

High-tensile
steels

Stainless and
acid-resistant
steels

Aluminium
and aluminium
alloys

General
steels

Cast
materials

POWERTAP – ABSOLUTELY PERFECT

A Powertap is always **the right choice!** It is a true **universal tap** covering a **broad range of applications** and provides **optimal machining results**. Count on **Guhring's golden power!**

MORE POWER FOR YOUR PRODUCTION

PowerTap – top quality from Germany at a power price

YOUR ADVANTAGES:

- » UNMATCHABLE
PRICE/PERFORMANCE RATIO
- » MAXIMUM STOCK AVAILABILITY
- » GUHRING QUALITY
- » SHORT DELIVERY TIMES
- » LONG TOOL LIFE
- » PERFECT THREADS
- » MAXIMUM PROCESS RELIABILITY

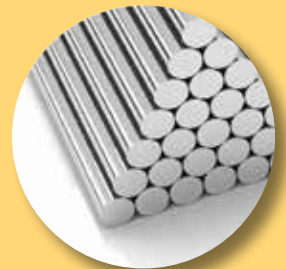
Optimized geometries for
maximum performance



Completely precision ground on
specially developed machines



Finest quality substrates



More power for your production



GÜHROSynC

UP TO 30% BETTER PERFORMANCE AT A POWER PRICE

Allows for 0.3 mm of compensation for up to 75% reduction in axial forces

Offers internal, peripheral or MQL lubrication

Extreme concentricity and application speed

First tapping chuck to offer combination of steel and polymer components for independent axial and torsional force dampening

Quick and simple handling, slim design

Maximum tool life and thread accuracy



The new GÜHROSynC tapping chuck

Synchro and hydraulic clamping technology intelligently combined

by **GUHRING**

Tool material			HSS-E	HSS-E	HSS-E	HSS-E	HSS-E-PM	HSS-E	HSS-E-PM	HSS-E
Flute/Chamfer			R.H. Helix/C	R.H. Helix/C	R.H. Helix/C	R.H. Helix/E	R.H. Helix/C	Straight/B	Straight/B	Straight/B
Surface finish										
Cooling										
			Blind holes	Blind holes	Blind holes	Blind holes	Blind holes	Through holes	Through hole	Through hole
Thread type	Class of Fit	Blank Style	Guhring no. Ø-range							
UNC	2B/3B	ANSI	4407		4408			4402		4404
			2-56 - 1-8 <i>p. 10</i>		2-56 - 1-8 <i>p. 11</i>			2-56 - 1-8 <i>p. 6</i>		2-56 - 1-8 <i>p. 7</i>
UNF	2B/3B	ANSI	4409		4410			4405		4406
			3-56 - 1-12 <i>p. 12</i>		3-56 - 1-12 <i>p. 13</i>			3-56 - 1-12 <i>p. 8</i>		3-56 - 1-12 <i>p. 9</i>
M	ISO 2 6H	ANSI	4411		4412			4415		4416
			M3 - M24 <i>p. 16</i>		M3 - M24 <i>p. 16</i>			M3 - M24 <i>p. 14</i>		M3 - M24 <i>p. 14</i>
MF	ISO 2 6H	ANSI	4413		4414			4417		4418
			M8 x 1 - M24 x 1.5 <i>p. 17</i>		M8 x 1 - M24 x 1.5 <i>p. 17</i>			M8 x 1 - M24 x 1.5 <i>p. 15</i>		M8 x 1 - M24 x 1.5 <i>p. 15</i>
M	ISO 2 6H	DIN 371	5734	5737		5721	5722	5733	5736	
			M3 - M10 <i>p. 20</i>	M2 - M10 <i>p. 20</i>		M3 - M10 <i>p. 23</i>	M3 - M10 <i>p. 29</i>	M3 - M10 <i>p. 18</i>	M2 - M10 <i>p. 27</i>	
M	ISO 2 6H	DIN 376	5717				5722	5716	5736	
			M3 - M20 <i>p. 21</i>				M12 - M20 <i>p. 29</i>	M12 - M20 <i>p. 18</i>	M12 - M20 <i>p. 27</i>	
MF	ISO 2 6H	DIN 374	5724				5740	5723	5739	
			M4 x 0.5 - M20 x 1.5 <i>p. 22</i>				M8 x 1 - M24 x 2 <i>p. 30</i>	M4 x 0.5 - M20 x 1.5 <i>p. 19</i>	M8 x 1 - M24 x 2 <i>p. 28</i>	
M	6HX	DIN 376		5738						
				M3 - M24 <i>p. 24</i>						
M	6HX	Guhring standard (long reach)		5718						
				Extra Long - M3 - M20 <i>p. 26</i>						
M	ISO 3 6G	DIN 371	5720					5719		
			M3 - M10 <i>p. 25</i>					M3 - M10 <i>p. 25</i>		



Blind holes



Through holes



Steam Oxide



TiN Coating






TiCN Coating

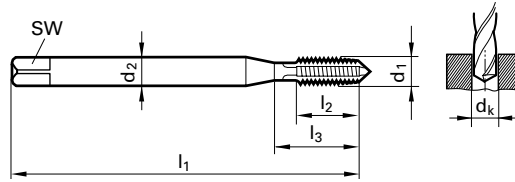


External Cooling





-  through holes
-  steam oxide
-  external cooling



Series 4402

Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)



Class of Fit 2B / 3B see H Limits




Cutting Direction right-hand

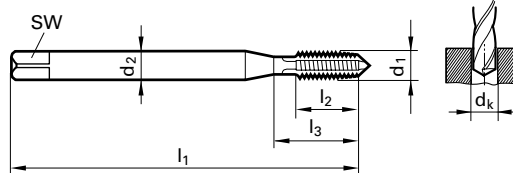
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
2-56	H2	0.141	0.110	0.0700	1.751	0.441	0.631	202.184	9044022021840
3-48	H2	0.141	0.110	0.0811	1.811	0.500	0.631	202.515	9044022025150
4-40	H2	0.141	0.110	0.0890	1.882	0.433	0.709	202.845	9044022028450
4-40	H3	0.141	0.110	0.0890	1.882	0.433	0.709	302.845	9044023028450
4-40	H5	0.141	0.110	0.0890	1.882	0.433	0.709	502.845	9044025028450
5-40	H2	0.141	0.110	0.1016	1.941	0.433	0.709	203.175	9044022031750
6-32	H3	0.141	0.110	0.1094	2.000	0.472	0.748	303.505	9044023035050
6-32	H5	0.141	0.110	0.1094	2.000	0.472	0.748	503.505	9044025035050
8-32	H3	0.168	0.131	0.1358	2.130	0.472	0.827	304.166	9044023041660
8-32	H5	0.168	0.131	0.1358	2.130	0.472	0.827	504.166	9044025041660
10-24	H3	0.194	0.152	0.1520	2.382	0.551	0.945	304.826	9044023048260
10-24	H5	0.194	0.152	0.1520	2.382	0.551	0.945	504.826	9044025048260
12-24	H3	0.220	0.165	0.1772	2.382	0.629	1.024	305.486	9044023054860
1/4-20	H3	0.255	0.191	0.2031	2.500	0.629	1.181	306.350	9044023063500
1/4-20	H5	0.255	0.191	0.2031	2.500	0.629	1.181	506.350	9044025063500
5/16-18	H3	0.318	0.238	0.2610	2.720	0.709	1.377	307.938	9044023079380
5/16-18	H5	0.318	0.238	0.2610	2.720	0.709	1.377	507.938	9044025079380
3/8-16	H3	0.381	0.286	0.3161	2.941	0.787	1.456	309.525	9044023095250
3/8-16	H5	0.381	0.286	0.3161	2.941	0.787	1.456	509.525	9044025095250
7/16-14	H3	0.323	0.242	0.3677	3.157	0.866	N/A	311.113	9044023111130
7/16-14	H5	0.323	0.242	0.3677	3.157	0.866	N/A	511.113	9044025111130
1/2-13	H3	0.367	0.275	0.4220	3.381	0.984	N/A	312.700	9044023127000
1/2-13	H5	0.367	0.275	0.4220	3.381	0.984	N/A	512.700	9044025127000
9/16-12	H3	0.429	0.322	0.4843	3.591	1.102	N/A	314.288	9044023142880
5/8-11	H3	0.480	0.360	0.5311	3.811	1.181	N/A	315.875	9044023158750
5/8-11	H5	0.480	0.360	0.5311	3.811	1.181	N/A	515.875	9044025158750
3/4-10	H3	0.590	0.442	0.6563	4.252	1.299	N/A	319.050	9044023190500
3/4-10	H5	0.590	0.442	0.6563	4.252	1.299	N/A	519.050	9044025190500
1-8	H5	0.800	0.600	0.8748	5.130	1.496	N/A	525.400	9044025254000





Series 4404

-  through holes
-  TiCN coated
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)



Class of Fit 2B / 3B see H Limits

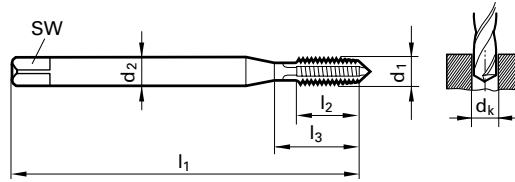
Cutting Direction right-hand

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
2-56	H2	0.141	0.110	0.0700	1.751	0.441	0.631	202.184	9044042021840
3-48	H2	0.141	0.110	0.0811	1.811	0.500	0.631	202.515	9044042025150
4-40	H2	0.141	0.110	0.0890	1.882	0.433	0.709	202.845	9044042028450
4-40	H3	0.141	0.110	0.0890	1.882	0.433	0.709	302.845	9044043028450
4-40	H5	0.141	0.110	0.0890	1.882	0.433	0.709	502.845	9044045028450
5-40	H2	0.141	0.110	0.1016	1.941	0.433	0.709	203.175	9044042031750
6-32	H3	0.141	0.110	0.1094	2.000	0.472	0.748	303.505	9044043035050
6-32	H5	0.141	0.110	0.1094	2.000	0.472	0.748	503.505	9044045035050
8-32	H3	0.168	0.131	0.1358	2.130	0.472	0.827	304.166	9044043041660
8-32	H5	0.168	0.131	0.1358	2.130	0.472	0.827	504.166	9044045041660
10-24	H3	0.194	0.152	0.1520	2.382	0.551	0.945	304.826	9044043048260
10-24	H5	0.194	0.152	0.1520	2.382	0.551	0.945	504.826	9044045048260
12-24	H3	0.220	0.165	0.1772	2.382	0.629	1.024	305.486	9044043054860
1/4-20	H3	0.255	0.191	0.2031	2.500	0.629	1.181	306.350	9044043063500
1/4-20	H5	0.255	0.191	0.2031	2.500	0.629	1.181	506.350	9044045063500
5/16-18	H3	0.318	0.238	0.2610	2.720	0.709	1.377	307.938	9044043079380
5/16-18	H5	0.318	0.238	0.2610	2.720	0.709	1.377	507.938	9044045079380
3/8-16	H3	0.381	0.286	0.3161	2.941	0.787	1.456	309.525	9044043095250
3/8-16	H5	0.381	0.286	0.3161	2.941	0.787	1.456	509.525	9044045095250
7/16-14	H3	0.323	0.242	0.3677	3.157	0.866	N/A	311.113	9044043111130
7/16-14	H5	0.323	0.242	0.3677	3.157	0.866	N/A	511.113	9044045111130
1/2-13	H3	0.367	0.275	0.4220	3.381	0.984	N/A	312.700	9044043127000
1/2-13	H5	0.367	0.275	0.4220	3.381	0.984	N/A	512.700	9044045127000
9/16-12	H3	0.429	0.322	0.4843	3.591	1.102	N/A	314.288	9044043142880
5/8-11	H3	0.480	0.360	0.5311	3.811	1.181	N/A	315.875	9044043158750
5/8-11	H5	0.480	0.360	0.5311	3.811	1.181	N/A	515.875	9044045158750
3/4-10	H3	0.590	0.442	0.6563	4.252	1.299	N/A	319.050	9044043190500
3/4-10	H5	0.590	0.442	0.6563	4.252	1.299	N/A	519.050	9044045190500
1-8	H5	0.800	0.600	0.8748	5.130	1.496	N/A	525.400	9044045254000





