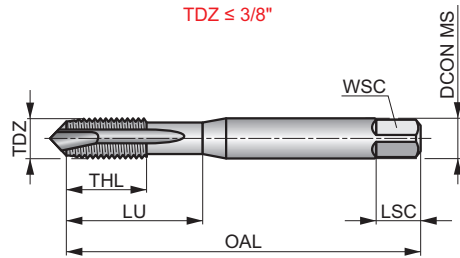
# E031



## HSS-E-PM Spiral Point Machine Tap, UNF, ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	2B
	2.5xD	HSS-E PM
B 3.5-5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> █22	<b>P2.2</b> █16	<b>P2.3</b> █14	<b>P3.2</b> █10	<b>P3.3</b> █19	<b>P4.1</b> █8	<b>P4.2</b> █16	<b>M1.1</b> █10	<b>M1.2</b> █8	<b>M2.1</b> █9	<b>M2.2</b> █7	<b>M3.1</b> █7	<b>M3.2</b> █6	<b>M3.3</b> █5
<b>M4.1</b> █4	<b>K1.1</b> █13	<b>K1.2</b> █10	<b>K1.3</b> █7	<b>K2.1</b> █16	<b>K2.2</b> █13	<b>K3.1</b> █14	<b>K3.2</b> █10	<b>K4.1</b> █13	<b>K4.2</b> █9	<b>K5.1</b> █15	<b>K5.2</b> █11		

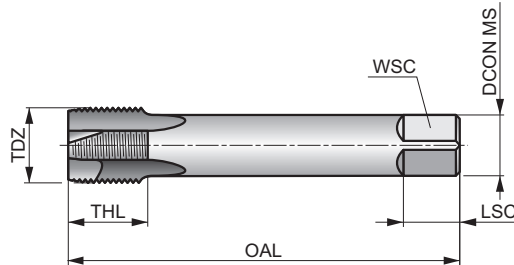
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E0318-36	8	36	4.17	53.0	9.5	4.50	3.55	6	3	3.50	17.00
E03110-32	10	32	4.83	58.0	11	5.00	4.00	7	3	4.10	20.00
E0311/4	1/4	28	6.35	66.0	13	6.30	5.00	8	3	5.50	26.00
E0315/16	5/16	24	7.94	72.0	16	8.00	6.30	9	3	6.90	29.00
E0313/8	3/8	24	9.53	80.0	18	10.00	8.00	11	3	8.50	32.00
E0317/16	7/16	20	11.11	85.0	19	8.00	6.30	9	3	9.90	-
E0311/2	1/2	20	12.70	89.0	22	9.00	7.10	10	3	11.50	-
E0319/16	9/16	18	14.29	95.0	24	11.20	9.00	12	3	12.90	-
E0315/8	5/8	18	15.88	102.0	24	12.50	10.00	13	3	14.50	-
E0313/4	3/4	16	19.05	112.0	29	14.00	11.20	14	4	17.50	-
E0317/8	7/8	14	22.23	118.0	29	16.00	12.50	16	4	20.40	-
E0311	1"	12	25.40	130.0	35	18.00	14.00	18	4	23.25	-

# EP40



## HSS-E-PM Spiral Point Machine Tap G(BSP), DIN Standard

Machine tap with spiral point suited for through holes only. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 5156	Normal
	2.5xD	HSS-E PM
B 3.5-5		
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 22	<b>P1.2</b> ■ 24	<b>P1.3</b> ■ 25	<b>P2.1</b> ■ 18	<b>P2.2</b> ■ 16	<b>P2.3</b> ▣ 14	<b>P3.1</b> ■ 13	<b>P3.2</b> ▣ 10	<b>P4.1</b> ▣ 8	<b>N1.1</b> ■ 14	<b>N1.2</b> ■ 10	<b>N1.3</b> ■ 7	<b>N2.1</b> ■ 28	<b>N2.2</b> ■ 25
<b>N2.3</b> ■ 18	<b>N3.1</b> ■ 44	<b>N3.2</b> ▣ 27	<b>N3.3</b> ■ 13	<b>N4.1</b> ▣ 22									

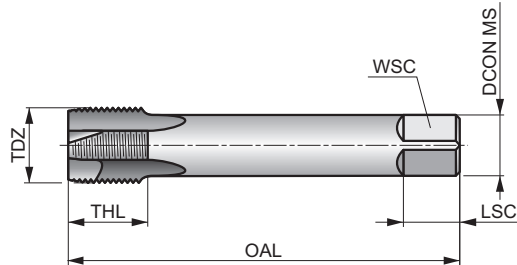
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
EP401/8	1/8	28	9.73	90.0	18	7.00	5.50	8	3	8.80
EP401/4	1/4	19	13.16	100.0	21	11.00	9.00	12	3	11.80
EP403/8	3/8	19	16.66	100.0	21	12.00	9.00	12	4	15.25
EP401/2	1/2	14	20.95	125.0	24	16.00	12.00	15	4	19.00
EP405/8	5/8	14	22.91	125.0	24	18.00	14.50	17	4	21.00
EP403/4	3/4	14	26.44	140.0	28	20.00	16.00	19	4	24.50
EP407/8	7/8	14	30.20	150.0	28	22.00	18.00	21	4	28.25
EP401	1"	11	33.25	160.0	30	25.00	20.00	23	4	30.75

# EP41



## HSS-E-PM Spiral Point Machine Tap, G(BSP), DIN Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding. The reduced shank increases the reach of the tap.



	DIN 5156	Normal
	2.5xD	HSS-E PM
B 3.5-5		
ST		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> 22	<b>P2.2</b> 16	<b>P2.3</b> 14	<b>P3.2</b> 10	<b>P3.3</b> 9	<b>P4.1</b> 8	<b>P4.2</b> 6	<b>M1.1</b> 10	<b>M1.2</b> 8	<b>M2.1</b> 9	<b>M2.2</b> 7	<b>M3.1</b> 7	<b>M3.2</b> 6	<b>M3.3</b> 5
<b>M4.1</b> 4	<b>K1.1</b> 13	<b>K1.2</b> 10	<b>K1.3</b> 7	<b>K2.1</b> 16	<b>K2.2</b> 13	<b>K3.1</b> 14	<b>K3.2</b> 10	<b>K4.1</b> 13	<b>K4.2</b> 9	<b>K5.1</b> 15	<b>K5.2</b> 11		

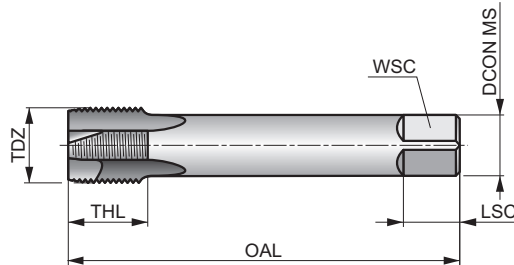
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
EP411/8	1/8	28	9.73	90.0	18	7.00	5.50	8	3	8.80
EP411/4	1/4	19	13.16	100.0	21	11.00	9.00	12	3	11.80
EP413/8	3/8	19	16.66	100.0	21	12.00	9.00	12	4	15.25
EP411/2	1/2	14	20.95	125.0	24	16.00	12.00	15	4	19.00
EP415/8	5/8	14	22.91	125.0	24	18.00	14.50	17	4	21.00
EP413/4	3/4	14	26.44	140.0	28	20.00	16.00	19	4	24.50
EP417/8	7/8	14	30.20	150.0	28	22.00	18.00	21	4	28.25
EP411	1"	11	33.25	160.0	30	25.00	20.00	23	4	30.75

# E041



## HSS-E-PM Spiral Point Machine Tap, G(BSP), ISO Standard

Machine tap with spiral point suited for through holes only. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding. The reduced shank increases the reach of the tap.



	ISO DORMER	Normal
	2.5xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣22	<b>P2.2</b> ▣16	<b>P2.3</b> ▣14	<b>P3.2</b> ▣10	<b>P3.3</b> ▣9	<b>P4.1</b> ▣8	<b>P4.2</b> ▣6	<b>M1.1</b> ▣10	<b>M1.2</b> ▣8	<b>M2.1</b> ▣9	<b>M2.2</b> ▣7	<b>M3.1</b> ▣7	<b>M3.2</b> ▣6	<b>M3.3</b> ▣5
<b>M4.1</b> ▣4	<b>K1.1</b> ▣13	<b>K1.2</b> ▣10	<b>K1.3</b> ▣7	<b>K2.1</b> ▣16	<b>K2.2</b> ▣13	<b>K3.1</b> ▣14	<b>K3.2</b> ▣10	<b>K4.1</b> ▣13	<b>K4.2</b> ▣9	<b>K5.1</b> ▣15	<b>K5.2</b> ▣11		

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
E0411/8	1/8	28	9.73	90.0	15	8.00	6.30	9	3	8.80
E0411/4	1/4	19	13.16	100.0	19	10.00	8.00	11	3	11.80
E0413/8	3/8	19	16.66	100.0	21	12.50	10.00	13	3	15.25
E0411/2	1/2	14	20.95	125.0	26	16.00	12.50	16	4	19.00
E0413/4	3/4	14	26.44	140.0	28	20.00	16.00	20	4	24.50

Thread form (THFT)													
Basic standard group (BSG)	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371	DIN 376	ISO 529	ISO 529	ISO 529	ISO 2283	DIN 374	DIN 374	DIN 374
Thread tolerance class (TCTR)	6H	6H	6H	6G	6H	6H	6H	6H	6H	6H	6H	6H	6H
Threading application													
Usable length (ULDR)	2.5×D	2.5×D	2.5×D	2.5×D	1.5×D	1.5×D	2.5×D	2.5×D	2.5×D	2×D	2.5×D	2.5×D	2.5×D
Material code (BMC)	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
Tap chamfer style (TCS)	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
Flute Geometry (FDC)													
Flute helix angle (FHA)	λ 45°	λ 45°	λ 45°	λ 45°	λ 15°	λ 15°	λ 45°	λ 45°	λ 45°	λ 40°	λ 45°	λ 45°	λ 45°
Hand (Cutting direction)													
Coating	Bright	ST	TIN	Bright	Bright	Bright	Bright	ST	TIN	Bright	Bright	ST	TIN
Product Family Code	EX006H	EX016H	EX00TIN	EX006G	E207	E258	E002	E003	E002TIN	E605	EX10	EX11	EX10TIN
PSF cutting diameters range	M2 – M64	M2 – M64	M3 – M30	M3 – M20	M2 – M10	M4 – M36	M2 – M24	M2 – M24	M3 – M20	M3 – M20	M4 – M30	M4 – M30	M8 – M20
	150	151	152	153	154	155	156	157	158	159	160	161	162
<b>P</b>	P1	■	☑	■	■		■	☑	■	☑	■	☑	■
	P2	■	■	■	■	☑	☑	■	■	■	■	■	■
	P3	☑	■	■	■	■	■	☑	■	☑	☑	■	■
	P4	☑	■	■	☑	☑	☑	■	☑	☑	☑	■	☑
<b>M</b>	M1		☑	■				☑	■			☑	■
	M2		☑	■				☑	■			☑	■
	M3		☑	■				☑	■			☑	■
	M4		☑	☑				☑	☑			☑	☑
<b>K</b>	K1												
	K2												
	K3												
	K4												
	K5												
<b>N</b>	N1	■			■	☑	☑	■		☑	■		
	N2	■		■	■	☑	☑	■	■	☑	■		■
	N3												
	N4												
	N5												
<b>S</b>	S1												
	S2												
	S3												
	S4												
<b>H</b>	H1												
	H2												
	H3												
	H4												

■ Primary use ☑ Possible use

	MF	UNC	UNC	UNC	UNF	UNF	UNF	G	G	G									
	ISO 529	DIN 2184-1	DIN 2184-1	ISO 529	DIN 2184-1	DIN 2184-1	ISO 529	DIN 5156	DIN 5156	ISO DORMER									
	6H	2B	2B	2B	2B	2B	2B	Normal	Normal	Normal									
	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD									
	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM									
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3									
	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°	$\lambda$ 45°									
	R	R	R	R	R	R	R	R	R	R									
	ST	Bright	ST	ST	Bright	ST	ST	Bright	ST	ST									
	E013	EX20	EX21	E023	EX30	EX31	E033	EX40	EX41	E043									
	M4 – M22	No.4 – 1"	No.4 – 1"	No.2 – 1"	No.8 – 1"	No.8 – 1"	No.8 – 1"	1/8 – 1.1/2	1/8 – 1.1/2	1/8 – 3/4									
	163	164	165	166	167	168	169	170	171	172									
P1	■	■	■	■	■	■	■	■	■	■									
P2	■	■	■	■	■	■	■	■	■	■									
P3	■	■	■	■	■	■	■	■	■	■									
P4	■	■	■	■	■	■	■	■	■	■									
M1	■	■	■	■	■	■	■	■	■	■									
M2	■	■	■	■	■	■	■	■	■	■									
M3	■	■	■	■	■	■	■	■	■	■									
M4	■	■	■	■	■	■	■	■	■	■									
K1																			
K2																			
K3																			
K4																			
K5																			
N1		■			■			■											
N2		■			■			■											
N3																			
N4																			
N5																			
S1																			
S2																			
S3																			
S4																			
H1																			
H2																			
H3																			
H4																			



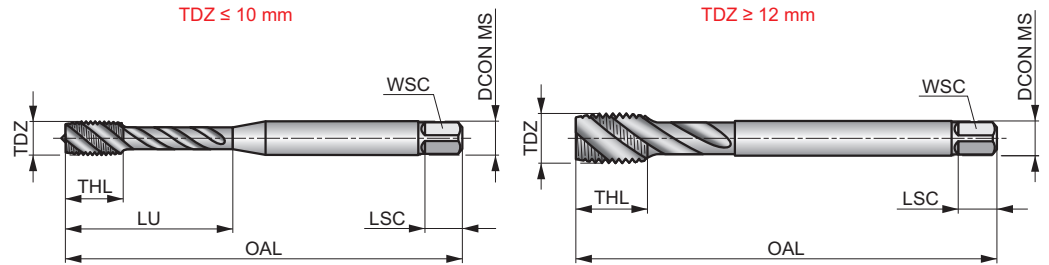
# EX006H



## HSS-E-PM 45° Spiral Flute Tap, Metric, DIN Standard

Machine tap to produce normal fit threads within 6H tolerance. The spiral flute is suited for blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 371/376	6H
	2.5×D	HSS-E PM
		λ 45°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

Products from this series are also available in set with drills. Please see L114 or L001.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
EX00M2 <sup>1)</sup>	2	0.40	45.0	4	2.80	2.10	5	3	1.60	9.00
EX00M2.5 <sup>1)</sup>	2.5	0.45	50.0	4	2.80	2.10	5	3	2.05	12.50
EX00M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
EX00M3.5	3.5	0.60	56.0	7	4.00	3.00	6	3	2.90	20.00
EX00M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
EX00M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
EX00M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	31.00
EX00M6DIN376	6	1.00	80.0	10	4.50	3.40	6	3	5.00	31.00
EX00M7	7	1.00	80.0	10	7.00	5.50	8	3	6.00	31.00
EX00M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
EX00M8DIN376	8	1.25	90.0	13	6.00	4.90	8	3	6.80	35.00
EX00M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
EX00M10DIN376	10	1.50	100.0	15	7.00	5.50	8	3	8.50	39.00
EX00M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	—
EX00M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	—
EX00M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	—
EX00M18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	—
EX00M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	—
EX00M22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	—
EX00M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	—
EX00M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	—
EX00M30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	—
EX00M33	33	3.50	180.0	36	25.00	20.00	23	4	29.50	—
EX00M36	36	4.00	200.0	40	28.00	22.00	25	4	32.00	—
EX00M39	39	4.00	200.0	40	32.00	24.00	27	4	35.00	—
EX00M42 <sup>1)</sup>	42	4.50	200.0	45	32.00	24.00	27	4	37.50	—
EX00M48 <sup>1)</sup>	48	5.00	250.0	50	36.00	29.00	32	4	43.00	—
EX00M52 <sup>1)</sup>	52	5.00	250.0	50	40.00	32.00	35	5	47.00	—
EX00M56 <sup>1)</sup>	56	5.50	250.0	55	40.00	32.00	35	5	50.50	—
EX00M64 <sup>1)</sup>	64	6.00	315.0	60	50.00	39.00	42	6	58.00	—

<sup>1)</sup> HSS-E.

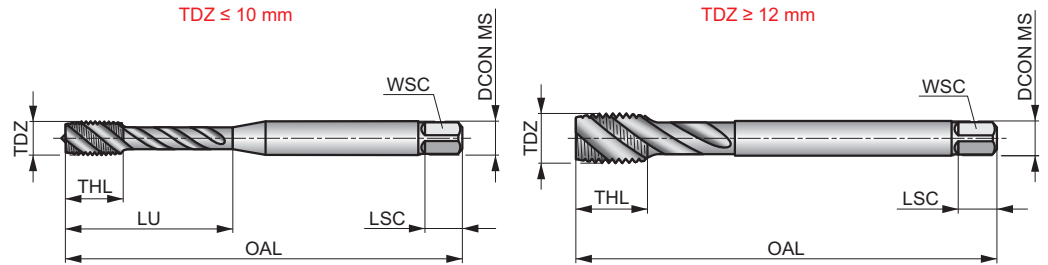
# EX016H



## HSS-E-PM 45° Spiral Flute Machine Tap, Metric, DIN Standard

Machine tap to produce normal fit threads within 6H tolerance. The spiral flute is suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	DIN 371/376	6H
	2.5×D	HSS-E PM
	2-3	$\lambda$ 45°



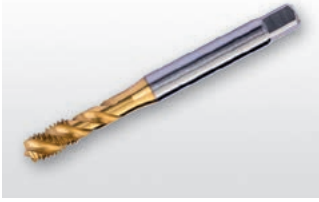
Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EX01M2 <sup>1)</sup>	2	0.40	45.0	4	2.80	2.10	5	3	1.60	9.00
EX01M2.5 <sup>1)</sup>	2.5	0.45	50.0	4	2.80	2.10	5	3	2.05	12.50
EX01M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
EX01M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
EX01M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
EX01M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	31.00
EX01M6DIN376	6	1.00	80.0	10	4.50	3.40	6	3	5.00	31.00
EX01M7	7	1.00	80.0	10	7.00	5.50	8	3	6.00	31.00
EX01M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
EX01M8DIN376	8	1.25	90.0	13	6.00	4.90	8	3	6.80	35.00
EX01M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
EX01M10DIN376	10	1.50	100.0	15	7.00	5.50	8	3	8.50	39.00
EX01M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	—
EX01M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	—
EX01M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	—
EX01M18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	—
EX01M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	—
EX01M22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	—
EX01M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	—
EX01M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	—
EX01M30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	—
EX01M33	33	3.50	180.0	36	25.00	20.00	23	4	29.50	—
EX01M36	36	4.00	200.0	40	28.00	22.00	25	4	32.00	—
EX01M39	39	4.00	200.0	40	32.00	24.00	27	4	35.00	—
EX01M42 <sup>1)</sup>	42	4.50	200.0	45	32.00	24.00	27	4	37.50	—
EX01M48 <sup>1)</sup>	48	5.00	250.0	50	36.00	29.00	32	4	43.00	—
EX01M56 <sup>1)</sup>	56	5.50	250.0	55	40.00	32.00	35	5	50.50	—
EX01M64 <sup>1)</sup>	64	6.00	315.0	60	50.00	39.00	42	6	58.00	—

<sup>1)</sup> HSS-E.

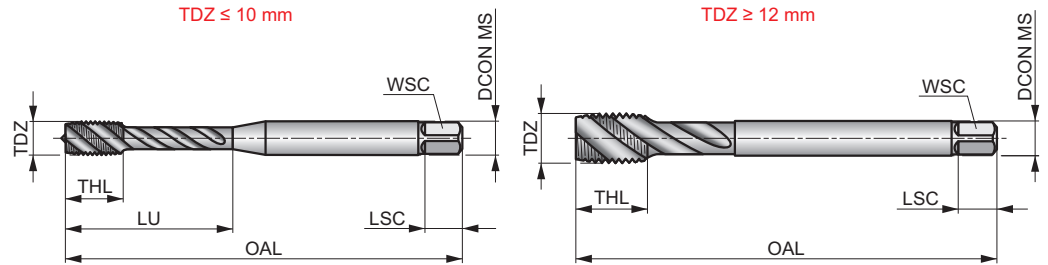
# EXOOTIN



## HSS-E-PM 45° Spiral Flute Machine Tap, Metric, DIN Standard

High performance machine tap with spiral flute for blind holes. Suited for a broad range of workpiece materials. TiN coated to allow higher cutting speeds, improve performance and extend tool life.

	DIN 371/376	6H
	2.5×D	HSS-E PM
	2-3	$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 32	<b>P1.2</b> ■ 36	<b>P1.3</b> ■ 37	<b>P2.1</b> ■ 27	<b>P2.2</b> ■ 23	<b>P2.3</b> ■ 19	<b>P3.1</b> ■ 18	<b>P3.2</b> ■ 13	<b>P3.3</b> ■ 11	<b>P4.1</b> ■ 10	<b>P4.2</b> ■ 8	<b>M1.1</b> ■ 10	<b>M1.2</b> ■ 8	<b>M2.1</b> ■ 9
<b>M2.2</b> ■ 7	<b>M3.1</b> ■ 7	<b>M3.2</b> ■ 6	<b>M3.3</b> ■ 5	<b>M4.1</b> ■ 4	<b>N2.1</b> ■ 35	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23						

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
EXOOTINM3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
EXOOTINM4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
EXOOTINM5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
EXOOTINM6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	31.00
EXOOTINM8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
EXOOTINM10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
EXOOTINM12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	–
EXOOTINM14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	–
EXOOTINM16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	–
EXOOTINM18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	–
EXOOTINM20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	–
EXOOTINM22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	–
EXOOTINM24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	–
EXOOTINM27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	–
EXOOTINM30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	–

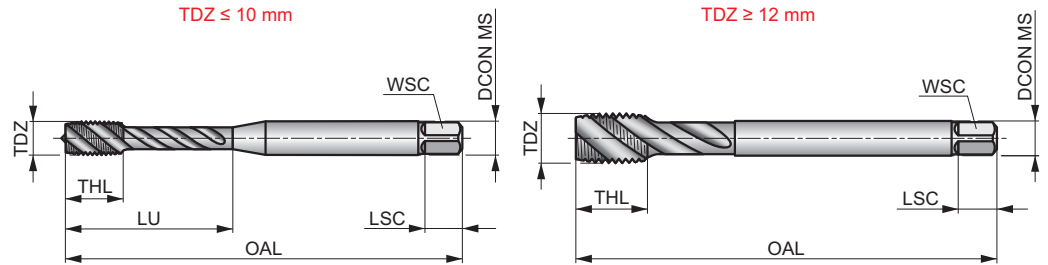
# EX006G



## HSS-E-PM 45° Spiral Flute Tap, Metric, DIN Standard

Machine tap to produce threads within 6G tolerance for a fit with large allowance. The spiral flute is suited for blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 371/376	6G
	2.5xD	HSS-E PM
		$\lambda$ 45°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

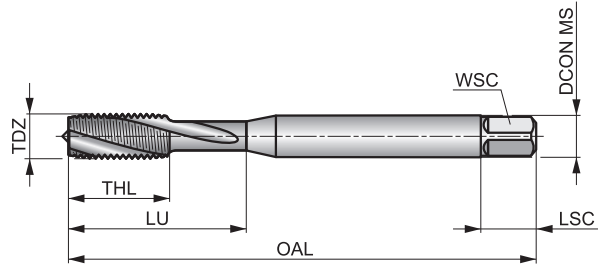
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
EX00M36G	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
EX00M46G	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
EX00M56G	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
EX00M66G	6	1.00	80.0	10	6.00	4.90	8	3	5.00	31.00
EX00M86G	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
EX00M106G	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
EX00M126G	12	1.75	110.0	16	9.00	7.00	10	3	10.30	-
EX00M146G	14	2.00	110.0	20	11.00	9.00	12	3	12.00	-
EX00M166G	16	2.00	110.0	20	12.00	9.00	12	4	14.00	-
EX00M206G	20	2.50	140.0	25	16.00	12.00	15	4	17.50	-

# E207



## HSS-E-PM 15° Spiral Flute Machine Tap, Metric, DIN Standard

Slow spiral flute tap for up to 1.5xD deep blind holes. With 15° helix for more stability threading in harder and higher strength steels. The reinforced shank increases strength against torsional twist.



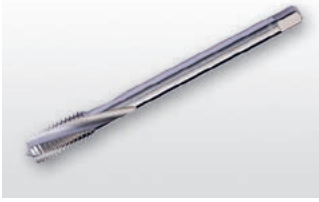
	DIN 371	6H
	1.5xD	HSS-E PM
		$\lambda$ 15°
	Bright	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.2</b> ■ 16	<b>P2.3</b> ■ 14	<b>P3.1</b> ■ 10	<b>P3.2</b> ■ 8	<b>P4.1</b> ■ 6	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 23	<b>N2.2</b> ■ 21	<b>N2.3</b> ■ 15
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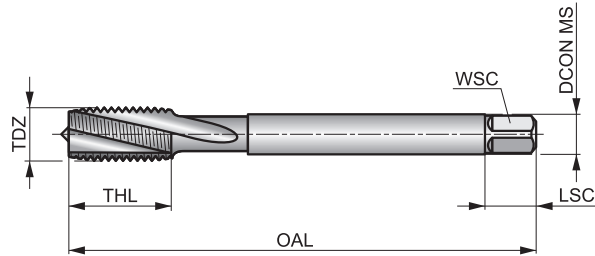
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E207M2	2	0.40	45.0	4	2.80	2.10	5	3	1.60	9.00
E207M2.5	2.5	0.45	50.0	4	2.80	2.10	5	3	2.05	12.50
E207M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E207M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E207M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E207M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E207M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E207M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00

# E258



## HSS-E-PM 15° Spiral Flute Machine Tap, Metric, DIN Standard

Slow spiral flute tap for up to 1.5xD deep blind holes. With 15° helix for more stability threading in harder and higher strength steels. The reduced shank increases the reach of the tap.



	DIN 376	6H
	1.5xD	HSS-E PM
		λ 15°
	Bright	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.2</b>	<b>P2.3</b>	<b>P3.1</b>	<b>P3.2</b>	<b>P4.1</b>	<b>N1.3</b>	<b>N2.1</b>	<b>N2.2</b>	<b>N2.3</b>
■ 16	■ 14	■ 10	■ 8	■ 6	■ 16	■ 23	■ 21	■ 15

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E258M4	4	0.70	63.0	12	2.80	2.10	5	3	3.30
E258M5	5	0.80	70.0	13	3.50	2.70	6	3	4.20
E258M6	6	1.00	80.0	15	4.50	3.40	6	3	5.00
E258M8	8	1.25	90.0	18	6.00	4.90	8	3	6.80
E258M10	10	1.50	100.0	20	7.00	5.50	8	3	8.50
E258M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30
E258M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00
E258M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00
E258M18	18	2.50	125.0	30	14.00	11.00	14	3	15.50
E258M20	20	2.50	140.0	30	16.00	12.00	15	3	17.50
E258M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50
E258M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00
E258M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00
E258M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50
E258M36	36	4.00	200.0	55	28.00	22.00	25	4	32.00

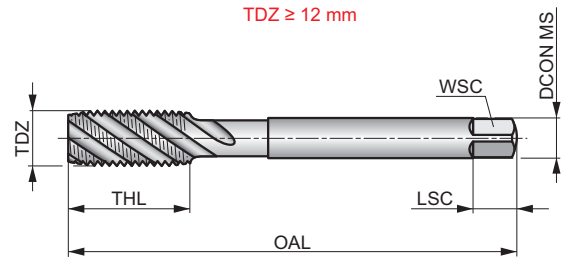
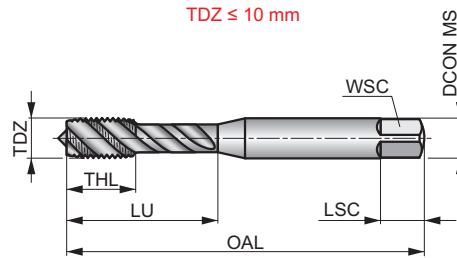
# E002



## HSS-E-PM 45° Spiral Flute Machine Tap, Metric, ISO Standard

Machine tap with spiral flute suited for blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	ISO 529	6H
	2.5×D	HSS-E PM
		λ 45°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

Products from this series are also available in set with drills. Please see L113 or L002.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E002M2 <sup>1)</sup>	2	0.40	41.0	8	2.50	2.00	4	2	1.60	8.00
E002M2.5 <sup>1)</sup>	2.5	0.45	44.5	9.5	2.80	2.24	5	2	2.05	9.50
E002M3	3	0.50	48.0	6	3.15	2.50	5	3	2.50	12.50
E002M4	4	0.70	53.0	7	4.00	3.15	6	3	3.30	19.00
E002M5	5	0.80	58.0	8	5.00	4.00	7	3	4.20	22.00
E002M6	6	1.00	66.0	10	6.30	5.00	8	3	5.00	27.00
E002M8	8	1.25	72.0	12	8.00	6.30	9	3	6.80	31.00
E002M10	10	1.50	80.0	15	10.00	8.00	11	3	8.50	35.00
E002M12	12	1.75	89.0	16	9.00	7.10	10	3	10.30	–
E002M14	14	2.00	95.0	18	11.20	9.00	12	3	12.00	–
E002M16	16	2.00	102.0	18	12.50	10.00	13	4	14.00	–
E002M18	18	2.50	112.0	29	14.00	11.20	14	4	15.50	–
E002M20	20	2.50	112.0	29	14.00	11.20	14	4	17.50	–
E002M24	24	3.00	130.0	35	18.00	14.00	18	4	21.00	–

<sup>1)</sup> HSS-E.

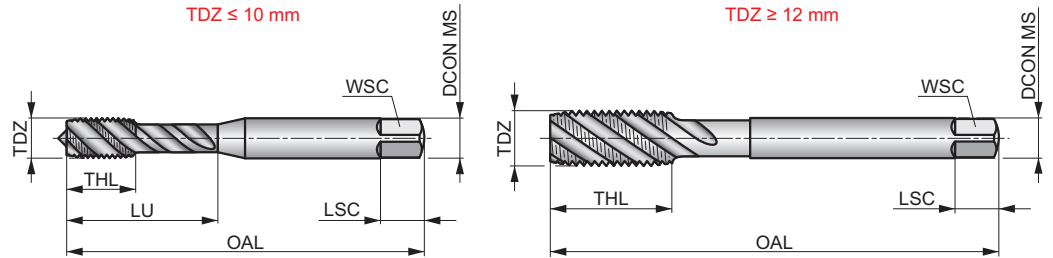
# E003



## HSS-E-PM 45° Spiral Flute Machine Tap, Metric, ISO Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	6H
	2.5xD	HSS-E PM
		$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Products from this series are also available in set with drills. Please see L113.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E003M2 <sup>1)</sup>	2	0.40	41.0	8	2.50	2.00	4	2	1.60	8.00
E003M2.5 <sup>1)</sup>	2.5	0.45	44.5	9.5	2.80	2.24	5	2	2.05	9.50
E003M3	3	0.50	48.0	6	3.15	2.50	5	3	2.50	12.50
E003M4	4	0.70	53.0	7	4.00	3.15	6	3	3.30	19.00
E003M5	5	0.80	58.0	8	5.00	4.00	7	3	4.20	22.00
E003M6	6	1.00	66.0	10	6.30	5.00	8	3	5.00	27.00
E003M8	8	1.25	72.0	12	8.00	6.30	9	3	6.80	31.00
E003M10	10	1.50	80.0	15	10.00	8.00	11	3	8.50	35.00
E003M12	12	1.75	89.0	16	9.00	7.10	10	3	10.30	–
E003M14	14	2.00	95.0	18	11.20	9.00	12	3	12.00	–
E003M16	16	2.00	102.0	18	12.50	10.00	13	4	14.00	–
E003M18	18	2.50	112.0	29	14.00	11.20	14	4	15.50	–
E003M20	20	2.50	112.0	29	14.00	11.20	14	4	17.50	–
E003M22	22	2.50	118.0	29	16.00	12.50	16	4	19.50	–
E003M24	24	3.00	130.0	35	18.00	14.00	18	4	21.00	–

<sup>1)</sup> HSS-E.



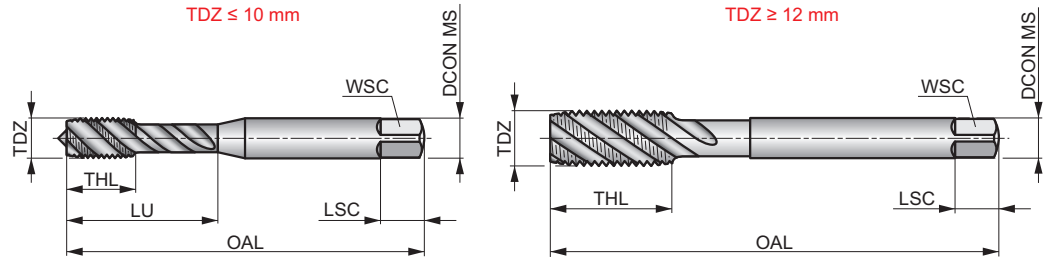
# E002TIN



## HSS-E-PM 45° Spiral Flute Machine Tap, Metric, ISO Standard

High performance machine tap with spiral flute for blind holes. Suited for a broad range of workpiece materials. TiN coated to allow higher cutting speeds, improve performance and extend tool life.

	ISO 529	6H
	2.5xD	HSS-E PM
		λ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 32	<b>P1.2</b> ■ 36	<b>P1.3</b> ■ 37	<b>P2.1</b> ■ 27	<b>P2.2</b> ■ 23	<b>P2.3</b> ■ 19	<b>P3.1</b> ■ 18	<b>P3.2</b> ■ 13	<b>P3.3</b> ■ 11	<b>P4.1</b> ■ 10	<b>P4.2</b> ■ 8	<b>M1.1</b> ■ 10	<b>M1.2</b> ■ 8	<b>M2.1</b> ■ 9
<b>M2.2</b> ■ 7	<b>M3.1</b> ■ 7	<b>M3.2</b> ■ 6	<b>M3.3</b> ■ 5	<b>M4.1</b> ■ 4	<b>N2.1</b> ■ 35	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23						

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E002TINM3	3	0.50	48.0	6	3.15	2.50	5	3	2.50	12.50
E002TINM4	4	0.70	53.0	7	4.00	3.15	6	3	3.30	19.00
E002TINM5	5	0.80	58.0	8	5.00	4.00	7	3	4.20	22.00
E002TINM6	6	1.00	66.0	10	6.30	5.00	8	3	5.00	27.00
E002TINM8	8	1.25	72.0	12	8.00	6.30	9	3	6.80	31.00
E002TINM10	10	1.50	80.0	15	10.00	8.00	11	3	8.50	35.00
E002TINM12	12	1.75	89.0	16	9.00	7.10	10	3	10.30	-
E002TINM16	16	2.00	102.0	18	12.50	10.00	13	4	14.00	-
E002TINM20	20	2.50	112.0	29	14.00	11.20	14	4	17.50	-

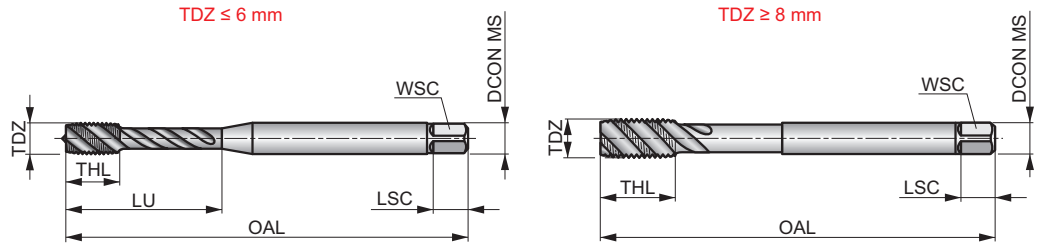
# E605



## HSS-E-PM 40° Spiral Flute Long Series Machine Tap, Metric, ISO Standard

Longer design to give extra reach when threading difficult to access holes. The spiral flutes transport the swarf away from the cutting edges and out of the hole, avoiding packing of swarf in the flutes or at the bottom. Suited for blind holes.

	ISO 2283	6H
	2xD	HSS-E PM
		$\lambda$ 40°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 11	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 13	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ■ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ■ 5	<b>P4.1</b> ■ 3	<b>N1.1</b> ■ 9	<b>N1.2</b> ■ 7	<b>N1.3</b> ■ 4	<b>N2.1</b> ■ 19	<b>N2.2</b> ■ 17
<b>N2.3</b> ■ 12													

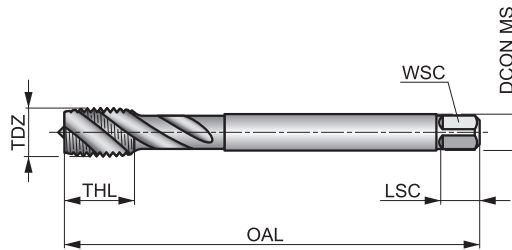
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E605M3	3	0.50	66.0	9	3.15	2.50	5	2	2.50	21.00
E605M4	4	0.70	73.0	9	4.00	3.15	6	2	3.30	22.00
E605M5	5	0.80	79.0	12	5.00	4.00	7	3	4.20	26.00
E605M6	6	1.00	89.0	12	6.30	5.00	8	3	5.00	29.00
E605M8	8	1.25	97.0	12	6.30	5.00	8	3	6.80	–
E605M10	10	1.50	108.0	14	8.00	6.30	9	3	8.50	–
E605M12	12	1.75	119.0	23	9.00	7.10	10	3	10.30	–
E605M16	16	2.00	137.0	25	12.50	10.00	13	3	14.00	–

# EX10



## HSS-E-PM Spiral Flute Machine Tap, Metric Fine, DIN Standard

Machine tap with spiral flute suited for blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



<b>MF</b>	DIN 374	6H
	2.5×D	HSS-E PM
<b>C</b> 2-3		$\lambda$ 45°
<b>R</b>	Bright	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

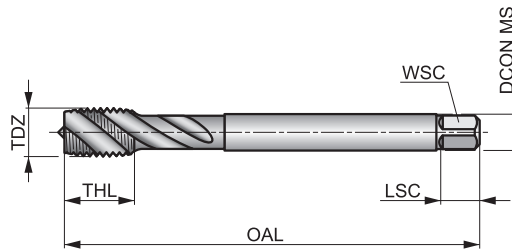
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
EX10M4X.50	4	0.50	63.0	7	2.80	2.10	5	3	3.50
EX10M5X.50	5	0.50	70.0	8	3.50	2.70	6	3	4.50
EX10M6X.75	6	0.75	80.0	10	4.50	3.40	6	3	5.30
EX10M8X.75	8	0.75	80.0	13	6.00	4.90	8	3	7.30
EX10M8X1.0	8	1.00	90.0	13	6.00	4.90	8	3	7.00
EX10M10X.75	10	0.75	90.0	13	7.00	5.50	8	3	9.30
EX10M10X1.0	10	1.00	90.0	13	7.00	5.50	8	3	9.00
EX10M10X1.25	10	1.25	100.0	15	7.00	5.50	8	3	8.80
EX10M12X1.0	12	1.00	100.0	15	9.00	7.00	10	3	11.00
EX10M12X1.25	12	1.25	100.0	15	9.00	7.00	10	3	10.80
EX10M12X1.5	12	1.50	100.0	15	9.00	7.00	10	3	10.50
EX10M14X1.0	14	1.00	100.0	15	11.00	9.00	12	3	13.00
EX10M14X1.25	14	1.25	100.0	15	11.00	9.00	12	3	12.80
EX10M14X1.5	14	1.50	100.0	15	11.00	9.00	12	3	12.50
EX10M16X1.0	16	1.00	100.0	15	12.00	9.00	12	4	15.00
EX10M16X1.5	16	1.50	100.0	15	12.00	9.00	12	4	14.50
EX10M18X1.0	18	1.00	110.0	17	14.00	11.00	14	4	17.00
EX10M18X1.5	18	1.50	110.0	17	14.00	11.00	14	4	16.50
EX10M20X1.0	20	1.00	125.0	17	16.00	12.00	15	4	19.00
EX10M20X1.5	20	1.50	125.0	17	16.00	12.00	15	4	18.50
EX10M22X1.5	22	1.50	125.0	17	18.00	14.50	17	4	20.50
EX10M24X1.5	24	1.50	140.0	20	18.00	14.50	17	4	22.50
EX10M24X2.0	24	2.00	140.0	20	18.00	14.50	17	4	22.00
EX10M25X1.5	25	1.50	140.0	20	18.00	14.50	17	4	23.50
EX10M26X1.5	26	1.50	140.0	20	18.00	14.50	17	4	24.50
EX10M27X1.5	27	1.50	140.0	20	20.00	16.00	19	4	25.50
EX10M27X2.0	27	2.00	140.0	20	20.00	16.00	19	4	25.00
EX10M28X1.5	28	1.50	140.0	20	20.00	16.00	19	4	26.50
EX10M30X1.5	30	1.50	150.0	20	22.00	18.00	21	4	28.50
EX10M30X2.0	30	2.00	150.0	20	22.00	18.00	21	4	28.00

# EX11



## HSS-E-PM Spiral Flute Machine Tap, Metric Fine, DIN Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding. The reduced shank increases the reach of the tap.



