PROVEN SOLUTIONS I ALWAYS AVAILABLE

ALL-STAR

AMERICAS | VOL 1

TAPPING

WIDIA™

ALL-STAR

WIDIA™

The All-Star Program reinforces the core qualities of the WIDIA™ diamond — providing proven solutions that are easy to find and always available.

With All-Star, customers can benefit from product reliability and quick delivery to increase machine utilization.

ALL-STAR

ALL-STAR

PROVEN SOLUTIONS

Products included in the All-Star program were chosen based on their proven performance and popularity. These industry-leading solutions combine versatility and productivity to deliver savings.

EASY TO FIND

It is easy to recommend All-Star on-the-go or in the shop while using tools like the NOVO™ tool advisor or the Machining Central app. To view All-Star products on widia.com, use the All-Star filter.

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ALWAYS AVAILABLE

All-Star products are held to the highest availability standards. This means products that are flagged as All-Star feature same-day shipping for all orders received before 6pm EST.

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TAPPING

GENERAL PURPOSE PRODUCTION TAPS

Pages D4–D18

- Spiral point GUN™ taps shoot chips ahead of the cutting action to reduce overloading and clogging in flutes, protecting the workpiece.
- Extended life in ductile materials.
- Advanced steam oxide finish and PVD coatings available.

VARITAP™

Pages D20–D37

- Unique spiral-point geometry provides low tapping torque while pushing chips ahead of the tap in through holes.
- Manufactured from high-vanadium HSS-E to provide long and consistent tool life.
- Ideal for customers who have a variety of materials to machine.

ALL-STAR

HIGH-PERFORMANCE • GT SERIES

Pages D38–D50

- Left-hand spiral flutes to push chips ahead in through holes.
- Offer performance advantages over conventional high-speed steel taps.
- Long tap life at up to 50% higher tapping speed than HSS taps.

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GUN™ TAPS

Pages D6–D8

Materials:

P M K N S

GUN and LHS flute taps push chips in front of the tap.

- The most efficient chip management for through holes.
- Shoots chips ahead of the cutting action to reduce overloading and clogging in flutes, protecting the workpiece.
- Advanced steam oxide finish and high-performance TiN, TiN+CrC/C, and TiCN coatings with alternate tap coatings available as stock modifications.
- Extended life in ferrous materials.

SPIRAL-FLUTE TAPS

Pages D8–D9

Materials:

P M K N S

Spiral-flute taps are manufactured from high-speed steel (HSS) and are designed for blind-hole applications.

- Stronger, smoother threads.
- Displaces metal while producing no chips.
- Faster tapping speed to double production time.

ALL-STAR

HAND TAPS

Pages D10–D18

Materials:

P M K N S

Manufactured from high-speed steel and available with coolant holes.

- For through- or blind-hole tapping.
- Can be used in general machinery or CNC tapping applications.
- Store chips in their flutes during threading, which protects the workpiece.

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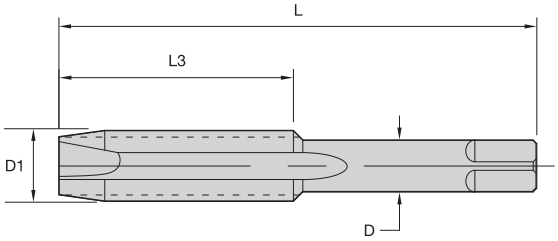
GUN™ Taps • Series 5351/2351 • Spiral Point, Plug Chamfer • Metric ANSI



● first choice
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catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
13365	M1,6 X 0,35	1.63	.31	.141	2	D3	**2750021**
13367	M2 X 0,4	1.75	.44	.141	2	D3	**2750018**
13369	M2,5 X 0,45	1.81	.50	.141	2	D3	**2750017**
13371	M3 X 0,5	1.94	.63	.141	2	D3	**2750015**
13373	M3,5 X 0,6	2.00	.69	.141	2	D4	**2750013**
13375	M4 X 0,7	2.13	.75	.168	2	D4	**2750012**
13377	M4,5 X 0,75	2.38	.88	.194	2	D4	**2750010**
13379	M5 X 0,8	2.38	.88	.194	2	D4	**2750009**
13381	M6 X 1	2.50	1.00	.255	2	D5	**2750005**
13382	M6,3 X 1	2.50	1.00	.255	2	D5	**2750002**
13383	M7 X 1	2.72	1.13	.318	2	D5	**2750000**
13385	M8 X 1,25	2.72	1.13	.318	2	D5	**2749995**
13389	M10 X 1,5	2.94	1.25	.381	3	D6	**2749991**
13393	M12 X 1,75	3.38	1.66	.367	3	D6	**2749985**
13397	M14 X 2	3.59	1.66	.429	3	D7	**2749982**
13401	M16 X 2	3.81	1.81	.480	3	D7	**2749979**
13405	M18 X 2,5	4.03	1.81	.542	3	D7	**2749977**
13409	M20 X 2,5	4.47	2.00	.652	3	D7	**2749975**

NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Metric D limits suitable for ISO 6H tolerance class.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 6H class of fit.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