- through holes
- steam oxide
- external cooling



Series 4405

Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)



Class of Fit 2B / 3B see H Limits




Cutting Direction right-hand

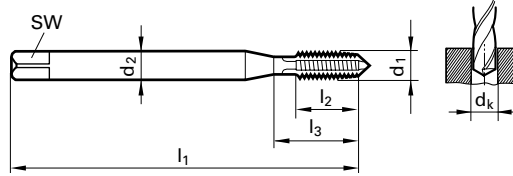
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
3-56	H2	0.141	0.110	0.0827	1.811	0.500	0.631	202.515	9044052025150
4-48	H2	0.141	0.110	0.0937	1.882	0.433	0.709	202.845	9044052028450
6-40	H2	0.141	0.110	0.1161	2.000	0.472	0.748	203.505	9044052035050
8-36	H2	0.168	0.131	0.1378	2.130	0.472	0.827	204.166	9044052041660
10-32	H3	0.194	0.152	0.1610	2.382	0.551	0.945	304.826	9044053048260
10-32	H5	0.194	0.152	0.1610	2.382	0.551	0.945	504.826	9044055048260
10-32	H6	0.194	0.152	0.1610	2.382	0.551	0.945	604.826	9044056048260
12-28	H3	0.220	0.165	0.1820	2.382	0.629	1.024	305.486	9044053054860
1/4-28	H3	0.255	0.191	0.2165	2.500	0.629	1.181	306.350	9044053063500
1/4-28	H5	0.255	0.191	0.2165	2.500	0.629	1.181	506.350	9044055063500
5/16-24	H3	0.318	0.238	0.2717	2.720	0.709	1.377	307.938	9044053079380
5/16-24	H5	0.318	0.238	0.2717	2.720	0.709	1.377	507.938	9044055079380
3/8-24	H3	0.381	0.285	0.3346	2.941	0.787	1.456	309.525	9044053095250
3/8-24	H5	0.381	0.285	0.3346	2.941	0.787	1.456	509.525	9044055095250
7/16-20	H3	0.323	0.242	0.3906	3.157	0.866	N/A	311.113	9044053111130
7/16-20	H5	0.323	0.242	0.3906	3.157	0.866	N/A	511.113	9044055111130
1/2-20	H3	0.367	0.275	0.4531	3.381	0.787	N/A	312.700	9044053127000
1/2-20	H5	0.367	0.275	0.4531	3.381	0.787	N/A	512.700	9044055127000
9/16-18	H3	0.429	0.322	0.5118	3.591	0.866	N/A	314.288	9044053142880
5/8-18	H3	0.480	0.360	0.5709	3.811	0.866	N/A	315.875	9044053158750
5/8-18	H5	0.480	0.360	0.5709	3.811	0.866	N/A	515.875	9044055158750
3/4-16	H3	0.590	0.442	0.6874	4.252	0.984	N/A	319.050	9044053190500
3/4-16	H5	0.590	0.442	0.6874	4.252	0.984	N/A	519.050	9044055190500
1-12	H4	0.800	0.600	0.9220	5.130	1.102	N/A	425.400	9044054254000





Series 4406

-  through holes
-  TiCN coated
-  external cooling



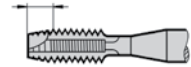
Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)






Class of Fit 2B / 3B see H Limits

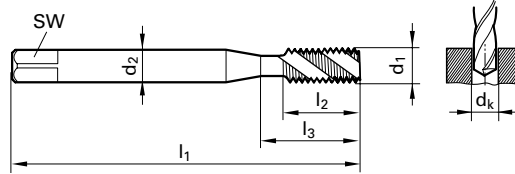
Cutting Direction right-hand

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
3-56	H2	0.141	0.110	0.0827	1.811	0.500	0.631	202.515	9044062025150
4-48	H2	0.141	0.110	0.0937	1.882	0.433	0.709	202.845	9044062028450
6-40	H2	0.141	0.110	0.1161	2.000	0.472	0.748	203.505	9044062035050
8-36	H2	0.168	0.131	0.1378	2.130	0.472	0.827	204.166	9044062041660
10-32	H3	0.194	0.152	0.1610	2.382	0.551	0.945	304.826	9044063048260
10-32	H5	0.194	0.152	0.1610	2.382	0.551	0.945	504.826	9044065048260
10-32	H6	0.194	0.152	0.1610	2.382	0.551	0.945	604.826	9044066048260
12-28	H3	0.220	0.165	0.1820	2.382	0.629	1.024	305.486	9044063054860
1/4-28	H3	0.255	0.191	0.2165	2.500	0.629	1.181	306.350	9044063063500
1/4-28	H5	0.255	0.191	0.2165	2.500	0.629	1.181	506.350	9044065063500
5/16-24	H3	0.318	0.238	0.2717	2.720	0.709	1.377	307.938	9044063079380
5/16-24	H5	0.318	0.238	0.2717	2.720	0.709	1.377	507.938	9044065079380
3/8-24	H3	0.381	0.285	0.3346	2.941	0.787	1.456	309.525	9044063095250
3/8-24	H5	0.381	0.285	0.3346	2.941	0.787	1.456	509.525	9044065095250
7/16-20	H3	0.323	0.242	0.3906	3.157	0.866	N/A	311.113	9044063111130
7/16-20	H5	0.323	0.242	0.3906	3.157	0.866	N/A	511.113	9044065111130
1/2-20	H3	0.367	0.275	0.4531	3.381	0.787	N/A	312.700	9044063127000
1/2-20	H5	0.367	0.275	0.4531	3.381	0.787	N/A	512.700	9044065127000
9/16-18	H3	0.429	0.322	0.5118	3.591	0.866	N/A	314.288	9044063142880
5/8-18	H3	0.480	0.360	0.5709	3.811	0.866	N/A	315.875	9044063158750
5/8-18	H5	0.480	0.360	0.5709	3.811	0.866	N/A	515.875	9044065158750
3/4-16	H3	0.590	0.442	0.6874	4.252	0.984	N/A	319.050	9044063190500
3/4-16	H5	0.590	0.442	0.6874	4.252	0.984	N/A	519.050	9044065190500
1-12	H4	0.800	0.600	0.9220	5.130	1.102	N/A	425.400	9044064254000





-  blind holes
-  steam oxide
-  external cooling



Series 4407

Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute RH 40° Spiral

Chamfer Form C (2 - 3)






Class of Fit 2B / 3B see H Limits
Cutting Direction right-hand

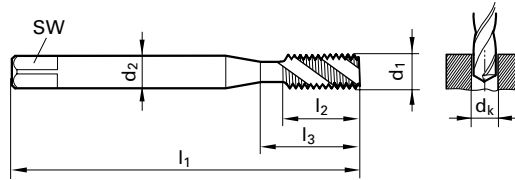
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
2-56	H2	0.141	0.110	0.0700	1.751	0.441	0.631	202.184	9044072021840
3-48	H2	0.141	0.110	0.0811	1.811	0.500	0.631	202.515	9044072025150
4-40	H2	0.141	0.110	0.0890	1.882	0.275	0.709	202.845	9044072028450
4-40	H3	0.141	0.110	0.0890	1.882	0.275	0.709	302.845	9044073028450
4-40	H5	0.141	0.110	0.0890	1.882	0.275	0.709	502.845	9044075028450
5-40	H2	0.141	0.110	0.1016	1.941	0.275	0.709	203.175	9044072031750
6-32	H3	0.141	0.110	0.1094	2.000	0.314	0.748	303.505	9044073035050
6-32	H5	0.141	0.110	0.1094	2.000	0.314	0.748	503.505	9044075035050
8-32	H3	0.168	0.131	0.1358	2.130	0.314	0.827	304.166	9044073041660
8-32	H5	0.168	0.131	0.1358	2.130	0.314	0.827	504.166	9044075041660
10-24	H3	0.194	0.152	0.1520	2.382	0.433	0.945	304.826	9044073048260
10-24	H5	0.194	0.152	0.1520	2.382	0.433	0.945	504.826	9044075048260
12-24	H3	0.220	0.165	0.1772	2.382	0.433	1.024	305.486	9044073054860
1/4-20	H3	0.255	0.191	0.2031	2.500	0.511	1.181	306.350	9044073063500
1/4-20	H5	0.255	0.191	0.2031	2.500	0.511	1.181	506.350	9044075063500
5/16-18	H3	0.318	0.238	0.2610	2.720	0.551	1.377	307.938	9044073079380
5/16-18	H5	0.318	0.238	0.2610	2.720	0.551	1.377	507.938	9044075079380
3/8-16	H3	0.381	0.286	0.3161	2.941	0.629	1.456	309.525	9044073095250
3/8-16	H5	0.381	0.286	0.3161	2.941	0.629	1.456	509.525	9044075095250
7/16-14	H3	0.323	0.242	0.3677	3.157	0.709	N/A	311.113	9044073111130
7/16-14	H5	0.323	0.242	0.3677	3.157	0.709	N/A	511.113	9044075111130
1/2-13	H3	0.367	0.275	0.4220	3.381	0.787	N/A	312.700	9044073127000
1/2-13	H5	0.367	0.275	0.4220	3.381	0.787	N/A	512.700	9044075127000
9/16-12	H3	0.429	0.322	0.4843	3.591	0.826	N/A	314.288	9044073142880
5/8-11	H3	0.480	0.360	0.5311	3.811	0.944	N/A	315.875	9044073158750
5/8-11	H5	0.480	0.360	0.5311	3.811	0.944	N/A	515.875	9044075158750
3/4-10	H3	0.590	0.442	0.6563	4.252	0.984	N/A	319.050	9044073190500
3/4-10	H5	0.590	0.442	0.6563	4.252	0.984	N/A	519.050	9044075190500
1-8	H5	0.800	0.600	0.8748	5.130	1.259	N/A	525.400	9044075254000