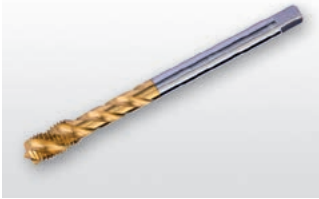
	DIN 374	6H
	2.5xD	HSS-E PM
		$\lambda$ 45°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

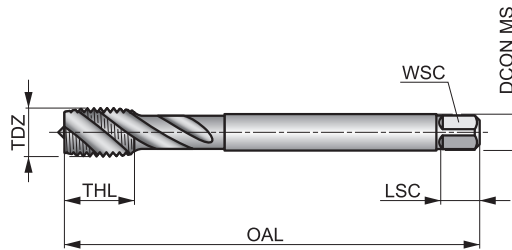
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
EX11M4X.50	4	0.50	63.0	7	2.80	2.10	5	3	3.50
EX11M5X.50	5	0.50	70.0	8	3.50	2.70	6	3	4.50
EX11M6X.75	6	0.75	80.0	10	4.50	3.40	6	3	5.30
EX11M8X.75	8	0.75	80.0	13	6.00	4.90	8	3	7.30
EX11M8X1.0	8	1.00	90.0	13	6.00	4.90	8	3	7.00
EX11M10X.75	10	0.75	90.0	13	7.00	5.50	8	3	9.30
EX11M10X1.0	10	1.00	90.0	13	7.00	5.50	8	3	9.00
EX11M10X1.25	10	1.25	100.0	15	7.00	5.50	8	3	8.80
EX11M12X1.0	12	1.00	100.0	15	9.00	7.00	10	3	11.00
EX11M12X1.25	12	1.25	100.0	15	9.00	7.00	10	3	10.80
EX11M12X1.5	12	1.50	100.0	15	9.00	7.00	10	3	10.50
EX11M14X1.0	14	1.00	100.0	15	11.00	9.00	12	3	13.00
EX11M14X1.25	14	1.25	100.0	15	11.00	9.00	12	3	12.80
EX11M14X1.5	14	1.50	100.0	15	11.00	9.00	12	3	12.50
EX11M16X1.0	16	1.00	100.0	15	12.00	9.00	12	4	15.00
EX11M16X1.5	16	1.50	100.0	15	12.00	9.00	12	4	14.50
EX11M18X1.0	18	1.00	110.0	17	14.00	11.00	14	4	17.00
EX11M18X1.5	18	1.50	110.0	17	14.00	11.00	14	4	16.50
EX11M20X1.0	20	1.00	125.0	17	16.00	12.00	15	4	19.00
EX11M20X1.5	20	1.50	125.0	17	16.00	12.00	15	4	18.50
EX11M22X1.5	22	1.50	125.0	17	18.00	14.50	17	4	20.50
EX11M24X1.5	24	1.50	140.0	20	18.00	14.50	17	4	22.50
EX11M24X2.0	24	2.00	140.0	20	18.00	14.50	17	4	22.00
EX11M25X1.5	25	1.50	140.0	20	18.00	14.50	17	4	23.50
EX11M26X1.5	26	1.50	140.0	20	18.00	14.50	17	4	24.50
EX11M27X1.5	27	1.50	140.0	20	20.00	16.00	19	4	25.50
EX11M27X2.0	27	2.00	140.0	20	20.00	16.00	19	4	25.00
EX11M28X1.5	28	1.50	140.0	20	20.00	16.00	19	4	26.50
EX11M30X1.5	30	1.50	150.0	20	22.00	18.00	21	4	28.50
EX11M30X2.0	30	2.00	150.0	20	22.00	18.00	21	4	28.00

# EX10TIN



## HSS-E-PM Spiral Flute Machine Tap, Metric Fine, TiN Coating, DIN Standard

High performance machine tap with spiral flute for blind holes. Suited for a broad range of workpiece materials. TiN coated to allow higher cutting speeds, improve performance and extend tool life. The reduced shank increases the reach of the tap.



<b>MF</b>	<b>DIN 374</b>	<b>6H</b>
	<b>2.5xD</b>	<b>HSS-E PM</b>
<b>C 2-3</b>		<b>λ 45°</b>
<b>R</b>		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 32	<b>P1.2</b> ■ 36	<b>P1.3</b> ■ 37	<b>P2.1</b> ■ 27	<b>P2.2</b> ■ 23	<b>P2.3</b> ■ 19	<b>P3.1</b> ■ 18	<b>P3.2</b> ■ 13	<b>P3.3</b> ■ 11	<b>P4.1</b> ■ 10	<b>P4.2</b> ■ 8	<b>M1.1</b> ■ 10	<b>M1.2</b> ■ 8	<b>M2.1</b> ■ 9
<b>M2.2</b> ■ 7	<b>M3.1</b> ■ 7	<b>M3.2</b> ■ 6	<b>M3.3</b> ■ 5	<b>M4.1</b> ■ 4	<b>N2.1</b> ■ 35	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23						

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
EX10TINM8X1.0	8	1.00	90.0	13	6.00	4.90	8	3	7.00
EX10TINM10X1.0	10	1.00	90.0	13	7.00	5.50	8	3	9.00
EX10TINM10X1.25	10	1.25	100.0	15	7.00	5.50	8	3	8.80
EX10TINM12X1.0	12	1.00	100.0	15	9.00	7.00	10	3	11.00
EX10TINM12X1.25	12	1.25	100.0	15	9.00	7.00	10	3	10.80
EX10TINM12X1.5	12	1.50	100.0	15	9.00	7.00	10	3	10.50
EX10TINM14X1.5	14	1.50	100.0	15	11.00	9.00	12	3	12.50
EX10TINM16X1.5	16	1.50	100.0	15	12.00	9.00	12	4	14.50
EX10TINM18X1.5	18	1.50	110.0	17	14.00	11.00	14	4	16.50
EX10TINM20X1.5	20	1.50	125.0	17	16.00	12.00	15	4	18.50

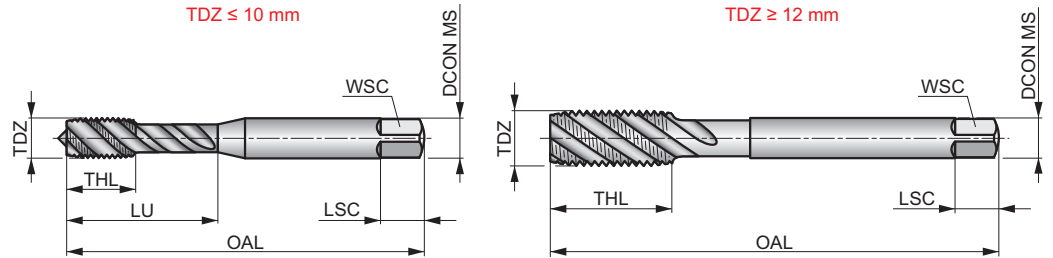
# E013



## HSS-E-PM Spiral Flute Machine Tap, Metric Fine, ISO Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	6H
	2.5xD	HSS-E PM
		$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E013M4X.5	4	0.50	53.0	7	4.00	3.15	6	3	3.50	19.00
E013M5X.5	5	0.50	58.0	8	5.00	4.00	7	3	4.50	22.00
E013M6X.5	6	0.50	66.0	10	6.30	5.00	8	3	5.50	27.00
E013M6X.75	6	0.75	66.0	10	6.30	5.00	8	3	5.30	27.00
E013M8X.75	8	0.75	72.0	12	8.00	6.30	9	3	7.30	31.00
E013M8X1.0	8	1.00	72.0	12	8.00	6.30	9	3	7.00	31.00
E013M10X1.0	10	1.00	80.0	15	10.00	8.00	11	3	9.00	35.00
E013M10X1.25	10	1.25	80.0	15	10.00	8.00	11	3	8.80	35.00
E013M12X1.0	12	1.00	89.0	16	9.00	7.10	10	3	11.00	—
E013M12X1.25	12	1.25	89.0	16	9.00	7.10	10	3	10.80	—
E013M12X1.5	12	1.50	89.0	16	9.00	7.10	10	3	10.50	—
E013M14X1.5	14	1.50	95.0	18	11.20	9.00	12	3	12.50	—
E013M16X1.0	16	1.00	102.0	18	12.50	10.00	13	4	15.00	—
E013M16X1.5	16	1.50	102.0	18	12.50	10.00	13	4	14.50	—
E013M18X1.5	18	1.50	112.0	29	14.00	11.20	14	4	16.50	—
E013M20X1.5	20	1.50	112.0	29	14.00	11.20	14	4	18.50	—
E013M22X1.5	22	1.50	118.0	29	16.00	12.50	16	4	20.50	—

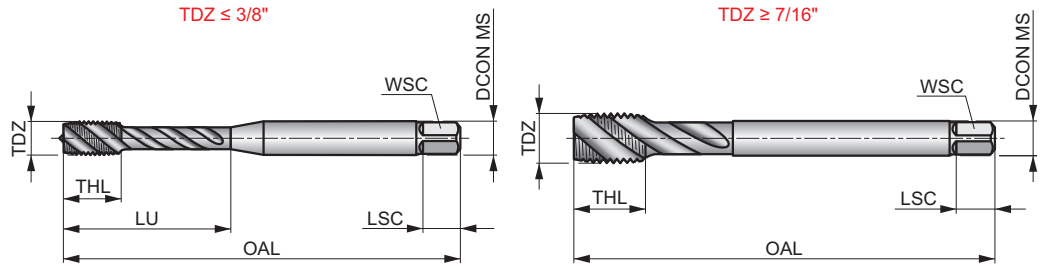
# EX20



## HSS-E-PM Spiral Flute Machine Tap, UNC, DIN Standard

Machine tap with spiral flute suited for blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 2184-1	2B
	2.5xD	HSS-E PM
		$\lambda$ 45°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
EX204-40	4	40	2.85	56.0	6	3.50	2.70	6	3	2.35	18.00
EX205-40	5	40	3.17	56.0	6	3.50	2.70	6	3	2.65	18.00
EX206-32	6	32	3.50	56.0	7	4.00	3.00	6	3	2.85	20.00
EX208-32	8	32	4.17	63.0	7	4.50	3.40	8	3	3.50	21.00
EX2010-24	10	24	4.83	70.0	8	6.00	4.90	8	3	3.90	25.00
EX2012-24	12	24	5.49	80.0	10	6.00	4.90	8	3	4.50	30.00
EX201/4	1/4	20	6.35	80.0	10	7.00	5.50	8	3	5.10	30.00
EX205/16	5/16	18	7.94	90.0	12	8.00	6.20	9	3	6.60	35.00
EX203/8	3/8	16	9.53	100.0	15	10.00	8.00	11	3	8.00	39.00
EX207/16	7/16	14	11.11	100.0	15	8.00	6.20	9	3	9.40	—
EX201/2	1/2	13	12.70	110.0	18	9.00	7.00	10	3	10.80	—
EX205/8	5/8	11	15.88	110.0	20	12.00	9.00	12	4	13.50	—
EX203/4	3/4	10	19.05	125.0	25	14.00	11.00	14	4	16.50	—
EX207/8	7/8	9	22.23	140.0	25	18.00	14.50	17	4	19.50	—
EX201	1"	8	25.40	160.0	30	18.00	14.50	17	4	22.25	—

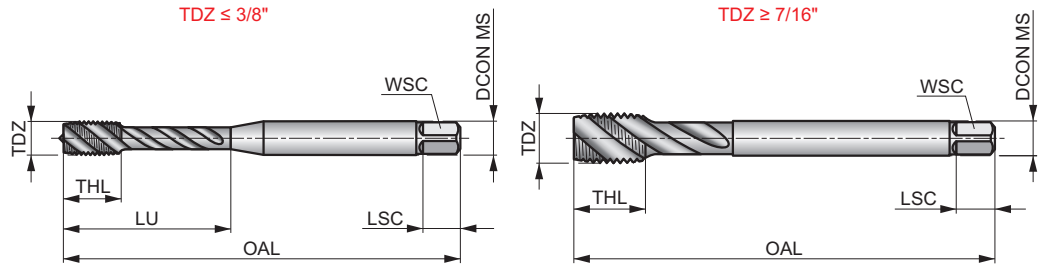
# EX21



## HSS-E-PM Spiral Flute Machine Tap, UNC, DIN Standard

Machine tap to produce normal fit threads within 2B tolerance. The spiral flute is suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip welding.

	DIN 2184-1	2B
	2.5xD	HSS-E PM
		$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
EX214-40	4	40	2.85	56.0	6	3.50	2.70	6	3	2.35	18.00
EX215-40	5	40	3.17	56.0	6	3.50	2.70	6	3	2.65	18.00
EX216-32	6	32	3.50	56.0	7	4.00	3.00	6	3	2.85	20.00
EX218-32	8	32	4.17	63.0	7	4.50	3.40	8	3	3.50	21.00
EX2110-24	10	24	4.83	70.0	8	6.00	4.90	8	3	3.90	25.00
EX2112-24	12	24	5.49	80.0	10	6.00	4.90	8	3	4.50	30.00
EX211/4	1/4	20	6.35	80.0	10	7.00	5.50	8	3	5.10	30.00
EX215/16	5/16	18	7.94	90.0	12	8.00	6.20	9	3	6.60	35.00
EX213/8	3/8	16	9.53	100.0	15	10.00	8.00	11	3	8.00	39.00
EX217/16	7/16	14	11.11	100.0	15	8.00	6.20	9	3	9.40	—
EX211/2	1/2	13	12.70	110.0	18	9.00	7.00	10	3	10.80	—
EX215/8	5/8	11	15.88	110.0	20	12.00	9.00	12	4	13.50	—
EX213/4	3/4	10	19.05	125.0	25	14.00	11.00	14	4	16.50	—
EX217/8	7/8	9	22.23	140.0	25	18.00	14.50	17	4	19.50	—
EX211	1"	8	25.40	160.0	30	18.00	14.50	17	4	22.25	—



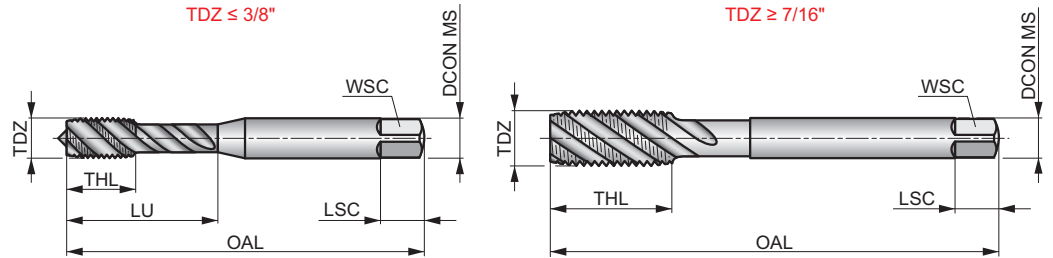
# E023



## HSS-E-PM Spiral Flute Machine Tap, UNC, ISO Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	2B
	2.5×D	HSS-E PM
	C 2-3	$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E0232-56	2	56	2.18	44.5	9.5	2.80	2.24	5	2	1.85	9.50
E0234-40	4	40	2.85	48.0	6	3.15	2.50	5	3	2.35	14.00
E0235-40	5	40	3.17	48.0	6	3.15	2.50	5	3	2.65	12.50
E0236-32	6	32	3.50	50.0	6	3.55	2.80	5	3	2.85	16.00
E0238-32	8	32	4.17	53.0	7	4.50	3.55	6	3	3.50	17.00
E02310-24	10	24	4.83	58.0	8	5.00	4.00	7	3	3.90	20.00
E02312-24	12	24	5.49	62.0	12	5.60	4.50	7	3	4.50	21.00
E0231/4	1/4	20	6.35	66.0	10	6.30	5.00	8	3	5.10	28.00
E0235/16	5/16	18	7.94	72.0	12	8.00	6.30	9	3	6.60	31.00
E0233/8	3/8	16	9.53	80.0	15	10.00	8.00	11	3	8.00	34.00
E0237/16	7/16	14	11.11	85.0	19	8.00	6.30	9	3	9.40	—
E0231/2	1/2	13	12.70	89.0	19	9.00	7.10	10	3	10.80	—
E0235/8	5/8	11	15.88	102.0	24	12.50	10.00	13	4	13.50	—
E0233/4	3/4	10	19.05	112.0	29	14.00	11.20	14	4	16.50	—
E0237/8	7/8	9	22.23	118.0	29	16.00	12.50	16	4	19.50	—
E0231	1"	8	25.40	130.0	35	18.00	14.00	18	4	22.25	—

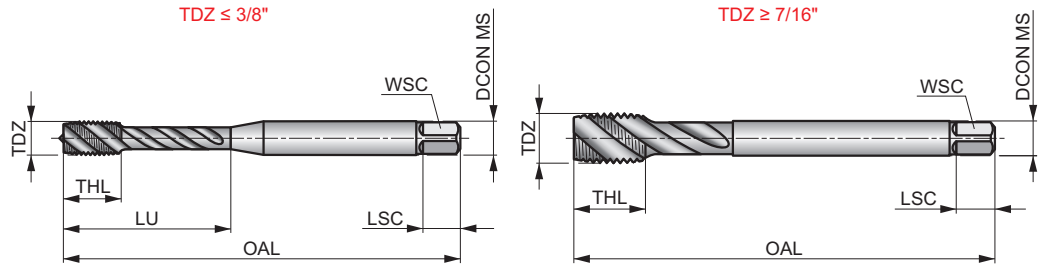
# EX30



## HSS-E-PM Spiral Flute Machine Tap, UNF, DIN Standard

Machine tap with spiral flute suited for blind holes. Bright finish to produce more accurate and cleaner threads preventing the workpiece material from sticking to the cutting edges.

	DIN 2184-1	2B
	2.5xD	HSS-E PM
		$\lambda$ 45°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
EX308-36	8	36	4.17	63.0	7	4.50	3.40	8	3	3.50	21.00
EX3010-32	10	32	4.83	70.0	8	6.00	4.90	8	3	4.10	25.00
EX301/4	1/4	28	6.35	80.0	10	7.00	5.50	8	3	5.50	30.00
EX305/16	5/16	24	7.94	90.0	12	8.00	6.20	9	3	6.90	35.00
EX303/8	3/8	24	9.53	100.0	15	10.00	8.00	11	3	8.50	39.00
EX307/16	7/16	20	11.11	100.0	15	8.00	6.20	9	3	9.90	–
EX301/2	1/2	20	12.70	110.0	18	9.00	7.00	10	3	11.50	–
EX305/8	5/8	18	15.88	110.0	20	12.00	9.00	12	4	14.50	–
EX303/4	3/4	16	19.05	125.0	25	14.00	11.00	14	4	17.50	–
EX307/8	7/8	14	22.23	140.0	25	18.00	14.50	17	4	20.40	–
EX301	1"	12	25.40	160.0	30	18.00	14.50	17	4	23.25	–

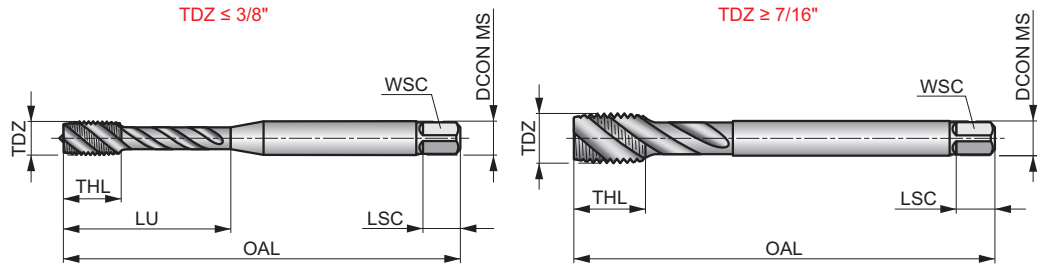
# EX31



## HSS-E-PM Spiral Flute Machine Tap, UNF, DIN Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	DIN 2184-1	2B
	2.5xD	HSS-E PM
		$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
EX318-36	8	36	4.17	63.0	7	4.50	3.40	8	3	3.50	21.00
EX3110-32	10	32	4.83	70.0	8	6.00	4.90	8	3	4.10	25.00
EX311/4	1/4	28	6.35	80.0	10	7.00	5.50	8	3	5.50	30.00
EX315/16	5/16	24	7.94	90.0	12	8.00	6.20	9	3	6.90	35.00
EX313/8	3/8	24	9.53	100.0	15	10.00	8.00	11	3	8.50	39.00
EX317/16	7/16	20	11.11	100.0	15	8.00	6.20	9	3	9.90	–
EX311/2	1/2	20	12.70	110.0	18	9.00	7.00	10	3	11.50	–
EX315/8	5/8	18	15.88	110.0	20	12.00	9.00	12	4	14.50	–
EX313/4	3/4	16	19.05	125.0	25	14.00	11.00	14	4	17.50	–
EX317/8	7/8	14	22.23	140.0	25	18.00	14.50	17	4	20.40	–
EX311	1"	12	25.40	160.0	30	18.00	14.50	17	4	23.25	–

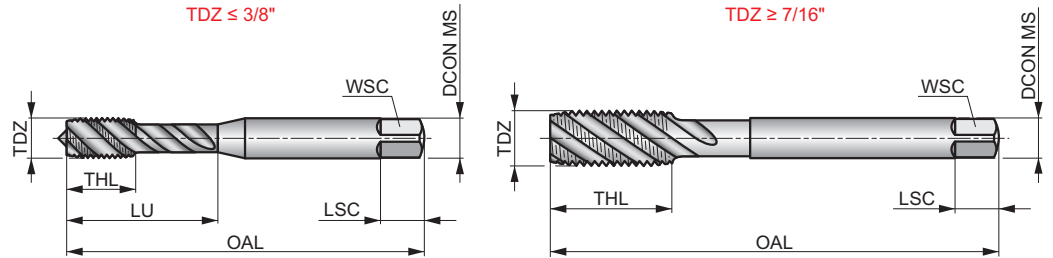
# E033



## HSS-E-PM Spiral Flute Machine Tap, UNF, ISO Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

	ISO 529	2B
	2.5xD	HSS-E PM
		$\lambda$ 45°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

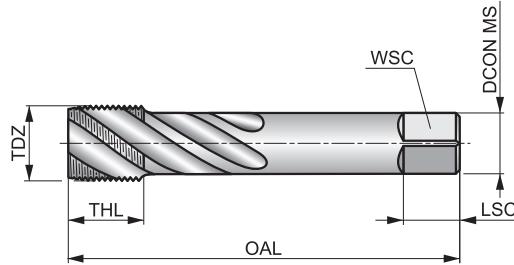
Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E0338-36	8	36	4.17	53.0	7	4.50	3.55	6	3	3.50	17.00
E03310-32	10	32	4.83	58.0	8	5.00	4.00	7	3	4.10	20.00
E0331/4	1/4	28	6.35	66.0	10	6.30	5.00	8	3	5.50	28.00
E0335/16	5/16	24	7.94	72.0	12	8.00	6.30	9	3	6.90	31.00
E0333/8	3/8	24	9.53	80.0	15	10.00	8.00	11	3	8.50	34.00
E0337/16	7/16	20	11.11	85.0	19	8.00	6.30	9	3	9.90	–
E0331/2	1/2	20	12.70	89.0	22	9.00	7.10	10	3	11.50	–
E0339/16	9/16	18	14.29	95.0	24	11.20	9.00	12	3	12.90	–
E0335/8	5/8	18	15.88	102.0	24	12.50	10.00	13	4	14.50	–
E0333/4	3/4	16	19.05	112.0	29	14.00	11.20	14	4	17.50	–
E0337/8	7/8	14	22.23	118.0	29	16.00	12.50	16	4	20.40	–
E0331	1"	12	25.40	130.0	35	18.00	14.00	18	4	23.25	–

# EX40



## HSS-E-PM Spiral Flute Machine Tap, G(BSP), DIN Standard

Machine tap with spiral flute suited for blind holes. Bright finish to produce more accurate and cleaner threads, preventing the workpiece material from sticking to the cutting edges. The reduced shank increases the reach of the tap.



	DIN 5156	Normal
	2.5xD	HSS-E PM
		$\lambda$ 45°
	Bright	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 21	<b>P1.2</b> ■ 23	<b>P1.3</b> ■ 24	<b>P2.1</b> ■ 17	<b>P2.2</b> ■ 15	<b>P2.3</b> ■ 13	<b>P3.1</b> ■ 12	<b>P3.2</b> ■ 9	<b>P4.1</b> ■ 7	<b>N1.1</b> ■ 13	<b>N1.2</b> ■ 9	<b>N1.3</b> ■ 6	<b>N2.1</b> ■ 27	<b>N2.2</b> ■ 24
<b>N2.3</b> ■ 17													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
EX401/8	1/8	28	9.73	90.0	13	7.00	5.50	8	3	8.80
EX401/4	1/4	19	13.16	100.0	15	11.00	9.00	12	3	11.80
EX403/8	3/8	19	16.66	100.0	15	12.00	9.00	12	4	15.25
EX401/2	1/2	14	20.95	125.0	18	16.00	12.00	15	4	19.00
EX405/8	5/8	14	22.91	125.0	18	18.00	14.50	17	4	21.00
EX403/4	3/4	14	26.44	140.0	20	20.00	16.00	19	4	24.50
EX407/8	7/8	14	30.20	150.0	20	22.00	18.00	21	4	28.25
EX401	1"	11	33.25	160.0	22	25.00	20.00	23	4	30.75
EX401.1/4 <sup>1)</sup>	1.1/4	11	41.91	170.0	22	32.00	24.00	27	4	39.50
EX401.1/2 <sup>1)</sup>	1.1/2	11	47.80	190.0	23	36.00	29.00	32	4	45.00

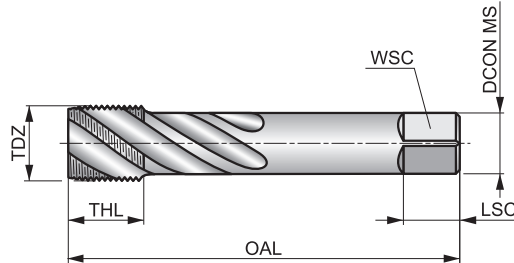
<sup>1)</sup> HSS-E.

# EX41



## HSS-E-PM Spiral Flute Machine Tap, G(BSP), DIN Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding. The reduced shank increases the reach of the tap.



	DIN 5156	Normal
	2.5xD	HSS-E PM
		$\lambda$ 45°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
EX411/8	1/8	28	9.73	90.0	13	7.00	5.50	8	3	8.80
EX411/4	1/4	19	13.16	100.0	15	11.00	9.00	12	3	11.80
EX413/8	3/8	19	16.66	100.0	15	12.00	9.00	12	4	15.25
EX411/2	1/2	14	20.95	125.0	18	16.00	12.00	15	4	19.00
EX415/8	5/8	14	22.91	125.0	18	18.00	14.50	17	4	21.00
EX413/4	3/4	14	26.44	140.0	20	20.00	16.00	19	4	24.50
EX417/8	7/8	14	30.20	150.0	20	22.00	18.00	21	4	28.25
EX411	1"	11	33.25	160.0	22	25.00	20.00	23	4	30.75
EX411.1/8	1.1/8	11	37.90	170.0	22	28.00	22.00	25	4	35.00
EX411.1/4 <sup>1)</sup>	1.1/4	11	41.91	170.0	22	32.00	24.00	27	4	39.50
EX411.1/2 <sup>1)</sup>	1.1/2	11	47.80	190.0	23	36.00	29.00	32	4	45.00

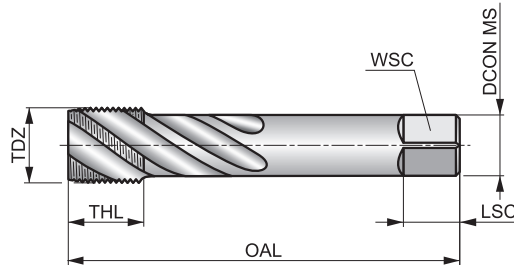
<sup>1)</sup> HSS-E.

# E043



## HSS-E-PM Spiral Flute Machine tap, G(BSP), ISO Standard

Machine tap with spiral flute suited for blind holes. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding. The reduced shank increases the reach of the tap.



	ISO 	Normal
	2.5xD	HSS-E PM
C 2-3		$\lambda$ 45°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣21	<b>P2.2</b> ▣15	<b>P2.3</b> ▣13	<b>P3.2</b> ▣9	<b>P3.3</b> ▣8	<b>P4.1</b> ▣7	<b>P4.2</b> ▣5	<b>M1.1</b> ▣8	<b>M1.2</b> ▣6	<b>M2.1</b> ▣7	<b>M2.2</b> ▣5	<b>M3.1</b> ▣5	<b>M3.2</b> ▣4	<b>M3.3</b> ▣3
<b>M4.1</b> ▣3													

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)					
<b>E0431/8</b>	1/8	28	9.73	90.0	15	8.00	6.30	9	3	8.80
<b>E0431/4</b>	1/4	19	13.16	100.0	19	10.00	8.00	11	3	11.80
<b>E0433/8</b>	3/8	19	16.66	100.0	21	12.50	10.00	13	4	15.25
<b>E0431/2</b>	1/2	14	20.95	125.0	26	16.00	12.50	16	4	19.00
<b>E0433/4</b>	3/4	14	26.44	140.0	28	20.00	16.00	20	4	24.50

Thread form (THFT)											
Basic standard group (BSG)	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568	ISO 2568
Thread tolerance class (TCTR)	6g	Medium	Class A	Medium	Normal	6g	Normal	2A	6g	2A	6g
Die chamfer to pitch ratio (DCPR)	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	1.75 XP	2.25 XP
Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E
Hand (Cutting direction)											
Coating											



Product Family Code	<b>F100</b>	<b>F140</b>	<b>F170</b>	<b>F150</b>	<b>F180</b>	<b>F110</b>	<b>F190</b>	<b>F120</b>	<b>F201</b>	<b>F130</b>	<b>F108</b>
PSF cutting diameters range	M2 – M42	1/8 – 1"	1/8 – 2"	3/16 – 1/2	1/8 – 1"	M4 – M40	No.7 – No.36	No.8 – 1"	M3 – M20	No.10 – 1"	M2 – M20
	174	175	176	177	178	179	180	181	182	183	184

<b>P</b>	P1	■	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■	■
	P3	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
	P4	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
<b>M</b>	M1	■	■	■	■	■	■	■	■	■	■
	M2	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
	M3										■
	M4										▣
<b>K</b>	K1	■	■	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■	■	■
	K3	■	■	■	■	■	■	■	■	■	■
	K4										■
	K5	■	■	■	■	■	■	■	■	■	■
<b>N</b>	N1	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N2	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N3	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N4	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣
	N5										▣
<b>S</b>	S1										▣
	S2										
	S3										
	S4										
<b>H</b>	H1										
	H2										
	H3										
	H4										

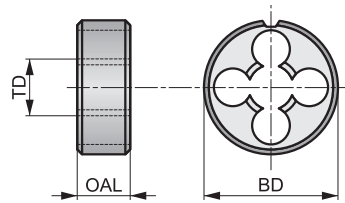


# F100



## HSS Gun Nosed Machine Die, Metric, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



<b>M</b>	ISO 2568	6g
1.75 XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

Products from this series are also available in set with taps. Please see L120.

Product	TD (mm)	TP (mm)	BD (mm)	OAL (mm)
F100M2 <sup>1)</sup>	2.00	0.40	16.00	5.0
F100M2.5 <sup>1)</sup>	2.50	0.45	16.00	5.0
F100M2.6 <sup>1)</sup>	2.60	0.45	16.00	5.0
F100M3	3.00	0.50	20.00	5.0
F100M3.5	3.50	0.60	20.00	5.0
F100M4	4.00	0.70	20.00	5.0
F100M4.5	4.50	0.75	20.00	7.0
F100M5	5.00	0.80	20.00	7.0
F100M6	6.00	1.00	20.00	7.0
F100M7	7.00	1.00	25.00	9.0
F100M8	8.00	1.25	25.00	9.0
F100M9	9.00	1.25	25.00	9.0
F100M10	10.00	1.50	30.00	11.0
F100M11	11.00	1.50	30.00	11.0

Product	TD (mm)	TP (mm)	BD (mm)	OAL (mm)
F100M12	12.00	1.75	38.00	14.0
F100M14	14.00	2.00	38.00	14.0
F100M16	16.00	2.00	45.00	18.0
F100M18	18.00	2.50	45.00	18.0
F100M20	20.00	2.50	45.00	18.0
F100M22	22.00	2.50	55.00	22.0
F100M24	24.00	3.00	55.00	22.0
F100M27	27.00	3.00	65.00	25.0
F100M30	30.00	3.50	65.00	25.0
F100M33	33.00	3.50	65.00	25.0
F100M36	36.00	4.00	65.00	25.0
F100M39	39.00	4.00	75.00	30.0
F100M42	42.00	4.50	75.00	30.0

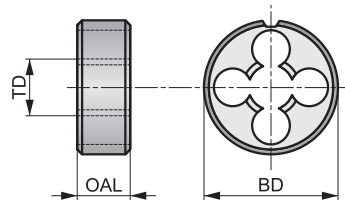
<sup>1)</sup> Without gun-nose.

# F140



## HSS Gun Nosed Machine Die, BSW, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



	ISO 2568	Medium
1.75 XP	HSS	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

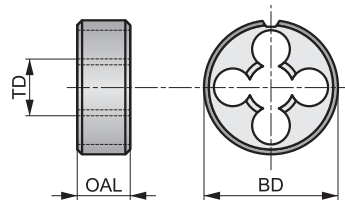
Product	TDZ	TPI	TD		BD		OAL	
			(mm)		(mm)		(mm)	
F1401/8	1/8	40	3.17		20.00		5.0	
F1403/16	3/16	24	4.76		20.00		7.0	
F1401/4	1/4	20	6.35		20.00		7.0	
F1405/16	5/16	18	7.94		25.00		9.0	
F1403/8	3/8	16	9.53		30.00		11.0	
F1407/16	7/16	14	11.11		30.00		11.0	
F1401/2	1/2	12	12.70		38.00		14.0	
F1405/8	5/8	11	15.88		45.00		18.0	
F1403/4	3/4	10	19.05		45.00		18.0	
F1407/8	7/8	9	22.23		55.00		22.0	
F1401	1"	8	25.40		55.00		22.0	

# F170



## HSS Gun Nosed Machine Die, G(BSP) Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



	ISO 2568	Class A
1.75 XP	HSS	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

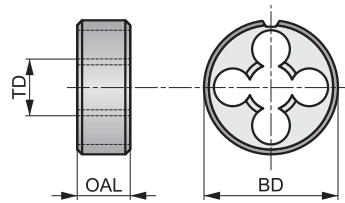
Product	TDZ	TPI	TD	BD	OAL
			(mm)	(mm)	(mm)
F1701/8	1/8	28	9.73	30.00	11.0
F1701/4	1/4	19	13.16	38.00	10.0
F1703/8	3/8	19	16.66	45.00	14.0
F1701/2	1/2	14	20.96	45.00	14.0
F1705/8	5/8	14	22.91	55.00	16.0
F1703/4	3/4	14	26.44	55.00	16.0
F1707/8	7/8	14	30.20	65.00	18.0
F1701	1"	11	33.25	65.00	18.0
F1701.1/8	1.1/8	11	37.89	75.00	20.0
F1701.1/4	1.1/4	11	41.91	75.00	20.0
F1701.1/2	1.1/2	11	47.80	90.00	22.0
F1702	2"	11	59.61	105.00	22.0

# F150



## HSS Gun Nosed Machine Die, BSF, Right Hand

Solid die for external thread. Generally for use on lathes, yet small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



<b>BSF</b>	ISO 2568	Medium
1.75 XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▣ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▣ 7	<b>P4.1</b> ▣ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▣ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▣ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▣ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▣ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▣ 6	<b>N1.1</b> ▣ 20	<b>N1.2</b> ▣ 15	<b>N1.3</b> ▣ 10
<b>N2.1</b> ▣ 10	<b>N2.2</b> ▣ 9	<b>N2.3</b> ▣ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▣ 6	<b>N3.3</b> ▣ 3	<b>N4.1</b> ▣ 11	<b>N4.2</b> ▣ 4	<b>N4.3</b> ▣ 4					

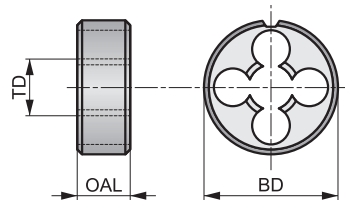
Product	TDZ	TPI	TD	BD	OAL
			(mm)	(mm)	(mm)
F1503/16	3/16	32	4.76	20.00	7.0
F1501/4	1/4	26	6.35	20.00	7.0
F1505/16	5/16	22	7.94	25.00	9.0
F1503/8	3/8	20	9.53	30.00	11.0
F1507/16	7/16	18	11.11	30.00	11.0
F1501/2	1/2	16	12.70	38.00	10.0

# F180



## HSS Gun Nosed Machine Die, NPT, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



	ISO 2568	Normal
1.75 XP	HSS	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▣ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▣ 7	<b>P4.1</b> ▣ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▣ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▣ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▣ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▣ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▣ 6	<b>N1.1</b> ▣ 20	<b>N1.2</b> ▣ 15	<b>N1.3</b> ▣ 10
<b>N2.1</b> ▣ 10	<b>N2.2</b> ▣ 9	<b>N2.3</b> ▣ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▣ 6	<b>N3.3</b> ▣ 3	<b>N4.1</b> ▣ 11	<b>N4.2</b> ▣ 4	<b>N4.3</b> ▣ 4					

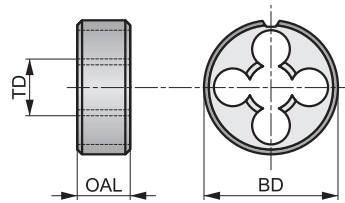
Product	TDZ	TPI	TD	BD	OAL
			(mm)	(mm)	(mm)
F1801/8	1/8	27	9.49	30.00	11.0
F1801/4	1/4	18	12.49	38.00	14.0
F1803/8	3/8	18	15.93	45.00	14.0
F1801/2	1/2	14	19.77	45.00	18.0
F1803/4	3/4	14	25.12	55.00	22.0
F1801	1"	11.5	31.46	65.00	25.0

# F110



## HSS Gun Nosed Machine Die, Metric Fine, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



<b>MF</b>	ISO 2568	6g
1.75 XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

Product	TD (mm)	TP (mm)	BD (mm)	OAL (mm)
F110M4X.5	4.00	0.50	20.00	5.0
F110M5X.5	5.00	0.50	20.00	5.0
F110M6X.75	6.00	0.75	20.00	7.0
F110M7X.75	7.00	0.75	25.00	9.0
F110M8X.75	8.00	0.75	25.00	9.0
F110M8X1.0	8.00	1.00	25.00	9.0
F110M9X1.0	9.00	1.00	25.00	9.0
F110M10X.75	10.00	0.75	30.00	11.0
F110M10X1.0	10.00	1.00	30.00	11.0
F110M10X1.25	10.00	1.25	30.00	11.0
F110M11X1.0	11.00	1.00	30.00	11.0
F110M12X1.0	12.00	1.00	38.00	10.0
F110M12X1.25	12.00	1.25	38.00	10.0
F110M12X1.5	12.00	1.50	38.00	10.0
F110M13X1.0	13.00	1.00	38.00	10.0
F110M14X1.0	14.00	1.00	38.00	10.0
F110M14X1.25	14.00	1.25	38.00	10.0
F110M14X1.5	14.00	1.50	38.00	10.0
F110M15X1.0	15.00	1.00	38.00	10.0
F110M15X1.5	15.00	1.50	38.00	10.0
F110M16X1.0	16.00	1.00	45.00	14.0

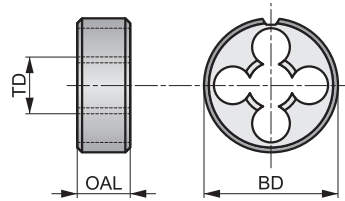
Product	TD (mm)	TP (mm)	BD (mm)	OAL (mm)
F110M16X1.5	16.00	1.50	45.00	14.0
F110M18X1.0	18.00	1.00	45.00	14.0
F110M18X1.5	18.00	1.50	45.00	14.0
F110M20X1.0	20.00	1.00	45.00	14.0
F110M20X1.5	20.00	1.50	45.00	14.0
F110M22X1.0	22.00	1.00	55.00	16.0
F110M22X1.5	22.00	1.50	55.00	16.0
F110M24X1.0	24.00	1.00	55.00	16.0
F110M24X1.5	24.00	1.50	55.00	16.0
F110M24X2.0	24.00	2.00	55.00	16.0
F110M25X1.5	25.00	1.50	55.00	16.0
F110M26X1.5	26.00	1.50	55.00	16.0
F110M27X1.5	27.00	1.50	65.00	18.0
F110M27X2.0	27.00	2.00	65.00	18.0
F110M28X1.5	28.00	1.50	65.00	18.0
F110M30X1.5	30.00	1.50	65.00	18.0
F110M32X1.5	32.00	1.50	65.00	18.0
F110M35X1.5	35.00	1.50	65.00	18.0
F110M36X1.5	36.00	1.50	65.00	18.0
F110M40X1.5	40.00	1.50	75.00	20.0

# F190



## HSS Gun Nosed Machine Die, PG Conduit Thread, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



	ISO 2568	Normal
1.75 XP	HSS	
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▣ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▣ 7	<b>P4.1</b> ▣ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▣ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▣ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▣ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▣ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▣ 6	<b>N1.1</b> ▣ 20	<b>N1.2</b> ▣ 15	<b>N1.3</b> ▣ 10
<b>N2.1</b> ▣ 10	<b>N2.2</b> ▣ 9	<b>N2.3</b> ▣ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▣ 6	<b>N3.3</b> ▣ 3	<b>N4.1</b> ▣ 11	<b>N4.2</b> ▣ 4	<b>N4.3</b> ▣ 4					

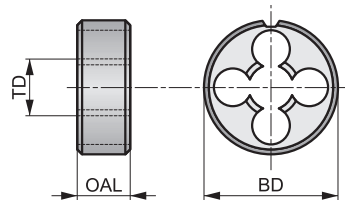
Product	TDZ	TPI	TD (mm)	BD (mm)	OAL (mm)
F190PG7	7	20	12.50	38.00	10.0
F190PG9	9	18	15.20	38.00	10.0
F190PG11	11	18	18.60	45.00	14.0
F190PG13.5	13.5	18	20.40	45.00	14.0
F190PG16	16	18	22.50	55.00	16.0
F190PG36	36	16	47.00	90.00	22.0

# F120



## HSS Gun Nosed Machine Die, UNC, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



<b>UNC</b>	ISO <b>2568</b>	<b>2A</b>
<b>1.75</b> XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

Product	TDZ	TPI	TD	BD	OAL
			(mm)	(mm)	(mm)
F1208-32	8	32	4.17	20.00	7.0
F12010-24	10	24	4.83	20.00	7.0
F1201/4	1/4	20	6.35	20.00	7.0
F1205/16	5/16	18	7.94	25.00	9.0
F1203/8	3/8	16	9.53	30.00	11.0
F1207/16	7/16	14	11.11	30.00	11.0
F1201/2	1/2	13	12.70	38.00	14.0
F1209/16	9/16	12	14.29	38.00	14.0
F1205/8	5/8	11	15.88	45.00	18.0
F1203/4	3/4	10	19.05	45.00	18.0
F1207/8	7/8	9	22.23	55.00	22.0
F1201	1"	8	25.40	55.00	22.0

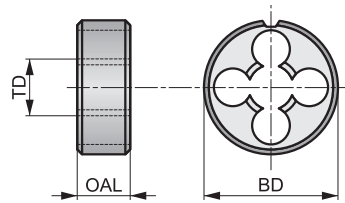


# F201



## HSS Gun Nosed Machine Die, Metric, Left Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



	ISO 2568	6g
1.75 XP	HSS	
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

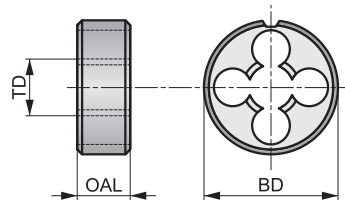
Product	TD (mm)	TP (mm)	BD (mm)	OAL (mm)
F201M3	3.00	0.50	20.00	5.0
F201M4	4.00	0.70	20.00	5.0
F201M5	5.00	0.80	20.00	7.0
F201M6	6.00	1.00	20.00	7.0
F201M8	8.00	1.25	25.00	9.0
F201M10	10.00	1.50	30.00	11.0
F201M12	12.00	1.75	38.00	14.0
F201M14	14.00	2.00	38.00	14.0
F201M16	16.00	2.00	45.00	18.0
F201M18	18.00	2.50	45.00	18.0
F201M20	20.00	2.50	45.00	18.0

# F130



## HSS Gun Nosed Machine Die, UNF, Right Hand

Solid die for external thread. Generally for use on lathes, small diameters can be produced by hand with a die stock holder. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action.



<b>UNF</b>	ISO <b>2568</b>	<b>2A</b>
<b>1.75</b> XP	HSS	<b>R</b>
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 12	<b>P1.2</b> ■ 13	<b>P1.3</b> ■ 14	<b>P2.1</b> ■ 10	<b>P2.2</b> ■ 9	<b>P2.3</b> ▧ 8	<b>P3.1</b> ■ 8	<b>P3.2</b> ▧ 7	<b>P4.1</b> ▧ 5	<b>M1.1</b> ■ 7	<b>M1.2</b> ■ 6	<b>M2.1</b> ■ 6	<b>M2.2</b> ▧ 5	<b>K1.1</b> ■ 11
<b>K1.2</b> ■ 8	<b>K1.3</b> ▧ 6	<b>K2.1</b> ■ 11	<b>K2.2</b> ■ 9	<b>K2.3</b> ▧ 7	<b>K3.1</b> ■ 10	<b>K3.2</b> ■ 8	<b>K3.3</b> ▧ 6	<b>K5.1</b> ■ 10	<b>K5.2</b> ■ 8	<b>K5.3</b> ▧ 6	<b>N1.1</b> ▧ 20	<b>N1.2</b> ▧ 15	<b>N1.3</b> ▧ 10
<b>N2.1</b> ▧ 10	<b>N2.2</b> ▧ 9	<b>N2.3</b> ▧ 6	<b>N3.1</b> ■ 11	<b>N3.2</b> ▧ 6	<b>N3.3</b> ▧ 3	<b>N4.1</b> ▧ 11	<b>N4.2</b> ▧ 4	<b>N4.3</b> ▧ 4					

Product	TDZ	TPI	TD (mm)	BD (mm)	OAL (mm)
<b>F13010-32</b>	10	32	4.83	20.00	7.0
<b>F1301/4</b>	1/4	28	6.35	20.00	7.0
<b>F1305/16</b>	5/16	24	7.94	25.00	9.0
<b>F1303/8</b>	3/8	24	9.53	30.00	11.0
<b>F1307/16</b>	7/16	20	11.11	30.00	11.0
<b>F1301/2</b>	1/2	20	12.70	38.00	10.0
<b>F1309/16</b>	9/16	18	14.29	38.00	10.0
<b>F1305/8</b>	5/8	18	15.88	45.00	14.0
<b>F1303/4</b>	3/4	16	19.05	45.00	14.0
<b>F1307/8</b>	7/8	14	22.23	55.00	16.0
<b>F1301</b>	1"	12	25.40	55.00	16.0

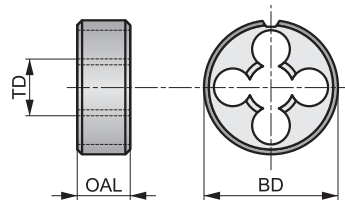
# F108

**DORMER**



## HSS-E Gun Nosed Machine Die, Metric, Right Hand

Solid die for producing external thread. The gun-nose will drive the chip ahead of the cutting edge, increasing performance. Bright finish lapped surface prevents the workpiece material from sticking and improves the threading action. Specific geometry to cut accurate threads in stainless steel.



M	ISO 2568	6g
2.25 XP	HSS-E	R
Bright		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ▣12	<b>P1.2</b> ▣13	<b>P1.3</b> ▣14	<b>P2.1</b> ▣10	<b>P2.2</b> ▣9	<b>P2.3</b> ▣8	<b>P3.1</b> ▣8	<b>P3.2</b> ▣7	<b>P3.3</b> ▣6	<b>P4.1</b> ▣5	<b>P4.2</b> ▣4	<b>M1.1</b> ▣7	<b>M1.2</b> ▣6	<b>M2.1</b> ▣6
<b>M2.2</b> ▣5	<b>M2.3</b> ▣5	<b>M3.1</b> ▣6	<b>M3.2</b> ▣5	<b>M3.3</b> ▣4	<b>M4.1</b> ▣5	<b>K4.1</b> ▣9	<b>K4.2</b> ▣7	<b>K4.3</b> ▣5	<b>K4.4</b> ▣4	<b>K4.5</b> ▣4	<b>N1.1</b> ▣20	<b>N1.2</b> ▣15	<b>N1.3</b> ▣10
<b>N2.1</b> ▣10	<b>N2.2</b> ▣9	<b>N2.3</b> ▣6	<b>N3.1</b> ▣11	<b>N3.2</b> ▣16	<b>N3.3</b> ▣13	<b>N4.1</b> ▣11	<b>N4.2</b> ▣4	<b>N4.3</b> ▣4	<b>S1.1</b> ▣5				

Product	TD	TP	BD	OAL
	(mm)	(mm)	(mm)	(mm)
F108M2 <sup>1)</sup>	2.00	0.40	16.00	5.0
F108M2.5 <sup>1)</sup>	2.50	0.45	16.00	5.0
F108M3	3.00	0.50	20.00	5.0
F108M4	4.00	0.70	20.00	5.0
F108M5	5.00	0.80	20.00	7.0
F108M6	6.00	1.00	20.00	7.0
F108M8	8.00	1.25	25.00	9.0
F108M10	10.00	1.50	30.00	11.0
F108M12	12.00	1.75	38.00	14.0
F108M14	14.00	2.00	38.00	14.0
F108M16	16.00	2.00	45.00	18.0
F108M18	18.00	2.50	45.00	18.0
F108M20	20.00	2.50	45.00	18.0

<sup>1)</sup> Without gun-nose.

Thread form (THFT)								
Basic standard group (BSG)								
Thread tolerance class (TCTR)								
Threading application								
Usable length (ULDR)								
Material code (BMC)								
Tap chamfer style (TCS)								
Flute Geometry (FDC)								
Flute helix angle (FHA)								
Hand (Cutting direction)								
Product Family Code		<b>L115</b>	<b>L113</b>	<b>L114</b>	<b>L001</b>	<b>L000</b>		
PSF cutting diameters range		Set	Set	Set	Set	Set		
		186	186	187	187	188		
<b>P</b>	P1							
	P2							
	P3							
	P4							
<b>M</b>	M1							
	M2							
	M3							
	M4							
<b>K</b>	K1							
	K2							
	K3							
	K4							
	K5							
<b>N</b>	N1							
	N2							
	N3							
	N4							
	N5							
<b>S</b>	S1							
	S2							
	S3							
	S4							
<b>H</b>	H1							
	H2							
	H3							
	H4							

# L115



### Set of E500 Taps and A002 or A022 Drills

Shock-proof plastic box containing straight flute taps according to ISO standard with corresponding drills. Suitable for hand and machine tapping. Nr.101 with bottoming lead taps NO3 for blind holes and A002 jobber drills or Nr.100 with NO3 and NO2 plug lead taps for through holes and A022 stub drills.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set, D = Drill diameters in Set.

Product	Nr.	A	B	C	D
<b>L115100</b>	Nr.100	E500 + A022	21	E500M3NO2, E500M3NO3, E500M4NO2, E500M4NO3, E500M5NO2, E500M5NO3, E500M6NO2, E500M6NO3, E500M8NO2, E500M8NO3, E500M10NO2, E500M10NO3, E500M12NO2, E500M12NO3	A0222.5, A0223.3, A0224.2, A0225.0, A0226.8, A0228.5, A02210.2
<b>L115101</b>	Nr.101	E500 + A002	14	E500M3NO3, E500M4NO3, E500M5NO3, E500M6NO3, E500M8NO3, E500M10NO3, E500M12NO3	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2

# L113



### Set with Taps and A002 Drills

Shock-proof plastic box containing seven machine taps according to ISO standard with corresponding drills. Includes either spiral point taps for through holes only Nr.201 with bright finish or Nr.202 steam tempered. Spiral flute taps for blind holes Nr.203 with bright finish or Nr.204 steam tempered.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set, D = Drill diameters in Set.

Product	Nr.	A	B	C	D
<b>L113201</b>	Nr.201	E000 + A002	14	E000M3, E000M4, E000M5, E000M6, E000M8, E000M10, E000M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
<b>L113202</b>	Nr.202	E001 + A002	14	E001M3, E001M4, E001M5, E001M6, E001M8, E001M10, E001M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
<b>L113203</b>	Nr.203	E002 + A002	14	E002M3, E002M4, E002M5, E002M6, E002M8, E002M10, E002M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
<b>L113204</b>	Nr.204	E003 + A002	14	E003M3, E003M4, E003M5, E003M6, E003M8, E003M10, E003M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2

# L114



### Set of EP/EX or Shark Line Taps with A002 or A108 Drills

Plastic box with 7 machine taps and corresponding drills. Either with spiral point taps for through holes only Nr.301 with bright finish, Nr.303 Yellow Shark with hard-chrome coating or Nr.305 Blue Shark for stainless steel. Spiral flute taps for blind holes Nr.302 with bright finish, Nr.304 Yellow Shark or Nr.306 Blue Shark.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set, D = Drill diameters in Set.

Product	Nr.	A	B	C	D
L114301	Nr.301	EP006H + A002	14	EP00M3, EP00M4, EP00M5, EP00M6, EP00M8, EP00M10, EP00M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
L114302	Nr.302	EX006H + A002	14	EX00M3, EX00M4, EX00M5, EX00M6, EX00M8, EX00M10, EX00M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
L114303	Nr.303	E297 + A002	14	E297M3, E297M4, E297M5, E297M6, E297M8, E297M10, E297M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
L114304	Nr.304	E298 + A002	14	E298M3, E298M4, E298M5, E298M6, E298M8, E298M10, E298M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2
L114305	Nr.305	E238 + A108	14	E238M3, E238M4, E238M5, E238M6, E238M8, E238M10, E238M12	A1082.5, A1083.3, A1084.2, A1085.0, A1086.8, A1088.5, A10810.2
L114306	Nr.306	E240 + A108	14	E240M3, E240M4, E240M5, E240M6, E240M8, E240M10, E240M12	A1082.5, A1083.3, A1084.2, A1085.0, A1086.8, A1088.5, A10810.2

# L001



### DuoPack with EP00 or EX00 Tap and A002 Drill, Various Sizes

DuoPack containing a machine tap according to DIN standard with corresponding drill. Either with a spiral point tap EP00 for through holes only or spiral flute tap EX00 for blind holes. The convenient packaging ensures the right drill size to make a perfect thread.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set, D = Drill diameters in Set.

Product	Nr.	A	B	C	D
L001EP00M3XA002	Nr.1	EP006H + A002	2	EP00M3	A0022.5
L001EP00M4XA002	Nr.2	EP006H + A002	2	EP00M4	A0023.3
L001EP00M5XA002	Nr.3	EP006H + A002	2	EP00M5	A0024.2
L001EP00M6XA002	Nr.4	EP006H + A002	2	EP00M6	A0025.0
L001EP00M8XA002	Nr.5	EP006H + A002	2	EP00M8	A0026.8
L001EP00M10XA002	Nr.6	EP006H + A002	2	EP00M10	A0028.5
L001EP00M12XA002	Nr.7	EP006H + A002	2	EP00M12	A00210.2
L001EX00M3XA002	Nr.8	EX006H + A002	2	EX00M3	A0022.5
L001EX00M4XA002	Nr.9	EX006H + A002	2	EX00M4	A0023.3
L001EX00M5XA002	Nr.10	EX006H + A002	2	EX00M5	A0024.2
L001EX00M6XA002	Nr.11	EX006H + A002	2	EX00M6	A0025.0
L001EX00M8XA002	Nr.12	EX006H + A002	2	EX00M8	A0026.8
L001EX00M10XA002	Nr.13	EX006H + A002	2	EX00M10	A0028.5
L001EX00M12XA002	Nr.14	EX006H + A002	2	EX00M12	A00210.2

# L000



### DuoPack with E500 Tap and A002 Drill, Various Sizes

DuoPack containing a straight flute hand tap according to ISO standard with corresponding drill. Suitable for hand and machine tapping. Available with plug lead NO2 for through holes or bottoming lead NO3 for blind holes. The convenient packaging ensures the right drill size to make a perfect thread.

Nr. = Set number, A = Styles in Set, B = No. in Set, C = Tap diameters in Set, D = Drill diameters in Set.

Product	Nr.	A	B	C	D
L000E500M3N02XA002	Nr.1	E500 + A002	2	E500M3N02	A0022.5
L000E500M4N02XA002	Nr.2	E500 + A002	2	E500M4N02	A0023.3
L000E500M5N02XA002	Nr.3	E500 + A002	2	E500M5N02	A0024.2
L000E500M6N02XA002	Nr.4	E500 + A002	2	E500M6N02	A0025.0
L000E500M8N02XA002	Nr.5	E500 + A002	2	E500M8N02	A0026.8
L000E500M10N02XA002	Nr.6	E500 + A002	2	E500M10N02	A0028.5
L000E500M12N02XA002	Nr.7	E500 + A002	2	E500M12N02	A00210.2
L000E500M3N03XA002	Nr.8	E500 + A002	2	E500M3N03	A0022.5
L000E500M4N03XA002	Nr.9	E500 + A002	2	E500M4N03	A0023.3
L000E500M5N03XA002	Nr.10	E500 + A002	2	E500M5N03	A0024.2
L000E500M6N03XA002	Nr.11	E500 + A002	2	E500M6N03	A0025.0
L000E500M8N03XA002	Nr.12	E500 + A002	2	E500M8N03	A0026.8
L000E500M10N03XA002	Nr.13	E500 + A002	2	E500M10N03	A0028.5
L000E500M12N03XA002	Nr.14	E500 + A002	2	E500M12N03	A00210.2



ISO  
13399



PMK  
NSH



**TOOLS FOR PROCESS SECURITY AND PRODUCTIVITY.  
TYPICALLY USED WITH CNC AND AUTOMATED MANUFACTURING.**

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Thread form (THFT)										
Basic standard group (BSG)	DIN 371	DIN 376	DIN 371/376							
Thread tolerance class (TCTR)	6HX	6HX	6HX							
Threading application										
Usable length (ULDR)	2xD	2xD	2xD							
Material code (BMC)	HSS-E PM	HSS-E PM	HSS-E PM							
Tap chamfer style (TCS)	C 2-3	C 2-3	C 2-3							
Flute Geometry (FDC)										
Hand (Cutting direction)										
Coating										
	SHARK	SHARK	SHARK							

Product Family Code	<b>E201</b>	<b>E252</b>	<b>E390</b>							
PSF cutting diameters range	M3 – M10	M8 – M24	M3 – M20							
	192	193	194							

<b>P</b>	P1									
	P2									
	P3									
	P4									
<b>M</b>	M1									
	M2									
	M3									
	M4									
<b>K</b>	K1	■	■	■						
	K2	■	■	■						
	K3	■	■	■						
	K4	▣	▣	▣						
	K5	■	■	■						
<b>N</b>	N1									
	N2									
	N3	▣	▣	▣						
	N4	■	■	■						
	N5									
<b>S</b>	S1									
	S2									
	S3									
	S4									
<b>H</b>	H1									
	H2									
	H3									
	H4									

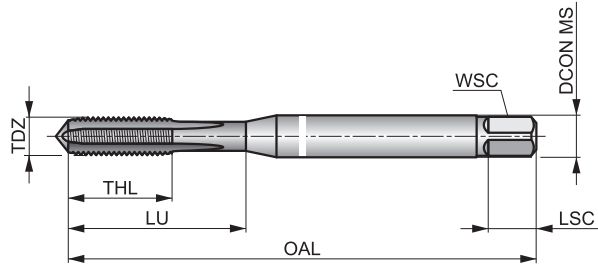
# E201



## White SHARK Straight Flute Metric Machine Tap, DIN Standard

Straight flute tap with reduced shank for blind and through holes in short chipping cast iron and high strength non-ferrous materials. HSS-E-PM substrate provides superior performance, consistency and extended tool life. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK



	DIN 371	6HX
	2xD	HSS-E PM
C 2-3		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>K1.1</b> ■ 15	<b>K1.2</b> ■ 11	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 18	<b>K2.2</b> ■ 15	<b>K2.3</b> ▣ 12	<b>K3.1</b> ■ 16	<b>K3.2</b> ■ 12	<b>K3.3</b> ▣ 10	<b>K4.1</b> ■ 15	<b>K4.2</b> ■ 11	<b>K4.3</b> ▣ 8	<b>K4.4</b> ▣ 7	<b>K4.5</b> ▣ 6
<b>K5.1</b> ■ 17	<b>K5.2</b> ■ 13	<b>K5.3</b> ▣ 10	<b>N2.3</b> ▣ 15	<b>N3.2</b> ▣ 20	<b>N4.2</b> ■ 10								

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E201M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E201M4	4	0.70	63.0	12	4.50	3.40	6	4	3.30	21.00
E201M5	5	0.80	70.0	13	6.00	4.90	8	4	4.20	25.00
E201M6	6	1.00	80.0	15	6.00	4.90	8	4	5.00	30.00
E201M8	8	1.25	90.0	18	8.00	6.20	9	4	6.80	35.00
E201M10	10	1.50	100.0	20	10.00	8.00	11	4	8.50	39.00

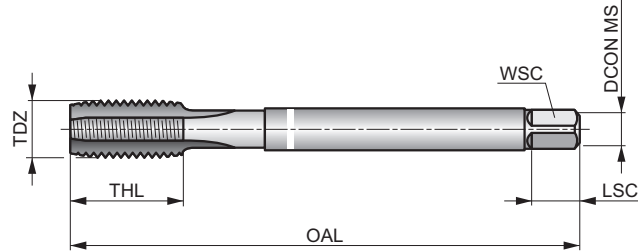
# E252



## White SHARK Straight Flute Metric Machine Tap, DIN Standard

Straight flute tap with reinforced shank for blind and through holes in short chipping cast iron and high strength non-ferrous materials. HSS-E-PM substrate provides superior performance, consistency and extended tool life. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK



	DIN 376	6HX
	2xD	HSS-E PM
C 2-3		
ST		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>K1.1</b> ■ 15	<b>K1.2</b> ■ 11	<b>K1.3</b> ■ 8	<b>K2.1</b> ■ 18	<b>K2.2</b> ■ 15	<b>K2.3</b> ▧ 12	<b>K3.1</b> ■ 16	<b>K3.2</b> ■ 12	<b>K3.3</b> ▧ 10	<b>K4.1</b> ■ 15	<b>K4.2</b> ■ 11	<b>K4.3</b> ▧ 8	<b>K4.4</b> ▧ 7	<b>K4.5</b> ▧ 6
<b>K5.1</b> ■ 17	<b>K5.2</b> ■ 13	<b>K5.3</b> ▧ 10	<b>N2.3</b> ▧ 15	<b>N3.2</b> ▧ 20	<b>N4.2</b> ■ 10								

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E252M8	8	1.25	90.0	18	6.00	4.90	8	4	6.80
E252M10	10	1.50	100.0	20	7.00	5.50	8	4	8.50
E252M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30
E252M14	14	2.00	110.0	25	11.00	9.00	12	4	12.00
E252M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00
E252M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50
E252M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00

# E390

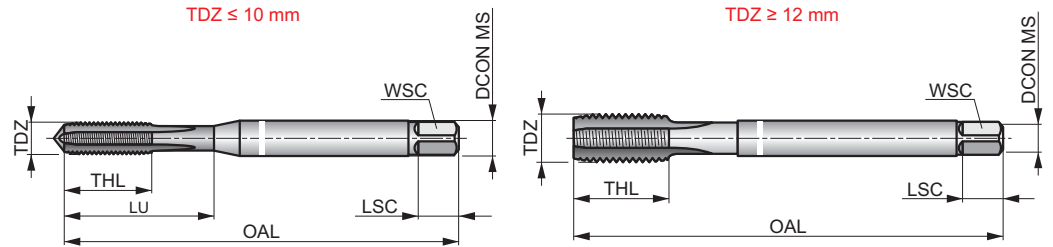


## White SHARK Straight Flute Metric Machine Tap, DIN Standard

High performance TiAlN coated tap for blind and through holes in short chipping materials, such as cast iron and non-ferrous metals. Premium HSS-E-PM substrate provides superior performance, consistency and extended tool life. Up to M10 with reinforced and from M12 with reduced shank.

### SHARK

	DIN 371/376	6HX
	2xD	HSS-E PM
C 2-3		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>K1.1</b> ■ 30	<b>K1.2</b> ■ 22	<b>K1.3</b> ■ 17	<b>K2.1</b> ■ 43	<b>K2.2</b> ■ 35	<b>K2.3</b> ▧ 28	<b>K3.1</b> ■ 38	<b>K3.2</b> ■ 29	<b>K3.3</b> ▧ 24	<b>K4.1</b> ■ 35	<b>K4.2</b> ■ 27	<b>K4.3</b> ▧ 20	<b>K4.4</b> ▧ 17	<b>K4.5</b> ▧ 14
<b>K5.1</b> ■ 40	<b>K5.2</b> ■ 30	<b>K5.3</b> ▧ 23	<b>N2.3</b> ▧ 20	<b>N3.2</b> ▧ 30	<b>N4.2</b> ■ 15								

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E390M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E390M4	4	0.70	63.0	12	4.50	3.40	6	4	3.30	21.00
E390M5	5	0.80	70.0	13	6.00	4.90	8	4	4.20	25.00
E390M6	6	1.00	80.0	15	6.00	4.90	8	4	5.00	30.00
E390M8	8	1.25	90.0	18	8.00	6.20	9	4	6.80	35.00
E390M10	10	1.50	100.0	20	10.00	8.00	11	4	8.50	39.00
E390M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	-
E390M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	-
E390M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-

Thread form (THFT)														
Basic standard group (BSG)	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 374	DIN 374	DIN 374	DIN 2184-1	DIN 2184-1
Thread tolerance class (TCTR)	6HX	6H	6HX	6HX	6HX	6H	6H	6H	6H	6HX	6H	6H	2BX	2BX
Threading application														
Usable length (ULDR)	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD
Material code (BMC)	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
Tap chamfer style (TCS)	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5
Flute Geometry (FDC)														
Flute helix angle (FHA)														
Hand (Cutting direction)														
Coating	TiCN	Cr	Bright	TiAlN Top	TiAlN Top	ST	Super B	Bright	Super B	TiCN	Cr	ST	TiCN	TiCN
	<b>NEW</b>	SHARK	SHARK	SHARK	SHARK	SHARK	SHARK	SHARK	SHARK	<b>NEW</b>	SHARK	SHARK	<b>NEW</b>	<b>NEW</b>
Product Family Code	E397(M)	E297	E255	E256	E334	E240	E241	E471	E472	E397(MF)	E299	E384	E397(UNC)	E397(UNF)
PSF cutting diameters range	M3 – M30	M3 – M30	M3 – M20	M3 – M20	M3 – M12	M3 – M30	M3 – M20	M3 – M20	M3 – M20	M8 – M20	M4 – M30	M6 – M20	No.8 – 1/2"	1/4 – 1/2"
	196	197	198	199	200	201	202	203	204	205	206	207	208	209
<b>P</b>	P1	■	■	■	■	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	■	■	■	■	■	■	■	■
	P4	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>M</b>	M1	■	■	■	■	■	■	■	■	■	■	■	■	■
	M2	■	■	■	■	■	■	■	■	■	■	■	■	■
	M3	■	■	■	■	■	■	■	■	■	■	■	■	■
	M4	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>K</b>	K1	■	■	■	■	■	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■	■	■	■	■	■
	K3	■	■	■	■	■	■	■	■	■	■	■	■	■
	K4	■	■	■	■	■	■	■	■	■	■	■	■	■
	K5	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>N</b>	N1	■	■	■	■	■	■	■	■	■	■	■	■	■
	N2	■	■	■	■	■	■	■	■	■	■	■	■	■
	N3	■	■	■	■	■	■	■	■	■	■	■	■	■
	N4	■	■	■	■	■	■	■	■	■	■	■	■	■
	N5	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>S</b>	S1	■	■	■	■	■	■	■	■	■	■	■	■	■
	S2	■	■	■	■	■	■	■	■	■	■	■	■	■
	S3	■	■	■	■	■	■	■	■	■	■	■	■	■
	S4	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>H</b>	H1	■	■	■	■	■	■	■	■	■	■	■	■	■
	H2	■	■	■	■	■	■	■	■	■	■	■	■	■
	H3	■	■	■	■	■	■	■	■	■	■	■	■	■
	H4	■	■	■	■	■	■	■	■	■	■	■	■	■

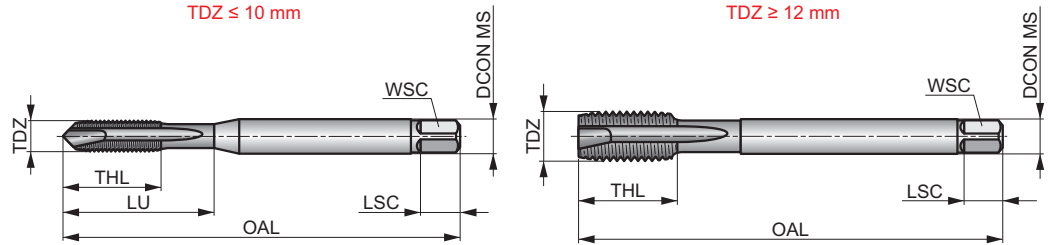
# E397(M)



## HSS-E-PM Spiral Point Tap, Metric, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral point for 2.5xD through holes only. Suited for machining a variety of work-materials. Unique TiCN coated HSS-E-PM substrate to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life.

	DIN 371/376	6HX
	2.5xD	HSS-E PM
B 3.5-5		
TiCN		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 37	<b>P1.2</b> ■ 42	<b>P1.3</b> ■ 44	<b>P2.1</b> ■ 33	<b>P2.2</b> ■ 28	<b>P2.3</b> ■ 25	<b>P3.1</b> ■ 20	<b>P3.2</b> ■ 16	<b>P3.3</b> ▧ 13	<b>P4.1</b> ■ 12	<b>P4.2</b> ▧ 9	<b>M1.1</b> ■ 15	<b>M1.2</b> ■ 12	<b>M2.1</b> ■ 13
<b>M2.2</b> ■ 11	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ▧ 6	<b>M4.1</b> ▧ 4	<b>K1.1</b> ▧ 20	<b>K1.2</b> ▧ 15	<b>K1.3</b> ▧ 11	<b>K2.1</b> ▧ 29	<b>K2.2</b> ▧ 23	<b>K3.1</b> ▧ 25	<b>K3.2</b> ▧ 19	<b>K4.1</b> ▧ 23	<b>K4.2</b> ▧ 17
<b>N1.3</b> ▧ 12	<b>N2.1</b> ▧ 37	<b>N2.2</b> ▧ 34	<b>N2.3</b> ▧ 24	<b>N3.1</b> ▧ 60	<b>N3.2</b> ▧ 36	<b>N4.1</b> ▧ 26							

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E397M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E397M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E397M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E397M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E397M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E397M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E397M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	-
E397M14	14	2.00	110.0	25	11.00	9.00	12	4	12.00	-
E397M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	-
E397M18	18	2.50	125.0	30	14.00	11.00	14	4	15.50	-
E397M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-
E397M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50	-
E397M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	-
E397M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00	-
E397M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50	-

# E297

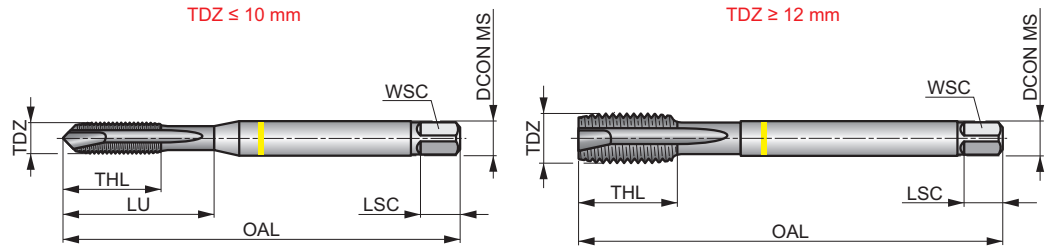


## Yellow SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment provides consistency and process security. Hard chrome coated to increase the surface hardness and reduce built-up edge for increased performance and tool life.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 24	<b>P1.2</b> ■ 27	<b>P1.3</b> ■ 28	<b>P2.1</b> ■ 20	<b>P2.2</b> ■ 18	<b>P2.3</b> ■ 16	<b>P3.1</b> ■ 15	<b>P3.2</b> ■ 12	<b>P4.1</b> ■ 9	<b>N3.1</b> ■ 51	<b>N3.2</b> ■ 30	<b>N3.3</b> ■ 15
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Products from this series are also available in set with drills. Please see L114.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E297M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E297M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E297M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E297M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E297M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E297M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E297M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E297M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00	-
E297M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
E297M18	18	2.50	125.0	30	14.00	11.00	14	3	15.50	-
E297M20	20	2.50	140.0	30	16.00	12.00	15	3	17.50	-
E297M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50	-
E297M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	-
E297M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00	-
E297M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50	-

# E255

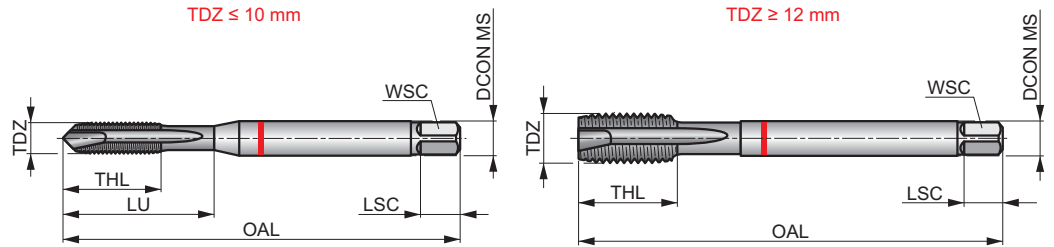


## Red SHARK, Spiral Point Metric Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for medium to high strength steels. Unique HSS-E-PM steel with bright surface finish provide consistency and process security.

### SHARK

	DIN 371/376	6HX
	2.5xD	HSS-E PM
B 3.5-5		
Bright		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.1</b>	<b>P3.2</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>S1.2</b>	<b>S2.1</b>	<b>S3.1</b>	<b>S4.1</b>
■ 11	■ 10	■ 8	■ 7	■ 6	■ 5	▣ 2	▣ 3	▣ 2	▣ 2

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E255M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E255M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E255M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E255M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E255M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E255M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E255M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E255M14	14	2.00	110.0	25	11.00	9.00	12	3	12.00	-
E255M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
E255M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-



# E256

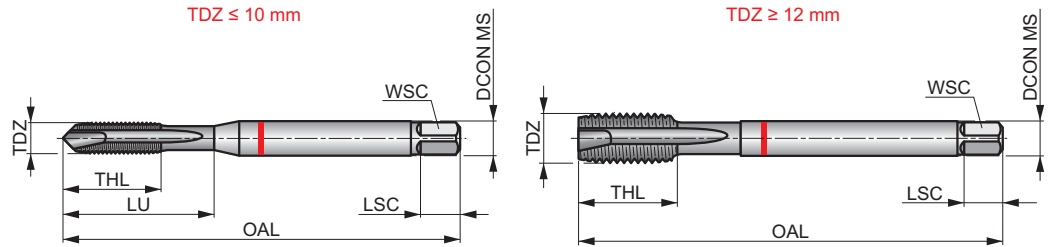


## Red SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank for medium to high strength steel. Unique HSS-E-PM substrate along with TiAlN-Top coating and edge treatment provide superior performance, consistency, extended tool life and higher process security.

### SHARK

	DIN 371/376	6HX
	2.5xD	HSS-E PM
B 3.5-5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b> ■ 27	<b>P3.1</b> ■ 25	<b>P3.2</b> ■ 20	<b>P3.3</b> ■ 17	<b>P4.1</b> ■ 15	<b>P4.2</b> ■ 13	<b>P4.3</b> ▧ 10	<b>S1.2</b> ▧ 3	<b>S2.1</b> ▧ 4	<b>S3.1</b> ▧ 3	<b>S4.1</b> ▧ 3
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Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E256M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E256M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E256M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E256M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E256M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E256M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E256M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E256M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
E256M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-

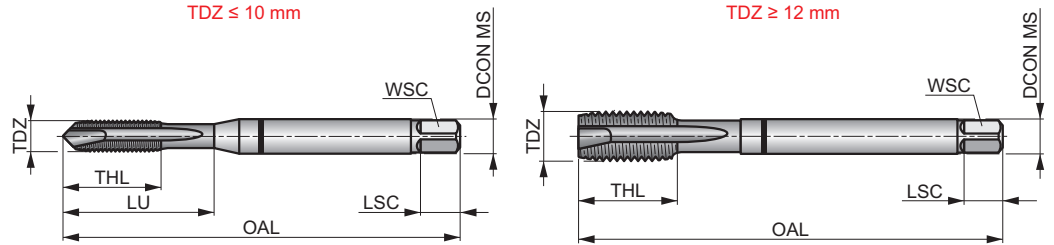
# E334



## Black SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank designed for efficient tapping in high strength steels and titanium alloys. Unique HSS-E-PM substrate, TiAlN-Top coating and an additional edge treatment provide high process security, superior performance, consistency and extended tool life.