Series 4408

-  blind holes
-  TiCN coated
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute RH 40° Spiral

Chamfer Form C (2 - 3)



Class of Fit 2B / 3B see H Limits




Cutting Direction right-hand

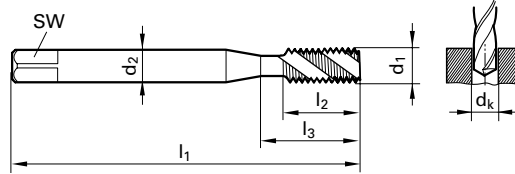
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
2-56	H2	0.141	0.110	0.0700	1.751	0.441	0.631	202.184	9044082021840
3-48	H2	0.141	0.110	0.0811	1.811	0.500	0.631	202.515	9044082025150
4-40	H2	0.141	0.110	0.0890	1.882	0.275	0.709	202.845	9044082028450
4-40	H3	0.141	0.110	0.0890	1.882	0.275	0.709	302.845	9044083028450
4-40	H5	0.141	0.110	0.0890	1.882	0.275	0.709	502.845	9044085028450
5-40	H2	0.141	0.110	0.1016	1.941	0.275	0.709	203.175	9044082031750
6-32	H3	0.141	0.110	0.1094	2.000	0.314	0.748	303.505	9044083035050
6-32	H5	0.141	0.110	0.1094	2.000	0.314	0.748	503.505	9044085035050
8-32	H3	0.168	0.131	0.1358	2.130	0.314	0.827	304.166	9044083041660
8-32	H5	0.168	0.131	0.1358	2.130	0.314	0.827	504.166	9044085041660
10-24	H3	0.194	0.152	0.1520	2.382	0.433	0.945	304.826	9044083048260
10-24	H5	0.194	0.152	0.1520	2.382	0.433	0.945	504.826	9044085048260
12-24	H3	0.220	0.165	0.1772	2.382	0.433	1.024	305.486	9044083054860
1/4-20	H3	0.255	0.191	0.2031	2.500	0.511	1.181	306.350	9044083063500
1/4-20	H5	0.255	0.191	0.2031	2.500	0.511	1.181	506.350	9044085063500
5/16-18	H3	0.318	0.238	0.2610	2.720	0.551	1.377	307.938	9044083079380
5/16-18	H5	0.318	0.238	0.2610	2.720	0.551	1.377	507.938	9044085079380
3/8-16	H3	0.381	0.286	0.3161	2.941	0.629	1.456	309.525	9044083095250
3/8-16	H5	0.381	0.286	0.3161	2.941	0.629	1.456	509.525	9044085095250
7/16-14	H3	0.323	0.242	0.3677	3.157	0.709	N/A	311.113	9044083111130
7/16-14	H5	0.323	0.242	0.3677	3.157	0.709	N/A	511.113	9044085111130
1/2-13	H3	0.367	0.275	0.4220	3.381	0.787	N/A	312.700	9044083127000
1/2-13	H5	0.367	0.275	0.4220	3.381	0.787	N/A	512.700	9044085127000
9/16-12	H3	0.429	0.322	0.4843	3.591	0.826	N/A	314.288	9044083142880
5/8-11	H3	0.480	0.360	0.5311	3.811	0.944	N/A	315.875	9044083158750
5/8-11	H5	0.480	0.360	0.5311	3.811	0.944	N/A	515.875	9044085158750
3/4-10	H3	0.590	0.442	0.6563	4.252	0.984	N/A	319.050	9044083190500
3/4-10	H5	0.590	0.442	0.6563	4.252	0.984	N/A	519.050	9044085190500
1-8	H5	0.800	0.600	0.8748	5.130	1.259	N/A	525.400	9044085254000





Series 4409

-  blind holes
-  steam oxide
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute RH 40° Spiral

Chamfer Form C (2 - 3)



Class of Fit 2B / 3B see H Limits




Cutting Direction right-hand

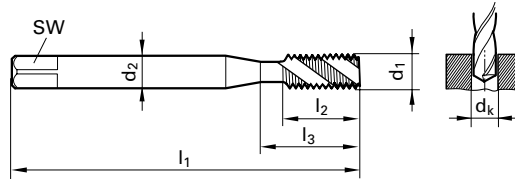
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
3-56	H2	0.141	0.110	0.0827	1.811	0.500	0.631	202.515	9044092025150
4-48	H2	0.141	0.110	0.0937	1.882	0.236	0.709	202.845	9044092028450
6-40	H2	0.141	0.110	0.1161	2.000	0.255	0.750	203.505	9044092035050
8-36	H2	0.168	0.131	0.1378	2.130	0.275	0.827	204.166	9044092041660
10-32	H3	0.194	0.152	0.1610	2.382	0.334	0.945	304.826	9044093048260
10-32	H5	0.194	0.152	0.1610	2.382	0.334	0.945	504.826	9044095048260
12-28	H3	0.220	0.165	0.1820	2.382	0.354	1.024	305.486	9044093054860
1/4-28	H3	0.255	0.191	0.2165	2.500	0.354	1.181	306.350	9044093063500
1/4-28	H4	0.255	0.191	0.2165	2.500	0.354	1.181	406.350	9044094063500
1/4-28	H5	0.255	0.191	0.2165	2.500	0.354	1.181	506.350	9044095063500
5/16-24	H3	0.318	0.238	0.2717	2.720	0.433	1.377	307.938	9044093079380
5/16-24	H5	0.318	0.238	0.2717	2.720	0.433	1.377	507.938	9044095079380
3/8-24	H3	0.381	0.286	0.3346	2.941	0.433	1.456	309.525	9044093095250
3/8-24	H5	0.381	0.286	0.3346	2.941	0.433	1.456	509.525	9044095095250
7/16-20	H3	0.323	0.242	0.3906	3.157	0.511	N/A	311.113	9044093111130
7/16-20	H5	0.323	0.242	0.3906	3.157	0.511	N/A	511.113	9044095111130
1/2-20	H3	0.367	0.275	0.4531	3.381	0.511	N/A	312.700	9044093127000
1/2-20	H5	0.367	0.275	0.4531	3.381	0.511	N/A	512.700	9044095127000
9/16-18	H3	0.429	0.322	0.5118	3.591	0.551	N/A	314.288	9044093142880
5/8-18	H3	0.480	0.360	0.5790	3.811	0.590	N/A	315.875	9044093158750
5/8-18	H5	0.480	0.360	0.5790	3.811	0.590	N/A	515.875	9044095158750
3/4-16	H3	0.590	0.442	0.6874	4.252	0.629	N/A	319.050	9044093190500
3/4-16	H5	0.590	0.442	0.6874	4.252	0.629	N/A	519.050	9044095190500
1-12	H4	0.800	0.600	0.9220	5.130	0.866	N/A	425.400	9044094254000





Series 4410

-  blind holes
-  TiCN coated
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute RH 40° Spiral

Chamfer Form C (2 - 3)



Class of Fit 2B / 3B see H Limits




Cutting Direction right-hand

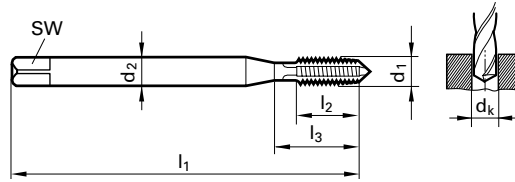
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
inch		inch	inch	inch	inch	inch	inch		
3-56	H2	0.141	0.110	0.0827	1.811	0.500	0.631	202.515	9044102025150
4-48	H2	0.141	0.110	0.0937	1.882	0.236	0.709	202.845	9044102028450
6-40	H2	0.141	0.110	0.1161	2.000	0.255	0.750	203.505	9044102035050
8-36	H2	0.168	0.131	0.1378	2.130	0.275	0.827	204.166	9044102041660
10-32	H3	0.194	0.152	0.1610	2.382	0.334	0.945	304.826	9044103048260
10-32	H5	0.194	0.152	0.1610	2.382	0.334	0.945	504.826	9044105048260
12-28	H3	0.220	0.165	0.1820	2.382	0.354	1.024	305.486	9044103054860
1/4-28	H3	0.255	0.191	0.2165	2.500	0.354	1.181	306.350	9044103063500
1/4-28	H4	0.255	0.191	0.2165	2.500	0.354	1.181	406.350	9044104063500
1/4-28	H5	0.255	0.191	0.2165	2.500	0.354	1.181	506.350	9044105063500
5/16-24	H3	0.318	0.238	0.2717	2.720	0.433	1.377	307.938	9044103079380
5/16-24	H5	0.318	0.238	0.2717	2.720	0.433	1.377	507.938	9044105079380
3/8-24	H3	0.381	0.286	0.3346	2.941	0.433	1.456	309.525	9044103095250
3/8-24	H5	0.381	0.286	0.3346	2.941	0.433	1.456	509.525	9044105095250
7/16-20	H3	0.323	0.242	0.3906	3.157	0.511	N/A	311.113	9044103111130
7/16-20	H5	0.323	0.242	0.3906	3.157	0.511	N/A	511.113	9044105111130
1/2-20	H3	0.367	0.275	0.4531	3.381	0.511	N/A	312.700	9044103127000
1/2-20	H5	0.367	0.275	0.4531	3.381	0.511	N/A	512.700	9044105127000
9/16-18	H3	0.429	0.322	0.5118	3.591	0.551	N/A	314.288	9044103142880
5/8-18	H3	0.480	0.360	0.5790	3.811	0.590	N/A	315.875	9044103158750
5/8-18	H5	0.480	0.360	0.5790	3.811	0.590	N/A	515.875	9044105158750
3/4-16	H3	0.590	0.442	0.6874	4.252	0.629	N/A	319.050	9044103190500
3/4-16	H5	0.590	0.442	0.6874	4.252	0.629	N/A	519.050	9044105190500
1-12	H4	0.800	0.600	0.9220	5.130	0.866	N/A	425.400	9044104254000






Series 4415

-  through holes
-  steam oxide
-  external cooling






Standard ASME B94.9-1999
Standard ANSI
Tool Material HSS-E (Cobalt)
Flute Straight Flute
Chamfer Form B (3.5 - 5)