### SHARK

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P3.3</b>	<b>P4.2</b>	<b>P4.3</b>	<b>S1.2</b>	<b>S1.3</b>	<b>S3.1</b>	<b>S3.2</b>	<b>H3.1</b>
■ 17	■ 13	■ 10	■ 13	■ 8	■ 5	■ 3	▣ 7

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
<b>E334M3</b>	3	0.50	63.0	12	4.50	3.40	6	3	2.50	12.00
<b>E334M4</b>	4	0.70	70.0	17	6.00	4.90	8	3	3.30	17.00
<b>E334M5</b>	5	0.80	80.0	20	6.00	4.90	8	3	4.20	20.00
<b>E334M6</b>	6	1.00	90.0	24	8.00	6.20	9	3	5.00	24.00
<b>E334M8</b>	8	1.25	100.0	32	10.00	8.00	11	3	6.80	32.00
<b>E334M10</b>	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
<b>E334M12</b>	12	1.75	110.0	23	9.00	7.00	10	4	10.30	-

# E240

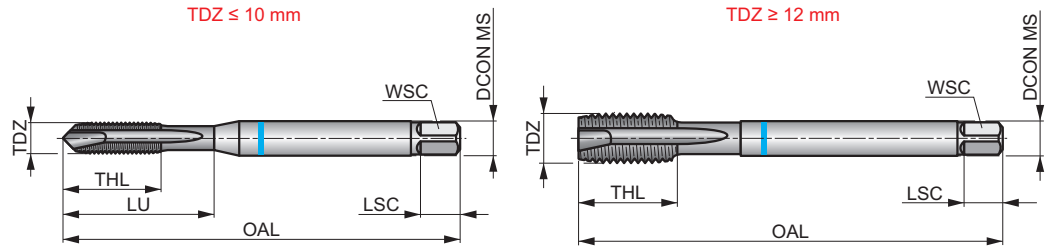


## Blue SHARK Spiral Point Metric Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>M1.1</b>	<b>M1.2</b>	<b>M2.1</b>	<b>M2.2</b>	<b>M3.1</b>	<b>M3.2</b>	<b>M3.3</b>	<b>M4.1</b>
■8	■10	■9	■7	■11	■9	■10	■8	■8	■7	■6	■5

Products from this series are also available in set with drills. Please see L114.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E240M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E240M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E240M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E240M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E240M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E240M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E240M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	-
E240M14	14	2.00	110.0	25	11.00	9.00	12	4	12.00	-
E240M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	-
E240M18	18	2.50	125.0	30	14.00	11.00	14	4	15.50	-
E240M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-
E240M22	22	2.50	140.0	34	18.00	14.50	17	4	19.50	-
E240M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	-
E240M27	27	3.00	160.0	38	20.00	16.00	19	4	24.00	-
E240M30	30	3.50	180.0	45	22.00	18.00	21	4	26.50	-

# E241

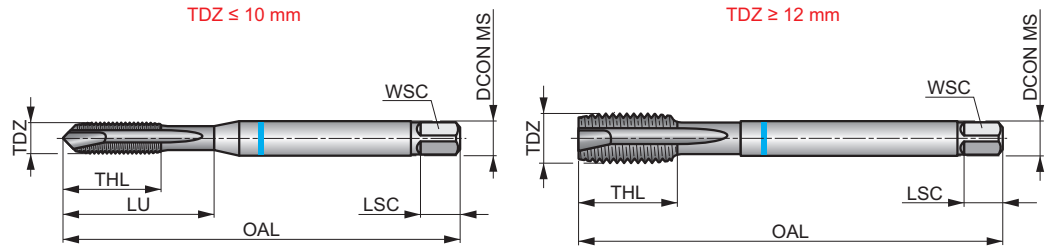


## Blue SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate with Super-B coating and additional edge treatment providing superior performance, consistency and extended tool life.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	
	Super B	

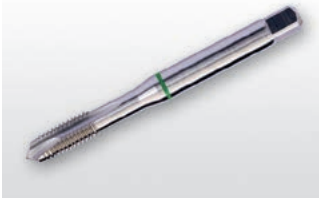


Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>M1.1</b>	<b>M1.2</b>	<b>M2.1</b>	<b>M2.2</b>	<b>M2.3</b>	<b>M3.1</b>	<b>M3.2</b>	<b>M3.3</b>	<b>M4.1</b>	<b>M4.2</b>
16	14	11	9	19	16	17	14	12	12	10	9	6	5

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E241M3	3	0.50	56.0	9	3.50	2.70	6	3	2.50	18.00
E241M4	4	0.70	63.0	12	4.50	3.40	6	3	3.30	21.00
E241M5	5	0.80	70.0	13	6.00	4.90	8	3	4.20	25.00
E241M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E241M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E241M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E241M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	-
E241M14	14	2.00	110.0	25	11.00	9.00	12	4	12.00	-
E241M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	-
E241M18	18	2.50	125.0	30	14.00	11.00	14	4	15.50	-
E241M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-

# E471

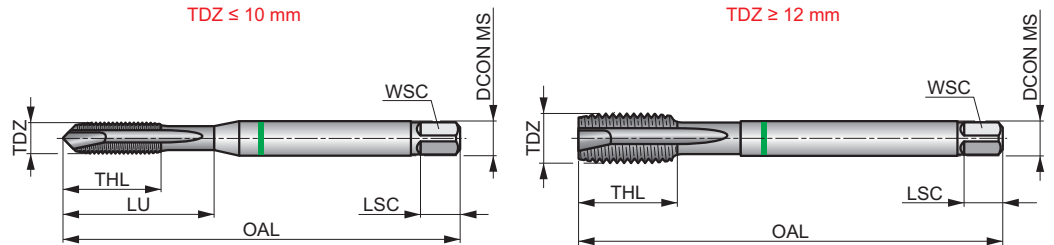


## Green SHARK Spiral Point Metric Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for non-ferrous materials. Unique HSS-E-PM substrate with polished flutes to avoid chip sticking, provide consistency and process security.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>N1.1</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N2.1</b>	<b>N2.2</b>	<b>N2.3</b>	<b>N3.1</b>	<b>N3.2</b>	<b>N3.3</b>	<b>N4.1</b>
23	24	16	16	12	8	31	28	20	51	30	15	25

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E471M3	3	0.50	56.0	9	3.50	2.70	6	2	2.50	18.00
E471M4	4	0.70	63.0	12	4.50	3.40	6	2	3.30	21.00
E471M5	5	0.80	70.0	13	6.00	4.90	8	2	4.20	25.00
E471M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E471M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E471M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E471M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E471M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	-
E471M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-

# E472

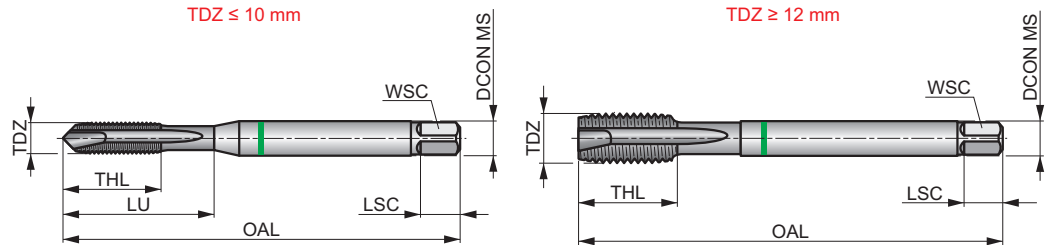


## Green SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank for non-ferrous materials. Unique HSS-E-PM substrate with Super-B coating to avoid chip sticking, providing superior performance, consistency and extended tool life.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
	B 3.5-5	
	Super B	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> 34	<b>P1.2</b> 38	<b>P1.3</b> 40	<b>P2.1</b> 29	<b>P2.2</b> 24	<b>N1.1</b> 35	<b>N1.2</b> 26	<b>N1.3</b> 18	<b>N2.1</b> 46	<b>N2.2</b> 42	<b>N2.3</b> 30	<b>N3.1</b> 76	<b>N3.2</b> 45	<b>N4.1</b> 30
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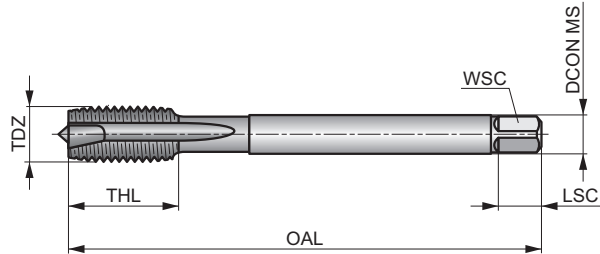
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E472M3	3	0.50	56.0	9	3.50	2.70	6	2	2.50	18.00
E472M4	4	0.70	63.0	12	4.50	3.40	6	2	3.30	21.00
E472M5	5	0.80	70.0	13	6.00	4.90	8	2	4.20	25.00
E472M6	6	1.00	80.0	15	6.00	4.90	8	3	5.00	30.00
E472M8	8	1.25	90.0	18	8.00	6.20	9	3	6.80	35.00
E472M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E472M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E472M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	-
E472M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	-

# E397(MF)



## HSS-E-PM Spiral Point Tap, Metric Fine, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral point for 2.5xD through holes only. Suited for machining a variety of work-materials. Unique TiCN coated HSS-E-PM substrate to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life.



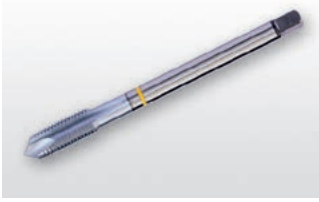
<b>MF</b>	<b>DIN 374</b>	<b>6HX</b>
	<b>2.5xD</b>	<b>HSS-E PM</b>
<b>B</b> 3.5-5		<b>R</b>

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 37	<b>P1.2</b> ■ 42	<b>P1.3</b> ■ 44	<b>P2.1</b> ■ 33	<b>P2.2</b> ■ 28	<b>P2.3</b> ■ 25	<b>P3.1</b> ■ 20	<b>P3.2</b> ■ 16	<b>P3.3</b> ■ 13	<b>P4.1</b> ■ 12	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 15	<b>M1.2</b> ■ 12	<b>M2.1</b> ■ 13
<b>M2.2</b> ■ 11	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 4	<b>K1.1</b> ■ 20	<b>K1.2</b> ■ 15	<b>K1.3</b> ■ 11	<b>K2.1</b> ■ 29	<b>K2.2</b> ■ 23	<b>K3.1</b> ■ 25	<b>K3.2</b> ■ 19	<b>K4.1</b> ■ 23	<b>K4.2</b> ■ 17
<b>N1.3</b> ■ 12	<b>N2.1</b> ■ 37	<b>N2.2</b> ■ 34	<b>N2.3</b> ■ 24	<b>N3.1</b> ■ 60	<b>N3.2</b> ■ 36	<b>N4.1</b> ■ 26							

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
<b>E397M8X1.0</b>	8	1.00	90.0	18	6.00	4.90	8	3	7.00
<b>E397M10X1.0</b>	10	1.00	90.0	18	7.00	5.50	8	3	9.00
<b>E397M10X1.25</b>	10	1.25	100.0	20	7.00	5.50	8	3	8.80
<b>E397M12X1.0</b>	12	1.00	100.0	21	9.00	7.00	10	4	11.00
<b>E397M12X1.25</b>	12	1.25	100.0	21	9.00	7.00	10	4	10.80
<b>E397M12X1.5</b>	12	1.50	100.0	21	9.00	7.00	10	4	10.50
<b>E397M14X1.5</b>	14	1.50	100.0	21	11.00	9.00	12	4	12.50
<b>E397M16X1.5</b>	16	1.50	100.0	21	12.00	9.00	12	4	14.50
<b>E397M20X1.5</b>	20	1.50	125.0	24	16.00	12.00	15	4	18.50

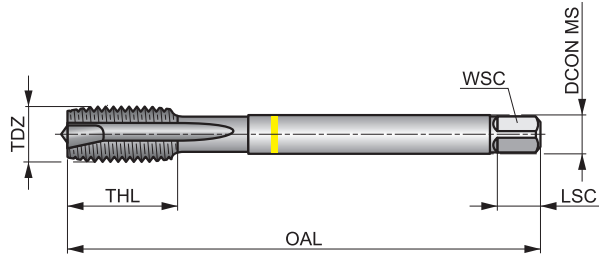
# E299



## Yellow SHARK Spiral Point Metric-Fine Machine Tap, DIN Standard

High performance through hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment, provide consistency and process security. Hard chrome coated to increase the surface hardness and reduce built-up edge, increasing performance and tool life.

### SHARK



	DIN 374	6H
	2.5xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 24	<b>P1.2</b> ■ 27	<b>P1.3</b> ■ 28	<b>P2.1</b> ■ 20	<b>P2.2</b> ■ 18	<b>P2.3</b> ■ 16	<b>P3.1</b> ■ 15	<b>P3.2</b> ■ 12	<b>P4.1</b> ■ 9	<b>N3.1</b> ■ 51	<b>N3.2</b> ■ 30	<b>N3.3</b> ■ 15
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Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
E299M4X.5	4	0.50	63.0	12	2.80	2.10	5	3	3.50
E299M5X.5	5	0.50	70.0	13	3.50	2.70	6	3	4.50
E299M6X.75	6	0.75	80.0	15	4.50	3.40	6	3	5.30
E299M8X.75	8	0.75	80.0	15	6.00	4.90	8	3	7.30
E299M8X1.0	8	1.00	90.0	18	6.00	4.90	8	3	7.00
E299M10X1.0	10	1.00	90.0	20	7.00	5.50	8	3	9.00
E299M10X1.25	10	1.25	100.0	20	7.00	5.50	8	3	8.80
E299M12X1.0	12	1.00	100.0	21	9.00	7.00	10	4	11.00
E299M12X1.25	12	1.25	100.0	21	9.00	7.00	10	4	10.80
E299M12X1.5	12	1.50	110.0	21	9.00	7.00	10	4	10.50
E299M14X1.0	14	1.00	100.0	21	11.00	9.00	12	4	13.00
E299M14X1.5	14	1.50	100.0	21	11.00	9.00	12	4	12.50
E299M16X1.0	16	1.00	100.0	21	12.00	9.00	12	4	15.00
E299M16X1.5	16	1.50	100.0	21	12.00	9.00	12	4	14.50
E299M18X1.0	18	1.00	110.0	24	14.00	11.00	14	4	17.00
E299M18X1.5	18	1.50	110.0	24	14.00	11.00	14	4	16.50
E299M20X1.5	20	1.50	125.0	24	16.00	12.00	15	4	18.50
E299M22X1.5	22	1.50	125.0	25	18.00	14.50	17	4	20.50
E299M24X1.5	24	1.50	140.0	28	18.00	14.50	17	4	22.50
E299M24X2.0	24	2.00	140.0	28	18.00	14.50	17	4	22.00
E299M27X2.0	27	2.00	140.0	28	20.00	16.00	19	4	25.00
E299M30X2.0	30	2.00	150.0	28	22.00	18.00	21	4	28.00



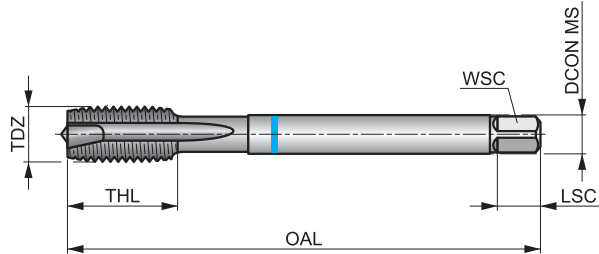
# E384



## Blue SHARK Spiral Point Metric-Fine Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK



	DIN 374	6H
	2.5xD	HSS-E PM
B 3.5-5		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b> ■8	<b>P3.1</b> ■15	<b>P3.2</b> ■12	<b>P3.3</b> ■10	<b>P4.1</b> ■9	<b>P4.2</b> ■7	<b>P4.3</b> ■6	<b>M1.1</b> ■11	<b>M1.2</b> ■9	<b>M2.1</b> ■10	<b>M2.2</b> ■8	<b>M2.3</b> ■7	<b>M3.1</b> ■8	<b>M3.2</b> ■7
<b>M3.3</b> ■6	<b>M4.1</b> ■5	<b>M4.2</b> ■4											

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E384M6X.75	6	0.75	80.0	15	4.50	3.40	6	3	5.30
E384M8X1.0	8	1.00	90.0	18	6.00	4.90	8	3	7.00
E384M10X1.0	10	1.00	90.0	20	7.00	5.50	8	3	9.00
E384M10X1.25	10	1.25	100.0	20	7.00	5.50	8	3	8.80
E384M12X1.0	12	1.00	100.0	21	9.00	7.00	10	4	11.00
E384M12X1.25	12	1.25	100.0	21	9.00	7.00	10	4	10.80
E384M12X1.5	12	1.50	100.0	21	9.00	7.00	10	4	10.50
E384M14X1.5	14	1.50	100.0	21	11.00	9.00	12	4	12.50
E384M16X1.5	16	1.50	100.0	21	12.00	9.00	12	5	14.50
E384M18X1.5	18	1.50	110.0	24	14.00	11.00	14	5	16.50
E384M20X1.5	20	1.50	125.0	24	16.00	12.00	15	5	18.50

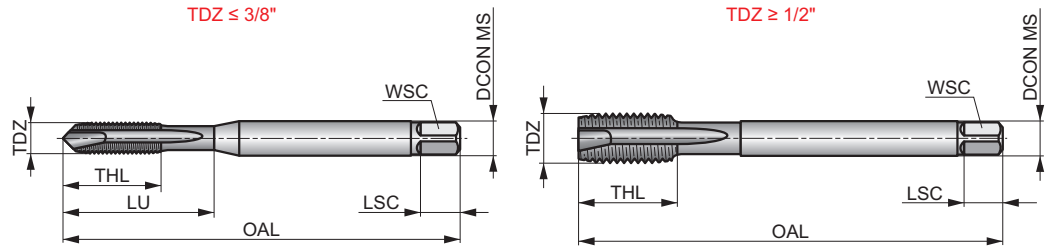
# E397(UNC)



## HSS-E-PM Spiral Point Tap, UNC, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral point for 2.5xD through holes only. Suited for machining a variety of work-materials. Unique TiCN coated HSS-E-PM substrate to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life.

	DIN 2184-1	2BX
	2.5xD	HSS-E PM
B 3.5-5		
TiCN		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 37	<b>P1.2</b> ■ 42	<b>P1.3</b> ■ 44	<b>P2.1</b> ■ 33	<b>P2.2</b> ■ 28	<b>P2.3</b> ■ 25	<b>P3.1</b> ■ 20	<b>P3.2</b> ■ 16	<b>P3.3</b> ▧ 13	<b>P4.1</b> ■ 12	<b>P4.2</b> ▧ 9	<b>M1.1</b> ■ 15	<b>M1.2</b> ■ 12	<b>M2.1</b> ■ 13
<b>M2.2</b> ■ 11	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ▧ 6	<b>M4.1</b> ▧ 4	<b>K1.1</b> ▧ 20	<b>K1.2</b> ▧ 15	<b>K1.3</b> ▧ 11	<b>K2.1</b> ▧ 29	<b>K2.2</b> ▧ 23	<b>K3.1</b> ▧ 25	<b>K3.2</b> ▧ 19	<b>K4.1</b> ▧ 23	<b>K4.2</b> ▧ 17
<b>N1.3</b> ▧ 12	<b>N2.1</b> ▧ 37	<b>N2.2</b> ▧ 34	<b>N2.3</b> ▧ 24	<b>N3.1</b> ▧ 60	<b>N3.2</b> ▧ 36	<b>N4.1</b> ▧ 26							

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E397UNC8X32	8	32	4.17	63.0	12	4.50	3.40	6	3	3.50	21.00
E397UNC10X24	10	24	4.83	70.0	13	6.00	4.90	8	3	3.90	25.00
E397UNC1/4	1/4	20	6.35	80.0	15	7.00	5.50	8	3	5.10	30.00
E397UNC5/16	5/16	18	7.94	90.0	18	8.00	6.20	9	3	6.60	35.00
E397UNC3/8	3/8	16	9.53	100.0	20	10.00	8.00	11	3	8.00	39.00
E397UNC1/2	1/2	13	12.70	110.0	23	9.00	7.00	10	4	10.80	-

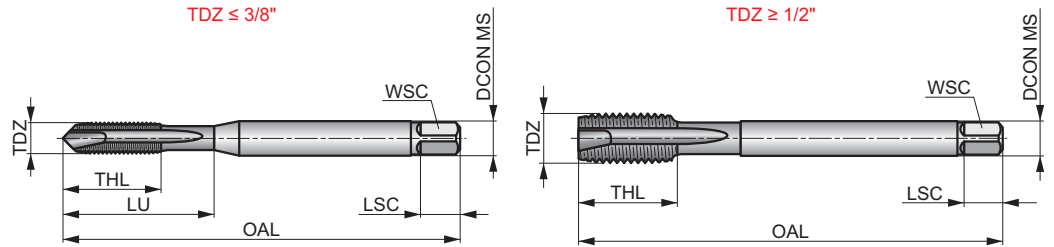
# E397(UNF)



## HSS-E-PM Spiral Point Tap, UNF, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral point for 2.5xD through holes only. Suited for machining a variety of work-materials. Unique TiCN coated HSS-E-PM substrate to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life.

	DIN 2184-1	2BX
	2.5xD	HSS-E PM
B 3.5-5		
TiCN		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 37	<b>P1.2</b> ■ 42	<b>P1.3</b> ■ 44	<b>P2.1</b> ■ 33	<b>P2.2</b> ■ 28	<b>P2.3</b> ■ 25	<b>P3.1</b> ■ 20	<b>P3.2</b> ■ 16	<b>P3.3</b> ▧ 13	<b>P4.1</b> ■ 12	<b>P4.2</b> ▧ 9	<b>M1.1</b> ■ 15	<b>M1.2</b> ■ 12	<b>M2.1</b> ■ 13
<b>M2.2</b> ■ 11	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ▧ 6	<b>M4.1</b> ▧ 4	<b>K1.1</b> ▧ 20	<b>K1.2</b> ▧ 15	<b>K1.3</b> ▧ 11	<b>K2.1</b> ▧ 29	<b>K2.2</b> ▧ 23	<b>K3.1</b> ▧ 25	<b>K3.2</b> ▧ 19	<b>K4.1</b> ▧ 23	<b>K4.2</b> ▧ 17
<b>N1.3</b> ▧ 12	<b>N2.1</b> ▧ 37	<b>N2.2</b> ▧ 34	<b>N2.3</b> ▧ 24	<b>N3.1</b> ▧ 60	<b>N3.2</b> ▧ 36	<b>N4.1</b> ▧ 26							

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E397UNF1/4	1/4	28	6.35	80.0	15	7.00	5.50	8	3	5.50	30.00
E397UNF5/16	5/16	24	7.94	90.0	18	8.00	6.20	9	3	6.90	35.00
E397UNF3/8	3/8	24	9.53	100.0	20	10.00	8.00	11	3	8.50	39.00
E397UNF1/2	1/2	20	12.70	110.0	23	9.00	7.00	10	4	11.50	-

Thread form (THFT)	M	M	M	M	M	M	M	M	M	M	M	MF	MF
Basic standard group (BSG)	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 371/376	DIN 374	DIN 374
Thread tolerance class (TCTR)	6HX	6H	6H	6HX	6HX	6HX	6H	6H	6H	6H	6H	6HX	6H
Threading application													
Usable length (ULDR)	2.5xD	2xD	3xD	2.5xD	2.5xD	1.5xD	2.5xD	2.5xD	3xD	2.5xD	2.5xD	2.5xD	2xD
Material code (BMC)	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
Tap chamfer style (TCS)	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
Flute Geometry (FDC)													
Flute helix angle (FHA)	λ 48°	λ 40°	λ 48°	λ 45°	λ 45°	λ 15°	λ 40°	λ 40°	λ 48°	λ 35°	λ 35°	λ 48°	λ 40°
Hand (Cutting direction)													
Coating	TiCN	Cr	TiAlN Top	Bright	TiAlN Top	TiAlN Top	ST	Super B	Super B	Bright	Super B	TiCN	Cr
Product Family Code	<b>NEW</b> E398(M)	E298	E412	E260	E261	E335	E238	E239	E414	E473	E474	<b>NEW</b> E398(MF)	E300
PSF cutting diameters range	M3 – M30	M3 – M30	M3 – M30	M3 – M20	M3 – M20	M3 – M12	M3 – M30	M3 – M20	M3 – M20	M3 – M20	M3 – M16	M8 – M20	M4 – M30
	212	213	214	215	216	217	218	219	220	221	222	223	224
<b>P</b>	P1	■	■	■	■	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	■	■	■	■	■	■	■
	P4	■	■	■	■	■	■	■	■	■	■	■	■
<b>M</b>	M1	■	■	■	■	■	■	■	■	■	■	■	■
	M2	■	■	■	■	■	■	■	■	■	■	■	■
	M3	■	■	■	■	■	■	■	■	■	■	■	■
	M4	■	■	■	■	■	■	■	■	■	■	■	■
<b>K</b>	K1												
	K2												
	K3												
	K4												
	K5												
<b>N</b>	N1	■	■	■	■	■	■	■	■	■	■	■	■
	N2	■	■	■	■	■	■	■	■	■	■	■	■
	N3	■	■	■	■	■	■	■	■	■	■	■	■
	N4	■	■	■	■	■	■	■	■	■	■	■	■
	N5	■	■	■	■	■	■	■	■	■	■	■	■
<b>S</b>	S1				■	■	■	■	■	■	■	■	■
	S2				■	■	■	■	■	■	■	■	■
	S3				■	■	■	■	■	■	■	■	■
	S4				■	■	■	■	■	■	■	■	■
<b>H</b>	H1												
	H2												
	H3						■						
	H4												

■ Primary use    ■ Possible use

	MF	UNC	UNF	G																
	DIN 374	DIN 2184-1	DIN 2184-1	DIN 5156																
	6H	2BX	2BX	Normal																
	2xD	2.5xD	2.5xD	2xD																
	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM																
	C 2-3	C 2-3	C 2-3	C 2-3																
	$\lambda$ 40°	$\lambda$ 48°	$\lambda$ 48°	$\lambda$ 40°																
	ST	TiCN	TiCN	ST																
	SHARK			SHARK																
		<b>NEW</b>	<b>NEW</b>																	
	<b>E383</b>	<b>E398(UNC)</b>	<b>E398(UNF)</b>	<b>E382</b>																
	M6 – M20	No. 8 – 1/2"	1/4 – 1/2"	1/8 – 1"																
	225	226	227	228																
P1		■	■																	
P2	☑	■	■	☑																
P3	☑	■	■	☑																
P4	☑	■	■	☑																
M1	■	■	■	■																
M2	■	■	■	■																
M3	■	■	■	■																
M4	■	☑	☑	■																
K1																				
K2																				
K3																				
K4																				
K5																				
N1		☑	☑																	
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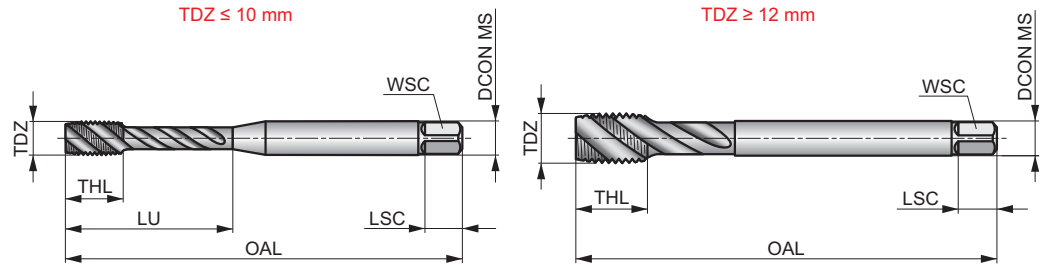
# E398(M)



## HSS-E-PM Spiral Flute Tap, Metric, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral flute for 2.5xD blind holes. Suited for a variety of work-materials. Unique TiCN coated HSS-E-PM to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life. Recommended for synchronous feed tap holders.

	DIN 371/376	6HX
	2.5xD	HSS-E PM
		$\lambda$ 48°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 35	<b>P1.2</b> ■ 40	<b>P1.3</b> ■ 42	<b>P2.1</b> ■ 31	<b>P2.2</b> ■ 27	<b>P2.3</b> ■ 24	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 15	<b>P3.3</b> ■ 12	<b>P4.1</b> ■ 11	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 14	<b>M1.2</b> ■ 11	<b>M2.1</b> ■ 12
<b>M2.2</b> ■ 10	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 4	<b>N1.3</b> ■ 11	<b>N2.1</b> ■ 35	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23	<b>N3.1</b> ■ 160				

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E398M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E398M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E398M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E398M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	31.00
E398M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
E398M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E398M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	-
E398M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	-
E398M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	-
E398M18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	-
E398M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	-
E398M22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	-
E398M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	-
E398M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	-
E398M30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	-

# E298

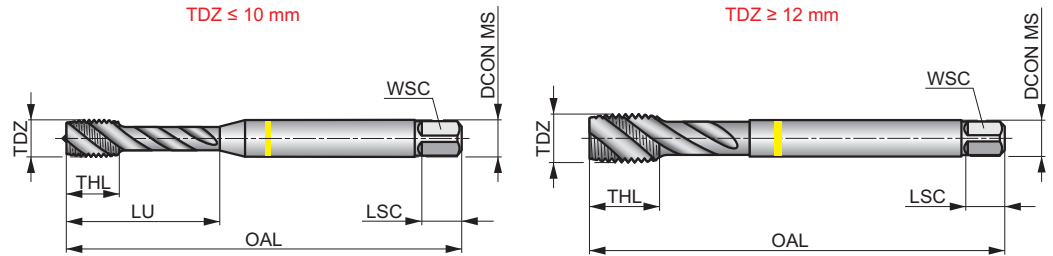


## Yellow SHARK 40° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment to provide consistency and process security. Hard chrome coated to increase the surface hardness, reducing built-up edge and extend tool life.

### SHARK

	DIN 371/376	6H
	2xD	HSS-E PM
		$\lambda$ 40°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 23	<b>P1.2</b> ■ 25	<b>P1.3</b> ■ 26	<b>P2.1</b> ■ 19	<b>P2.2</b> ■ 17	<b>P2.3</b> ■ 15	<b>P3.1</b> ■ 14	<b>P3.2</b> ■ 11	<b>P4.1</b> ■ 8	<b>N3.1</b> ■ 48	<b>N3.2</b> ■ 28	<b>N3.3</b> ■ 14
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Products from this series are also available in set with drills. Please see L114.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E298M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E298M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E298M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E298M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E298M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
E298M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E298M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	—
E298M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	—
E298M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	—
E298M18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	—
E298M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	—
E298M22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	—
E298M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	—
E298M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	—
E298M30	30	3.50	160.0	36	22.00	18.00	21	4	26.50	—

# E412

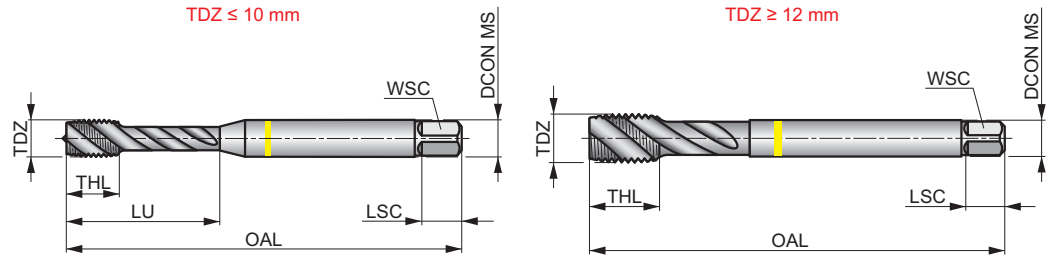


## Yellow SHARK 48° Spiral Flute Metric Machine Tap, DIN Standard

High performance quick spiral tap for deep blind holes in medium strength steels. Unique HSS-E-PM substrate with TiAlN-Top coating and additional edge treatment provide superior performance. Extra back taper facilitates chip evacuation and reduces torque on reversal. Recommended for synchronous feed tap holders.

### SHARK

	DIN 371/376	6H
	3xD	HSS-E PM
		$\lambda$ 48°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 46	<b>P1.2</b> ■ 52	<b>P1.3</b> ■ 54	<b>P2.1</b> ■ 40	<b>P2.2</b> ■ 35	<b>P2.3</b> ■ 31	<b>P3.1</b> ■ 24	<b>P3.2</b> ■ 19	<b>P3.3</b> ■ 16	<b>P4.1</b> ■ 14	<b>P4.2</b> ■ 12	<b>M1.1</b> ■ 19	<b>M1.2</b> ■ 16	<b>M2.1</b> ■ 17
<b>M2.2</b> ■ 14	<b>M3.1</b> ■ 12	<b>M3.2</b> ■ 10	<b>M3.3</b> ■ 9	<b>M4.1</b> ■ 16	<b>N1.1</b> ■ 16	<b>N1.2</b> ■ 12	<b>N1.3</b> ■ 8	<b>N2.1</b> ■ 54	<b>N2.2</b> ■ 48	<b>N2.3</b> ■ 35	<b>N3.1</b> ■ 60		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E412M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E412M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E412M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E412M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E412M8	8	1.25	90.0	13	8.00	6.20	9	3	6.80	35.00
E412M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E412M12	12	1.75	110.0	18	9.00	7.00	10	3	10.30	-
E412M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	-
E412M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	-
E412M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	-
E412M22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	-
E412M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	-
E412M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	-
E412M30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	-



# E260

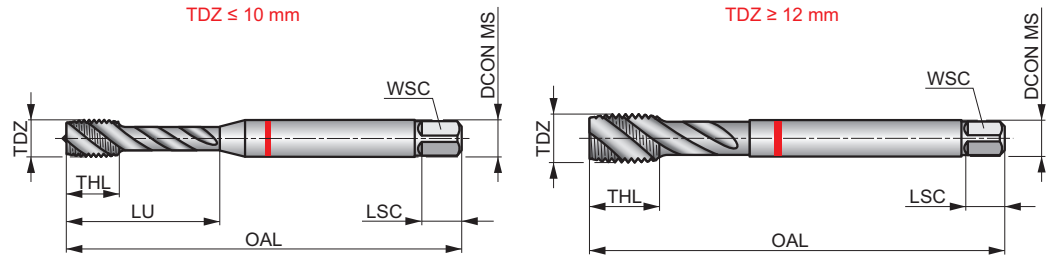


## Red SHARK 45° Spiral Flute Metric Machine Tap, DIN Standard

Blind hole tap with reinforced or reduced shank for medium to high strength steels. Unique HSS-E-PM substrate with bright surface finish. Extra back taper to further facilitate chip evacuation, preventing chipping on the last threads of the tap and also reduces torque when the tap reverses.

### SHARK

	DIN 371/376	6HX
	2.5xD	HSS-E PM
	C 2-3	$\lambda$ 45°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.1</b>	<b>P3.2</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>S1.2</b>	<b>S2.1</b>	<b>S3.1</b>	<b>S4.1</b>
■ 10	■ 9	■ 7	■ 6	■ 5	■ 4	▣ 2	▣ 3	▣ 2	▣ 2

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E260M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E260M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E260M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E260M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E260M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
E260M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E260M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	–
E260M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	–
E260M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	–
E260M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	–

# E261

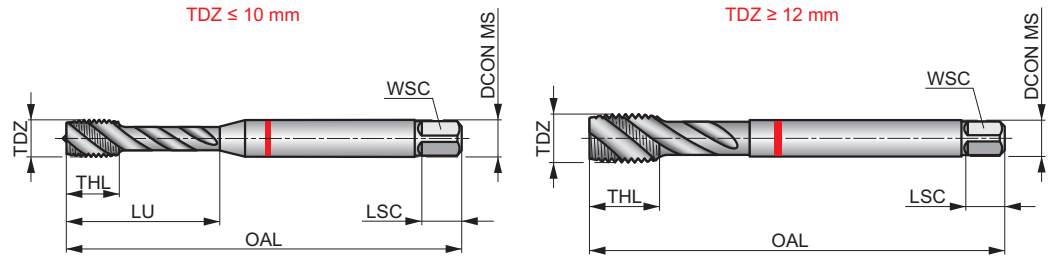


## Red SHARK 45° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for medium to high strength steels. Unique HSS-E-PM substrate with TiAIN-Top coating and additional edge treatment provide superior performance, consistency and extended tool life. Extra back taper further facilitates chip evacuation and reduces torque on tap reversal.

### SHARK

	DIN 371/376	6HX
	2.5xD	HSS-E PM
	C 2-3	$\lambda$ 45°
	TiAIN Top	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b> ■ 26	<b>P3.1</b> ■ 24	<b>P3.2</b> ■ 19	<b>P3.3</b> ■ 16	<b>P4.1</b> ■ 14	<b>P4.2</b> ■ 12	<b>P4.3</b> ■ 9	<b>S1.2</b> ■ 2	<b>S2.1</b> ■ 3	<b>S3.1</b> ■ 2	<b>S4.1</b> ■ 2
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Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E261M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E261M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E261M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E261M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E261M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
E261M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E261M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	-
E261M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	-
E261M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	-

# E335

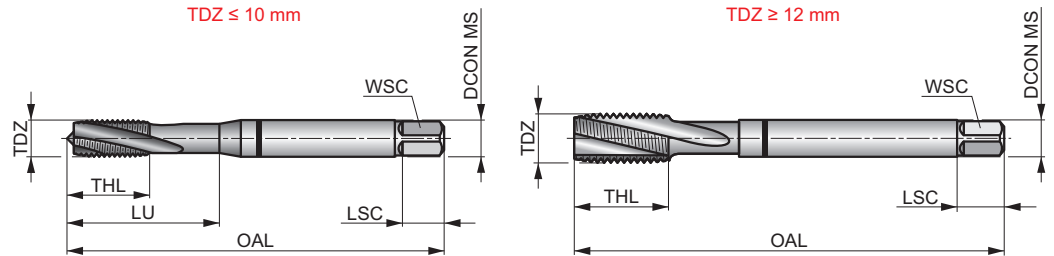


## Black SHARK 15° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for efficient tapping in high strength steels and titanium alloys. A 15° slow spiral allows the chips to be pulled slightly upwards, yet without weakening the cutting edge, as higher spiral taps would. Unique HSS-E-PM substrate along with TiAlN-Top coating for superior performance.

### SHARK

	DIN 	6HX
	1.5×D	HSS-E PM
C 2-3		λ 15°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P3.3</b> ■ 16	<b>P4.2</b> ■ 12	<b>P4.3</b> ■ 9	<b>S1.2</b> ■ 12	<b>S1.3</b> ■ 7	<b>S3.1</b> ■ 4	<b>S3.2</b> ■ 2	<b>H3.1</b> ▣ 6
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Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
E335M3	3	0.50	63.0	12	4.50	3.40	6	3	2.50	12.00
E335M4	4	0.70	70.0	13	6.00	4.90	8	3	3.30	13.00
E335M5	5	0.80	80.0	15	6.00	4.90	8	3	4.20	15.00
E335M6	6	1.00	90.0	18	8.00	6.20	9	3	5.00	18.00
E335M8	8	1.25	100.0	20	10.00	8.00	11	3	6.80	20.00
E335M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E335M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	-

# E238

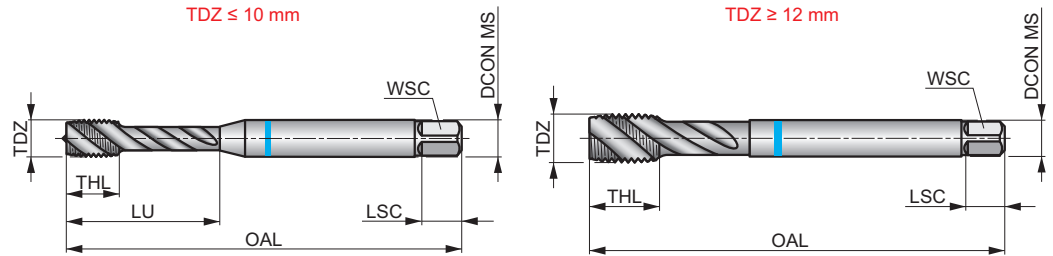


## Blue SHARK 40° Spiral Flute Metric Machine Tap, DIN Standard

Blind hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate, along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
		$\lambda$ 40°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>M1.1</b>	<b>M1.2</b>	<b>M2.1</b>	<b>M2.2</b>	<b>M3.1</b>	<b>M3.2</b>	<b>M3.3</b>	<b>M4.1</b>
■7	■9	■8	■7	■10	■8	■9	■7	■7	■6	■5	■4

Products from this series are also available in set with drills. Please see L114.

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E238M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E238M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E238M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E238M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E238M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	33.00
E238M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E238M12	12	1.75	110.0	16	9.00	7.00	10	4	10.30	—
E238M14	14	2.00	110.0	20	11.00	9.00	12	4	12.00	—
E238M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	—
E238M18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	—
E238M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	—
E238M22	22	2.50	140.0	25	18.00	14.50	17	4	19.80	—
E238M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	—
E238M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	—
E238M30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	—

# E239

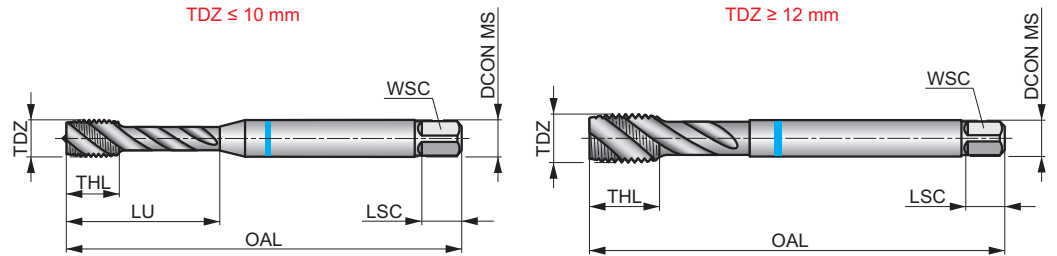


## Blue SHARK 40° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for medium strength stainless steel. Unique HSS-E-PM substrate with Super-B coating and additional edge treatment providing superior performance, consistency and extended tool life. Back taper on spiral flute taps facilitates chip evacuation and reduces torque when the tap reverses.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
		$\lambda$ 40°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>M1.1</b>	<b>M1.2</b>	<b>M2.1</b>	<b>M2.2</b>	<b>M2.3</b>	<b>M3.1</b>	<b>M3.2</b>	<b>M3.3</b>	<b>M4.1</b>	<b>M4.2</b>
15	13	10	8	18	15	16	13	11	11	9	8	5	4

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E239M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E239M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E239M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E239M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E239M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	33.00
E239M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E239M12	12	1.75	110.0	16	9.00	7.00	10	4	10.30	-
E239M14	14	2.00	110.0	20	11.00	9.00	12	4	12.00	-
E239M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	-
E239M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	-

# E414

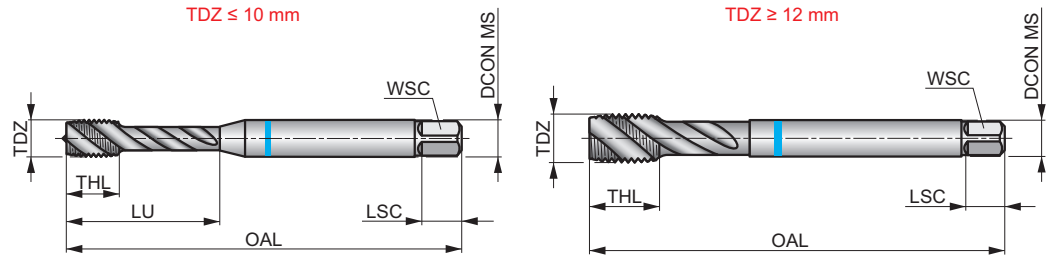


## Blue SHARK 48° Spiral Flute Metric Machine Tap, DIN Standard

High performance quick spiral tap for deep blind holes in stainless steels. Unique HSS-E-PM substrate with Super-B coating and additional edge treatment provide superior performance. Extra back taper facilitates chip evacuation and reduces torque on reversal. Recommended to be used with synchronous feed tap holders.

### SHARK

	DIN 371/376	6H
	3xD	HSS-E PM
		$\lambda$ 48°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.2</b> ■ 32	<b>P2.3</b> ■ 28	<b>P3.2</b> ■ 15	<b>P3.3</b> ■ 13	<b>P4.1</b> ■ 11	<b>P4.2</b> ■ 10	<b>M1.1</b> ■ 22	<b>M1.2</b> ■ 19	<b>M2.1</b> ■ 20	<b>M2.2</b> ■ 16	<b>M2.3</b> ■ 13	<b>M3.1</b> ■ 14	<b>M3.2</b> ■ 12	<b>M3.3</b> ■ 11
<b>M4.1</b> ■ 8	<b>M4.2</b> ■ 7												

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E414M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E414M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E414M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E414M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	30.00
E414M8	8	1.25	90.0	13	8.00	6.20	9	3	6.80	35.00
E414M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E414M12	12	1.75	110.0	18	9.00	7.00	10	3	10.30	-
E414M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	-
E414M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	-
E414M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	-

# E473

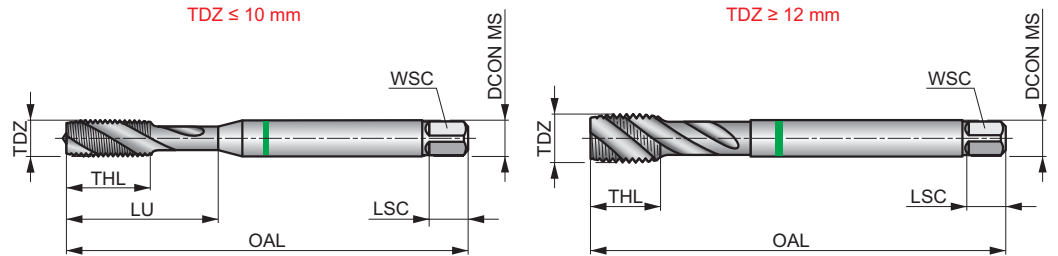


## Green SHARK 35° Spiral Flute Metric Machine Tap, DIN Standard

Blind hole tap with reinforced or reduced shank for non-ferrous materials. Unique HSS-E-PM substrate with polished flutes provide consistency and process security.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
		$\lambda$ 35°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>N1.1</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N2.1</b>	<b>N2.2</b>	<b>N2.3</b>	<b>N3.1</b>	<b>N3.2</b>	<b>N3.3</b>	<b>N4.1</b>
■ 22	■ 23	■ 15	■ 15	■ 11	■ 7	■ 29	■ 27	■ 19	■ 48	■ 28	■ 14	■ 24

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E473M3	3	0.50	56.0	9	3.50	2.70	6	2	2.50	18.00
E473M4	4	0.70	63.0	12	4.50	3.40	6	2	3.30	21.00
E473M5	5	0.80	70.0	13	6.00	4.90	8	2	4.20	25.00
E473M6	6	1.00	80.0	15	6.00	4.90	8	2	5.00	30.00
E473M8	8	1.25	90.0	18	8.00	6.20	9	2	6.80	35.00
E473M10	10	1.50	100.0	20	10.00	8.00	11	2	8.50	39.00
E473M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E473M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-
E473M20	20	2.50	140.0	30	16.00	12.00	15	3	17.50	-

# E474

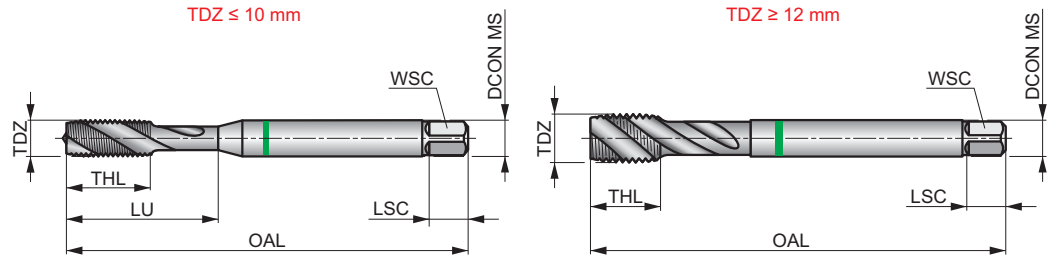


## Green SHARK 35° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap with reinforced or reduced shank for non-ferrous materials. Unique HSS-E-PM substrate with Super-B to avoid chip sticking, providing superior performance, consistency and extended tool life.

### SHARK

	DIN 371/376	6H
	2.5xD	HSS-E PM
		$\lambda$ 35°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b>	<b>P1.2</b>	<b>P1.3</b>	<b>P2.1</b>	<b>P2.2</b>	<b>N1.1</b>	<b>N1.2</b>	<b>N1.3</b>	<b>N2.1</b>	<b>N2.2</b>	<b>N2.3</b>	<b>N3.1</b>	<b>N3.2</b>	<b>N4.1</b>
32	36	38	27	22	33	24	17	44	40	28	72	43	28

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E474M3	3	0.50	56.0	9	3.50	2.70	6	2	2.50	18.00
E474M4	4	0.70	63.0	12	4.50	3.40	6	2	3.30	21.00
E474M5	5	0.80	70.0	13	6.00	4.90	8	2	4.20	25.00
E474M6	6	1.00	80.0	15	6.00	4.90	8	2	5.00	30.00
E474M8	8	1.25	90.0	18	8.00	6.20	9	2	6.80	35.00
E474M10	10	1.50	100.0	20	10.00	8.00	11	2	8.50	39.00
E474M12	12	1.75	110.0	23	9.00	7.00	10	3	10.30	-
E474M16	16	2.00	110.0	25	12.00	9.00	12	3	14.00	-

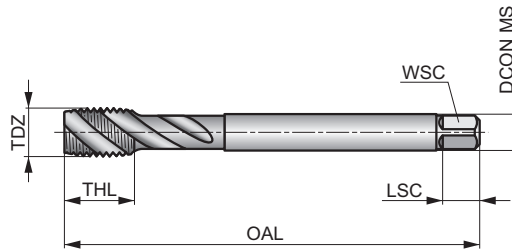


# E398(MF)



## HSS-E-PM Spiral Flute Tap, Metric Fine, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral flute for 2.5xD blind holes. Suited for a variety of work-materials. Unique TiCN coated HSS-E-PM to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life. Recommended for synchronous feed tap holders.



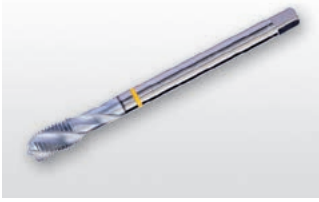
	DIN 374	6HX
	2.5xD	HSS-E PM
C 2-3		$\lambda$ 48°
	TiCN	

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 35	<b>P1.2</b> ■ 40	<b>P1.3</b> ■ 42	<b>P2.1</b> ■ 31	<b>P2.2</b> ■ 27	<b>P2.3</b> ■ 24	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 15	<b>P3.3</b> ■ 12	<b>P4.1</b> ■ 11	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 14	<b>M1.2</b> ■ 11	<b>M2.1</b> ■ 12
<b>M2.2</b> ■ 10	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 4	<b>N1.3</b> ■ 11	<b>N2.1</b> ■ 135	<b>N2.2</b> ■ 132	<b>N2.3</b> ■ 123	<b>N3.1</b> ■ 160				

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
E398M8X1.0	8	1.00	90.0	13	6.00	4.90	8	3	7.00
E398M10X1.0	10	1.00	90.0	13	7.00	5.50	8	3	9.00
E398M10X1.25	10	1.25	100.0	15	7.00	5.50	8	3	8.80
E398M12X1.0	12	1.00	100.0	15	9.00	7.00	10	3	11.00
E398M12X1.25	12	1.25	100.0	15	9.00	7.00	10	3	10.80
E398M12X1.5	12	1.50	100.0	15	9.00	7.00	10	3	10.50
E398M14X1.5	14	1.50	100.0	15	11.00	9.00	12	3	12.50
E398M16X1.5	16	1.50	100.0	15	12.00	9.00	12	4	14.50
E398M20X1.5	20	1.50	125.0	17	16.00	12.00	15	4	18.50

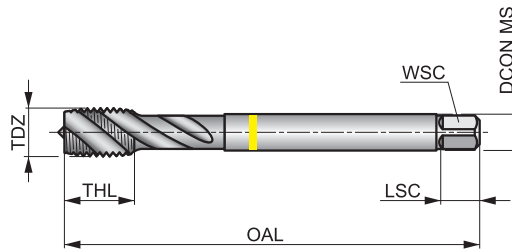
# E300



## Yellow SHARK 40° Spiral Flute Metric-Fine Machine Tap, DIN Standard

High performance blind hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment, provide consistency and process security. Hard chrome coated to increase the surface hardness, reduces built-up edge, resulting in increased performance and tool life.

### SHARK



	DIN 374	6H
	2xD	HSS-E PM
		$\lambda$ 40°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 23	<b>P1.2</b> ■ 25	<b>P1.3</b> ■ 26	<b>P2.1</b> ■ 19	<b>P2.2</b> ■ 17	<b>P2.3</b> ■ 15	<b>P3.1</b> ■ 14	<b>P3.2</b> ■ 11	<b>P4.1</b> ■ 8	<b>N3.1</b> ■ 48	<b>N3.2</b> ■ 28	<b>N3.3</b> ■ 14
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Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
E300M4X.5	4	0.50	63.0	6.5	2.80	2.10	5	3	3.50
E300M5X.5	5	0.50	70.0	7.5	3.50	2.70	6	3	4.50
E300M6X.75	6	0.75	80.0	10	4.50	3.40	6	3	5.30
E300M8X.75	8	0.75	80.0	13	6.00	4.90	8	3	7.30
E300M8X1.0	8	1.00	90.0	13	6.00	4.90	8	3	7.00
E300M10X.75	10	0.75	90.0	13	7.00	5.50	8	3	9.30
E300M10X1.0	10	1.00	90.0	12	7.00	5.50	8	3	9.00
E300M10X1.25	10	1.25	100.0	15	7.00	5.50	8	3	8.80
E300M12X1.0	12	1.00	100.0	15	9.00	7.00	10	4	11.00
E300M12X1.25	12	1.25	100.0	13	9.00	7.00	10	4	10.80
E300M12X1.5	12	1.50	100.0	13	9.00	7.00	10	4	10.50
E300M14X1.0	14	1.00	100.0	15	11.00	9.00	12	4	13.00
E300M14X1.25	14	1.25	100.0	15	11.00	9.00	12	4	12.80
E300M14X1.5	14	1.50	100.0	15	11.00	9.00	12	4	12.50
E300M16X1.0	16	1.00	100.0	15	12.00	9.00	12	5	15.00
E300M16X1.5	16	1.50	100.0	15	12.00	9.00	12	5	14.50
E300M18X1.0	18	1.00	110.0	17	14.00	11.00	14	5	17.00
E300M18X1.5	18	1.50	110.0	17	14.00	11.00	14	5	16.50
E300M20X1.5	20	1.50	125.0	17	16.00	12.00	15	5	18.50
E300M22X1.5	22	1.50	125.0	17	18.00	14.50	17	5	20.50
E300M24X1.5	24	1.50	140.0	20	18.00	14.50	17	5	22.50
E300M24X2.0	24	2.00	140.0	20	18.00	14.50	17	5	22.00
E300M27X2.0	27	2.00	140.0	20	20.00	16.00	19	5	25.00
E300M30X2.0	30	2.00	150.0	20	22.00	18.00	21	5	28.00

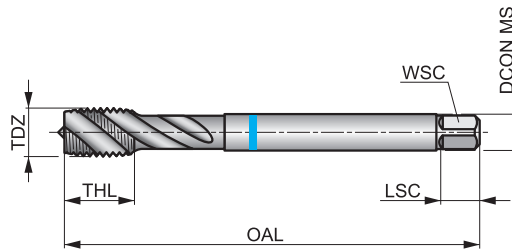
# E383



## Blue SHARK 40° Spiral Flute Metric-Fine Machine Tap, DIN Standard

Blind hole tap with reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK



	DIN 374	6H
	2xD	HSS-E PM
C 2-3		$\lambda$ 40°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>M1.1</b>	<b>M1.2</b>	<b>M2.1</b>	<b>M2.2</b>	<b>M3.1</b>	<b>M3.2</b>	<b>M3.3</b>	<b>M4.1</b>
■7	■9	■8	■7	■10	■8	■9	■7	■7	■6	■5	■4

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
E383M6X.75	6	0.75	80.0	10	4.50	3.40	6	3	5.30
E383M8X1.0	8	1.00	90.0	13	6.00	4.90	8	3	7.00
E383M10X1.0	10	1.00	90.0	12	7.00	5.50	8	3	9.00
E383M10X1.25	10	1.25	100.0	15	7.00	5.50	8	3	8.80
E383M12X1.0	12	1.00	100.0	13	9.00	7.00	10	4	11.00
E383M12X1.25	12	1.25	100.0	13	9.00	7.00	10	4	10.80
E383M12X1.5	12	1.50	100.0	13	9.00	7.00	10	4	10.50
E383M14X1.5	14	1.50	100.0	21	11.00	9.00	12	4	12.50
E383M16X1.5	16	1.50	100.0	21	12.00	9.00	12	5	14.50
E383M18X1.5	18	1.50	110.0	24	14.00	11.00	14	5	16.50
E383M20X1.5	20	1.50	125.0	24	16.00	12.00	15	5	18.50

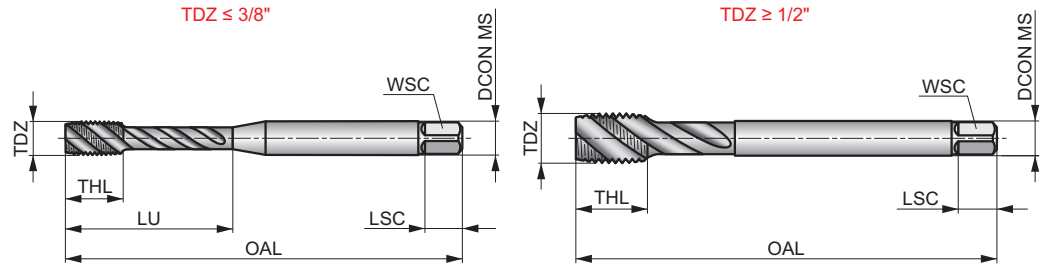
# E398(UNC)



## HSS-E-PM Spiral Flute Tap, UNC, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral flute for 2.5xD blind holes. Suited for a variety of work-materials. Unique TiCN coated HSS-E-PM to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life. Recommended for synchronous feed tap holders.

	DIN 2184-1	2BX
	2.5xD	HSS-E PM
		$\lambda$ 48°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 35	<b>P1.2</b> ■ 40	<b>P1.3</b> ■ 42	<b>P2.1</b> ■ 31	<b>P2.2</b> ■ 27	<b>P2.3</b> ■ 24	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 15	<b>P3.3</b> ■ 12	<b>P4.1</b> ■ 11	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 14	<b>M1.2</b> ■ 11	<b>M2.1</b> ■ 12
<b>M2.2</b> ■ 10	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 4	<b>N1.3</b> ■ 11	<b>N2.1</b> ■ 135	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23	<b>N3.1</b> ■ 160				

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E398UNC8X32	8	32	4.17	63.0	7	4.50	3.40	6	3	3.50	21.00
E398UNC10X24	10	24	4.83	70.0	8	6.00	4.90	8	3	3.90	25.00
E398UNC1/4	1/4	20	6.35	80.0	10	7.00	5.50	8	3	5.10	30.00
E398UNC5/16	5/16	18	7.94	90.0	12	8.00	6.20	9	3	6.60	35.00
E398UNC3/8	3/8	16	9.53	100.0	15	10.00	8.00	11	3	8.00	39.00
E398UNC1/2	1/2	13	12.70	110.0	18	9.00	7.00	10	3	10.80	-

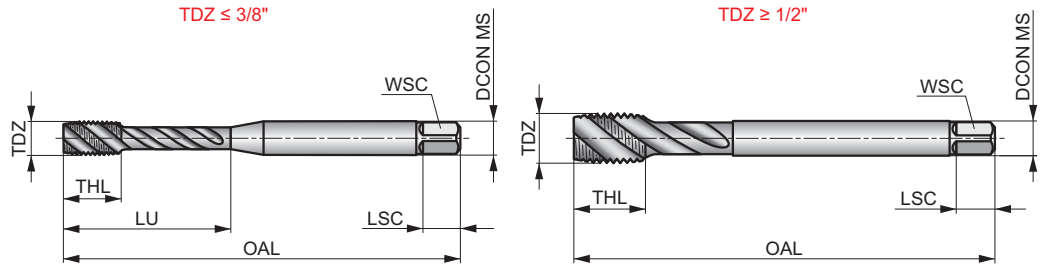
# E398(UNF)



## HSS-E-PM Spiral Flute Tap, UNF, DIN Standard, TiCN Coated

Machine tap for highly productive applications with spiral flute for 2.5xD blind holes. Suited for a variety of work-materials. Unique TiCN coated HSS-E-PM to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life. Recommended for synchronous feed tap holders.

	DIN 2184-1	2BX
	2.5xD	HSS-E PM
		$\lambda$ 48°



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 35	<b>P1.2</b> ■ 40	<b>P1.3</b> ■ 42	<b>P2.1</b> ■ 31	<b>P2.2</b> ■ 27	<b>P2.3</b> ■ 24	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 15	<b>P3.3</b> ■ 12	<b>P4.1</b> ■ 11	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 14	<b>M1.2</b> ■ 11	<b>M2.1</b> ■ 12
<b>M2.2</b> ■ 10	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 4	<b>N1.3</b> ■ 11	<b>N2.1</b> ■ 135	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23	<b>N3.1</b> ■ 160				

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E398UNF1/4	1/4	28	6.35	80.0	10	7.00	5.50	8	3	5.50	30.00
E398UNF5/16	5/16	24	7.94	90.0	12	8.00	6.20	9	3	6.90	35.00
E398UNF3/8	3/8	24	9.53	100.0	15	10.00	8.00	11	3	8.50	39.00
E398UNF1/2	1/2	20	12.70	110.0	18	9.00	7.00	10	3	11.50	-

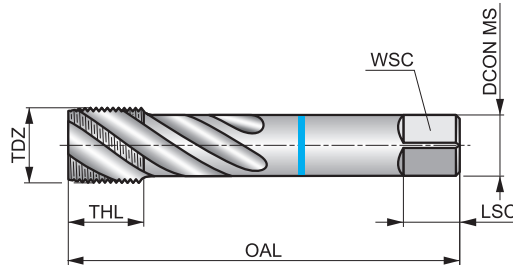
# E382



## Blue SHARK 40° Spiral Flute G(BSP) Machine Tap, DIN Standard

Blind hole tap with reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

### SHARK



	DIN 5156	Normal
	2xD	HSS-E PM
		$\lambda$ 40°

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P2.3</b>	<b>P3.3</b>	<b>P4.1</b>	<b>P4.2</b>	<b>M1.1</b>	<b>M1.2</b>	<b>M2.1</b>	<b>M2.2</b>	<b>M3.1</b>	<b>M3.2</b>	<b>M3.3</b>	<b>M4.1</b>
■8	■10	■9	■7	■10	■8	■9	■7	■7	■6	■5	■4

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
E3821/8	1/8	28	9.73	90.0	12	7.00	5.50	8	3	8.80
E3821/4	1/4	19	13.16	100.0	15	11.00	9.00	12	4	11.80
E3823/8	3/8	19	16.66	100.0	15	12.00	9.00	12	4	15.25
E3821/2	1/2	14	20.96	125.0	24	16.00	12.00	15	4	19.00
E3823/4	3/4	14	26.44	140.0	20	20.00	16.00	19	4	24.50
E3821	1"	11	33.25	160.0	24	25.00	20.00	23	4	30.75

Thread form (THFT)												
Basic standard group (BSG)	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2184-1	DIN 2184-1		
Thread tolerance class (TCTR)	6HX	6HX	6HX	6HX	6HX	6GX	6GX	6HX	2BX	2BX		
Threading application												
Usable length (ULDR)	3xD	3xD	3.5xD	3.5xD	3xD	3xD	3xD	3xD	3.5xD	3.5xD		
Material code (BMC)	HSS-E	HSS-E	HSS-E	HSS-E	HM	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E		
Tap chamfer style (TCS)	C 2-3.5	E 1.5-2	C 2-3.5	C 2-3.5	C 2-3.5	C 2-3.5	E 1.5-2	C 2-3.5	C 2-3.5	C 2-3.5		
Flute Geometry (FDC)												
Hand (Cutting direction)												
Coating												
Coolant exit style (CXSC)												
Product Family Code	<b>E292</b>	<b>E293</b>	<b>E294</b>	<b>E289</b>	<b>T215</b>	<b>E295</b>	<b>E296</b>	<b>E288</b>	<b>E287</b>	<b>E286</b>		
PSF cutting diameters range	M1.6 – M16	M3 – M16	M3 – M16	M5 – M12	M3 – M10	M3 – M12	M3 – M10	M5 – M12	No.4 – 1/2	No.4 – 1/2		
	230	231	232	233	234	235	236	237	238	239		
<b>P</b>	P1	■	■	■	■	■	■	■	■	■		
	P2	■	■	■	■	■	■	■	■	■		
	P3	■	■	■	■	■	■	■	■	■		
	P4	▣	▣	■	■	■	▣	▣	▣	■	■	
<b>M</b>	M1	■	■	■	■	■	■	■	■	■		
	M2	■	■	■	■	■	■	■	■	■		
	M3	■	■	■	■	■	■	■	■	■		
	M4	▣	▣	■	■	▣	▣	▣	▣	■	■	
<b>K</b>	K1											
	K2											
	K3											
	K4											
	K5											
<b>N</b>	N1	■	■	■	■	■	■	■	■	■		
	N2	■	■	■	■	■	■	■	■	■		
	N3	▣	▣	▣	▣	■	▣	▣	▣	▣	▣	
	N4											
	N5											
<b>S</b>	S1											
	S2											
	S3											
	S4											
<b>H</b>	H1											
	H2											
	H3											
	H4											

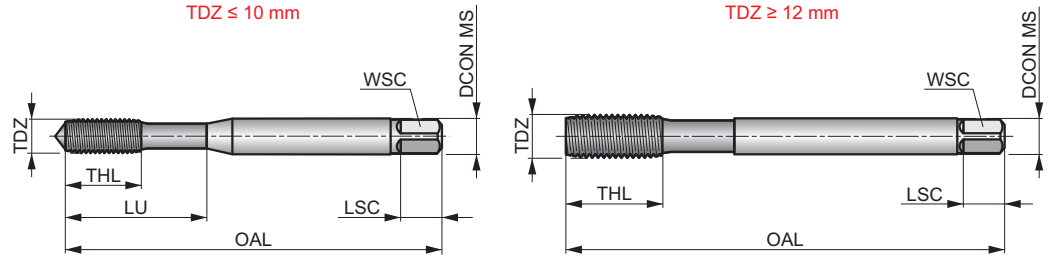
# E292



## HSS-E Thread Forming TiN Coated Tap, Metric, DIN Standard

High performance fluteless tap to produce high quality thread in blind and through holes. Provides a strong, clean, chip-free and accurate thread with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated to allow higher cutting speeds, improve performance and extend tool life.

	DIN 2174	6HX
	3xD	HSS-E
C 2-3.5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ▧ 18	<b>P4.1</b> ■ 18	<b>P4.2</b> ▧ 13	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22	<b>M2.2</b> ■ 18
<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ▧ 12	<b>M4.1</b> ▧ 8	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▧ 36	<b>N3.3</b> ▧ 12		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E292M1.6	1.6	0.35	40.0	8	2.50	2.10	5	3	1.40	-
E292M2	2	0.40	45.0	6	2.80	2.10	5	3	1.80	11.00
E292M2.5	2.5	0.45	50.0	8	2.80	2.10	5	3	2.30	12.50
E292M3	3	0.50	56.0	9	3.50	2.70	6	4	2.80	18.00
E292M3.5	3.5	0.60	56.0	11	4.00	3.00	6	4	3.20	20.00
E292M4	4	0.70	63.0	12	4.50	3.40	6	5	3.70	21.00
E292M5	5	0.80	70.0	13	6.00	4.90	8	5	4.60	25.00
E292M6	6	1.00	80.0	15	6.00	4.90	8	5	5.50	30.00
E292M8	8	1.25	90.0	18	8.00	6.20	9	5	7.40	35.00
E292M10	10	1.50	100.0	20	10.00	8.00	11	5	9.30	39.00
E292M12	12	1.75	110.0	23	9.00	7.00	10	5	11.20	-
E292M16	16	2.00	110.0	25	12.00	9.00	12	6	15.00	-



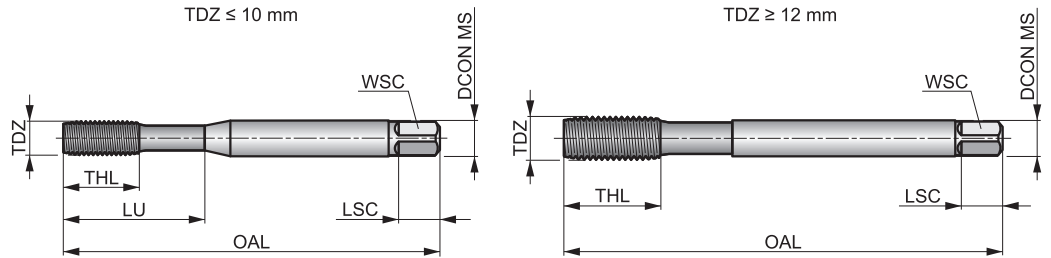
# E293



## HSS-E Thread Forming TiN Coated Tap, Metric, DIN Standard

High performance fluteless tap with full-bottoming lead to produce an almost full thread in blind holes. Provides a strong, clean, chip-free and accurate thread with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds, improve performance and tool life.

	DIN 2174	6HX
	3xD	HSS-E
E 1.5-2		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ▧ 18	<b>P4.1</b> ■ 18	<b>P4.2</b> ▧ 13	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22	<b>M2.2</b> ■ 18
<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ▧ 12	<b>M4.1</b> ▧ 8	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▧ 36	<b>N3.3</b> ▧ 12		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E293M3	3	0.50	56.0	9	3.50	2.70	6	4	2.80	18.00
E293M4	4	0.70	63.0	12	4.50	3.40	6	5	3.70	21.00
E293M5	5	0.80	70.0	13	6.00	4.90	8	5	4.60	25.00
E293M6	6	1.00	80.0	15	6.00	4.90	8	5	5.50	30.00
E293M8	8	1.25	90.0	18	8.00	6.20	9	5	7.40	35.00
E293M10	10	1.50	100.0	20	10.00	8.00	11	5	9.30	39.00
E293M12	12	1.75	110.0	23	9.00	7.00	10	5	11.20	-

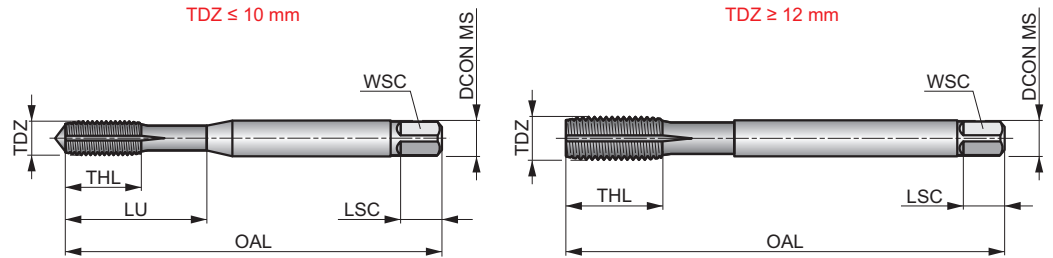
# E294



## HSS-E Thread Forming TiN Coated Tap, Oil-Grooves, Metric, DIN Standard

High performance fluteless tap for blind and through holes. Provide strong, clean, chip-free and accurate threads with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds, performance and tool life. With oil-grooves for better lubrication in deep holes.

	DIN 2174	6HX
	3.5xD	HSS-E
C 2-3.5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P2.3</b> ▣ 40	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ■ 20	<b>P4.1</b> ■ 18	<b>P4.2</b> ■ 15	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22
<b>M2.2</b> ■ 18	<b>M2.3</b> ▣ 12	<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ■ 14	<b>M4.1</b> ■ 10	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▣ 40	<b>N3.3</b> ▣ 12

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
E294M3	3	0.50	56.0	9	3.50	2.70	6	4	2.80	18.00
E294M4	4	0.70	63.0	12	4.50	3.40	6	5	3.70	21.00
E294M5	5	0.80	70.0	13	6.00	4.90	8	5	4.60	25.00
E294M6	6	1.00	80.0	15	6.00	4.90	8	5	5.50	30.00
E294M8	8	1.25	90.0	18	8.00	6.20	9	5	7.40	35.00
E294M10	10	1.50	100.0	20	10.00	8.00	11	5	9.30	39.00
E294M12	12	1.75	110.0	23	9.00	7.00	10	5	11.20	-
E294M14	14	2.00	110.0	25	11.00	9.00	12	6	13.00	-
E294M16	16	2.00	110.0	25	12.00	9.00	12	6	15.00	-

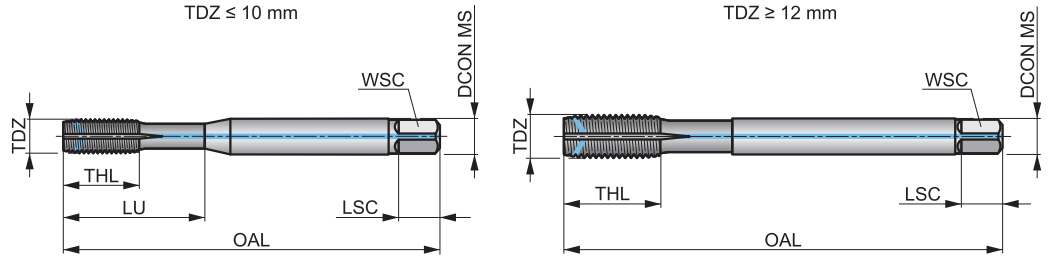
# E289



## HSS-E Thread Forming TiN Coated Tap, Through Coolant, Metric, DIN Standard

High performance fluteless tap for blind and through holes. Provide strong, clean, chip-free and accurate threads with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds, performance and tool life. Through coolant and oil-grooves for optimal lubrication.

M	DIN 2174	6HX
	3.5×D	HSS-E
C 2-3.5		R



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 50	<b>P1.2</b> ■ 56	<b>P1.3</b> ■ 56	<b>P2.1</b> ■ 56	<b>P2.2</b> ■ 49	<b>P2.3</b> ▣ 42	<b>P3.1</b> ■ 33	<b>P3.2</b> ■ 26	<b>P3.3</b> ■ 22	<b>P4.1</b> ■ 20	<b>P4.2</b> ■ 16	<b>M1.1</b> ■ 27	<b>M1.2</b> ■ 23	<b>M2.1</b> ■ 24
<b>M2.2</b> ■ 19	<b>M2.3</b> ▣ 12	<b>M3.1</b> ■ 18	<b>M3.2</b> ■ 16	<b>M3.3</b> ■ 14	<b>M4.1</b> ■ 10	<b>N1.1</b> ■ 60	<b>N1.2</b> ■ 55	<b>N1.3</b> ■ 31	<b>N2.1</b> ■ 68	<b>N2.2</b> ■ 60	<b>N2.3</b> ■ 44	<b>N3.1</b> ▣ 40	<b>N3.3</b> ▣ 14

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
E289M5	5	0.80	70.0	13	6.00	4.90	8	5	4.60	25.00
E289M6	6	1.00	80.0	15	6.00	4.90	8	5	5.50	30.00
E289M8	8	1.25	90.0	18	8.00	6.20	9	5	7.40	35.00
E289M10	10	1.50	100.0	20	10.00	8.00	11	5	9.30	39.00
E289M12	12	1.75	110.0	23	9.00	7.00	10	5	11.20	—

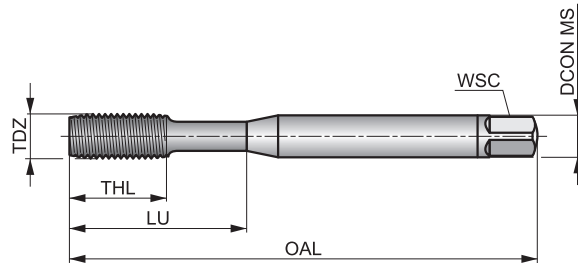
# T215



## Carbide Thread Forming Tap, Metric, DIN Standard

Forming tap for blind and through holes. Provides a strong, clean, chip free and accurate thread with excellent tolerance. The carbide material gives high process security and excellent tool life when forming threads in mild to medium strength steels, medium strength stainless steel and non-ferrous materials. TiCN coated.

	DIN 2174	6HX
	3xD	HM
C 2-3.5		
TiCN		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 60	<b>P1.2</b> ■ 68	<b>P1.3</b> ■ 68	<b>P2.1</b> ■ 68	<b>P2.2</b> ■ 60	<b>P2.3</b> ■ 45	<b>P3.1</b> ■ 44	<b>P3.2</b> ■ 36	<b>P3.3</b> ■ 30	<b>P4.1</b> ■ 26	<b>P4.2</b> ■ 22	<b>M1.1</b> ■ 34	<b>M1.2</b> ■ 29	<b>M2.1</b> ■ 31
<b>M2.2</b> ■ 25	<b>M2.3</b> ▣ 21	<b>M3.1</b> ■ 29	<b>M3.2</b> ■ 25	<b>M3.3</b> ■ 23	<b>M4.1</b> ■ 25	<b>M4.2</b> ▣ 22	<b>N1.1</b> ■ 70	<b>N1.2</b> ■ 53	<b>N1.3</b> ■ 35	<b>N2.1</b> ■ 98	<b>N2.2</b> ■ 98	<b>N2.3</b> ■ 80	<b>N3.1</b> ■ 50
<b>N3.2</b> ▣ 50	<b>N3.3</b> ■ 38												

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
T215M3 <sup>1)</sup>	3	0.50	56.0	10	3.50	2.70	6	4	2.80	–
T215M4 <sup>1)</sup>	4	0.70	63.0	13	4.50	3.40	6	5	3.70	–
T215M5 <sup>1)</sup>	5	0.80	70.0	16	6.00	4.90	8	5	4.60	–
T215M6	6	1.00	80.0	19	6.00	4.90	8	5	5.50	30.00
T215M8	8	1.25	90.0	22	8.00	6.20	9	5	7.40	35.00
T215M10	10	1.50	100.0	24	10.00	8.00	11	5	9.30	39.00

<sup>1)</sup> Without neck.

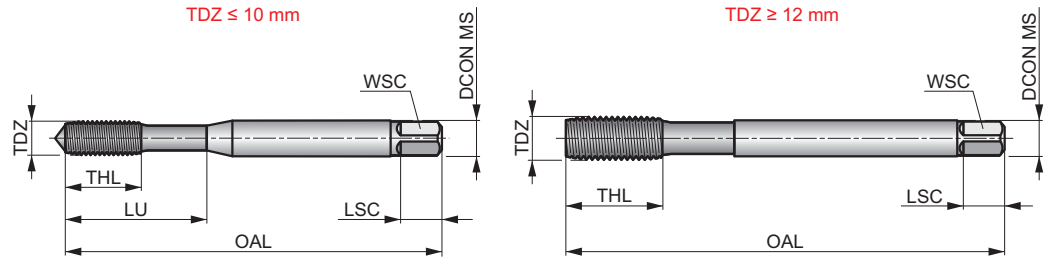
# E295



## HSS-E Thread Forming TiN Coated Tap, Metric, DIN Standard

High performance fluteless tap to produce high quality threads within 6G tolerance for a fit with large allowance. Provides a strong, clean, chip-free and accurate thread with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds and extend tool life.

	DIN 2174	6GX
	3xD	HSS-E



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ▧ 18	<b>P4.1</b> ■ 18	<b>P4.2</b> ▧ 13	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22	<b>M2.2</b> ■ 18
<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ▧ 12	<b>M4.1</b> ▧ 8	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▧ 36	<b>N3.3</b> ▧ 12		

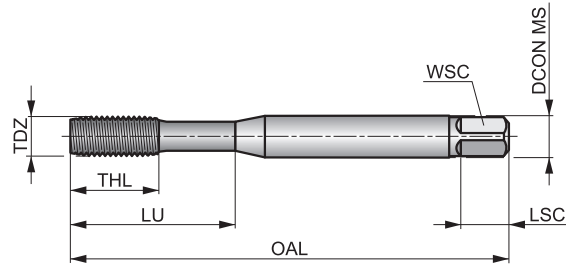
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E295M3	3	0.50	56.0	9	3.50	2.70	6	4	2.80	18.00
E295M3.5	3.5	0.60	56.0	11	4.00	3.00	6	4	3.20	20.00
E295M4	4	0.70	63.0	12	4.50	3.40	6	5	3.70	21.00
E295M5	5	0.80	70.0	13	6.00	4.90	8	5	4.60	25.00
E295M6	6	1.00	80.0	15	6.00	4.90	8	5	5.50	30.00
E295M8	8	1.25	90.0	18	8.00	6.20	9	5	7.40	35.00
E295M10	10	1.50	100.0	20	10.00	8.00	11	5	9.30	39.00
E295M12	12	1.75	110.0	23	9.00	7.00	10	5	11.20	-

# E296



## HSS-E Thread Forming TiN Coated Tap, Metric, DIN Standard

High performance fluteless tap with full-bottoming lead to produce an almost full blind hole thread within 6G tolerance. Provides a strong, clean, chip-free and accurate thread. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds, improve performance and tool life.