Tolerance ISO 2 / 6H
Cutting Direction right-hand

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M3 x 0.50	D3	0.141	0.110	2.500	1.941	0.393	0.709	3.000	9044150030000
M3.5 x 0.60	D4	0.141	0.110	2.900	2.000	0.472	0.748	3.500	9044150035000
M4 x 0.70	D4	0.168	0.131	3.300	2.130	0.472	0.827	4.000	9044150040000
M5 x 0.80	D4	0.194	0.152	4.200	2.382	0.551	0.945	5.000	9044150050000
M6 x 1.00	D5	0.255	0.191	5.000	2.500	0.629	1.181	6.000	9044150060000
M7 x 1.00	D5	0.318	0.238	6.000	2.720	0.629	1.377	7.000	9044150070000
M8 x 1.25	D5	0.318	0.238	6.800	2.720	0.669	1.377	8.000	9044150080000
M10 x 1.50	D6	0.381	0.286	8.500	2.941	0.787	1.456	10.000	9044150100000
M12 x 1.75	D6	0.367	0.275	10.300	3.381	0.944	N/A	12.000	9044150120000
M14 x 2.00	D7	0.429	0.322	12.000	3.591	1.023	N/A	14.000	9044150140000
M16 x 2.00	D7	0.480	0.360	14.000	3.811	1.023	N/A	16.000	9044150160000
M18 x 2.50	D7	0.542	0.406	15.500	4.031	1.181	N/A	18.000	9044150180000
M20 x 2.50	D8	0.652	0.489	17.500	4.469	1.259	N/A	20.000	9044150200000
M24 x 3.00	D8	0.760	0.570	21.000	4.909	1.417	N/A	24.000	9044150240000



Series 4416






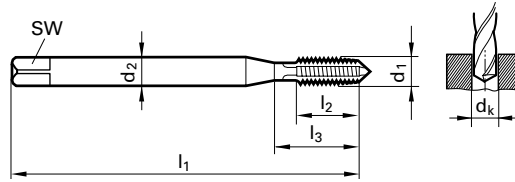
-  through holes
-  TiCN coated
-  external cooling

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M3 x 0.50	D3	0.141	0.110	2.500	1.941	0.393	0.709	3.000	9044160030000
M3.5 x 0.60	D4	0.141	0.110	2.900	2.000	0.472	0.748	3.500	9044160035000
M4 x 0.70	D4	0.168	0.131	3.300	2.130	0.472	0.827	4.000	9044160040000
M5 x 0.80	D4	0.194	0.152	4.200	2.382	0.551	0.945	5.000	9044160050000
M6 x 1.00	D5	0.255	0.191	5.000	2.500	0.629	1.181	6.000	9044160060000
M7 x 1.00	D5	0.318	0.238	6.000	2.720	0.629	1.377	7.000	9044160070000
M8 x 1.25	D5	0.318	0.238	6.800	2.720	0.669	1.377	8.000	9044160080000
M10 x 1.50	D6	0.381	0.286	8.500	2.941	0.787	1.456	10.000	9044160100000
M12 x 1.75	D6	0.367	0.275	10.300	3.381	0.944	N/A	12.000	9044160120000
M14 x 2.00	D7	0.429	0.322	12.000	3.591	1.023	N/A	14.000	9044160140000
M16 x 2.00	D7	0.480	0.360	14.000	3.811	1.023	N/A	16.000	9044160160000
M18 x 2.50	D7	0.542	0.406	15.500	4.031	1.181	N/A	18.000	9044160180000
M20 x 2.50	D8	0.652	0.489	17.500	4.469	1.259	N/A	20.000	9044160200000
M24 x 3.00	D8	0.760	0.570	21.000	4.909	1.417	N/A	24.000	9044160240000



Series 4417

-  through holes
-  steam oxide
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)






Tolerance ISO 2 / 6H

Cutting Direction right-hand

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M8 x 1.00	D5	0.318	0.238	7.000	2.720	0.629	1.377	8.005	9044170080050
M10 x 1.00	D5	0.381	0.286	9.000	2.941	0.629	1.377	10.005	9044170100050
M10 x 1.25	D5	0.381	0.286	8.800	2.941	0.787	1.535	10.006	9044170100060
M12 x 1.25	D5	0.367	0.275	10.800	3.381	0.787	N/A	12.006	9044170120060
M12 x 1.50	D6	0.367	0.275	10.500	3.381	0.787	N/A	12.007	9044170120070
M14 x 1.50	D6	0.429	0.322	12.500	3.591	0.787	N/A	14.007	9044170140070
M16 x 1.50	D6	0.480	0.360	14.500	3.811	0.866	N/A	16.007	9044170160070
M18 x 1.50	D6	0.542	0.406	16.500	4.031	0.984	N/A	18.007	9044170180070
M20 x 1.50	D6	0.652	0.489	18.500	4.469	0.984	N/A	20.007	9044170200070
M24 x 1.50	D6	0.760	0.570	22.500	4.909	1.102	N/A	24.007	9044170240070



Series 4418




-  through holes
-  TiCN coated
-  external cooling

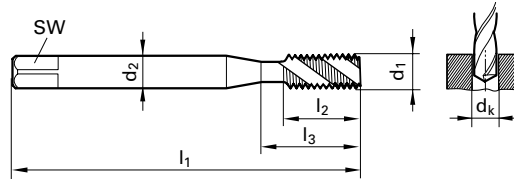
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M8 x 1.00	D5	0.318	0.238	7.000	2.720	0.629	1.377	8.005	9044180080050
M10 x 1.00	D5	0.381	0.286	9.000	2.941	0.629	1.377	10.005	9044180100050
M10 x 1.25	D5	0.381	0.286	8.800	2.941	0.787	1.535	10.006	9044180100060
M12 x 1.25	D5	0.367	0.275	10.800	3.381	0.787	N/A	12.006	9044180120060
M12 x 1.50	D6	0.367	0.275	10.500	3.381	0.787	N/A	12.007	9044180120070
M14 x 1.50	D6	0.429	0.322	12.500	3.591	0.787	N/A	14.007	9044180140070
M16 x 1.50	D6	0.480	0.360	14.500	3.811	0.866	N/A	16.007	9044180160070
M18 x 1.50	D6	0.542	0.406	16.500	4.031	0.984	N/A	18.007	9044180180070
M20 x 1.50	D6	0.652	0.489	18.500	4.469	0.984	N/A	20.007	9044180200070
M24 x 1.50	D6	0.760	0.570	22.500	4.909	1.102	N/A	24.007	9044180240070





Series 4411

-  blind holes
-  steam oxide
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute RH 40° Spiral

Chamfer Form C (2-3)






Tolerance ISO 2 / 6H

Cutting Direction right-hand

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M3 x 0.50	D3	0.141	0.110	2.500	1.941	0.236	0.709	3.000	9044110030000
M3.5 x 0.60	D4	0.141	0.110	2.900	2.000	0.275	0.748	3.500	9044110035000
M4 x 0.70	D4	0.168	0.131	3.300	2.130	0.295	0.827	4.000	9044110040000
M5 x 0.80	D4	0.194	0.152	4.200	2.382	0.334	0.945	5.000	9044110050000
M6 x 1.00	D5	0.255	0.191	5.000	2.500	0.433	1.181	6.000	9044110060000
M7 x 1.00	D5	0.318	0.238	6.000	2.720	0.433	1.377	7.000	9044110070000
M8 x 1.25	D5	0.318	0.238	6.800	2.720	0.551	1.377	8.000	9044110080000
M10 x 1.50	D6	0.381	0.286	8.500	2.941	0.629	1.456	10.000	9044110100000
M12 x 1.75	D6	0.367	0.275	10.300	3.381	0.728	N/A	12.000	9044110120000
M14 x 2.00	D7	0.429	0.322	12.000	3.591	0.787	N/A	14.000	9044110140000
M16 x 2.00	D7	0.480	0.360	14.000	3.811	0.787	N/A	16.000	9044110160000
M18 x 2.50	D7	0.542	0.406	15.500	4.031	0.984	N/A	18.000	9044110180000
M20 x 2.50	D8	0.652	0.489	17.500	4.469	0.984	N/A	20.000	9044110200000
M24 x 3.00	D8	0.760	0.570	21.000	4.909	1.181	N/A	24.000	9044110240000



Series 4412




-  blind holes
-  TiCN coated
-  external cooling

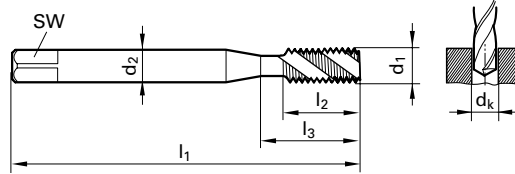


d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M3 x 0.50	D3	0.141	0.110	2.500	1.941	0.236	0.709	3.000	9044120030000
M3.5 x 0.60	D4	0.141	0.110	2.900	2.000	0.275	0.748	3.500	9044120035000
M4 x 0.70	D4	0.168	0.131	3.300	2.130	0.295	0.827	4.000	9044120040000
M5 x 0.80	D4	0.194	0.152	4.200	2.382	0.334	0.945	5.000	9044120050000
M6 x 1.00	D5	0.255	0.191	5.000	2.500	0.433	1.181	6.000	9044120060000
M7 x 1.00	D5	0.318	0.238	6.000	2.720	0.433	1.377	7.000	9044120070000
M8 x 1.25	D5	0.318	0.238	6.800	2.720	0.551	1.377	8.000	9044120080000
M10 x 1.50	D6	0.381	0.286	8.500	2.941	0.629	1.456	10.000	9044120100000
M12 x 1.75	D6	0.367	0.275	10.300	3.381	0.728	N/A	12.000	9044120120000
M14 x 2.00	D7	0.429	0.322	12.000	3.591	0.787	N/A	14.000	9044120140000
M16 x 2.00	D7	0.480	0.360	14.000	3.811	0.787	N/A	16.000	9044120160000
M18 x 2.50	D7	0.542	0.406	15.500	4.031	0.984	N/A	18.000	9044120180000
M20 x 2.50	D8	0.652	0.489	17.500	4.469	0.984	N/A	20.000	9044120200000
M24 x 3.00	D8	0.760	0.570	21.000	4.909	1.181	N/A	24.000	9044120240000



Series 4413

-  blind holes
-  steam oxide
-  external cooling



Standard ASME B94.9-1999

Standard ANSI

Tool Material HSS-E (Cobalt)

Flute RH 40° Spiral

Chamfer Form C (2-3)






Tolerance ISO 2 / 6H
Cutting Direction right-hand

d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M8 x 1.00	D5	0.318	0.238	7.000	2.720	0.433	1.377	8.005	9044130080050
M10 x 1.00	D5	0.381	0.286	9.000	2.941	0.433	1.377	10.005	9044130100050
M10 x 1.25	D5	0.381	0.286	8.800	2.941	0.551	1.535	10.006	9044130100060
M12 x 1.25	D5	0.367	0.275	10.800	3.381	0.629	N/A	12.006	9044130120060
M12 x 1.50	D6	0.367	0.275	10.500	3.381	0.629	N/A	12.007	9044130120070
M14 x 1.50	D6	0.429	0.322	12.500	3.591	0.590	N/A	14.007	9044130140070
M16 x 1.50	D6	0.480	0.360	14.500	3.811	0.590	N/A	16.007	9044130160070
M18 x 1.50	D6	0.542	0.406	16.500	4.031	0.629	N/A	18.007	9044130180070
M20 x 1.50	D6	0.652	0.489	18.500	4.469	0.629	N/A	20.007	9044130200070
M24 x 1.50	D6	0.760	0.570	22.500	4.909	0.629	N/A	24.007	9044130240070