	DIN 2174	6GX
	3xD	HSS-E
E 1.5-2		

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ▧ 18	<b>P4.1</b> ■ 18	<b>P4.2</b> ▧ 13	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22	<b>M2.2</b> ■ 18
<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ▧ 12	<b>M4.1</b> ▧ 8	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▧ 36	<b>N3.3</b> ▧ 12		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
E296M3	3	0.50	56.0	9	3.50	2.70	6	4	2.80	18.00
E296M4	4	0.70	63.0	12	4.50	3.40	6	5	3.70	21.00
E296M5	5	0.80	70.0	13	6.00	4.90	8	5	4.60	25.00
E296M6	6	1.00	80.0	15	6.00	4.90	8	5	5.50	30.00
E296M8	8	1.25	90.0	18	8.00	6.20	9	5	7.40	35.00
E296M10	10	1.50	100.0	20	10.00	8.00	11	5	9.30	39.00

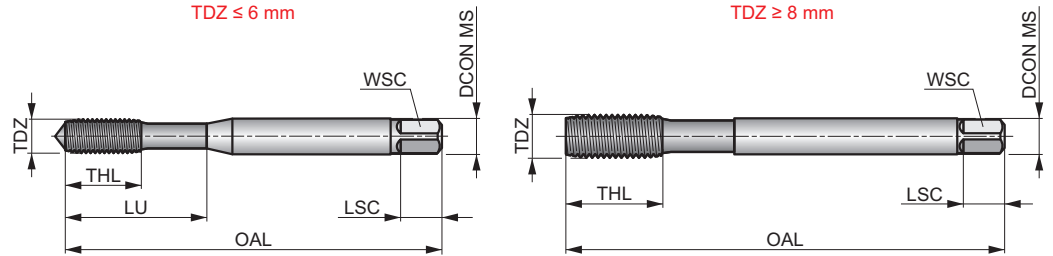
# E288



## HSS-E Fluteless Machine Tap, Metric Fine with TiN Coating, DIN Standard

High performance fluteless tap to produce high quality thread in blind and through holes. Provides a strong, clean, chip-free and accurate thread with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds, improve performance and tool life.

	DIN 2174	6HX
	3xD	HSS-E
C 2-3.5		



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ▧ 18	<b>P4.1</b> ■ 18	<b>P4.2</b> ▧ 13	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22	<b>M2.2</b> ■ 18
<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ▧ 12	<b>M4.1</b> ▧ 8	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▧ 36	<b>N3.3</b> ▧ 12		

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
E288M6X.75	6	0.75	80.0	15	6.00	4.90	8	5	5.70	30.00
E288M8X1.0	8	1.00	90.0	18	6.00	4.90	8	5	7.50	-
E288M10X1.0	10	1.00	90.0	20	7.00	5.50	8	5	9.50	-
E288M10X1.25	10	1.25	100.0	20	7.00	5.50	8	5	9.40	-
E288M12X1.5	12	1.50	100.0	21	9.00	7.00	10	5	11.30	-

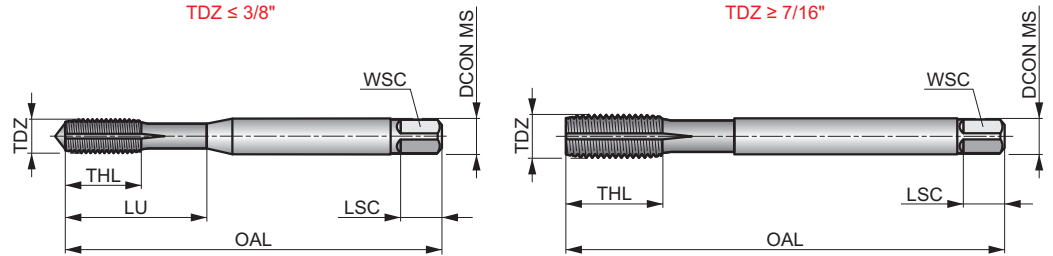
# E287



## HSS-E Thread Forming TiN Coated Tap, Oil-Grooves, UNC, DIN Standard

High performance fluteless tap for blind and through holes. Provide strong, clean, chip-free and accurate threads with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds, performance and tool life. With oil-grooves for better lubrication in deep holes.

	DIN 2184-1	2BX
	3.5xD	HSS-E



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P2.3</b> ▣ 40	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ■ 20	<b>P4.1</b> ■ 18	<b>P4.2</b> ■ 15	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22
<b>M2.2</b> ■ 18	<b>M2.3</b> ▣ 12	<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ■ 14	<b>M4.1</b> ■ 10	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ▣ 40	<b>N3.3</b> ▣ 12

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E2874-40	4	40	2.85	56.0	9	3.50	2.70	6	4	2.60	18.00
E2876-32	6	32	3.50	56.0	11	4.00	3.00	6	4	3.20	20.00
E2878-32	8	32	4.17	63.0	12	4.50	3.40	6	5	3.80	21.00
E28710-24	10	24	4.83	70.0	13	6.00	4.90	8	5	4.40	25.00
E2871/4	1/4	20	6.35	80.0	15	7.00	5.50	8	5	5.80	30.00
E2875/16	5/16	18	7.94	90.0	18	8.00	6.20	9	5	7.30	35.00
E2873/8	3/8	16	9.53	100.0	20	10.00	8.00	11	5	8.80	39.00
E2877/16	7/16	14	11.11	100.0	20	8.00	6.20	9	5	10.30	-
E2871/2	1/2	13	12.70	110.0	23	9.00	7.00	10	5	11.90	-



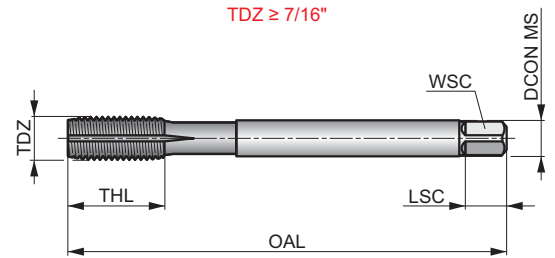
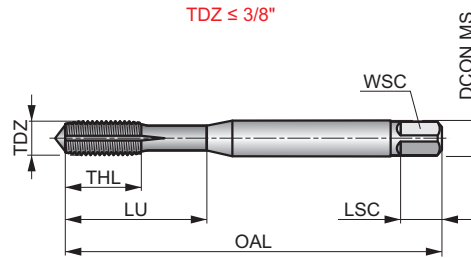
# E286



## HSS-E Thread Forming TiN Coated Tap, Oil-Grooves, UNF, DIN Standard

High performance fluteless tap for blind and through holes. Provide strong, clean, chip-free and accurate threads with excellent tolerance. Highly versatile for steel, stainless steel and non-ferrous metal. TiN coated for higher cutting speeds and extend tool life. With oil-grooves for better lubrication in deep holes.

	DIN 2184-1	2BX
	3.5xD	HSS-E



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 45	<b>P1.2</b> ■ 51	<b>P1.3</b> ■ 51	<b>P2.1</b> ■ 51	<b>P2.2</b> ■ 45	<b>P2.3</b> ■ 40	<b>P3.1</b> ■ 29	<b>P3.2</b> ■ 24	<b>P3.3</b> ■ 20	<b>P4.1</b> ■ 18	<b>P4.2</b> ■ 15	<b>M1.1</b> ■ 25	<b>M1.2</b> ■ 21	<b>M2.1</b> ■ 22
<b>M2.2</b> ■ 18	<b>M2.3</b> ■ 15	<b>M3.1</b> ■ 17	<b>M3.2</b> ■ 15	<b>M3.3</b> ■ 14	<b>M4.1</b> ■ 10	<b>N1.1</b> ■ 55	<b>N1.2</b> ■ 41	<b>N1.3</b> ■ 28	<b>N2.1</b> ■ 62	<b>N2.2</b> ■ 55	<b>N2.3</b> ■ 40	<b>N3.1</b> ■ 40	<b>N3.3</b> ■ 12

Product	TDZ	TPI	TD	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
E2864-48	4	48	2.85	56.0	9	3.50	2.70	6	4	2.60	18.00
E2866-40	6	40	3.50	56.0	11	4.00	3.00	6	4	3.20	20.00
E28610-32	10	32	4.83	70.0	13	6.00	4.90	8	5	4.50	25.00
E2861/4	1/4	28	6.35	80.0	15	7.00	5.50	8	5	6.00	30.00
E2865/16	5/16	24	7.94	90.0	18	8.00	6.20	9	5	7.50	35.00
E2863/8	3/8	24	9.53	100.0	20	10.00	8.00	11	5	9.10	39.00
E2867/16	7/16	20	11.11	100.0	20	8.00	6.20	9	5	10.60	-
E2861/2	1/2	20	12.70	100.0	21	9.00	7.00	10	5	12.10	-

Thread form (THFT)										
Basic standard group (BSG)	DIN 371/376	DIN 371	DIN 371/376							
Thread tolerance class (TCTR)	6H	6HX	6H							
Threading application										
Usable length (ULDR)	2xD	2xD	2xD							
Material code (BMC)	HM	HM	HM							
Tap chamfer style (TCS)	C 2-3	C 2-3	C 2-3							
Flute Geometry (FDC)										
Flute helix angle (FHA)			$\lambda$ 15°							
Hand (Cutting direction)										
Coating	TiCN	TiCN	Bright							

Product Family Code	<b>T200</b>	<b>T210</b>	<b>T205</b>							
PSF cutting diameters range	M3 – M12	M4 – M12	M3 – M12							

	242	243	244							
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<b>P</b>	P1									
	P2									
	P3									
	P4									
<b>M</b>	M1									
	M2									
	M3									
	M4									
<b>K</b>	K1	■		■						
	K2			■						
	K3			■						
	K4			■						
	K5			■						
<b>N</b>	N1									
	N2			■						
	N3									
	N4	■		■						
	N5									
<b>S</b>	S1									
	S2									
	S3									
	S4									
<b>H</b>	H1	■	■							
	H2	■	■							
	H3	■	■							
	H4	■	■							

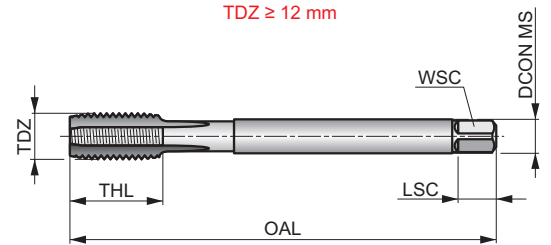
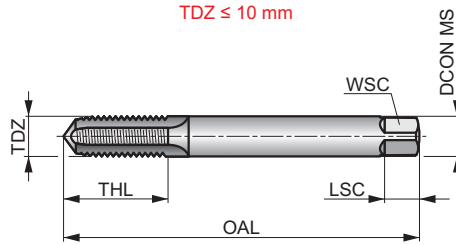
# T200



## Carbide Straight Flute Machine Tap, Metric, with TiCN Coating, DIN Standard

Superior performance and great tool life at high speeds. Suitable for machine tapping in tool steels, high silicon aluminium and other hardened and abrasive materials. The straight flute design makes the taps ideal for threading both through and blind holes. TiCN coated to improve performance and extend tool life.

	DIN 371/376	6H
	2xD	HM



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>K1.1</b>	<b>K1.2</b>	<b>K1.3</b>	<b>N2.3</b>	<b>N3.2</b>	<b>N4.2</b>	<b>N4.3</b>	<b>H1.1</b>	<b>H2.1</b>	<b>H2.2</b>	<b>H3.1</b>	<b>H3.2</b>	<b>H4.1</b>	<b>H4.2</b>
▣60	▣44	▣33	▣60	▣17	▣50	▣30	▣11	▣7	▣5	▣7	▣6	▣4	▣3

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
T200M3 <sup>1)</sup>	3	0.50	56.0	10	3.50	2.70	6	3	2.60	–
T200M4 <sup>1)</sup>	4	0.70	63.0	13	4.50	3.40	6	3	3.40	–
T200M5 <sup>1)</sup>	5	0.80	70.0	16	6.00	4.90	8	3	4.30	–
T200M6	6	1.00	80.0	19	6.00	4.90	8	3	5.10	30.00
T200M8	8	1.25	90.0	22	8.00	6.20	9	3	6.90	35.00
T200M10	10	1.50	100.0	24	10.00	8.00	11	3	8.70	39.00
T200M12	12	1.75	110.0	23	9.00	7.00	10	3	10.40	–

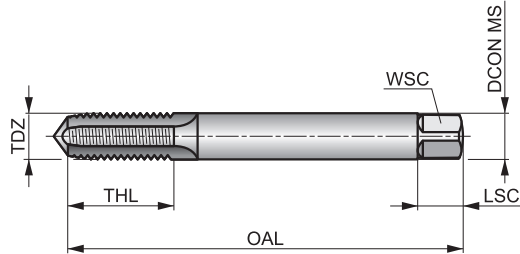
<sup>1)</sup> Without neck.

# T210



## Carbide Straight Flute Machine Tap, Metric, DIN Standard

Superior performance and great tool life at high speeds. Suitable for machine tapping of hardened steel. The straight flute design makes the taps ideal for threading both through and blind holes. TiCN coated to improve performance and extend the tool life.



	DIN 371	6HX
	2xD	HM
C 2-3		
TiCN		

Workpiece material group suitability and starting values for cutting speed (m/min).

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD				
										(mm)	(mm)	(mm)	(mm)
<b>H1.1</b>		<b>H2.1</b>		<b>H2.2</b>		<b>H3.1</b>		<b>H3.2</b>		<b>H4.1</b>		<b>H4.2</b>	
<b>T210M4</b> <sup>1)</sup>	4	0.70	63.0	11	4.50	3.40	6	5	3.40				
<b>T210M5</b> <sup>1)</sup>	5	0.80	70.0	13.5	6.00	4.90	8	5	4.30				
<b>T210M6</b> <sup>1)</sup>	6	1.00	80.0	16.5	6.00	4.90	8	5	5.10				
<b>T210M8</b> <sup>1)</sup>	8	1.25	90.0	21.5	8.00	6.20	9	5	6.90				
<b>T210M10</b> <sup>1)</sup>	10	1.50	100.0	27	10.00	8.00	11	5	8.70				
<b>T210M12</b> <sup>1)</sup>	12	1.75	110.0	32	12.00	9.00	12	6	10.40				

<sup>1)</sup> Without neck.

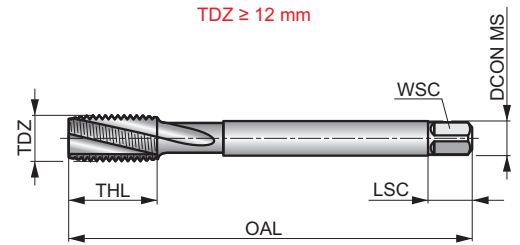
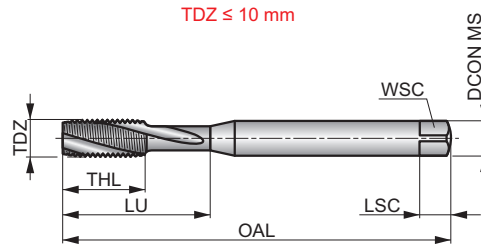
# T205



## Carbide 15° Spiral Flute Machine Tap, Metric, DIN Standard

Suitable for machine tapping in abrasive materials, such as cast iron and high silicon aluminium, making them a very versatile choice. The 15° spiral flute makes it great for threading holes which do not go all the way through the workpiece (blind holes). The bright finish ensures a clean and accurate result.

	DIN 371/376	6H
	2xD	HM
		$\lambda$ 15°
	Bright	



Workpiece material group suitability and starting values for cutting speed (m/min).

<b>K1.1</b> ■40	<b>K1.2</b> ■30	<b>K1.3</b> ■22	<b>K2.1</b> ■31	<b>K2.2</b> ■25	<b>K2.3</b> ■20	<b>K3.1</b> ■27	<b>K3.2</b> ■21	<b>K3.3</b> ■17	<b>K4.1</b> ■25	<b>K4.2</b> ■19	<b>K4.3</b> ■14	<b>K4.4</b> ■12	<b>K4.5</b> ■10
<b>K5.1</b> ■29	<b>K5.2</b> ■21	<b>K5.3</b> ■17	<b>N2.1</b> ■54	<b>N2.2</b> ■48	<b>N2.3</b> ■35	<b>N4.2</b> ■25	<b>N4.3</b> ■15						

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
<b>T205M3</b> <sup>1)</sup>	3	0.50	56.0	10	3.50	2.70	6	3	2.60	–
<b>T205M4</b> <sup>1)</sup>	4	0.70	63.0	13	4.50	3.40	6	3	3.40	–
<b>T205M5</b> <sup>1)</sup>	5	0.80	70.0	16	6.00	4.90	8	3	4.30	–
<b>T205M6</b>	6	1.00	80.0	19	6.00	4.90	8	3	5.10	30.00
<b>T205M8</b>	8	1.25	90.0	22	8.00	6.20	9	3	6.90	35.00
<b>T205M10</b>	10	1.50	100.0	24	10.00	8.00	11	3	8.70	39.00
<b>T205M12</b>	12	1.75	110.0	23	9.00	7.00	10	3	10.40	–

<sup>1)</sup> Without neck.

Thread form (THFT)												
Basic standard group (BSG)												
Usable length (ULDR)	2×D	2×D	2×D	2×D	1.5×D	1.5×D	2×D	2×D		1.5×D		
Material code (BMC)	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM		
Flute Geometry (FDC)												
Flute helix angle (FHA)	λ 10°	λ 10°	λ 27°	λ 27°	λ 10°	λ 10°	λ 10°	λ 10°	λ 10°	λ 10°		
Hand (Cutting direction)												
Coating												
Shank												
Coolant exit style (CXSC)												



Product Family Code	J200	J205	J210	J215	J220	J225	J235	J245	J260	J280		
PSF cutting diameters range	M4 – M16	M8 – M16	M6 – M16	M6 – M16	M6 – M24	M12 – M18	1/4 – 3/4	1/4 – 3/4	1/8 – 2"	1/8 – 3"		
	246	247	248	249	250	251	252	253	254	255		

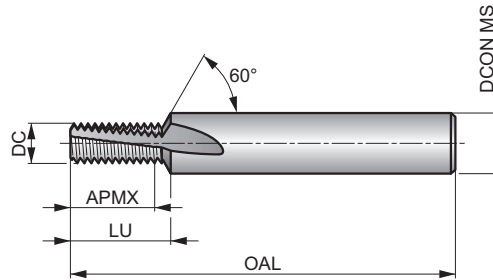
P	P1	■	■	■	■	■	■	■	■	■		
	P2	■	■	■	■	■	■	■	■	■		
	P3	■	■	■	■	■	■	■	■	■		
	P4	■	■	■	■	■	■	■	■	■		
M	M1	■	■	■	■	■	■	■	■	■		
	M2	■	■	■	■	■	■	■	■	■		
	M3	■	■	■	■	■	■	■	■	■		
	M4	▣	▣	■	■	▣	▣	■	■	■		
K	K1	■	■	■	■	■	■	■	■	■		
	K2	■	■	■	■	■	■	■	■	■		
	K3	■	■	■	■	■	■	■	■	■		
	K4	■	■	■	■	■	■	■	■	■		
	K5	■	■	■	■	■	■	■	■	■		
N	N1	■	■	■	■	■	■	■	■	■		
	N2	■	■	■	■	■	■	■	■	■		
	N3	■	■	■	■	■	■	■	■	■		
	N4	■	■	■	■	■	■	■	■	■		
	N5	■	■	■	■	■	■	■	■	■		
S	S1	▣	■	▣	■	▣	■	■	■	■		
	S2	▣	▣	▣	▣	▣	▣	▣	▣	▣		
	S3	▣	▣	▣	▣	▣	▣	▣	▣	▣		
	S4	▣	▣	▣	▣	▣	■	▣	▣	▣		
H	H1	▣	▣	■	■	■	■	■	■	■		
	H2											
	H3			▣	▣	▣	▣	▣	▣	▣		
	H4											

# J200



## Solid Carbide Thread Mill with Countersink, Metric

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. With 60° countersink for chamfering in a single machining cycle. Alcrona Pro coated for the best machining result in a wide range of materials.




Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 172 B	<b>P1.2</b> ■ 193 B	<b>P1.3</b> ■ 200 B	<b>P2.1</b> ■ 148 B	<b>P2.2</b> ■ 130 B	<b>P2.3</b> ■ 115 B	<b>P3.1</b> ■ 133 B	<b>P3.2</b> ■ 107 B	<b>P3.3</b> ■ 90 B	<b>P4.1</b> ■ 79 B	<b>P4.2</b> ■ 67 B	<b>P4.3</b> ▣ 55 B	<b>M1.1</b> ■ 62 B	<b>M1.2</b> ■ 52 B
<b>M2.1</b> ■ 55 B	<b>M2.2</b> ■ 45 B	<b>M2.3</b> ▣ 38 B	<b>M3.1</b> ■ 47 A	<b>M3.2</b> ■ 40 A	<b>M3.3</b> ▣ 36 A	<b>M4.1</b> ■ 30 A	<b>M4.2</b> ▣ 26 A	<b>K1.1</b> ■ 130 B	<b>K1.2</b> ■ 96 B	<b>K1.3</b> ■ 72 B	<b>K2.1</b> ■ 123 B	<b>K2.2</b> ■ 100 B	<b>K2.3</b> ■ 80 B
<b>K3.1</b> ■ 109 B	<b>K3.2</b> ■ 83 B	<b>K3.3</b> ■ 67 B	<b>K4.1</b> ■ 101 A	<b>K4.2</b> ■ 76 A	<b>K4.3</b> ■ 56 A	<b>K4.4</b> ■ 48 A	<b>K4.5</b> ▣ 40 A	<b>K5.1</b> ■ 114 B	<b>K5.2</b> ■ 86 B	<b>K5.3</b> ■ 66 B	<b>N1.1</b> ■ 400 C	<b>N1.2</b> ■ 300 C	<b>N1.3</b> ■ 200 C
<b>N2.1</b> ■ 262 C	<b>N2.2</b> ■ 235 C	<b>N2.3</b> ■ 170 C	<b>N3.1</b> ■ 610 C	<b>N3.2</b> ■ 360 C	<b>N3.3</b> ■ 180 C	<b>N4.1</b> ■ 290 C	<b>N4.2</b> ■ 145 C	<b>N4.3</b> ■ 65 C	<b>S1.1</b> ■ 40 A	<b>S1.2</b> ▣ 40 A	<b>S1.3</b> ▣ 30 A	<b>S2.1</b> ▣ 33 A	<b>S2.2</b> ▣ 25 A
<b>S3.1</b> ▣ 25 A	<b>S3.2</b> ▣ 21 A	<b>S4.1</b> ▣ 20 A	<b>S4.2</b> ▣ 16 A	<b>H1.1</b> ▣ 60 A									

Internal Thread.

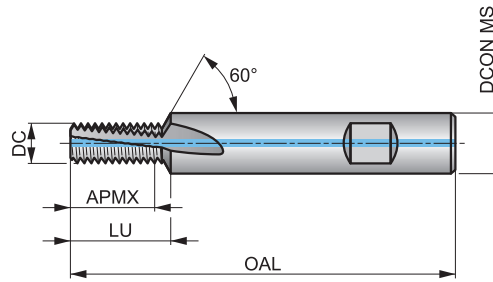
Product	TDZ	TP	DC	APMX	OAL	DCON MS	NOF	LU
		(mm)	(mm)	(mm)	(mm)	(mm)		
J2003.2X.7	M4	0.70	3.20	8.40	57.0	6.00	3	9.50
J2004.1X.8	M5	0.80	4.10	11.20	57.0	6.00	3	12.10
J2004.8X1.0	M6	1.00	4.80	13.00	63.0	8.00	3	14.40
J2006.5X1.25	M8	1.25	6.50	17.50	72.0	10.00	3	19.10
J2008.2X1.5	M10	1.50	8.20	21.00	83.0	12.00	3	22.80
J2009.9X1.75	M12	1.75	9.90	26.25	83.0	14.00	4	28.20
J20011.6X2.0	M14	2.00	11.60	30.00	92.0	16.00	4	32.20
J20013.6X2.0	M16	2.00	13.60	34.00	92.0	18.00	4	36.20

# J205



## Solid Carbide Thread Mill with Through Coolant and Countersink, Metric

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. 60° countersink for chamfering. Alcrona Pro coated for the best machining result with through coolant for better chip evacuation.




Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 172 B	<b>P1.2</b> ■ 193 B	<b>P1.3</b> ■ 200 B	<b>P2.1</b> ■ 148 B	<b>P2.2</b> ■ 130 B	<b>P2.3</b> ■ 115 B	<b>P3.1</b> ■ 133 B	<b>P3.2</b> ■ 107 B	<b>P3.3</b> ■ 90 B	<b>P4.1</b> ■ 79 B	<b>P4.2</b> ■ 67 B	<b>P4.3</b> ▣ 55 B	<b>M1.1</b> ■ 62 B	<b>M1.2</b> ■ 52 B
<b>M2.1</b> ■ 55 B	<b>M2.2</b> ■ 45 B	<b>M2.3</b> ■ 38 B	<b>M3.1</b> ■ 47 A	<b>M3.2</b> ■ 40 A	<b>M3.3</b> ■ 36 A	<b>M4.1</b> ■ 30 A	<b>M4.2</b> ▣ 26 A	<b>K1.1</b> ■ 130 B	<b>K1.2</b> ■ 96 B	<b>K1.3</b> ■ 72 B	<b>K2.1</b> ■ 123 B	<b>K2.2</b> ■ 100 B	<b>K2.3</b> ■ 80 B
<b>K3.1</b> ■ 109 B	<b>K3.2</b> ■ 83 B	<b>K3.3</b> ■ 67 B	<b>K4.1</b> ■ 101 A	<b>K4.2</b> ■ 76 A	<b>K4.3</b> ■ 56 A	<b>K4.4</b> ■ 48 A	<b>K4.5</b> ▣ 40 A	<b>K5.1</b> ■ 114 B	<b>K5.2</b> ■ 86 B	<b>K5.3</b> ■ 66 B	<b>N1.1</b> ■ 400 C	<b>N1.2</b> ■ 300 C	<b>N1.3</b> ■ 200 C
<b>N2.1</b> ■ 262 C	<b>N2.2</b> ■ 235 C	<b>N2.3</b> ■ 170 C	<b>N3.1</b> ■ 610 C	<b>N3.2</b> ■ 360 C	<b>N3.3</b> ■ 180 C	<b>N4.1</b> ■ 290 C	<b>N4.2</b> ■ 145 C	<b>N4.3</b> ■ 65 C	<b>S1.1</b> ■ 40 A	<b>S1.2</b> ■ 40 A	<b>S1.3</b> ▣ 30 A	<b>S2.1</b> ■ 33 A	<b>S2.2</b> ▣ 25 A
<b>S3.1</b> ■ 25 A	<b>S3.2</b> ▣ 21 A	<b>S4.1</b> ■ 20 A	<b>S4.2</b> ▣ 16 A	<b>H1.1</b> ▣ 60 A									

Internal Thread.

Product	TDZ	TP	DC	APMX	OAL	DCON MS	NOF	LU
		(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
J2056.5X1.25	M8	1.25	6.50	17.50	72.0	10.00	3	19.10
J2058.2X1.50	M10	1.50	8.20	21.00	83.0	12.00	3	22.80
J2059.9X1.75	M12	1.75	9.90	26.25	83.0	14.00	4	28.20
J20511.6X2.0	M14	2.00	11.60	30.00	92.0	16.00	4	32.20
J20513.6X2.0	M16	2.00	13.60	34.00	92.0	18.00	4	36.20

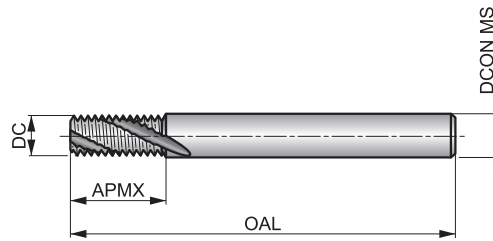


# J210



## Solid Carbide Thread Mill with High Helix, Metric

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result in a wide range of materials and 27° helix for a smoother cutting action.



		2xD
HM		λ 27°
	Alcrona Pro	DIN 6535HA

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 181 B	<b>P1.2</b> ■ 203 B	<b>P1.3</b> ■ 210 B	<b>P2.1</b> ■ 156 B	<b>P2.2</b> ■ 137 B	<b>P2.3</b> ■ 121 B	<b>P3.1</b> ■ 140 B	<b>P3.2</b> ■ 112 B	<b>P3.3</b> ■ 95 B	<b>P4.1</b> ■ 83 B	<b>P4.2</b> ■ 70 B	<b>P4.3</b> ▣ 58 B	<b>M1.1</b> ■ 65 B	<b>M1.2</b> ■ 55 B
<b>M2.1</b> ■ 58 B	<b>M2.2</b> ■ 47 B	<b>M2.3</b> ▣ 40 B	<b>M3.1</b> ■ 50 A	<b>M3.2</b> ■ 42 A	<b>M3.3</b> ▣ 38 A	<b>M4.1</b> ■ 32 A	<b>M4.2</b> ▣ 27 A	<b>K1.1</b> ■ 137 B	<b>K1.2</b> ■ 101 B	<b>K1.3</b> ■ 76 B	<b>K2.1</b> ■ 129 B	<b>K2.2</b> ■ 105 B	<b>K2.3</b> ■ 84 B
<b>K3.1</b> ■ 115 B	<b>K3.2</b> ■ 87 B	<b>K3.3</b> ■ 71 B	<b>K4.1</b> ■ 106 A	<b>K4.2</b> ■ 80 A	<b>K4.3</b> ■ 59 A	<b>K4.4</b> ■ 51 A	<b>K4.5</b> ▣ 42 A	<b>K5.1</b> ■ 120 B	<b>K5.2</b> ■ 90 B	<b>K5.3</b> ■ 70 B	<b>N1.1</b> ■ 420 C	<b>N1.2</b> ■ 315 C	<b>N1.3</b> ■ 210 C
<b>N2.1</b> ■ 275 C	<b>N2.2</b> ■ 247 C	<b>N2.3</b> ■ 179 C	<b>N3.1</b> ■ 640 C	<b>N3.2</b> ■ 378 C	<b>N3.3</b> ■ 189 C	<b>N4.1</b> ■ 305 C	<b>N4.2</b> ■ 153 C	<b>N4.3</b> ■ 69 C	<b>S1.1</b> ■ 42 A	<b>S1.2</b> ▣ 42 A	<b>S1.3</b> ▣ 32 A	<b>S2.1</b> ▣ 35 A	<b>S2.2</b> ▣ 26 A
<b>S3.1</b> ▣ 26 A	<b>S3.2</b> ▣ 22 A	<b>S4.1</b> ▣ 21 A	<b>S4.2</b> ▣ 17 A	<b>H1.1</b> ■ 63 A	<b>H3.1</b> ▣ 45 A								

Internal Thread.

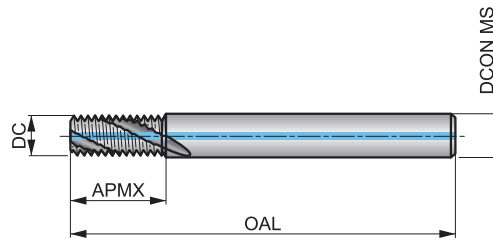
Product	TDZ	TP	DC	APMX	OAL	DCON MS	NOF
J2104.5X1.0	M6	1.00	4.50	13.00	57.0	6.00	3
J2106.0X1.25	M8	1.25	6.00	17.50	65.0	6.00	3
J2107.5X1.5	M10	1.50	7.50	21.00	72.0	8.00	3
J2109.5X1.75	M12	1.75	9.50	26.25	80.0	10.00	3
J21010.0X2.0	M14	2.00	10.00	30.00	83.0	10.00	4
J21012.0X2.0	M16	2.00	12.00	34.00	92.0	12.00	4

# J215



## Solid Carbide Thread Mill with High Helix and Through Coolant, Metric

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result with through coolant for better chip evacuation and 27° helix for a smoother cutting action.



		2xD
HM		λ 27°
	Alcrona Pro	DIN 6535HA

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 181 B	<b>P1.2</b> ■ 203 B	<b>P1.3</b> ■ 210 B	<b>P2.1</b> ■ 156 B	<b>P2.2</b> ■ 137 B	<b>P2.3</b> ■ 121 B	<b>P3.1</b> ■ 140 B	<b>P3.2</b> ■ 112 B	<b>P3.3</b> ■ 95 B	<b>P4.1</b> ■ 83 B	<b>P4.2</b> ■ 70 B	<b>P4.3</b> ■ 58 B	<b>M1.1</b> ■ 65 B	<b>M1.2</b> ■ 55 B
<b>M2.1</b> ■ 58 B	<b>M2.2</b> ■ 47 B	<b>M2.3</b> ■ 40 B	<b>M3.1</b> ■ 50 A	<b>M3.2</b> ■ 42 A	<b>M3.3</b> ■ 38 A	<b>M4.1</b> ■ 32 A	<b>M4.2</b> ▣ 27 A	<b>K1.1</b> ■ 137 B	<b>K1.2</b> ■ 101 B	<b>K1.3</b> ■ 76 B	<b>K2.1</b> ■ 129 B	<b>K2.2</b> ■ 105 B	<b>K2.3</b> ■ 84 B
<b>K3.1</b> ■ 115 B	<b>K3.2</b> ■ 87 B	<b>K3.3</b> ■ 71 B	<b>K4.1</b> ■ 106 A	<b>K4.2</b> ■ 80 A	<b>K4.3</b> ■ 59 A	<b>K4.4</b> ■ 51 A	<b>K4.5</b> ■ 42 A	<b>K5.1</b> ■ 120 B	<b>K5.2</b> ■ 90 B	<b>K5.3</b> ■ 70 B	<b>N1.1</b> ■ 420 C	<b>N1.2</b> ■ 315 C	<b>N1.3</b> ■ 210 C
<b>N2.1</b> ■ 275 C	<b>N2.2</b> ■ 247 C	<b>N2.3</b> ■ 179 C	<b>N3.1</b> ■ 640 C	<b>N3.2</b> ■ 378 C	<b>N3.3</b> ■ 189 C	<b>N4.1</b> ■ 305 C	<b>N4.2</b> ■ 153 C	<b>N4.3</b> ■ 69 C	<b>S1.1</b> ■ 42 A	<b>S1.2</b> ■ 42 A	<b>S1.3</b> ▣ 32 A	<b>S2.1</b> ■ 35 A	<b>S2.2</b> ▣ 26 A
<b>S3.1</b> ■ 26 A	<b>S3.2</b> ▣ 22 A	<b>S4.1</b> ■ 21 A	<b>S4.2</b> ▣ 17 A	<b>H1.1</b> ■ 63 A	<b>H3.1</b> ▣ 45 A								

Internal Thread.

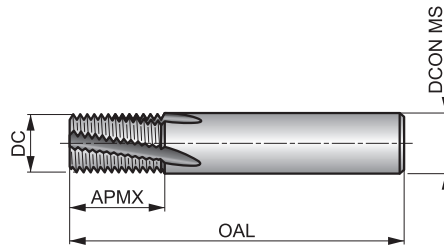
Product	TDZ	TP	DC	APMX	OAL	DCON MS	NOF
		(mm)	(mm)	(mm)	(mm)	(mm)	
J2154.5X1.0	M6	1.00	4.50	13.00	57.0	6.00	3
J2156.0X1.25	M8	1.25	6.00	17.50	65.0	6.00	3
J2157.5X1.5	M10	1.50	7.50	21.00	72.0	8.00	3
J2159.5X1.75	M12	1.75	9.50	26.25	80.0	10.00	3
J21510.0X2.0	M14	2.00	10.00	30.00	83.0	10.00	4
J21512.0X2.0	M16	2.00	12.00	34.00	92.0	12.00	4

# J220



## Solid Carbide Thread Mill, Metric Fine

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result in a wide range of materials.



		1.5xD
HM		$\lambda$ 10°

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 190 E	<b>P1.2</b> ■ 212 E	<b>P1.3</b> ■ 242 E	<b>P2.1</b> ■ 163 E	<b>P2.2</b> ■ 143 E	<b>P2.3</b> ■ 127 E	<b>P3.1</b> ■ 146 E	<b>P3.2</b> ■ 118 E	<b>P3.3</b> ■ 99 E	<b>P4.1</b> ■ 87 E	<b>P4.2</b> ■ 74 E	<b>P4.3</b> ■ 61 E	<b>M1.1</b> ■ 69 E	<b>M1.2</b> ■ 58 E
<b>M2.1</b> ■ 61 E	<b>M2.2</b> ■ 50 E	<b>M2.3</b> ▣ 42 E	<b>M3.1</b> ■ 52 D	<b>M3.2</b> ■ 44 D	<b>M3.3</b> ▣ 40 D	<b>M4.1</b> ■ 33 D	<b>M4.2</b> ▣ 29 D	<b>K1.1</b> ■ 143 E	<b>K1.2</b> ■ 106 E	<b>K1.3</b> ■ 80 E	<b>K2.1</b> ■ 136 E	<b>K2.2</b> ■ 110 E	<b>K2.3</b> ■ 88 E
<b>K3.1</b> ■ 120 E	<b>K3.2</b> ■ 91 E	<b>K3.3</b> ■ 74 E	<b>K4.1</b> ■ 111 D	<b>K4.2</b> ■ 84 D	<b>K4.3</b> ■ 62 D	<b>K4.4</b> ■ 53 D	<b>K4.5</b> ▣ 44 D	<b>K5.1</b> ■ 126 E	<b>K5.2</b> ■ 95 E	<b>K5.3</b> ■ 73 E	<b>N1.1</b> ■ 440 F	<b>N1.2</b> ■ 330 F	<b>N1.3</b> ■ 220 F
<b>N2.1</b> ■ 288 F	<b>N2.2</b> ■ 259 F	<b>N2.3</b> ■ 187 F	<b>N3.1</b> ■ 671 F	<b>N3.2</b> ■ 396 F	<b>N3.3</b> ■ 198 F	<b>N4.1</b> ■ 319 F	<b>N4.2</b> ■ 160 F	<b>N4.3</b> ■ 72 F	<b>S1.1</b> ■ 44 D	<b>S1.2</b> ▣ 44 D	<b>S1.3</b> ▣ 33 D	<b>S2.1</b> ▣ 36 D	<b>S2.2</b> ▣ 28 D
<b>S3.1</b> ▣ 28 D	<b>S3.2</b> ▣ 23 D	<b>S4.1</b> ▣ 22 D	<b>S4.2</b> ▣ 18 D	<b>H1.1</b> ■ 66 D	<b>H3.1</b> ▣ 48 D								

Internal Thread.

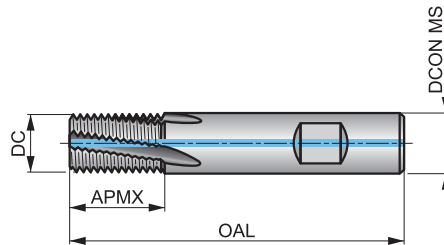
Product	TDZ	TP	DC	APMX	OAL	DCON MS	NOF
J2204.8X.5	M6	0.50	4.80	10.00	57.0	6.00	3
J2206.0X.75	M8	0.75	6.00	12.00	57.0	6.00	3
J2206.0X1.0	M8	1.00	6.00	12.00	57.0	6.00	3
J2208.0X1.0	M10	1.00	8.00	16.00	63.0	8.00	4
J22010.0X1.0	M12	1.00	10.00	20.00	72.0	10.00	4
J22010.0X1.5	M12	1.50	10.00	20.00	72.0	10.00	4
J22012.0X1.0	M14	1.00	12.00	22.00	83.0	12.00	4
J22012.0X1.5	M14	1.50	12.00	22.00	83.0	12.00	4
J22014.0X1.0	M16	1.00	14.00	26.00	83.0	14.00	5
J22014.0X1.5	M16	1.50	14.00	26.00	83.0	14.00	5
J22016.0X2.0	M20	2.00	16.00	30.00	92.0	16.00	5
J22016.0X2.5	M20	2.50	16.00	42.50	105.0	16.00	5
J22019.0X3.0	M24	3.00	19.00	50.00	125.0	20.00	5
J22020.0X2.0	M24	2.00	20.00	35.00	104.0	20.00	5

# J225



## Solid Carbide Thread Mill with Through Coolant, Metric Fine

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result and through coolant for better chip evacuation.



		1.5xD
HM		$\lambda$ 10°
	Alcrona Pro	DIN 6535HB

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 190 E	<b>P1.2</b> ■ 212 E	<b>P1.3</b> ■ 242 E	<b>P2.1</b> ■ 163 E	<b>P2.2</b> ■ 143 E	<b>P2.3</b> ■ 127 E	<b>P3.1</b> ■ 146 E	<b>P3.2</b> ■ 118 E	<b>P3.3</b> ■ 99 E	<b>P4.1</b> ■ 87 E	<b>P4.2</b> ■ 74 E	<b>P4.3</b> ■ 61 E	<b>M1.1</b> ■ 69 E	<b>M1.2</b> ■ 58 E
<b>M2.1</b> ■ 61 E	<b>M2.2</b> ■ 50 E	<b>M2.3</b> ■ 42 E	<b>M3.1</b> ■ 52 D	<b>M3.2</b> ■ 44 D	<b>M3.3</b> ■ 40 D	<b>M4.1</b> ■ 33 D	<b>M4.2</b> ▣ 29 D	<b>K1.1</b> ■ 143 E	<b>K1.2</b> ■ 106 E	<b>K1.3</b> ■ 80 E	<b>K2.1</b> ■ 136 E	<b>K2.2</b> ■ 110 E	<b>K2.3</b> ■ 88 E
<b>K3.1</b> ■ 120 E	<b>K3.2</b> ■ 91 E	<b>K3.3</b> ■ 74 E	<b>K4.1</b> ■ 111 D	<b>K4.2</b> ■ 84 D	<b>K4.3</b> ■ 62 D	<b>K4.4</b> ■ 53 D	<b>K4.5</b> ■ 44 D	<b>K5.1</b> ■ 126 E	<b>K5.2</b> ■ 95 E	<b>K5.3</b> ■ 73 E	<b>N1.1</b> ■ 440 F	<b>N1.2</b> ■ 330 F	<b>N1.3</b> ■ 220 F
<b>N2.1</b> ■ 288 F	<b>N2.2</b> ■ 259 F	<b>N2.3</b> ■ 187 F	<b>N3.1</b> ■ 671 F	<b>N3.2</b> ■ 396 F	<b>N3.3</b> ■ 198 F	<b>N4.1</b> ■ 319 F	<b>N4.2</b> ■ 160 F	<b>N4.3</b> ■ 72 F	<b>S1.1</b> ■ 44 D	<b>S1.2</b> ■ 44 D	<b>S1.3</b> ▣ 33 D	<b>S2.1</b> ■ 36 D	<b>S2.2</b> ▣ 28 D
<b>S3.1</b> ■ 28 D	<b>S3.2</b> ▣ 23 D	<b>S4.1</b> ■ 22 D	<b>S4.2</b> ▣ 18 D	<b>H1.1</b> ■ 66 D	<b>H3.1</b> ▣ 48 D								

Internal Thread.

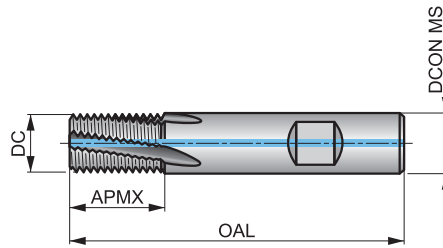
Product	TDZ	TP	DC	APMX	OAL	DCON MS	NOF
J22510.0X1.5	M12	1.50	10.00	20.00	72.0	10.00	4
J22512.0X1.0	M14	1.00	12.00	22.00	83.0	12.00	4
J22514.0X1.5	M16	1.50	14.00	26.00	83.0	14.00	5
J22516.0X1.5	M18	1.50	16.00	30.00	92.0	16.00	5

# J235



## Solid Carbide Thread Mill with Through Coolant, UNC

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result and through coolant for better chip evacuation.




Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 181 H	<b>P1.2</b> ■ 203 H	<b>P1.3</b> ■ 210 H	<b>P2.1</b> ■ 156 H	<b>P2.2</b> ■ 137 H	<b>P2.3</b> ■ 121 H	<b>P3.1</b> ■ 140 H	<b>P3.2</b> ■ 112 H	<b>P3.3</b> ■ 95 H	<b>P4.1</b> ■ 83 H	<b>P4.2</b> ■ 70 H	<b>P4.3</b> ■ 58 H	<b>M1.1</b> ■ 65 H	<b>M1.2</b> ■ 55 H
<b>M2.1</b> ■ 58 H	<b>M2.2</b> ■ 47 H	<b>M2.3</b> ■ 40 H	<b>M3.1</b> ■ 50 G	<b>M3.2</b> ■ 42 G	<b>M3.3</b> ■ 38 G	<b>M4.1</b> ■ 32 G	<b>M4.2</b> ▣ 27 G	<b>K1.1</b> ■ 137 H	<b>K1.2</b> ■ 101 H	<b>K1.3</b> ■ 76 H	<b>K2.1</b> ■ 129 H	<b>K2.2</b> ■ 105 H	<b>K2.3</b> ■ 84 H
<b>K3.1</b> ■ 115 H	<b>K3.2</b> ■ 87 H	<b>K3.3</b> ■ 71 H	<b>K4.1</b> ■ 106 G	<b>K4.2</b> ■ 80 G	<b>K4.3</b> ■ 59 G	<b>K4.4</b> ■ 51 G	<b>K4.5</b> ■ 42 G	<b>K5.1</b> ■ 120 H	<b>K5.2</b> ■ 90 H	<b>K5.3</b> ■ 70 H	<b>N1.1</b> ■ 420 I	<b>N1.2</b> ■ 315 I	<b>N1.3</b> ■ 210 I
<b>N2.1</b> ■ 275 I	<b>N2.2</b> ■ 247 I	<b>N2.3</b> ■ 179 I	<b>N3.1</b> ■ 640 I	<b>N3.2</b> ■ 378 I	<b>N3.3</b> ■ 189 I	<b>N4.1</b> ■ 305 I	<b>N4.2</b> ■ 153 I	<b>N4.3</b> ■ 69 I	<b>S1.1</b> ■ 42 G	<b>S1.2</b> ■ 42 G	<b>S1.3</b> ▣ 32 G	<b>S2.1</b> ■ 35 G	<b>S2.2</b> ▣ 26 G
<b>S3.1</b> ■ 26 G	<b>S3.2</b> ▣ 22 G	<b>S4.1</b> ■ 21 G	<b>S4.2</b> ▣ 17 G	<b>H1.1</b> ■ 63 G	<b>H3.1</b> ▣ 45 G								

Internal Thread.

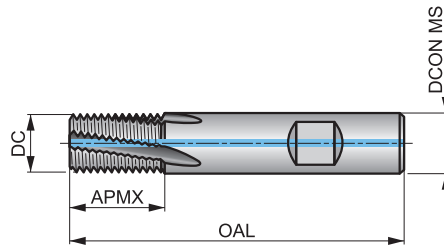
Product	TDZ	TPI	DC	APMX	OAL	DCON MS	NOF
			(mm)	(mm)	(mm)	(mm)	
J2354.8-20	1/4	20	4.80	14.00	57.0	6.00	3
J2355.5-18	5/16	18	5.50	14.00	57.0	6.00	3
J2357.5-16	3/8	16	7.50	19.00	63.0	8.00	4
J2358.0-14	7/16	14	8.00	19.00	63.0	8.00	4
J23510.0-13	1/2	13	10.00	22.00	72.0	10.00	4
J23510.0-12	9/16	12	10.00	22.00	72.0	10.00	4
J23512.0-11	5/8	11	12.00	26.00	83.0	12.00	4
J23514.0-10	3/4	10	14.00	32.00	83.0	14.00	5

# J245



## Solid Carbide Thread Mill with Through Coolant, UNF

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result and through coolant for better chip evacuation.




Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 181 K	<b>P1.2</b> ■ 203 K	<b>P1.3</b> ■ 210 K	<b>P2.1</b> ■ 156 K	<b>P2.2</b> ■ 137 K	<b>P2.3</b> ■ 121 K	<b>P3.1</b> ■ 140 K	<b>P3.2</b> ■ 112 K	<b>P3.3</b> ■ 95 K	<b>P4.1</b> ■ 83 K	<b>P4.2</b> ■ 70 K	<b>P4.3</b> ■ 58 K	<b>M1.1</b> ■ 65 K	<b>M1.2</b> ■ 55 K
<b>M2.1</b> ■ 58 K	<b>M2.2</b> ■ 47 K	<b>M2.3</b> ■ 40 K	<b>M3.1</b> ■ 50 J	<b>M3.2</b> ■ 42 J	<b>M3.3</b> ■ 38 J	<b>M4.1</b> ■ 32 J	<b>M4.2</b> ▣ 27 J	<b>K1.1</b> ■ 137 K	<b>K1.2</b> ■ 101 K	<b>K1.3</b> ■ 76 K	<b>K2.1</b> ■ 129 K	<b>K2.2</b> ■ 105 K	<b>K2.3</b> ■ 84 K
<b>K3.1</b> ■ 115 K	<b>K3.2</b> ■ 87 K	<b>K3.3</b> ■ 71 K	<b>K4.1</b> ■ 106 J	<b>K4.2</b> ■ 80 J	<b>K4.3</b> ■ 59 J	<b>K4.4</b> ■ 51 J	<b>K4.5</b> ■ 42 J	<b>K5.1</b> ■ 120 K	<b>K5.2</b> ■ 90 K	<b>K5.3</b> ■ 70 K	<b>N1.1</b> ■ 420 L	<b>N1.2</b> ■ 315 L	<b>N1.3</b> ■ 210 L
<b>N2.1</b> ■ 275 L	<b>N2.2</b> ■ 247 L	<b>N2.3</b> ■ 179 L	<b>N3.1</b> ■ 640 L	<b>N3.2</b> ■ 378 L	<b>N3.3</b> ■ 189 L	<b>N4.1</b> ■ 305 L	<b>N4.2</b> ■ 153 L	<b>N4.3</b> ■ 69 L	<b>S1.1</b> ■ 42 J	<b>S1.2</b> ■ 42 J	<b>S1.3</b> ▣ 32 J	<b>S2.1</b> ■ 35 J	<b>S2.2</b> ▣ 26 J
<b>S3.1</b> ■ 26 J	<b>S3.2</b> ▣ 22 J	<b>S4.1</b> ■ 21 J	<b>S4.2</b> ▣ 17 J	<b>H1.1</b> ■ 63 J	<b>H3.1</b> ▣ 45 J								

Internal Thread.

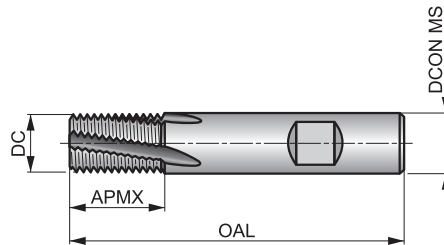
Product	TDZ	TPI	DC	APMX	OAL	DCON MS	NOF
			(mm)	(mm)	(mm)	(mm)	
J2454.8-28	1/4	28	4.80	14.00	57.0	6.00	3
J2456.0-24	5/16, 3/8	24	6.00	14.00	57.0	6.00	3
J2458.0-20	7/16, 1/2	20	8.00	19.00	63.0	8.00	4
J24510.0-18	9/16, 5/8	18	10.00	22.00	72.0	10.00	4
J24514.0-16	3/4	16	14.00	32.00	83.0	14.00	5

# J260



## Solid Carbide Thread Mill, NPT

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result in a wide range of materials.




Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 190 R	<b>P1.2</b> ■ 212 R	<b>P1.3</b> ■ 242 R	<b>P2.1</b> ■ 163 R	<b>P2.2</b> ■ 143 R	<b>P2.3</b> ■ 127 R	<b>P3.1</b> ■ 146 R	<b>P3.2</b> ■ 118 R	<b>P3.3</b> ■ 99 R	<b>P4.1</b> ■ 87 R	<b>P4.2</b> ■ 74 R	<b>P4.3</b> ■ 61 R	<b>M1.1</b> ■ 69 R	<b>M1.2</b> ■ 58 R
<b>M2.1</b> ■ 61 R	<b>M2.2</b> ■ 50 R	<b>M2.3</b> ■ 42 R	<b>M3.1</b> ■ 52 Q	<b>M3.2</b> ■ 44 Q	<b>M3.3</b> ■ 40 Q	<b>M4.1</b> ■ 33 Q	<b>M4.2</b> ▣ 29 Q	<b>K1.1</b> ■ 143 R	<b>K1.2</b> ■ 106 R	<b>K1.3</b> ■ 80 R	<b>K2.1</b> ■ 136 R	<b>K2.2</b> ■ 110 R	<b>K2.3</b> ■ 88 R
<b>K3.1</b> ■ 120 R	<b>K3.2</b> ■ 91 R	<b>K3.3</b> ■ 74 R	<b>K4.1</b> ■ 111 Q	<b>K4.2</b> ■ 84 Q	<b>K4.3</b> ■ 62 Q	<b>K4.4</b> ■ 53 Q	<b>K4.5</b> ■ 44 Q	<b>K5.1</b> ■ 126 R	<b>K5.2</b> ■ 95 R	<b>K5.3</b> ■ 73 R	<b>N1.1</b> ■ 440 S	<b>N1.2</b> ■ 330 S	<b>N1.3</b> ■ 220 S
<b>N2.1</b> ■ 288 S	<b>N2.2</b> ■ 259 S	<b>N2.3</b> ■ 187 S	<b>N3.1</b> ■ 671 S	<b>N3.2</b> ■ 396 S	<b>N3.3</b> ■ 198 S	<b>N4.1</b> ■ 319 S	<b>N4.2</b> ■ 160 S	<b>N4.3</b> ■ 72 S	<b>S1.1</b> ■ 44 Q	<b>S1.2</b> ■ 44 Q	<b>S1.3</b> ▣ 33 Q	<b>S2.1</b> ■ 36 Q	<b>S2.2</b> ▣ 28 Q
<b>S3.1</b> ■ 28 Q	<b>S3.2</b> ▣ 23 Q	<b>S4.1</b> ■ 22 Q	<b>S4.2</b> ▣ 18 Q	<b>H1.1</b> ■ 66 Q	<b>H3.1</b> ▣ 48 Q								

Internal Thread.

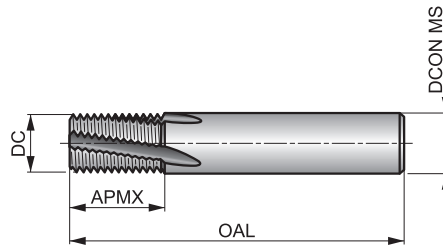
Product	TDZ	TPI	DC	APMX	OAL	DCON MS	NOF
			(mm)	(mm)	(mm)	(mm)	
J2607.9-27	1/8	27	7.90	11.50	58.0	8.00	3
J2609.9-18	1/4, 3/8	18	9.90	15.92	66.0	10.00	3
J26015.9-14	1/2, 3/4	14	15.90	20.46	82.0	16.00	4
J26019.9-11.5	1", 2"	11.5	19.90	27.12	92.0	20.00	5

# J280



## Solid Carbide Thread Mill, G(BSP)

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom. Alcrona Pro coated for the best machining result in a wide range of materials. Suited for producing internal and external threads.



		1.5xD
HM		$\lambda$ 10°
	Alcrona Pro	DIN 6535HA

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 271.

<b>P1.1</b> ■ 190 N	<b>P1.2</b> ■ 212 N	<b>P1.3</b> ■ 242 N	<b>P2.1</b> ■ 163 N	<b>P2.2</b> ■ 143 N	<b>P2.3</b> ■ 127 N	<b>P3.1</b> ■ 146 N	<b>P3.2</b> ■ 118 N	<b>P3.3</b> ■ 99 N	<b>P4.1</b> ■ 87 N	<b>P4.2</b> ■ 74 N	<b>P4.3</b> ■ 61 N	<b>M1.1</b> ■ 69 N	<b>M1.2</b> ■ 58 N
<b>M2.1</b> ■ 61 N	<b>M2.2</b> ■ 50 N	<b>M2.3</b> ■ 42 N	<b>M3.1</b> ■ 52 M	<b>M3.2</b> ■ 44 M	<b>M3.3</b> ■ 40 M	<b>M4.1</b> ■ 33 M	<b>M4.2</b> ▣ 29 M	<b>K1.1</b> ■ 143 N	<b>K1.2</b> ■ 106 N	<b>K1.3</b> ■ 80 N	<b>K2.1</b> ■ 136 N	<b>K2.2</b> ■ 110 N	<b>K2.3</b> ■ 88 N
<b>K3.1</b> ■ 120 N	<b>K3.2</b> ■ 91 N	<b>K3.3</b> ■ 74 N	<b>K4.1</b> ■ 111 M	<b>K4.2</b> ■ 84 M	<b>K4.3</b> ■ 62 M	<b>K4.4</b> ■ 53 M	<b>K4.5</b> ■ 44 M	<b>K5.1</b> ■ 126 N	<b>K5.2</b> ■ 95 N	<b>K5.3</b> ■ 76 N	<b>N1.1</b> ■ 440 0	<b>N1.2</b> ■ 330 0	<b>N1.3</b> ■ 220 0
<b>N2.1</b> ■ 288 0	<b>N2.2</b> ■ 259 0	<b>N2.3</b> ■ 187 0	<b>N3.1</b> ■ 671 0	<b>N3.2</b> ■ 396 0	<b>N3.3</b> ■ 198 0	<b>N4.1</b> ■ 319 0	<b>N4.2</b> ■ 160 0	<b>N4.3</b> ■ 72 0	<b>S1.1</b> ■ 44 M	<b>S1.2</b> ■ 44 M	<b>S1.3</b> ▣ 33 M	<b>S2.1</b> ■ 36 M	<b>S2.2</b> ▣ 28 M
<b>S3.1</b> ■ 28 M	<b>S3.2</b> ▣ 23 M	<b>S4.1</b> ■ 22 M	<b>S4.2</b> ▣ 18 M	<b>H1.1</b> ■ 66 M	<b>H3.1</b> ▣ 48 M								

Internal and External Thread.

Product	TDZ	TPI	DC	APMX	OAL	DCON MS	NOF
			(mm)	(mm)	(mm)	(mm)	
J2806.0-28	1/8	28	6.00	15.00	57.0	6.00	3
J28010.0-19	1/4	19	10.00	20.00	72.0	10.00	4
J28014.0-19	3/8	19	14.00	26.00	83.0	14.00	5
J28016.0-14	1/2, 5/8	14	16.00	30.00	92.0	16.00	5
J28020.0-14	5/8, 3/4, 7/8	14	20.00	35.00	104.0	20.00	5
J28025.0-11	1", 3"	11	25.00	45.00	121.0	25.00	6





# INSTRUCTIONS

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**1 E398(M)**



3

2

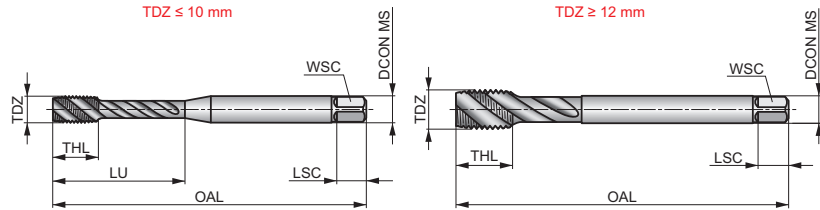


**HSS-E-PM Spiral Flute Tap, Metric, DIN Standard, TiCN Coated**

Machine tap for highly productive applications with spiral flute for 2.5xD blind holes. Suited for a variety of work-materials. Unique TiCN coated HSS-E-PM to offer superior abrasion resistance, higher cutting speeds, improve thread quality, reduced cycle times and longer tool-life. Recommended for synchronous feed tap holders.

<b>M</b>	DIN 371/376	6HX
	2.5xD	HSS-E-PM
<b>C</b> 2-3		$\lambda$ 48°
<b>R</b>	TiCN	

5



4

Workpiece material group suitability and starting values for cutting speed (m/min).

<b>P1.1</b> ■ 35	<b>P1.2</b> ■ 40	<b>P1.3</b> ■ 42	<b>P2.1</b> ■ 31	<b>P2.2</b> ■ 27	<b>P2.3</b> ■ 24	<b>P3.1</b> ■ 19	<b>P3.2</b> ■ 15	<b>P3.3</b> ■ 12	<b>P4.1</b> ■ 11	<b>P4.2</b> ■ 9	<b>M1.1</b> ■ 14	<b>M1.2</b> ■ 11	<b>M2.1</b> ■ 12
<b>M2.2</b> ■ 10	<b>M3.1</b> ■ 9	<b>M3.2</b> ■ 7	<b>M3.3</b> ■ 6	<b>M4.1</b> ■ 4	<b>N1.3</b> ■ 11	<b>N2.1</b> ■ 35	<b>N2.2</b> ■ 32	<b>N2.3</b> ■ 23	<b>N3.1</b> ■ 60				

6

Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
E398M3	3	0.50	56.0	6	3.50	2.70	6	3	2.50	18.00
E398M4	4	0.70	63.0	7	4.50	3.40	6	3	3.30	21.00
E398M5	5	0.80	70.0	8	6.00	4.90	8	3	4.20	25.00
E398M6	6	1.00	80.0	10	6.00	4.90	8	3	5.00	31.00
E398M8	8	1.25	90.0	12	8.00	6.20	9	3	6.80	35.00
E398M10	10	1.50	100.0	15	10.00	8.00	11	3	8.50	39.00
E398M12	12	1.75	110.0	16	9.00	7.00	10	3	10.30	—
E398M14	14	2.00	110.0	20	11.00	9.00	12	3	12.00	—
E398M16	16	2.00	110.0	20	12.00	9.00	12	4	14.00	—
E398M18	18	2.50	125.0	25	14.00	11.00	14	4	15.50	—
E398M20	20	2.50	140.0	25	16.00	12.00	15	4	17.50	—
E398M22	22	2.50	140.0	25	18.00	14.50	17	4	19.50	—
E398M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	—
E398M27	27	3.00	160.0	30	20.00	16.00	19	4	24.00	—
E398M30	30	3.50	180.0	36	22.00	18.00	21	4	26.50	—

7

8

Pos.	Description
1	Designation of taps
2	Product description
3	Illustrative picture
4	Schematic drawing of tool

















Pos.	Description
5	Product features
6	Material group recommendations incl. speed and feed guidance
7	Product code
8	Product dimensions

## ICONS OVERVIEW

























### General Icons

<input type="checkbox"/>	Primary use	<input checked="" type="checkbox"/>	Possible use
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### Thread form (THFT)

 <b>M</b>	Thread Form, Metric Coarse	 <b>BSF</b>	Thread Form, British Standard Fine	 <b>NPTF</b>	Thread Form, American National Pipe Taper Fuel (Dryseal)
 <b>MF</b>	Thread Form, Metric Fine	 <b>BA</b>	Thread Form, British Association Screw Threads	 <b>NPSF</b>	Thread Form, American National Pipe Straight Fuel (Dryseal)
 <b>UN</b>	Thread Form, Unified National	 <b>PG</b>	Thread Form, Steel Conduit DIN 40430 (electrical)	 <b>NPSM</b>	Thread Form, American National Pipe Straight Mechanical
 <b>UNC</b>	Thread Form, Unified Coarse	 <b>G</b>	Thread Form, British Standard Pipe (BSP)	 <b>EGM</b>	Thread Form, Metric ISO (Screw Thread Insert Type)
 <b>UNF</b>	Thread Form, Unified Fine	 <b>Rc</b>	Thread Form, British Standard Taper Pipe, 1:16 Taper (BSPT)		
 <b>BSW</b>	Thread Form, British Standard Whitworth	 <b>NPT</b>	Thread Form, American National Pipe Taper		

### Basic standard group (BSG)




 <b>DIN 2181</b>	DIN 2181 – Hand Tap Standard	 <b>DIN 357</b>	DIN 357 – Nut Tap Standard	 <b>ANSI</b>	ANSI – Tap Standards
 <b>DIN 2184-1</b>	DIN 2184-1 – Tap Standard	 <b>DIN 40432</b>	DIN 40432 – PG Thread Standard	 <b>ISO 2568</b>	ISO 2568 – Die Standards
 <b>DIN 351</b>	DIN 351 – Straight Flute Tap Standard	 <b>DIN 5156</b>	DIN 5156 – Thread Form Standard	 <b>DIN 382</b>	DIN 382 – Hex Die Standards
 <b>DIN 352</b>	DIN 352 – Thread Form Standard	 <b>DIN 5157</b>	DIN 5157 – Pipe Thread Standard	 <b>BS 1127:1950</b>	BS 1127:1950 – Round Dies Standards
 <b>DIN 371</b>	DIN 371 – Thread Form Standard	 <b>DIN 2174</b>	DIN 2174 – Forming Tap Standard	 <b>DORMER</b>	Dormer Standards
 <b>DIN 371/376</b>	DIN Thread Standard (based on size range) DIN 371 if $\varnothing \leq 10$ mm / DIN 376 if $\varnothing \geq 12$ mm	 <b>ISO 2283</b>	ISO 2283 – Long Shank Tap Standard	 <b>DIN DORMER</b>	DIN Dormer Standard
 <b>DIN 374</b>	DIN 374 – MF Thread Standard	 <b>ISO 2284</b>	ISO 2284 – Pipe Tap Standard	 <b>ISO DORMER</b>	ISO Dormer Standard
 <b>DIN 376</b>	DIN 376 – Thread Form Standard	 <b>ISO 529</b>	ISO 529 – Tap Standard	 <b>ANSI DORMER</b>	ANSI Dormer Standard

## ICONS OVERVIEW

### Thread tolerance class (TCTR)

<b>6G</b>	DIN Thread Pitch Diameter Tolerance Zone (low basic pitch diameter)	<b>2B</b>	Internal Inch Thread Medium Class of Fit	<b>Class A</b>	Medium Inch Thread Class of Fit
<b>6GX</b>	DIN Thread Pitch Diameter Tolerance Zone (with increased pitch diameter)	<b>2BX</b>	Internal Inch Thread Medium Class of Fit (with increased pitch diameter)	<b>6g</b>	Thread Tolerance Class
<b>6H</b>	DIN Thread Pitch Diameter Tolerance Zone (high basic pitch diameter)	Medium	Medium Inch Thread Class of Fit	<b>2A</b>	External Inch Thread Medium Class of Fit
<b>6HX</b>	DIN Thread Pitch Diameter Tolerance Zone (with increased pitch diameter)	Normal	Normal Fit Class for Pipe Thread		

### Threading application

	Blind Hole Application		Through or Blind Hole Application		Through Hole Application
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### Usable length (ULDR)

<b>1.5×D</b>	1.5×D Usable Tool Depth to Diameter Ratio	<b>2.5×D</b>	2.5×D Usable Tool Depth to Diameter Ratio	<b>3.5×D</b>	3.5×D Usable Tool Depth to Diameter Ratio
<b>2×D</b>	2×D Usable Tool Depth to Diameter Ratio	<b>3×D</b>	3×D Usable Tool Depth to Diameter Ratio		

### Tap chamfer style (TCS)









<b>A</b> 6-8	A 6-8	<b>B</b> 3.5-5	Plug Tap Chamfer (3.5-5 Pitch Lead)	<b>C</b> 2-3 <b>D</b> 18-20	Tap Chamfers: C = Semi-Bottoming (2-3 Pitch Lead) & D = Nut Style (18-20 Pitch Lead)
<b>A</b> 6-8 <b>B</b> 3.5-5 <b>C</b> 2-3	A 6-8, B 3.5-5, C 2-3	<b>C</b> 2-3	Semi-Bottoming Tap Chamfer (2-3 Pitch Lead)	<b>E</b> 1.5-2	Full Bottoming Tap Chamfer (1.5-2 Pitch Lead)
<b>A</b> 6-8 <b>C</b> 2-3	Tap Chamfers: A = Taper (6-8 Pitch Lead) & C = Semi-Bottoming (2-3 Pitch Lead)	<b>C</b> 2-3.5	Semi-Bottoming Tap Chamfer (2-3.5 Pitch Lead)		

### Flute Geometry (FDC)

	Fluteless Geometry (Threadforming)		Spiral Flute Geometry		Straight Flute Geometry
	Oil Grooves Geometry (Threadforming)		Spiral Point Geometry		

## ICONS OVERVIEW

### Flute helix angle (FHA)

 10° Helix Angle (Flute)	 30° Helix Angle (Flute)	 45° Helix Angle (Flute)
 15° Helix Angle (Flute)	 35° Helix Angle (Flute)	 48° Helix Angle (Flute)
 27° Helix Angle (Flute)	 40° Helix Angle (Flute)	

### Hand (Cutting direction)

 Left Hand Rotation / Cutting	 Right Hand Rotation / Cutting
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### Coolant exit style (CXSC)

 Through Tool Coolant – Axial Exit	 Through Tool Coolant – Radial Exit
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### Die chamfer to pitch ratio (DCPR)

 Die Thread Chamfer to Pitch Ratio (1.75×TP)	 Die Thread Chamfer to Pitch Ratio (2.25×TP)
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### Shank

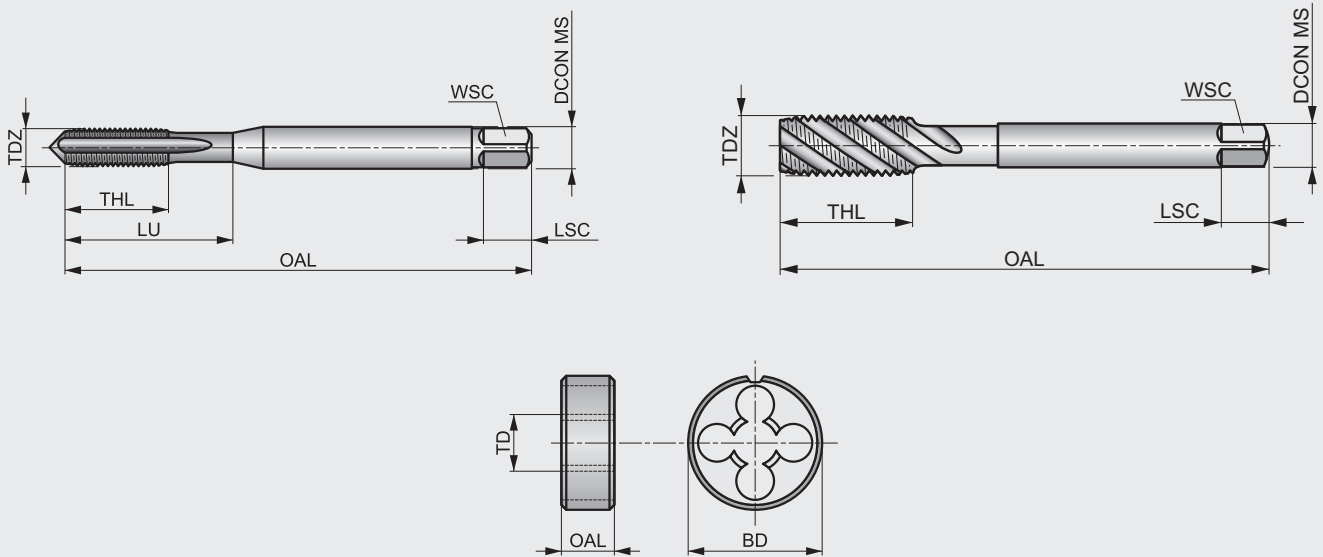
 DIN 6535 HA Cylindrical Shank	 DIN 6535 HB Weldon Shank
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## CUTTING TOOL PARAMETERS ACCORDING TO ISO 13399

All cutting tools are defined by a number of parameters according to the standard ISO 13399. This list contains all the parameters used in this catalogue and their definitions.

ISO 13399 is an international cutting tool information standard. It provides dimensions and parameters in a neutral format that is independent of any particular system or company nomenclature. When cutting tools are clearly defined according to a global standard, all types of software can process the electronic data more quickly, improving the quality of communication and helping to make the exchange of information run smoothly. Supporting a common language in our cutting tool descriptions this will assist system to system communication. It will save you a significant amount of time, providing an easier gathering of high-quality data across our 40,000 solid and indexable tools. By using an ISO 13399 compliant system, there will be no need to manually interpret data and key-enter it into your system.

### EXAMPLES ONLY!







ISO 13399 code	Description
BD	Body diameter
DCON MS	Connection diameter
DRVS	Drive size
LDP	Drill part length
LSC	Clamping length
LU	Usable Length
NOF	Flute count
OAL	Overall length
PHD	Premachined hole diameter
PRAT_HEADER	Description




ISO 13399 code	Description
TCL	Tap chamfer length
TD	Thread diameter
TDZ	Thread diameter size
THL	Threading length
TP	Thread pitch
TPI	Threads per inch
WSC	Clamping width
WSCN	Clamping width minimum
WSCX	Clamping width maximum

## TOOL MATERIAL NAVIGATOR








### Tool materials

<b>High speed steel</b>		A medium-alloyed high speed steel that has good machinability and good performance. HSS exhibits hardness, toughness and wear resistance characteristics that make it attractive in a wide range of applications, for example in drills and taps.
<b>Cobalt high speed steel</b>		This high speed steel contains cobalt for increased hot hardness. The composition of HSS-Co provides a good combination of toughness and hardness. It has good machinability and good wear resistance, which makes it excellent for producing drills, taps, reamers and milling cutters.
<b>Sintered Cobalt High Speed Steel</b>		HSS-E-PM is a Cobalt High Speed Powder Metal substrate which has been produced using powder metal technology. High speed steel produced by this method exhibits superior toughness and grindability due to the uniform and consistent grain structure. High performance taps and end mills have a particular advantage when manufactured from this substrate.
<b>Carbide Materials (or Hard Materials)</b>		A sintered powder metallurgy substrate, consisting of a metallic carbide composite with binder metal. The most central raw material is tungsten carbide (WC). Tungsten carbide contributes to the hardness of the material. Tantalum carbide (TaC), titanium carbide (TiC) and niobium carbide (NbC) complements WC and adjusts the properties to what is desired. These three materials are called cubic carbides. Cobalt (Co) acts as a binder and keeps the material together. Carbide materials are often characterised by high compression strength, high hardness and therefore high wear resistance, but also by limited flexural strength and toughness. Carbide is used in taps, reamers, milling cutters, drills and thread milling cutters.

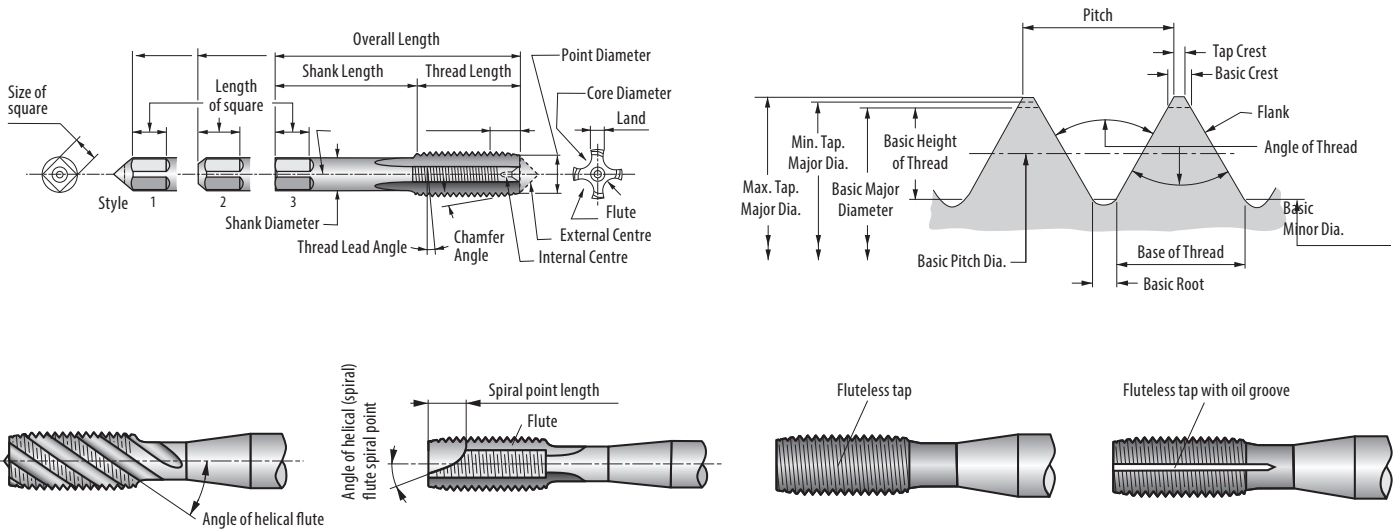
### Surface Treatments

<b>Bright (uncoated)</b>		Bright finish (uncoated surface) improves chip flow in soft or non-ferrous materials and maintains sharp cutting edges in abrasive materials.
<b>Combination Bright and Steam Tempered</b>		Combination of bright and steam tempering can be effective as the blue oxide more porous surface acts to retain and pull cutting fluid into the hole while the bright surface assists in chip evacuation. This combination is achieved by grinding the bright surface after tempering.
<b>Steam Tempering</b>		Steam tempering gives a strongly adhering blue oxide surface that acts to retain cutting fluid and prevent chip to tool welding, thereby counteracting the formation of a built-up edge. Steam tempering can be applied to any bright tool but is most effective on drills and taps.

### Surface Coatings

<b>Chromium Nitride Coating (CrN)</b>		Hard chromium (Cr) for cutting tool applications provides excellent wear and abrasion resistance due to lowering the coefficient of friction. Only designed for machining soft and gummy materials to promote chip flow and to prevent workpiece materials from sticking to the tool. Hard chromium increases the surface hardness of the tool and is especially effective for tapping soft structural steels, copper and brass materials.
<b>Titanium Nitride (TiN)</b>		Titanium Nitride is a gold coloured ceramic coating applied by physical vapour deposition (PVD). High hardness combined with low friction properties ensures considerably longer tool life, or alternatively, better cutting performance from tools which have not been coated. TiN coatings are used mainly for drills and taps.
<b>Titanium Aluminium Nitride Coatings (TiAlN &amp; TiAlN-Top)</b>	 	Titanium Aluminium Nitride is a multi layer ceramic coating applied by PVD coating technology, which exhibits high toughness and oxidation stability. These properties make it ideal for higher speeds and feeds, while at the same time improving tool life. TiAlN is used in drilling, tapping, and milling applications and can be suitable for use when machining without coolant. TiAlN-Top coating is the same as TiAlN but with a post-coating process designed to smooth out imperfections, enhance chip flow and reduce built up edge.
<b>Titanium Carbon Nitride Coating (TiCN)</b>		Titanium Carbon Nitride is a ceramic coating applied by PVD coating technology. TiCN is harder than TiN and has a lower coefficient of friction. Its hardness and toughness in combination with good wear resistance ensures that it finds its principal application in the field of milling to enhance the performance of milling cutters.
<b>Super-B Coating (TiAlN/WC/C)</b>		Super B is a Titanium Aluminium Nitride + Tungsten Carbide + Carbon Coating used for wet and minimal lubrication machining in drilling, milling and tapping applications. Very effective for cast iron, hardened steels and heat resistant super alloys.
<b>Alcrona coatings (Alcrona Pro)</b>		The Alcrona (AlCrN) family of coatings are aluminium chromium nitride coatings mostly used for milling cutters. The two unique properties of these coatings are high hot hardness and high oxidation resistance. When used on tools for machining applications involving heavy mechanical and thermal stresses, these properties translate into superior wear resistance. Multiple levels or specific versions of these coatings are available and specific for various tools and applications.