Series 4414




-  blind holes
-  TiCN coated
-  external cooling

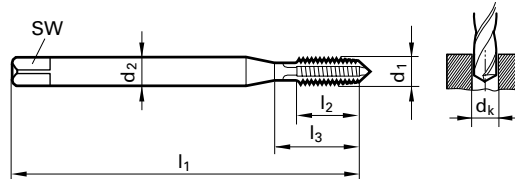
d1 - P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		inch	inch	mm	inch	inch	inch		
M8 x 1.00	D5	0.318	0.238	7.000	2.720	0.433	1.377	8.005	9044140080050
M10 x 1.00	D5	0.381	0.286	9.000	2.941	0.433	1.377	10.005	9044140100050
M10 x 1.25	D5	0.381	0.286	8.800	2.941	0.551	1.535	10.006	9044140100060
M12 x 1.25	D5	0.367	0.275	10.800	3.381	0.629	N/A	12.006	9044140120060
M12 x 1.50	D6	0.367	0.275	10.500	3.381	0.629	N/A	12.007	9044140120070
M14 x 1.50	D6	0.429	0.322	12.500	3.591	0.590	N/A	14.007	9044140140070
M16 x 1.50	D6	0.480	0.360	14.500	3.811	0.590	N/A	16.007	9044140160070
M18 x 1.50	D6	0.542	0.406	16.500	4.031	0.629	N/A	18.007	9044140180070
M20 x 1.50	D6	0.652	0.489	18.500	4.469	0.629	N/A	20.007	9044140200070
M24 x 1.50	D6	0.760	0.570	22.500	4.909	0.629	N/A	24.007	9044140240070





Series 5733

-  through holes
-  steam oxide
-  external cooling



Standard DIN 2184-1

Standard DIN 371

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)






Tolerance ISO 2 / 6H

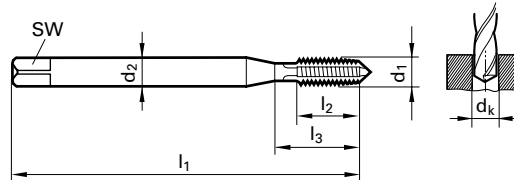
Cutting Direction right-hand

d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D3	3.500	2.700	2.500	56.000	10.000	18.000	3.000	9057330030000
M4 X 0.70	D4	4.500	3.400	3.300	63.000	12.000	21.000	4.000	9057330040000
M5 X 0.80	D4	6.000	4.900	4.200	70.000	14.000	25.000	5.000	9057330050000
M6 X 1.00	D5	6.000	4.900	5.000	80.000	16.000	30.000	6.000	9057330060000
M8 X 1.25	D5	8.000	6.200	6.800	90.000	17.000	35.000	8.000	9057330080000
M10 X 1.50	D5	10.000	8.000	8.500	100.000	20.000	39.000	10.000	9057330100000



Series 5716

-  through holes
-  steam oxide
-  external cooling



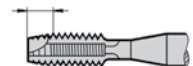
Standard DIN 2184-1

Standard DIN 376

Tool Material HSS-E (Cobalt)

Flute Straight Flute

Chamfer Form B (3.5 - 5)






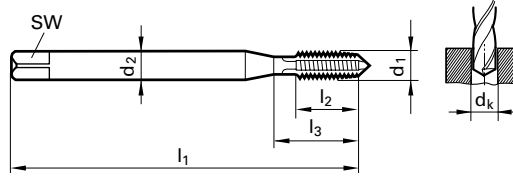
Tolerance ISO 2 / 6H


Cutting Direction right-hand

d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M12 X 1.75	D6	9.000	7.000	10.300	110.000	24.000	N/A	12.000	9057160120000
M14 X 2.00	D6	11.000	9.000	12.000	110.000	26.000	N/A	14.000	9057160140000
M16 X 2.00	D7	12.000	9.000	14.000	110.000	26.000	N/A	16.000	9057160160000
M20 X 2.50	D8	16.000	12.000	17.500	140.000	32.000	N/A	20.000	9057160200000



-  through holes
-  steam oxide
-  external cooling






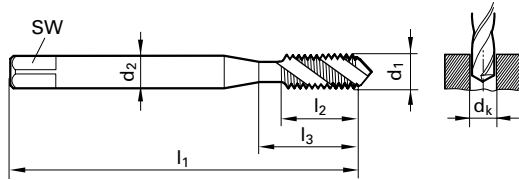
Series	5723
Standard	DIN 2184-1
Standard	DIN 374
Tool Material	HSS-E (Cobalt)
Flute	Straight Flute
Chamfer Form	B (3.5 - 5)
	
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand

d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M4 X 0.50	D4	2.800	2.100	3.500	63.000	8.000	N/A	4.003	9057230040030
M5 X 0.50	D4	3.500	2.700	4.500	70.000	10.000	N/A	5.003	9057230050030
M6 X 0.75	D4	4.500	3.400	5.300	80.000	13.000	N/A	6.004	9057230060040
M8 X 1.00	D5	6.000	4.900	7.000	90.000	17.000	N/A	8.005	9057230080050
M10 X 1.00	D5	7.000	5.500	9.000	90.000	17.000	N/A	10.005	9057230100050
M12 X 1.00	D5	9.000	7.000	11.000	100.000	20.000	N/A	12.005	9057230120050
M12 X 1.50	D6	9.000	7.000	10.500	100.000	20.000	N/A	12.007	9057230120070
M14 X 1.50	D5	11.000	9.000	12.500	100.000	20.000	N/A	14.007	9057230140070
M16 X 1.50	D5	12.000	9.000	14.500	100.000	22.000	N/A	16.007	9057230160070
M20 X 1.50	D7	16.000	12.000	18.500	125.000	25.000	N/A	20.007	9057230200070





-  blind holes
-  steam oxide
-  external cooling




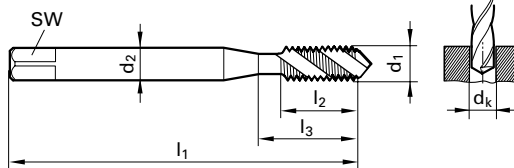
Series	5734
Standard	DIN 2184-1
Standard	DIN 371
Tool Material	HSS-E (Cobalt)
Flute	RH 40° Spiral
Chamfer Form	C (2-3)
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand



d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D3	3.500	2.700	2.500	56.000	6.000	18.000	3.000	9057340030000
M4 X 0.70	D4	4.500	3.400	3.300	63.000	7.500	21.000	4.000	9057340040000
M5 X 0.80	D4	6.000	4.900	4.200	70.000	8.500	25.000	5.000	9057340050000
M6 X 1.00	D5	6.000	4.900	5.000	80.000	11.000	30.000	6.000	9057340060000
M8 X 1.25	D5	8.000	6.200	6.800	90.000	14.000	35.000	8.000	9057340080000
M10 X 1.50	D5	10.000	8.000	8.500	100.000	16.000	39.000	10.000	9057340100000



-  blind holes
-  TiN coated
-  external cooling






Series	5737
Standard	DIN 2184-1
Standard	DIN 371
Tool Material	HSS-E (Cobalt)
Flute	RH 40° Spiral
Chamfer Form	C (2-3)
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand

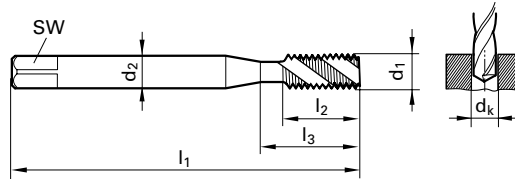


d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M2 X 0.40	3	2.800	2.100	1.600	45.000	4.500	13.500	2.000	9057370020000
M3 X 0.50	3	3.500	2.700	2.500	56.000	6.000	18.000	3.000	9057370030000
M4 X 0.70	3	4.500	3.400	3.300	63.000	7.500	21.000	4.000	9057370040000
M5 X 0.80	3	6.000	4.900	4.200	70.000	8.500	25.000	5.000	9057370050000
M6 X 1.00	3	6.000	4.900	5.000	80.000	11.000	30.000	6.000	9057370060000
M8 X 1.25	3	8.000	6.200	6.800	90.000	14.000	35.000	8.000	9057370080000
M10 X 1.50	3	10.000	8.000	8.500	100.000	16.000	39.000	10.000	9057370100000



Series 5717

-  blind holes
-  steam oxide
-  external cooling



Standard DIN 2184-1
Standard DIN 376
Tool Material HSS-E (Cobalt)
Flute RH 40° Spiral
Chamfer Form C (2-3)






Tolerance ISO 2 / 6H
Cutting Direction right-hand

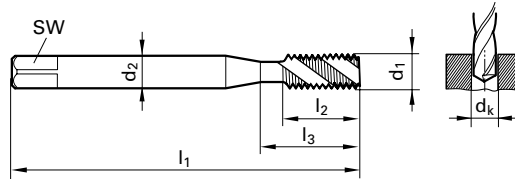
d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D3	2.200	N/A	2.500	56.000	6.000	N/A	3.000	9057170030000
M4 X 0.70	D4	2.800	2.100	3.300	63.000	7.500	N/A	4.000	9057170040000
M5 X 0.80	D4	3.500	2.700	4.200	70.000	8.500	N/A	5.000	9057170050000
M6 X 1.00	D5	4.500	3.400	5.000	80.000	11.000	N/A	6.000	9057170060000
M8 X 1.25	D5	6.000	4.900	6.800	90.000	14.000	N/A	8.000	9057170080000
M10 X 1.50	D5	7.000	5.500	8.500	100.000	16.000	N/A	10.000	9057170100000
M12 X 1.75	D6	9.000	7.000	10.300	110.000	18.500	N/A	12.000	9057170120000
M16 X 2.00	D7	12.000	9.000	14.000	110.000	20.000	N/A	16.000	9057170160000
M20 X 2.50	D7	16.000	12.000	17.500	140.000	25.000	N/A	20.000	9057170200000



powerTap / Metric Fine



-  blind holes
-  steam oxide
-  external cooling






Series	5724
Standard	DIN 2184-1
Standard	DIN 374
Tool Material	HSS-E (Cobalt)
Flute	RH 40° Spiral
Chamfer Form	C (2-3)
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand

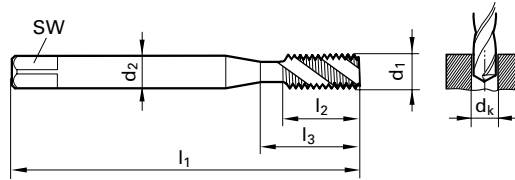
d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M4 X 0.50	D4	2.800	2.100	3.500	63.000	5.000	N/A	4.003	9057240040030
M5 X 0.50	D4	3.500	2.700	4.500	70.000	5.000	N/A	5.003	9057240050030
M6 X 0.75	D4	4.500	3.400	5.300	80.000	8.000	N/A	6.004	9057240060040
M8 X 1.00	D5	6.000	4.900	7.000	90.000	11.000	N/A	8.005	9057240080050
M10 X 1.00	D5	7.000	5.500	9.000	90.000	11.000	N/A	10.005	9057240100050
M10 X 1.25	D5	7.000	5.500	8.800	100.000	14.000	N/A	10.006	9057240100060
M12 X 1.00	D5	9.000	7.000	11.000	100.000	11.000	N/A	12.005	9057240120050
M12 X 1.25	D5	9.000	7.000	10.800	100.000	16.000	N/A	12.006	9057240120060
M12 X 1.50	D5	9.000	7.000	10.500	100.000	16.000	N/A	12.007	9057240120070
M14 X 1.00	D5	11.000	9.000	13.000	100.000	11.000	N/A	14.005	9057240140050
M14 X 1.50	D5	11.000	9.000	12.500	100.000	15.000	N/A	14.007	9057240140070
M16 X 1.00	D5	12.000	9.000	15.000	100.000	11.000	N/A	16.005	9057240160050
M16 X 1.50	D5	12.000	9.000	14.500	100.000	15.000	N/A	16.007	9057240160070
M20 X 1.50	D7	16.000	12.000	18.500	125.000	16.000	N/A	20.007	9057240200070






Series 5721

-  blind holes
-  steam oxide
-  external cooling



Standard DIN 2184-1
Standard DIN 371
Tool Material HSS-E (Cobalt)
Flute RH 40° Spiral
Chamfer Form E (1.5 - 2)






Tolerance ISO 2 / 6H
Cutting Direction right-hand

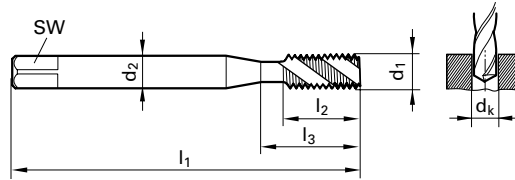
d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D3	3.500	2.700	2.500	56.000	6.000	18.000	3.000	9057210030000
M4 X 0.70	D4	4.500	3.400	3.300	63.000	7.500	21.000	4.000	9057210040000
M5 X 0.80	D4	6.000	4.900	4.200	70.000	8.500	25.000	5.000	9057210050000
M6 X 1.00	D5	6.000	4.900	5.000	80.000	11.000	30.000	6.000	9057210060000
M8 X 1.25	D5	8.000	6.200	6.800	90.000	14.000	35.000	8.000	9057210080000
M10 X 1.50	D5	10.000	8.000	8.500	100.000	16.000	39.000	10.000	9057210100000


FORM E





-  blind holes
-  TiN coated
-  external cooling






Series	5738
Standard	DIN 2184-1
Standard	DIN 376
Tool Material	HSS-E (Cobalt)
Flute	RH 40° Spiral
Chamfer Form	C (2-3)
	
Tolerance	6HX
Cutting Direction	right-hand

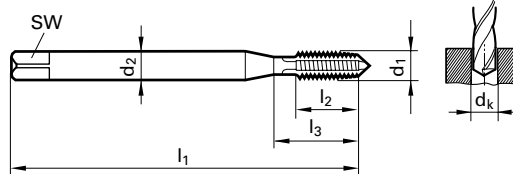
d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D4	2.200	N/A	2.500	56.000	6.000	N/A	3.000	9057380030000
M4 X 0.70	D5	2.800	2.100	3.300	63.000	7.500	N/A	4.000	9057380040000
M5 X 0.80	D5	3.500	2.700	4.200	70.000	8.500	N/A	5.000	9057380050000
M6 X 1.00	D6	4.500	3.400	5.000	80.000	11.000	N/A	6.000	9057380060000
M8 X 1.25	D6	6.000	4.900	6.800	90.000	14.000	N/A	8.000	9057380080000
M10 X 1.50	D7	7.000	5.500	8.500	100.000	16.000	N/A	10.000	9057380100000
M12 X 1.75	D8	9.000	7.000	10.300	110.000	18.500	N/A	12.000	9057380120000
M14 X 2.00	D9	11.000	9.000	12.000	110.000	20.000	N/A	14.000	9057380140000
M16 X 2.00	D9	12.000	9.000	14.000	110.000	20.000	N/A	16.000	9057380160000
M20 X 2.50	D9	16.000	12.000	17.500	140.000	25.000	N/A	20.000	9057380200000
M24 X 3.00	D11	18.000	14.500	21.000	160.000	30.000	N/A	24.000	9057380240000

TOLERANCE
6HX





-  through holes
-  steam oxide
-  external cooling






Series	5719
Standard	DIN 2184-1
Standard	DIN 371
Tool Material	HSS-E (Cobalt)
Flute	Straight Flute
Chamfer Form	B (3.5 - 5)
Tolerance	ISO 3 / 6G
Cutting Direction	right-hand

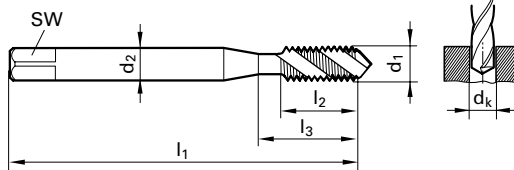


d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D4	3.500	2.700	2.500	56.000	10.000	18.000	3.000	9057190030000
M4 X 0.70	D6	4.500	3.400	3.300	63.000	12.000	21.000	4.000	9057190040000
M5 X 0.80	D6	6.000	4.900	4.200	70.000	14.000	25.000	5.000	9057190050000
M6 X 1.00	D6	6.000	4.900	5.000	80.000	16.000	30.000	6.000	9057190060000
M8 X 1.25	D6	8.000	6.200	6.800	90.000	17.000	35.000	8.000	9057190080000
M10 X 1.50	D8	10.000	8.000	8.500	100.000	20.000	39.000	10.000	9057190100000

TOLERANCE
ISO 3/6G



-  blind holes
-  steam oxide
-  external cooling






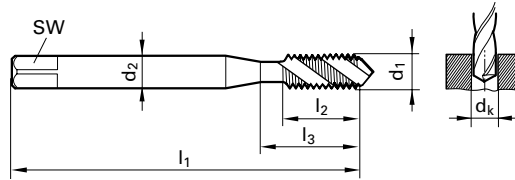
Series	5720
Standard	DIN 2184-1
Standard	DIN 371
Tool Material	HSS-E (Cobalt)
Flute	RH 40° Spiral
Chamfer Form	C (2-3)
Tolerance	ISO 3 / 6G
Cutting Direction	right-hand



d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D4	3.500	2.700	2.500	56.000	6.000	18.000	3.000	9057200030000
M4 X 0.70	D6	4.500	3.400	3.300	63.000	7.500	21.000	4.000	9057200040000
M5 X 0.80	D6	6.000	4.900	4.200	70.000	8.500	25.000	5.000	9057200050000
M6 X 1.00	D7	6.000	4.900	5.000	80.000	11.000	30.000	6.000	9057200060000
M8 X 1.25	D7	8.000	6.200	6.800	90.000	14.000	35.000	8.000	9057200080000
M10 X 1.50	D8	10.000	8.000	8.500	100.000	16.000	39.000	10.000	9057200100000



-  blind holes
-  TiN coated
-  external cooling



Series **5718**

Standard **DIN 2184-1**

Standard **Guhring standard**

Tool Material **HSS-E (Cobalt)**

Flute **RH 40° Spiral**

Chamfer Form **C (2-3)**



Tolerance **6HX**




Cutting Direction **right-hand**

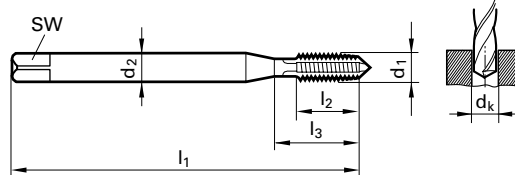
d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M3 X 0.50	D4	3.500	2.700	2.500	112.000	6.000	18.000	3.000	9057180030000
M4 X 0.70	D5	2.800	2.100	3.300	112.000	7.500	77.000	4.000	9057180040000
M5 X 0.80	D5	3.500	2.700	4.200	125.000	8.500	90.000	5.000	9057180050000
M6 X 1.00	D6	4.500	3.400	5.000	125.000	11.000	90.000	6.000	9057180060000
M8 X 1.25	D6	6.000	4.900	6.800	140.000	14.000	97.000	8.000	9057180080000
M10 X 1.50	D7	7.000	5.500	8.500	160.000	16.000	117.000	10.000	9057180100000
M12 X 1.75	D8	9.000	7.000	10.300	180.000	18.500	133.000	12.000	9057180120000
M16 X 2.00	D9	12.000	9.000	14.000	220.000	20.000	168.000	16.000	9057180160000
M20 X 2.50	D9	16.000	12.000	17.500	280.000	25.000	225.000	20.000	9057180200000

EXTRA
LENGTH TAP





-  through holes
-  TiN coated
-  external cooling






Series	5736
Standard	DIN 2184-1
Standard	DIN 371
Tool Material	HSS-E-PM (Cobalt)
Flute	Straight Flute
Chamfer Form	B (3.5 - 5)
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand



d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M2 X 0.40	D3	2.800	2.100	1.600	45.000	8.000	13.500	2.000	9057360020000
M3 X 0.50	D3	3.500	2.700	2.500	56.000	10.000	18.000	3.000	9057360030000
M4 X 0.70	D4	4.500	3.400	3.300	63.000	12.000	21.000	4.000	9057360040000
M5 X 0.80	D4	6.000	4.900	4.200	70.000	14.000	25.000	5.000	9057360050000
M6 X 1.00	D5	6.000	4.900	5.000	80.000	16.000	30.000	6.000	9057360060000
M8 X 1.25	D5	8.000	6.200	6.800	90.000	17.000	35.000	8.000	9057360080000
M10 X 1.50	D5	10.000	8.000	8.500	100.000	20.000	39.000	10.000	9057360100000

HSS-E-PM + TiN FOR
MAXIMUM TOOL LIFE



-  through holes
-  TiN coated
-  external cooling




Series	5736
Standard	DIN 2184-1
Standard	DIN 376
Tool Material	HSS-E-PM (Cobalt)
Flute	Straight Flute
Chamfer Form	B (3.5 - 5)
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand

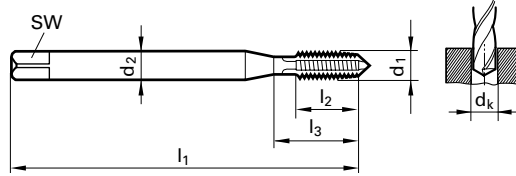



d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M12 X 1.75	D6	9.000	7.000	10.300	110.000	24.000	N/A	12.000	9057360120000
M14 X 2.00	D6	11.000	9.000	12.000	110.000	26.000	N/A	14.000	9057360140000
M16 X 2.00	D7	12.000	9.000	14.000	110.000	26.000	N/A	16.000	9057360160000
M18 X 2.50	D7	14.000	11.000	15.500	125.000	30.000	N/A	18.000	9057360180000
M20 X 2.50	D7	16.000	12.000	17.500	140.000	32.000	N/A	20.000	9057360200000

powerTap / Metric Fine



-  through holes
-  TiN coated
-  external cooling



Series	5739
Standard	DIN 2184-1
Standard	DIN 374
Tool Material	HSS-E-PM (Cobalt)
Flute	Straight Flute
Chamfer Form	B (3.5 - 5)
	
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand

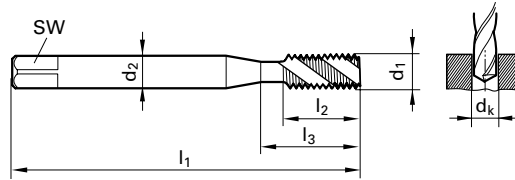
d1 X P mm	Thread Limits	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l3 mm	Order Code	EDP Number
M8 X 1.00	D5	6.000	4.900	7.000	90.00	16.000	35.000	8.005	905739080050
M10 X 1.00	D5	7.000	5.500	9.000	90.00	16.000	35.000	10.005	9057390100050
M10 X 1.25	D5	7.000	5.500	8.800	100.00	20.000	39.000	10.006	9057390100060
M12 X 1.00	D5	9.000	7.000	11.000	100.00	20.000	40.000	12.005	9057390120050
M12 X 1.25	D5	9.000	7.000	10.800	100.00	20.000	40.000	12.006	9057390120060
M12 X 1.50	D5	9.000	7.000	10.500	100.00	20.000	40.000	12.007	9057390120070
M14 X 1.25	D5	11.000	9.000	12.800	100.00	20.000	40.000	14.006	9057390140060
M14 X 1.50	D5	11.000	9.000	12.500	100.00	20.000	40.000	14.007	9057390140070
M16 X 1.50	D5	12.000	9.000	14.500	100.00	22.000	44.000	16.007	9057390160070
M18 X 1.50	D5	14.000	11.000	16.500	110.00	25.000	44.000	18.007	9057390180070
M20 X 1.50	D7	16.000	12.000	18.500	125.00	25.000	44.000	20.007	9057390200070
M22 X 1.50	D7	18.000	14.500	20.500	125.00	25.000	44.000	22.007	9057390220070
M24 X 1.50	D7	18.000	14.500	22.500	140.00	28.000	48.000	24.007	9057390240070
M24 X 2.00	D7	18.000	14.500	22.000	140.00	28.000	48.000	24.008	9057390240080



HSS-E-PM
 +TiN FOR
 MAXIMUM
 TOOL LIFE



- blind holes
- TiN coated
- external cooling



Series **5722**

Standard **DIN 2184-1**

Standard **DIN 371**

Tool Material **HSS-E-PM (Cobalt)**

Flute **RH 50° Spiral**

Chamfer Form **C (2-3)**

Tolerance **ISO 2 / 6H**

Cutting Direction **right-hand**

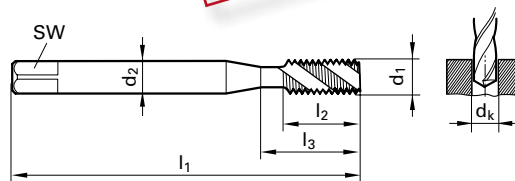


d1 X P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		mm	mm	mm	mm	mm	mm		
M3 X 0.50	D3	3.500	2.700	2.500	56.000	6.000	18.000	3.000	9057220030000
M4 X 0.70	D4	4.500	3.400	3.300	63.000	7.500	21.000	4.000	9057220040000
M5 X 0.80	D4	6.000	4.900	4.200	70.000	8.500	25.000	5.000	9057220050000
M6 X 1.00	D5	6.000	4.900	5.000	80.000	11.000	30.000	6.000	9057220060000
M8 X 1.25	D5	8.000	6.200	6.800	90.000	14.000	35.000	8.000	9057220080000
M10 X 1.50	D5	10.000	8.000	8.500	100.000	16.000	39.000	10.000	9057220100000

**HSS-E-PM + TiN FOR
 MAXIMUM TOOL LIFE
 50° HELIX**



- blind holes
- TiN coated
- external cooling



Series **5722**

Standard **DIN 2184-1**

Standard **DIN 376**

Tool Material **HSS-E-PM (Cobalt)**

Flute **RH 50° Spiral**

Chamfer Form **C (2-3)**

Tolerance **ISO 2 / 6H**




Cutting Direction **right-hand**

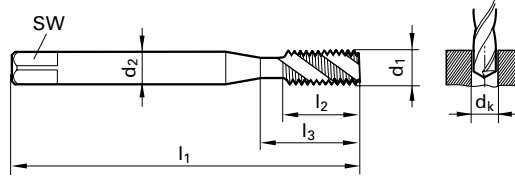



d1 X P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		mm	mm	mm	mm	mm	mm		
M12 X 1.75	D6	9.000	7.000	10.300	110.000	18.500	49.000	12.000	9057220120000
M14 X 2.00	D6	11.000	9.000	12.000	110.000	20.000	53.000	14.000	9057220140000
M16 X 2.00	D7	12.000	9.000	14.000	110.000	20.000	54.000	16.000	9057220160000
M20 X 2.50	D7	16.000	12.000	17.500	140.000	25.000	62.000	20.000	9057220200000

powerTap / Metric Fine



-  blind holes
-  TiN coated
-  external cooling



Series	5740
Standard	DIN 2184-1
Standard	DIN 374
Tool Material	HSS-E-PM (Cobalt)
Flute	RH 40° Spiral
Chamfer Form	C (2-3)
	
Tolerance	ISO 2 / 6H
Cutting Direction	right-hand

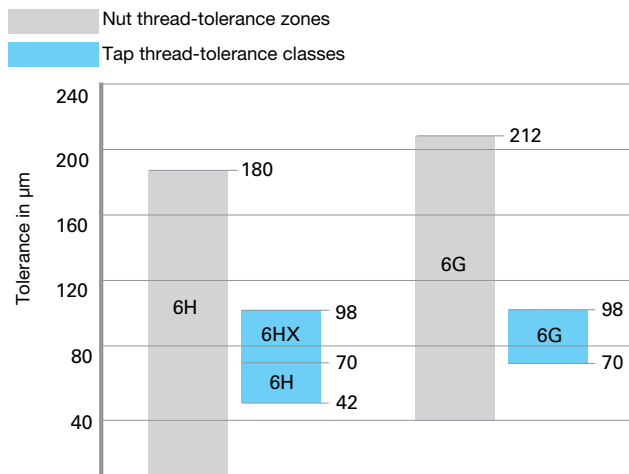
d1 X P	Thread Limits	d2	SW	dk	l1	l2	l3	Order Code	EDP Number
mm		mm	mm	mm	mm	mm	mm		
M8 X 1.00	D5	6.000	4.900	7.000	90.000	11.000	35.000	8.005	9057400080050
M10 X 1.00	D5	7.000	5.500	9.000	90.000	11.000	35.000	10.005	9057400100050
M10 X 1.25	D5	7.000	5.500	8.800	100.000	14.000	39.000	10.006	9057400100060
M12 X 1.00	D5	9.000	7.000	11.000	100.000	11.000	40.000	12.005	9057400120050
M12 X 1.25	D5	9.000	7.000	10.800	100.000	16.000	40.000	12.006	9057400120060
M12 X 1.50	D6	9.000	7.000	10.500	100.000	16.000	40.000	12.007	9057400120070
M14 X 1.25	D5	11.000	9.000	12.800	100.000	11.000	40.000	14.006	9057400140060
M14 X 1.50	D5	11.000	9.000	12.500	100.000	15.000	40.000	14.007	9057400140070
M16 X 1.50	D5	12.000	9.000	14.500	100.000	15.000	44.000	16.007	9057400160070
M18 X 1.50	D5	14.000	11.000	16.500	110.000	16.000	44.000	18.007	9057400180070
M20 X 1.50	D7	16.000	12.000	18.500	125.000	16.000	44.000	20.007	9057400200070
M22 X 1.50	D7	18.000	14.500	20.500	125.000	16.000	44.000	22.007	9057400220070
M24 X 1.50	D7	18.000	14.500	22.500	140.000	16.000	48.000	24.007	9057400240070
M24 X 2.00	D7	18.000	14.500	22.000	140.000	22.000	48.000	24.008	9057400240080



HSS-E-PM
 +TiN FOR
 MAXIMUM
 TOOL LIFE

	Hardness		Cutting speed SFM	
	Rc	BRN	Steam Oxide	Hard Coatings
Structural steels	–	< 250	30 - 45	30 - 60
Free-cutting steels	–	< 250	30 - 60	30 - 70
Unalloyed case hardened steels	< 20	< 230	30 - 45	30 - 65
Unalloyed heat-treatable steels	< 24	< 250	30 - 45	30 - 65
Alloyed case hardened steels	< 30	< 285	25 - 35	25 - 30
Alloyed heat-treatable steels	< 30	< 285	20 - 30	20 - 45
Alloyed tool steels	< 30	< 285	20 - 30	20 - 45
High speed tool steels	< 30	< 290	20 - 30	20 - 45
Stainl./acid-resist. steels, sulphured	< 24	< 250	20 - 35	30 - 40
	austenitic	< 24	< 250	20 - 35
	martensitic	< 24	< 250	20 - 35
Aluminum and Al-alloys	–	< 120	45 - 60	45 - 85
Al wrought alloys	–	< 120	45 - 60	45 - 85
Al cast alloys ≤ 10 % Si	–	< 180	45 - 60	45 - 85
	> 10 % Si	–	< 180	45 - 85
Cast iron	–	< 240	45 - 60	45 - 85
Spheroidal graphpite iron	–	< 240	45 - 60	45 - 85
Malleable cast iron	–	< 300	30 - 50	45 - 85

Tolerance zone / tolerance class allocation



DIN EN 22857	
Application class of tap	
Class 2 ISO 2	Class 3 ISO 3
Tolerance zone of internal thread to be cut	
6H	6G
DIN 802 part 1 (withdrawn)	
Tolerance class of tap	
6H	6G

6H:

The tolerance zone 6H corresponds with the standard tolerance for taps to DIN EN 22857.

6HX:

The additional letter "X" (6HX) indicates taps produced with deviating tolerance to standard. These deviations are based upon the company standard. Taps produced to tolerance 6HX are, for example, selected for abrasive or tough materials.