## THREADING – GENERAL TECHNICAL INFORMATION



**Allowance:** The minimum clearance or maximum interference which is intended between mating parts.

**Angle of Thread:** The angle included between the flanks of a thread measured in an axial plane.

**Back Taper:** A slight taper on the threaded portion of the tap making the pitch diameter near the shank smaller than that at the chamfer.

**Basic:** The theoretical or nominal standard size from which all variations are made.

**Chamfer:** The tapered and relieved cutting teeth at the front end of the threaded section. Common types of chamfer are taper, 8 to 10 pitches long, plug, 3 to 5 pitches and bottoming, 1 to 2 pitches.

**Crest:** The top surface joining the two sides or flanks of a thread.

**Cutting Face:** The leading side of the land.

**Flute:** The longitudinal channels formed on a tap to create cutting edges on the thread profile.

**Heel:** The following side of the land.

**Height of Thread:** In profile, distance between crest and bottom section of thread measured normal to the axis.

**Hook Face:** A concave cutting face of the land. This may be varied for different materials and conditions.

**Interrupted Thread:** Alternate teeth are removed in the thread helix on a tap; usually restricted to those having an odd number of flutes.

**Land:** One of the threaded sections between the flutes of a tap.

**Lead of Thread:** The distance a screw thread advances axially in one turn.

**Major Diameter:** The largest diameter of the screw or nut on a straight screw thread.

**Minor Diameter:** The smallest diameter of the screw or nut on a straight screw thread.

**Neck:** The reduced diameter, on some taps, between the threaded portion and the shank.

**Pitch:** The distance from a point on one thread to a corresponding point on the next thread, measured parallel to the axis.

**Pitch Diameter:** On a straight screw thread, the diameter of an imaginary cylinder where the width of the thread and the width of the space between threads is equal.

**Point Diameter:** The diameter at the leading end of the chamfered portion.

**Radial:** The straight face of a land, the plane of which passes through the axis of the tap.

**Rake:** The angle of the cutting face of the land in relation to an axial plane intersecting the cutting face at the major diameter.

**Relief:** The removal of metal behind the cutting edge to provide clearance between the part being threaded and a portion of the threaded land. Also, see back taper.

**Chamfer relief:** The gradual decrease in land height from cutting edge to heel on the chamfered portion of the tap land to provide radial clearance for the cutting edge.

**Concentric relief:** Radial relief in the thread form starting at the back of a concentric margin.

**Eccentric thread relief:** Radial relief in the thread form starting at the cutting edge and continuing to the heel.

**Root:** The bottom surface joining the flanks of two adjacent threads.

**Side or flank of thread:** The surface of the thread which connects the crest with the root.

**Shank:** The portion of the tap by which it is held and driven.

**Spiral Point:** An oblique cutting edge ground into the lands to provide a shear cutting action on the first few threads.

**Square:** The squared end of the tap shank.

**Thread:** The helical formed tooth of the tap which produces the thread in a tapped hole.

**Thread Lead Angle:** The angle made by the helix of the thread at the pitch diameter, with a plane perpendicular to the axis.

**Threads Per Inch:** The number of threads in one inch of length.

**THREAD: Single:** A thread in which lead is equal to pitch.

**Double:** A thread in which lead is equal to twice the pitch.

**Triple:** A thread in which lead is equal to triple the pitch.



## THREADING – GENERAL TECHNICAL INFORMATION

### General hints on tapping

The success of any tapping operation depends on a number of factors, all of which affect the quality of the finished product.

1. Select the correct design of tap for the component material and type of hole, i.e. through or blind, from the Materials Classification chart.
2. Ensure the component is securely clamped – lateral movement may cause tap breakage or poor quality threads.
3. Select the correct size of drill from the relevant catalogue page. Always ensure that work hardening of the component material is kept to a minimum.
4. Select the correct cutting speed as shown on the catalogue product page.
5. Use appropriate cutting fluid for correct application.
6. In NC applications ensure that the feed value chosen for the program is correct. When using a tapping attachment, 95% to 97% of the pitch is recommended to allow the tap to generate its own pitch.
7. Where possible, hold the tap in a good quality torque limiting tapping attachment, which ensures free axial movement of the tap and presents it squarely to the hole. It also protects the tap from breakage if accidentally ‘bottomed’ in a blind hole.
8. Ensure smooth entry of the tap into the hole, as an uneven feed may cause ‘bell mousing’.

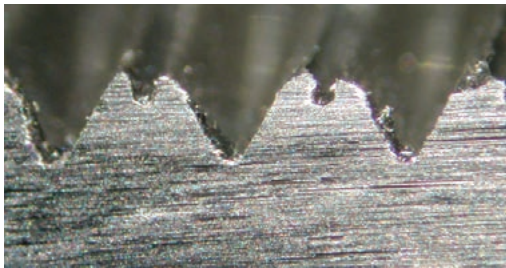
### Tap tolerance vs tolerance on internal thread (nut)

Tolerance class, Tap			Tolerance, Internal thread (Nut)					Application
ISO	DIN	ANSI BS	4H	5H	–	–	–	
ISO 1	4H	3B	4H	5H	–	–	–	Fit without allowance
ISO 2	6H	2B	4G	5G	6H	–	–	Normal fit
ISO 3	6G	1B	–	–	6G	7H	8H	Fit with large allowance
–	7G	–	–	–	–	7G	8G	Loose fit for following treatment or coating

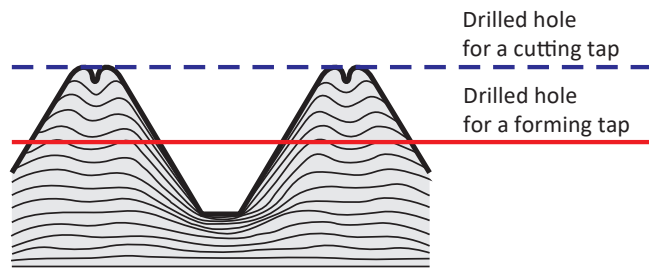
### Flow Of Material When Forming A Thread

The tapping hole size depends upon the material being drilled, the cutting conditions selected and the condition of the equipment being used. If material is pushed up at the thread entry by the tap and/or

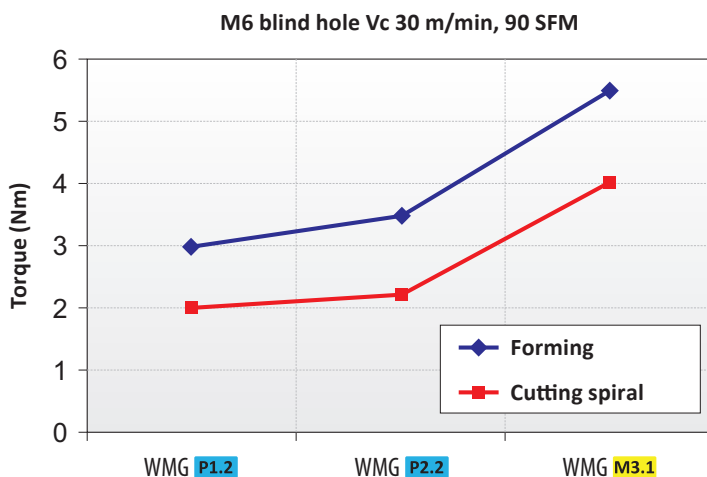
the life of the tap is too short, select a slightly larger drill diameter. If on the other hand the profile of the thread formed is insufficient, then select a slightly smaller drill diameter.



Section of thread obtained by forming tap on steel C45".



Cold forming taps require more power on the spindle, compared to a cutting tap of the same size, since it generates higher torque.








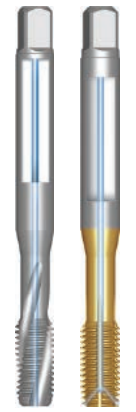


Torque comparison between forming and cutting taps in different material groups.



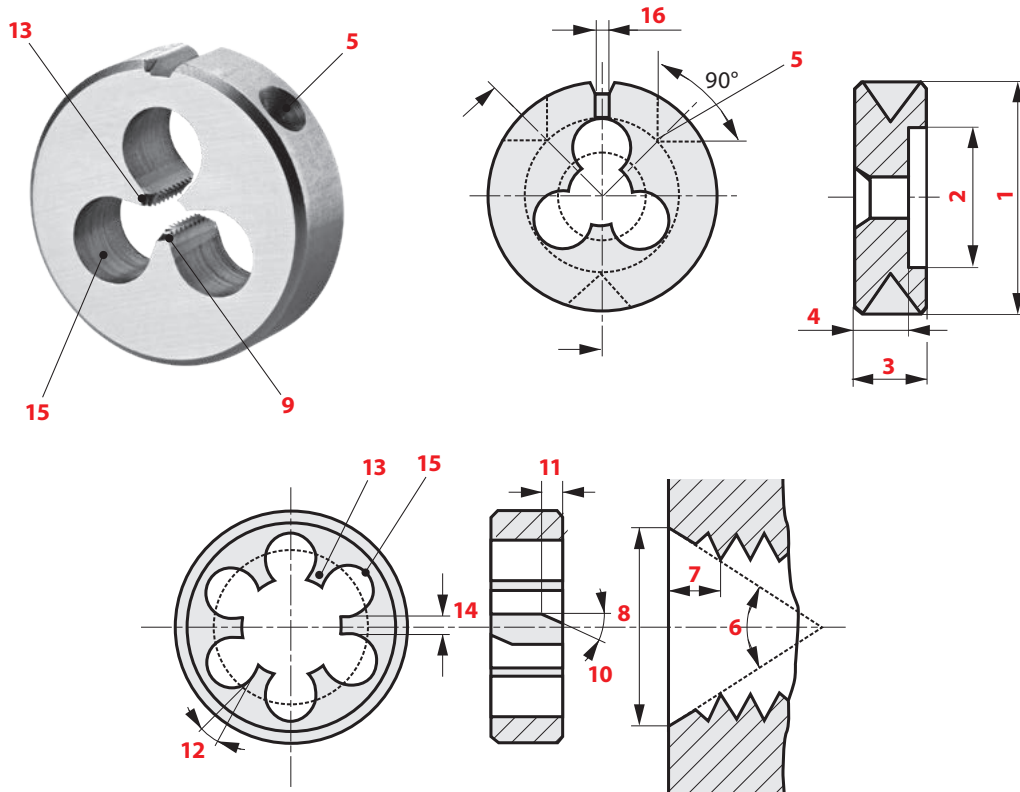
## THREADING – GENERAL TECHNICAL INFORMATION

### Tap Geometries & Applications

Description	Chips	Description	Chips
<p><b>Taps with straight flutes</b> Straight flutes are the most commonly used type of tap. Suitable for use on most materials, mainly short chipping steel and cast iron, they form the basis of the program.</p>		<p><b>Taps with flutes only on the chamfer lead</b> The cutting part of the tap is formed by gun nosing in the same manner as for a spiral point tap, the function being to drive the chips forward ahead of the cutting edges. This design is extremely rigid which facilitates good machining results. However, the short length of the gun nosing limits its application to a depth of hole less than about <math>1.5 \times TDZ</math>.</p>	
<p><b>Taps with interrupted thread</b> The interrupted thread ensures less friction and therefore less resistance, which is particularly important when threading material which is resilient and difficult to machine (e.g. aluminium, bronze). It is also easier for lubricant to penetrate to the cutting edges, thus helping to minimize the torque generated.</p>		<p><b>Taps with spiral flutes</b> Taps with spiral flutes are intended primarily for threading in blind holes. The helical flute transports the chips back away from the cutting edges and out of the hole, thus avoiding packing of chips in the flutes or at the bottom of the hole. In this way, danger of breaking the tap or damaging the thread is minimised.</p>	
<p><b>Spiral point taps</b> The tap has a straight fairly shallow flute and is often referred to as a gun nose or spiral point tap. The gun nose or spiral point is designed to drive the chips forward. The relatively shallow flutes ensure that the sectional strength is maximised. They also act to allow lubricant to reach the cutting edges. This type of tap is recommended for threading through holes.</p>		<p><b>Cold forming taps</b> Cold forming taps differ from cutting taps in that the thread is produced by plastic deformation of the component material rather than by the traditional cutting action. This means that no chips are produced by their action. The application range is materials with good formability. Tensile strength (<math>R_m</math>) should not exceed <math>1200 \text{ N/mm}^2</math> and the elongation factor (<math>A_5</math>) should not be less than 10 %.</p> <p>Cold forming taps without flutes are suitable for normal machining and are especially suitable when vertically tapping blind holes. They are also available with through coolant.</p>	
<p><b>Nut taps</b> These taps are generally used to thread nuts but can be used also on deep through holes. They have a shank diameter smaller than the nominal and a longer overall length, because their function is to accumulate nuts.</p> <p>They are used on special machines designed to thread huge amounts of nuts. They can work in steel and stainless steel.</p> <p>The first serial tap has a very long chamfer, in order to spread the cutting load on almost two thirds of the thread length.</p>		<p><b>Through coolant taps</b> The performance of taps with through coolant holes is higher than the same taps used with external lubrication. These kinds of taps allow better evacuation of the chip, which is transported away from the cutting area itself. Wear on the cutting edge is reduced, since the cooling effect on the cutting zone is higher than the heat generation.</p> <p>Lubrication can be oil, emulsion or air pressurised with oil mist. Working pressure not less than 15 bar is required, but good results can be obtained with minimal lubrication.</p>	

## HSS DIES – TECHNICAL SECTION

### Nomenclature

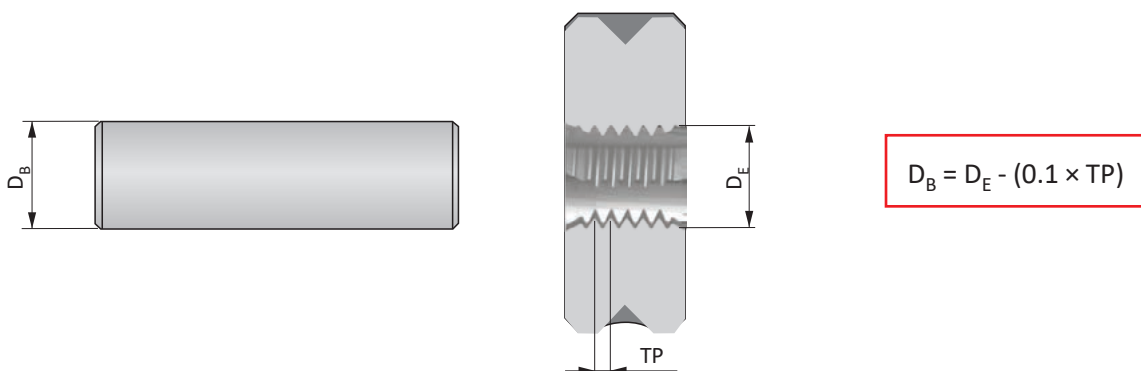


	Description
1	Outside Diameter
2	Recess Diameter
3	Thickness
4	Thread Length
5	Conical Hole for Fixing Screw
6	Chamfer Angle
7	Chamfer Length
8	Chamfer Diameter

	Description
9	Gun-nose
10	Spiral Angle
11	Spiral Length
12	Rake Angle
13	Land
14	Width of Land
15	Clearance Hole
16	Split of Adjustment


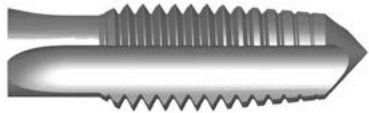

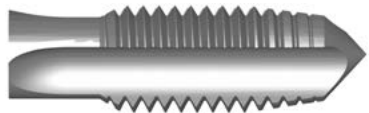

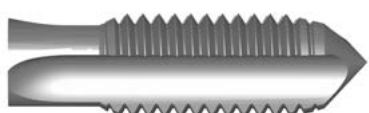
### Pre-machining Dimensions

The diameter of the bolt blank must be smaller than the max. external diameter of the screw thread.



## TAP NO1 – NO9 – TECHNICAL SECTION

Hand taps (ISO standard) with different chamfer lengths each producing a full thread profile.


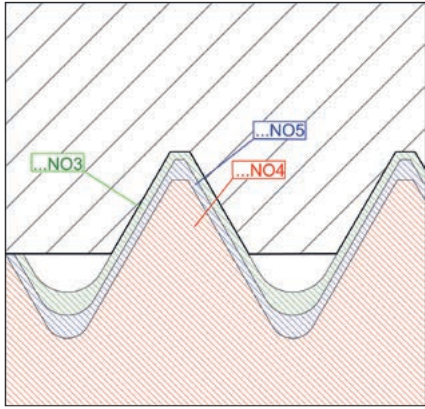


<b>N01 =</b>	 Taper lead	<b>A</b> 6-8	
<b>N02 =</b>	 Plug lead	<b>B</b> 4-6	
<b>N03 =</b>	 Bottoming lead	<b>C</b> 2-3	

<b>ISO</b>	<b>N06 =</b>	N01 + N02 + N03
	<b>N07 =</b>	N02 + N03 *

<b>ANSI</b>	<b>N06 =</b>	N01 (taper) + N02 (plug) + N03 (bottoming)
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\* **E550, E710** N07 = N03 (truncated) + N03

Serial taps (DIN standard) with each sequencing tap cutting a part of the profile, the N03 tap is needed to complete a full thread profile.

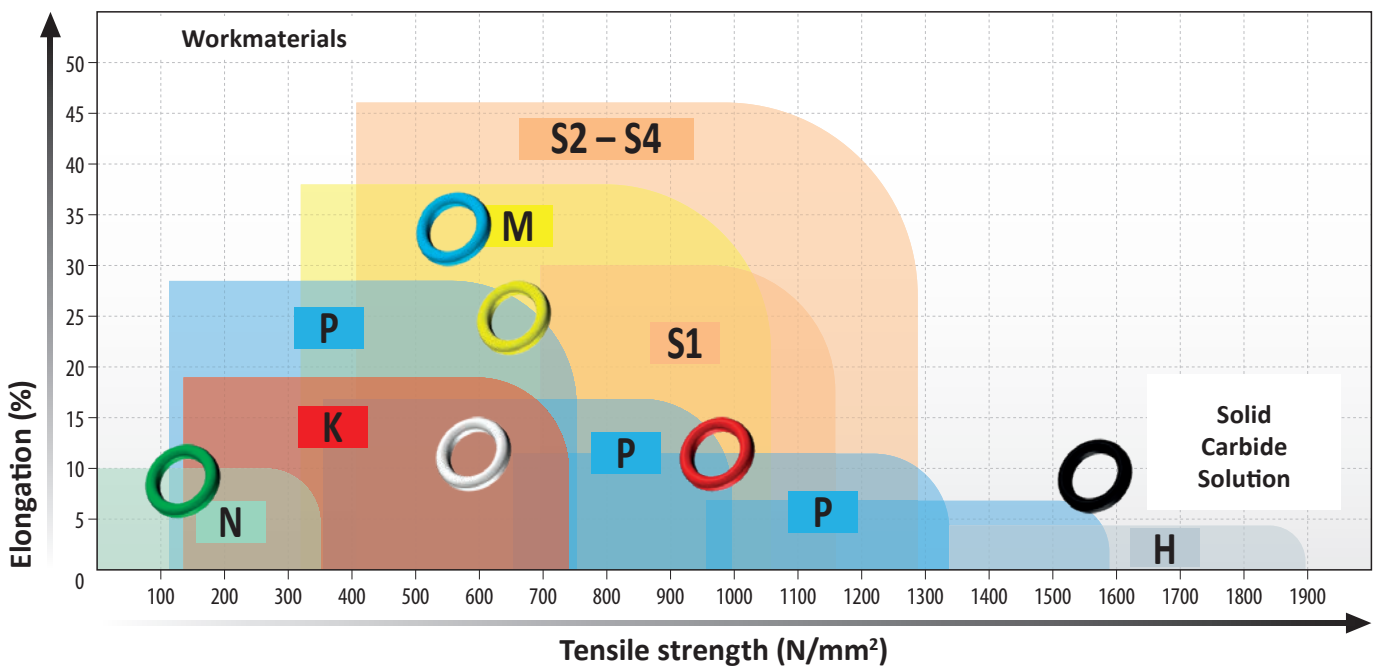
<b>N04 =</b>	 Starter tap	<b>A</b> 6-8	
<b>N05 =</b>	 Seconding tap	<b>B</b> 3.5-5	
<b>N03 =</b>	 Finishing (bottoming lead) tap	<b>C</b> 2-3	

<b>DIN ISO</b>	<b>N08 =</b>	N03 + N04 + N05
	<b>N09 =</b>	N03 + N05

# SHARK

## MATERIAL SPECIFIC APPLICATION TAPS

Dormer's application-based ranges of DIN taps, branded Shark Line, are renowned for their high performance and are easily recognizable by their colored rings, denoting recommendation for use on specific materials.





## THREAD MILLS – GENERAL HINTS

### General hints on thread milling

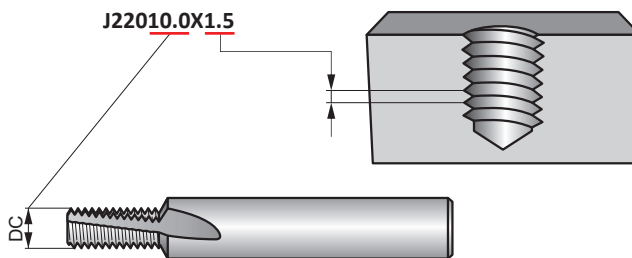
1. Thread milling is the process of generating a thread by the circular interpolation of a milling cutter with a specific thread geometry ground around it's periphery.
2. To be able to use a thread milling cutter it is necessary to have a CNC machine that can make circular paths.
3. Most modern CNC machines are equipped with machining cycles for thread milling.
4. Consult the manual or contact the machine supplier for information.

### Features and benefits

1. Thread milling gives increased reliability and tool life.
2. Threadmills produce small chips resulting in problem free threading.
3. Tolerance adjustments can be made using exact co-ordinates.
4. You can generate a complete thread to the bottom of the hole.
5. Capable of machining a wide variety of materials.
6. The same cutter can produce different size threads provided the pitch is the same.
7. Both right and left hand threads can be created with the same tool.
8. Some thread mills can also machine the entry chamfer (J200 and J205).

### Choosing your tool

Thread milling cutters have an item code based on the type, diameter *DC* and pitch *TP*. The item code is the number to use when ordering your tool. Always consult the catalogue to ensure you have the correct thread dimensions.



This thread milling cutter can be used for threads  $\geq$  M12 $\times$ 1.5 (M14 $\times$ 1.5, M18 $\times$ 1.5 etc.)

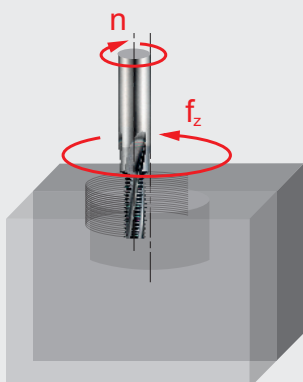
### Programming with Rprg

- For easy adjustment of the thread tolerance always program with radius correction.
- The Rprg value is the start value for a new cutter and is printed on the cutter shank. This should be entered in the tool memory offset.
- Rprg is based on the theoretical zero-line of the thread meaning that when you program using Rprg the thread is never oversize, but normally tight.
- This means that with a small modification to the program co-ordinates you can create the thread to the required size.

### Recommendations

- Always use the correct cutting data.
- Use the recommended drill size for the thread diameter, as for conventional taps.
- For easy adjustment of the thread tolerance always start with the Rprg value printed on the shank of the threadmill.
- Use a gauge to check the tolerance on the first thread to establish if the radius needs to be corrected. The radius can be corrected 2 or 3 times before the threadmill is worn out.
- When dry machining, compressed air is recommended to help with swarf removal.
- When threading more difficult materials, it is recommended to take multiple passes.

## THREAD MILLS – FEED PER TOOTH TABLE



### How to use this table to find the feed per tooth $f_z$ (mm):

1. Find your Alpha Code on the product page (example: 181B, "B" is the Alpha Code).
2. Select the column matching your cutter diameter in the top row of the table with the Thread pitch  $P$  or  $TPI$  (in the rows with icons on the left).
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter + Pitch column and Alpha Code is the feed per tooth  $f_z$ .

### Correction of the feed per tooth for multiple passes:

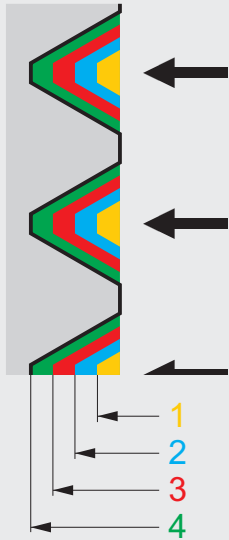
1. In case the thread is being machined in **2 passes** the feed values mentioned in the table should be increased by **30 to 40 %**.
2. In case the thread is being machined in **3 passes** the feed values mentioned in the table should be increased by **55 to 65 %**.
3. In case the thread is being machined in **4 passes** the feed values mentioned in the table should be increased by **80 to 90 %**.

(Example: J2003.2X.7 machining WMG M4.1 with feed rate A in 4-passes the  $f_z = 0.017 \times 1.80 = 0.031$  mm/tooth).

The specified values are the recommended starting values for machining the full thread depth in one pass.


	$\phi$ DC (mm)																													
	3.20	4.10	4.50	4.80	5.50	6.00		6.50	7.50	7.90	8.00	8.20	9.50	9.90	10.00		11.60	12.00		13.60	14.00		16.00				19.00	20.00	25.00	
	0.70	0.80	1.00	1.00	-	1.25	-	1.25	1.50	-	-	1.50	1.75	1.75	2.00	-	2.00	2.00	-	2.00	-	-	-	-	-	-	-	-	-	-
<b>A</b>	0.017	0.022	0.023	0.024	-	0.024	-	0.029	0.036	-	-	0.040	0.044	0.047	0.053	-	0.056	0.068	-	0.071	-	-	-	-	-	-	-	-	-	-
<b>B</b>	0.022	0.029	0.031	0.032	-	0.032	-	0.038	0.048	-	-	0.053	0.059	0.063	0.070	-	0.075	0.090	-	0.095	-	-	-	-	-	-	-	-	-	-
<b>C</b>	0.028	0.036	0.039	0.040	-	0.040	-	0.048	0.060	-	-	0.066	0.074	0.079	0.088	-	0.094	0.113	-	0.119	-	-	-	-	-	-	-	-	-	-
				0.50		0.75	1.00								1.00	1.50		1.00	1.50		1.00	1.50		1.00	1.50	2.00	2.50	3.00	2.00	
<b>D</b>				0.044		0.041	0.036					0.057			0.075	0.067		0.079	0.071		0.083	0.071	0.092	0.081	0.073	0.067	0.096			
<b>E</b>				0.058		0.055	0.048					0.076			0.100	0.089		0.105	0.094		0.110	0.095	0.122	0.108	0.097	0.089	0.128			
<b>F</b>				0.073		0.069	0.060					0.095			0.125	0.111		0.131	0.118		0.138	0.119	0.153	0.135	0.121	0.111	0.160			
				<b>20</b>	<b>18</b>				<b>16</b>	<b>14</b>				<b>13</b>	<b>12</b>		<b>11</b>			<b>10</b>										
<b>G</b>				0.019	0.023				0.030	0.034				0.053	0.051		0.055			0.066										
<b>H</b>				0.025	0.030				0.040	0.045				0.071	0.068		0.073			0.088										
<b>I</b>				0.031	0.038				0.050	0.056				0.089	0.085		0.091			0.110										
				<b>28</b>		<b>24</b>								<b>20</b>						<b>16</b>										
<b>J</b>				0.023		0.026						0.041			0.062					0.083										
<b>K</b>				0.030		0.035						0.054			0.083					0.110										
<b>L</b>				0.038		0.044						0.068			0.104					0.138										
						<b>28</b>									<b>19</b>					<b>19</b>		<b>14</b>					<b>14</b>	<b>11</b>		
<b>M</b>						0.029								0.064					0.080		0.083					0.116	0.131			
<b>N</b>						0.038								0.085					0.106		0.111					0.155	0.175			
<b>O</b>						0.048								0.106					0.133		0.139					0.194	0.219			
												<b>27</b>			<b>18</b>						<b>14</b>	<b>11.5</b>								
<b>Q</b>											0.039			0.044					0.079	0.115										
<b>R</b>											0.052			0.059					0.105	0.153										
<b>S</b>											0.065			0.074					0.131	0.191										

## THREAD MILLS – NUMBER OF PASSES TABLE




- How to use the tables to find the depth increments per pass:**
1. Select the table for your thread profile (example: "M12" is a metric thread).
  2. Find the column matching your thread pitch in the top row of the table.
  3. Find in that column below the recommended number of passes and for each pass the increment radial depth of cut. (example: for a pitch of 1.75 the recommended number of passes is 5 and radial depth of the 1st pass is 0.277 mm, the 2nd 0.228 mm etc.).
  4. It is recommended to increase the number of passes for more difficult to machine materials.
  5. For super-finishing result it is best practice to repeat the final pass.

Recommended number of passes and radial depth of cut per pass for female metric thread (60°).

		Radial depth of cut per pass (mm)										
		0.50	0.70	0.75	0.80	1.00	1.25	1.50	1.75	2.00	2.50	3.00
No. of passes	1	0.158	0.221	0.168	0.224	0.224	0.228	0.237	0.277	0.283	0.323	0.387
	2	0.131	0.183	0.138	0.185	0.185	0.188	0.196	0.228	0.234	0.267	0.320
	3	–	–	0.127	0.135	0.168	0.173	0.179	0.209	0.214	0.244	0.293
	4	–	–	–	–	–	0.133	0.138	0.161	0.164	0.187	0.225
	5	–	–	–	–	–	–	0.116	0.135	0.138	0.158	0.189
	6	–	–	–	–	–	–	–	–	0.122	0.139	0.167
	7	–	–	–	–	–	–	–	–	–	0.125	0.151
Acc. depth		0.289	0.404	0.433	0.544	0.577	0.722	0.866	1.010	1.155	1.443	1.732


Recommended number of passes and radial depth of cut per pass for female unified thread (60°).

		Radial depth of cut per pass (mm)									
		28	24	20	18	16	14	13	12	11	10
No. of passes	1	0.203	0.237	0.232	0.258	0.251	0.287	0.309	0.299	0.327	0.328
	2	0.167	0.195	0.191	0.213	0.207	0.237	0.255	0.247	0.270	0.271
	3	0.154	0.179	0.175	0.195	0.190	0.217	0.234	0.226	0.247	0.248
	4	–	–	0.135	0.149	0.146	0.166	0.179	0.174	0.189	0.190
	5	–	–	–	–	0.123	0.140	0.151	0.146	0.160	0.160
	6	–	–	–	–	–	–	–	0.130	0.140	0.141
	7	–	–	–	–	–	–	–	–	–	0.128
Acc. Depth		0.524	0.611	0.733	0.815	0.917	1.047	1.128	1.222	1.333	1.466




## THREAD MILLS – NUMBER OF PASSES TABLE

Recommended number of passes and radial depth of cut per pass for female G (BSP) thread (55°).

		Radial depth of cut per pass (mm)			
		28	19	14	11
No. of passes	1	0.225	0.271	0.318	0.362
	2	0.186	0.224	0.263	0.299
	3	0.170	0.205	0.241	0.274
	4	–	0.156	0.185	0.210
	5	–	–	0.155	0.177
	6	–	–	–	0.157
	7	–	–	–	–
Acc. Depth		0.581	0.856	1.162	1.479

Recommended number of passes and radial depth of cut per pass for female NPT thread (60°).

		Radial depth of cut per pass (mm)			
		27	18	14	11.5
No. of passes	1	0.283	0.348	0.390	0.423
	2	0.233	0.287	0.322	0.349
	3	0.214	0.263	0.295	0.320
	4	–	0.202	0.226	0.246
	5	–	–	0.190	0.207
	6	–	–	–	0.183
	7	–	–	–	–
Acc. Depth		0.730	1.100	1.423	1.728

## WMG (WORK MATERIAL GROUP)

ISO group	WMG (Work Material Group)	Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)	
P	P1 P1.1 Free machining steel P1.2 (carbon steels with increased machinability) P1.3	Sulfurized	< 240 HB	≤ 830
		Sulfurized and phosphorized	< 180 HB	≤ 620
		Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2 P2.1 Plain carbon steel P2.2 (steels comprised of mainly iron and carbon) P2.3	Containing <0.25 % C	< 180 HB	≤ 620
		Containing <0.55 % C	< 240 HB	≤ 830
		Containing >0.55 % C	< 300 HB	≤ 1030
	P3 P3.1 Alloy steel P3.2 (carbon steels with an alloying content ≤ 10%) P3.3	Annealed	< 180 HB	≤ 620
		Hardened and tempered	180 – 260 HB	> 620 ≤ 900
			260 – 360 HB	> 900 ≤ 1240
	P4 P4.1 Tool steel P4.2 (special alloy steel for tools, dies and molds) P4.3	Annealed	< 26 HRC	≤ 900
Hardened and tempered		26 – 39 HRC	> 900 ≤ 1240	
		39 – 45 HRC	> 1240 ≤ 1450	
M	M1 M1.1 Ferritic stainless steel M1.2 (straight chromium non-hardenable alloys)	Annealed	< 160 HB	≤ 520
		160 – 220 HB	> 520 ≤ 700	
	M2 M2.1 Martensitic stainless steel M2.2 (straight chromium hardenable alloys) M2.3	Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
			< 200 HB	≤ 750
	M3 M3.1 Austenitic stainless steel M3.2 (chromium-nickel and chromium-nickel-manganese alloys) M3.3	200 – 260 HB	> 750 ≤ 870	
		260 – 300 HB	> 870 ≤ 1040	
		< 300 HB	≤ 990	
	M4 M4.1 Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel M4.2 Precipitation hardening austenitic stainless steel	300 – 380 HB	≤ 1320	
K	K1 K1.1 Gray iron or Automotive Gray iron (GG) K1.2 (iron-carbon castings with a lamellar graphite microstructure) K1.3	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		Ferritic-pearlitic or pearlitic	180 – 240 HB	> 190 ≤ 310
		Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2 K2.1 Malleable iron (GTS/GTW) K2.2 (iron-carbon castings with a graphite-free microstructure) K2.3	Ferritic	< 160 HB	≤ 400
		Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3 K3.1 Ductile iron (GGG) K3.2 (iron-carbon castings with a nodular graphite microstructure) K3.3	Ferritic	< 180 HB	≤ 560
		Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4 K4.1 Austenitic gray iron (ASTM A436) K4.2 (iron-carbon alloy castings with an austenitic lamellar graphite microstructure) K4.3 Austenitic ductile iron (ASTM A439 or ASTM A571) K4.4 (iron-carbon alloy castings with an austenitic nodular graphite microstructure) K4.5	< 180 HB	≤ 190	
		< 240 HB	≤ 740	
		< 280 HB	> 840 ≤ 980	
		280 – 320 HB	> 980 ≤ 1130	
		320 – 360 HB	> 1130 ≤ 1280	
	K5 K5.1 Compacted graphite iron CGI (ASTM A842) K5.2 (iron-carbon castings with a vermicular graphite structure) K5.3	Ferritic	< 180 HB	≤ 400
Ferritic-pearlitic		180 – 220 HB	> 400 ≤ 450	
Pearlitic		220 – 260 HB	> 450 ≤ 500	
N	N1 N1.1 Commercially pure wrought aluminium N1.2 Wrought aluminium alloys N1.3	Half hard tempered	60 – 100 HB	> 240 ≤ 400
		Full hard tempered	100 – 150 HB	> 400 ≤ 590
			< 75 HB	≤ 240
	N2 N2.1 Cast aluminium alloys N2.2 N2.3	75 – 90 HB	> 240 ≤ 270	
		90 – 140 HB	> 270 ≤ 440	
		–	–	
	N3 N3.1 Free-cutting copper-alloys materials with excellent machining properties N3.2 Short-chip copper-alloys with good to moderate machining properties N3.3 Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties	–	–	
		–	–	
		–	–	
	N4 N4.1 Thermoplastic polymers N4.2 Thermosetting polymers N4.3 Reinforced polymers or composites	–	–	
		–	–	
	N5 N5.1 Graphite	–	–	
	S	S1 S1.1 Titanium or titanium alloys S1.2 S1.3	< 200 HB	≤ 660
			200 – 280 HB	> 660 ≤ 950
			280 – 360 HB	> 950 ≤ 1200
S2 S2.1 Fe-based high-temperature alloys S2.2		< 200 HB	≤ 690	
		200 – 280 HB	> 690 ≤ 970	
S3 S3.1 Ni-based high-temperature alloys S3.2		< 280 HB	≤ 940	
		280 – 360 HB	> 940 ≤ 1200	
S4 S4.1 Co-based high-temperature alloys S4.2		< 240 HB	≤ 800	
	240 – 320 HB	> 800 ≤ 1070		
H	H1 H1.1 Chilled cast iron	< 440 HB	–	
	H2 H2.1 Hardened cast iron H2.2	< 55 HRC	–	
		> 55 HRC	–	
	H3 H3.1 Hardened steel < 55 HRC H3.2	< 51 HRC	–	
		51 – 55 HRC	–	
	H4 H4.1 Hardened steel > 55 HRC H4.2	55 – 59 HRC	–	
		> 59 HRC	–	



### HARDNESS CONVERSION TABLE

Strength (MPa)	Hardness			
	BRINELL	VICKERS	ROCKWELL	ROCKWELL
<b>R<sub>m</sub></b>	<b>HB</b>	<b>HV</b>	<b>HRB</b>	<b>HRC</b>
285	86	<b>90</b>	1190	–
320	95	<b>100</b>	56.2	–
350	105	<b>110</b>	62.3	–
385	114	<b>120</b>	66.7	–
415	124	<b>130</b>	71.2	–
450	133	<b>140</b>	75.0	–
480	143	<b>150</b>	78.7	–
510	152	<b>160</b>	81.7	–
545	162	<b>170</b>	85.8	–
575	171	<b>180</b>	87.1	–
610	181	<b>190</b>	89.5	–
640	190	<b>200</b>	91.5	–
675	199	<b>210</b>	93.5	–
705	209	<b>220</b>	95	–
740	219	<b>230</b>	96.7	–
770	228	<b>240</b>	98.1	–
800	238	<b>250</b>	99.5	–
820	242	<b>255</b>	–	23.1
850	252	<b>265</b>	–	24.8
880	261	<b>275</b>	–	26.4
900	266	<b>280</b>	–	27.1
930	276	<b>290</b>	–	28.5
950	280	<b>295</b>	–	29.2
995	295	<b>310</b>	–	31.0
1030	304	<b>320</b>	–	32.2
1060	314	<b>330</b>	–	33.3
1095	323	<b>340</b>	–	34.4
1125	333	<b>350</b>	–	35.5
1155	342	<b>360</b>	–	36.6

Strength (MPa)	Hardness			
	BRINELL	VICKERS	ROCKWELL	ROCKWELL
<b>R<sub>m</sub></b>	<b>HB</b>	<b>HV</b>	<b>HRB</b>	<b>HRC</b>
1190	352	<b>370</b>	–	37.7
1220	361	<b>380</b>	–	38.8
1255	371	<b>390</b>	–	39.8
1290	380	<b>400</b>	–	40.8
1320	390	<b>410</b>	–	41.8
1350	399	<b>420</b>	–	42.7
1385	409	<b>430</b>	–	43.6
1420	418	<b>440</b>	–	44.5
1455	428	<b>450</b>	–	45.3
1485	437	<b>460</b>	–	46.1
1520	447	<b>470</b>	–	46.9
1555	456	<b>480</b>	–	47.7
1595	466	<b>490</b>	–	48.4
1630	475	<b>500</b>	–	49.1
1665	485	<b>510</b>	–	49.8
1700	494	<b>520</b>	–	50.5
1740	504	<b>530</b>	–	51.1
1775	513	<b>540</b>	–	51.7
1810	523	<b>550</b>	–	52.3
1845	532	<b>560</b>	–	53.0
1880	542	<b>570</b>	–	53.6
1920	551	<b>580</b>	–	54.1
1955	561	<b>590</b>	–	54.7
1995	570	<b>600</b>	–	55.2
2030	580	<b>610</b>	–	55.7
2070	589	<b>620</b>	–	56.3
2105	599	<b>630</b>	–	56.8
2145	608	<b>640</b>	–	57.3
2180	618	<b>650</b>	–	57.8

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