6G:

The tolerance zone 6G corresponds with an over-size condition tolerance for taps to DIN EN 22857 and is applied for components that are, for example, surface treated.





Tap Tolerances and Approximate Limits

UNC/UNF Taps

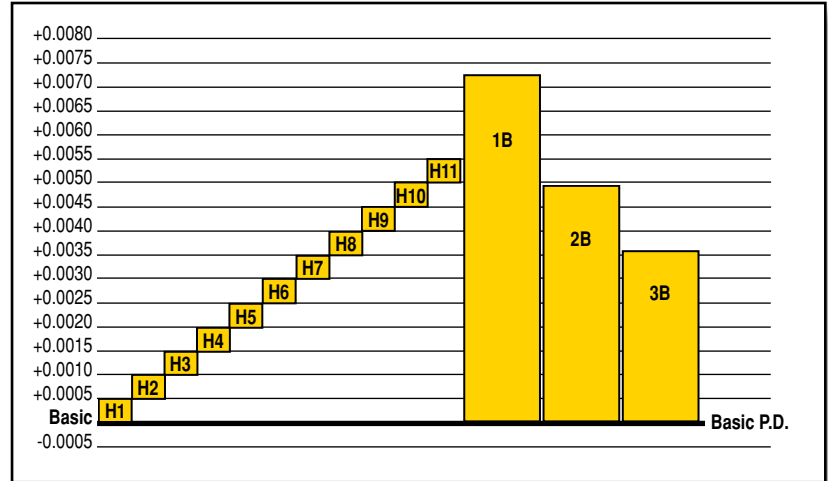
Screw size and fractional threads are typically specified as one of three classes of fit. Class 1B – for low precision, or threads that are typically used in areas where dirt and grime are a constant factor; Class 2B for general threading applications (by far the most common); and Class 3B for precision threads generally found in medical, aerospace and applicable automotive applications.

- As seen in the chart – these classes of fit do overlap even though they are progressive in accuracy. To further break down the accuracy of these threads we have “H” limits in increments of 0.0005”.

- Every size/pitch tap has a specific or given basic pitch diameter that is the basis for the “H” limits and the class of fit for that size.

- As you can see in the chart – the class of fit will give you minimum and maximum pitch diameter limits that need to be maintained during manufacturing (typically these are your thread gauge limits). By seeing the “H” limits illustrated you are better able to understand what area of the class of fit you are actually working within.

(This chart does not show a specific size tap – its purpose is to give a visual understanding of how the “H” limits work within the different classes of fit).



Metric Taps

Metric threads have their own classifications for class of fit and the thread limits within them. When discussing UNC/UNF threads we worked with 3B, 2B and 1B Classes of fit and had “H” limits which helped define the accuracy within each class. To help understand Metric tolerancing it may be easiest to look at the similarities between both Metric and Fractional tolerancing.

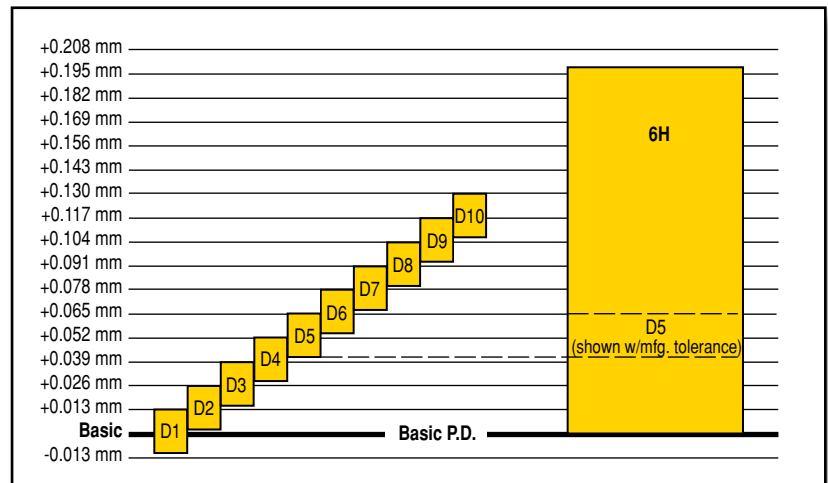


- A metric 6H class of fit is quite similar to the fractional 2B class of fit - as is the metric 4H to the fractional 3B. We will focus on the 6H class of fit as this is our standard offering in metric sizes. (Please note that special classes of fit can be produced for any given application upon request).

- Again – the class of fit will give you minimum and maximum pitch diameter limits that need to be maintained during manufacturing. Within the class of fit – metric thread limits are further broken down into “D” limits. Each “D” limit equals 0.013mm (0.013mm = 0.00051” – extremely similar to that of fractional “H” limit tolerancing).

- As you look at this chart you can see how the “D” limits help control what area of the class of fit you are working within.

(This chart does not show a specific size tap – its purpose is to give a visual understanding of how the “D” limits work within a class of fit).



Chamfer forms, selection and application

Application recommendations

The type of tapped hole required determines the chamfer. Generally the tap geometry - i.e. form, number and direction of flutes, cutting angle, etc. - depend on the material to be machined and on the application. Basically, taps up to M16 for tapping ISO metric threads or for the engineering industry in general, have 3 flutes, and above this size 4 or more flutes.

Taps with left-hand flutes and taps with spiral points remove the chips in the cutting direction or direction of feed and are therefore especially suitable for tapping through holes. Taps with straight flutes and long chamfer lead (form D) also give good results.

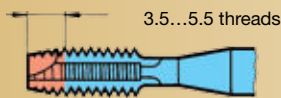
As far as blind holes are concerned we recommend taps with right-hand spiral flutes or straight fluted taps with a short chamfer lead length. Tools with right-hand spiral flutes have the chip flow in the backward direction, i.e. up the flutes. The chamfer

lead length is designed in such a way so that during the return movement chips do not jam and are reliably sheared off.

The tapping of aluminium, grey cast iron and brass requires taps with a short chamfer lead length, regardless of whether through or blind holes are required. In these materials a long chamfer lead length would act as a core drill with chip breaker grooves and would only drill the tapping size hole to the major diameter instead of cutting a thread.

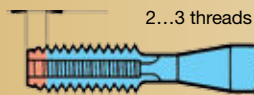
Straight fluted taps without spiral point are general purpose tools and have the disadvantage of not showing optimum results in particular materials. It's well worth the effort to take the trouble of ascertaining the most suitable tool for any given metal-cutting task.

Form B



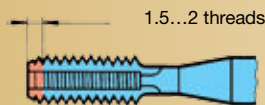
Medium, 3.5 - 5.5 threads, with spiral point, for all through holes in medium and long-chipping materials

Form C



Short, 2 - 3 threads for blind holes and generally for aluminium, grey cast iron and brass

Form E



Extremely short, 1.5-2 threads, for blind holes with minimal tap drill clearance





Steam oxide and high-performance coatings from Guhring

Steam Tempered (Oxide)

Steam tempered tools can prevent cold welding that can occur when machining low carbon steels, they are best suited for the ferrous materials.



TiN (Titanium Nitride) - Gold in Color

Has good lubricic properties and good adhesion for greater tool life. Excellent wear resistance, low coefficient of friction and improves thermal transfer of heat away from the tool.



































TiCN (Titanium Carbonitride) - Bluish Grey in Color

Hard smooth finish. Slightly harder than TiN with better wear resistant characteristics, enhances abrasion resistance and holds up on sharp edges of the tool. Excellent in cast iron, high silicon aluminum, copper and all other abrasive materials.



	Type	Identifying Color	Coating Process	Coating Temp.	Layer Structure	Thickness (µm)	Nano-hardness (HV 0.05)	Friction Coefficient (fetting)	Thermal Stability
TiN Titanium Nitride	Hard • Wear-resistant	Gold	PVD Physical Vapor Deposition	930° F 500° C	Monolayer	1.5 - 4.0	2400	0.50	1100° F 595° C
TiCN Titanium Carbonitride	Hard • Wear-resistant	Gray Violet	PVD Physical Vapor Deposition	930° F 500° C	Gradient	1.5 - 5.0	3000	0.25	840° F 450° C

Series	Standard	Thread Type	Chamfer Lead	Flute Type	Blind / Through	Substrate	Finish	Page
4402	ANSI	UNC	B	Straight Flute		Cobalt	Oxide	6
4404	ANSI	UNC	B	Straight Flute		Cobalt	TiCN	7
4405	ANSI	UNF	B	Straight Flute		Cobalt	Oxide	8
4406	ANSI	UNF	B	Straight Flute		Cobalt	TiCN	9
4407	ANSI	UNC	C	40° Spiral		Cobalt	Oxide	10
4408	ANSI	UNC	C	40° Spiral		Cobalt	TiCN	11
4409	ANSI	UNF	C	40° Spiral		Cobalt	Oxide	12
4410	ANSI	UNF	C	40° Spiral		Cobalt	TiCN	13
4411	ANSI	M	C	40° Spiral		Cobalt	Oxide	16
4412	ANSI	M	C	40° Spiral		Cobalt	TiCN	16
4413	ANSI	MF	C	40° Spiral		Cobalt	Oxide	17
4414	ANSI	MF	C	40° Spiral		Cobalt	TiCN	17
4415	ANSI	M	B	Straight Flute		Cobalt	Oxide	14
4416	ANSI	M	B	Straight Flute		Cobalt	TiCN	14
4417	ANSI	MF	B	Straight Flute		Cobalt	Oxide	15
4418	ANSI	MF	B	Straight Flute		Cobalt	TiCN	15
5716	DIN 376	M	B	Straight Flute		Cobalt	Oxide	18
5717	DIN 376	M	C	40° Spiral		Cobalt	Oxide	21
5718	Gühring Standard	M	C	40° Spiral		Cobalt	TiN	26
5719	DIN 371	M	B	Straight Flute		Cobalt	Oxide	25
5720	DIN 371	M	C	40° Spiral		Cobalt	Oxide	25
5721	DIN 371	M	E	40° Spiral		Cobalt	Oxide	23
5722	DIN 371/376	M	C	50° Spiral		PM Cobalt	TiN	29
5723	DIN 374	MF	B	Straight Flute		Cobalt	Oxide	19
5724	DIN 374	MF	C	40° Spiral		Cobalt	Oxide	22
5733	DIN 371	M	B	Straight Flute		Cobalt	Oxide	18
5734	DIN 371	M	C	40° Spiral		Cobalt	Oxide	20
5736	DIN 371/376	M	B	Straight Flute		PM Cobalt	TiN	27
5737	DIN 371	M	C	40° Spiral		Cobalt	TiN	20
5738	DIN 376	M	C	40° Spiral		Cobalt	TiN	24
5739	DIN 374	MF	B	Straight Flute		PM Cobalt	TiN	28
5740	DIN 374	MF	C	40° Spiral		PM Cobalt	TiN	30



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