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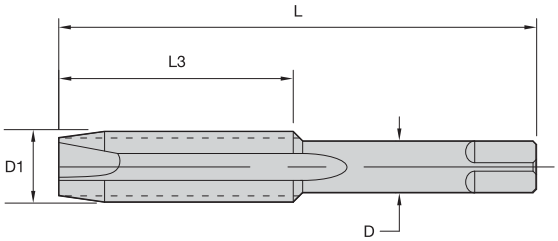
GUN™ Taps • Series 5301/2301 • Machine Screw and Fractional Sizes • Plug Chamfer



● first choice
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H		

catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
13201	0 - 80	1.63	.31	.141	2	H1	2750251
13202	0 - 80	1.63	.31	.141	2	H2	2750249
13204	1 - 64	1.69	.38	.141	2	H2	2750246
13205	1 - 72	1.69	.38	.141	2	H1	2750243
13206	1 - 72	1.69	.38	.141	2	H2	2750241
13207	2 - 56	1.75	.44	.141	2	H1	2867066
13208	2 - 56	1.75	.44	.141	2	H2	2867063
13211	2 - 64	1.75	.44	.141	2	H2	2750238
13213	3 - 48	1.81	.50	.141	2	H2	2750236
13215	3 - 56	1.81	.50	.141	2	H2	2750231
13217	4 - 36	1.88	.56	.141	2	H2	2750230
13219	4 - 40	1.88	.56	.141	2	H2	2750228
13223	4 - 48	1.88	.56	.141	2	H2	2750225
13225	5 - 40	1.94	.63	.141	2	H2	2750220
13229	5 - 44	1.94	.63	.141	2	H2	2750218
13231	6 - 32	2.00	.69	.141	2	H2	2750212
13232	6 - 32	2.00	.69	.141	2	H3	2750210
13237	6 - 40	2.00	.69	.141	2	H2	2750206
13240	8 - 32	2.13	.75	.168	2	H1	2750204
13241	8 - 32	2.13	.75	.168	2	H2	2750202
13242	8 - 32	2.13	.75	.168	2	H3	2750199
13246	8 - 36	2.13	.75	.168	2	H2	2750193
13249	10 - 24	2.38	.88	.194	2	H1	2750192
13250	10 - 24	2.38	.88	.194	2	H2	2750190
13251	10 - 24	2.38	.88	.194	2	H3	2409831
13255	10 - 32	2.38	.88	.194	2	H1	2750179
13256	10 - 32	2.38	.88	.194	2	H2	2750177
13257	10 - 32	2.38	.88	.194	2	H3	2750175
13262	12 - 24	2.38	.94	.220	2	H3	2750160
13264	12 - 28	2.38	.94	.220	2	H3	2750159
13268	1/4 - 20	2.50	1.00	.255	2	H1	2750156
13269	1/4 - 20	2.50	1.00	.255	2	H2	2750154
13270	1/4 - 20	2.50	1.00	.255	2	H3	2750152
13272	1/4 - 20	2.50	1.00	.255	3	H3	2750148
13273	1/4 - 20	2.50	1.00	.255	2	H5	2750143
13274	1/4 - 20	2.50	1.00	.255	3	H5	2750141
13277	1/4 - 28	2.50	1.00	.255	2	H1	2750135
13278	1/4 - 28	2.50	1.00	.255	2	H2	2750132
13279	1/4 - 28	2.50	1.00	.255	3	H2	2750129
13280	1/4 - 28	2.50	1.00	.255	2	H3	2750128
13282	1/4 - 28	2.50	1.00	.255	2	H4	2750119
13283	1/4 - 28	2.50	1.00	.255	3	H4	2750118
13289	5/16 - 18	2.72	1.13	.318	2	H1	2750115
13290	5/16 - 18	2.72	1.13	.318	2	H2	2750112
13291	5/16 - 18	2.72	1.13	.318	2	H3	2750111
13293	5/16 - 18	2.72	1.13	.318	3	H3	2750109
13294	5/16 - 18	2.72	1.13	.318	2	H5	2750105
13295	5/16 - 18	2.72	1.13	.318	3	H5	2750103
13298	5/16 - 24	2.72	1.13	.318	2	H2	2750094
13300	5/16 - 24	2.72	1.13	.318	2	H3	2750088
13302	5/16 - 24	2.72	1.13	.318	2	H4	2750086
13303	5/16 - 24	2.72	1.13	.318	3	H4	2750084
13305	3/8 - 16	2.94	1.25	.381	3	H1	2750082
13306	3/8 - 16	2.94	1.25	.381	3	H2	2750080
13307	3/8 - 16	2.94	1.25	.381	3	H3	2750078
13309	3/8 - 16	2.94	1.25	.381	3	H5	2750075
13312	3/8 - 24	2.94	1.25	.381	3	H2	2866897
13313	3/8 - 24	2.94	1.25	.381	3	H3	2750067
13315	3/8 - 24	2.94	1.25	.381	3	H4	2750066
13318	7/16 - 14	3.16	1.44	.323	3	H2	2750062

GUN™ Taps • Series 5301/2301 • Machine Screw and Fractional Sizes • Plug Chamfer

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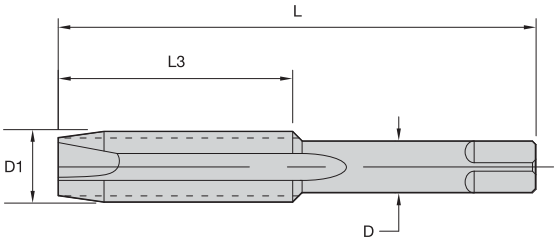

● first choice
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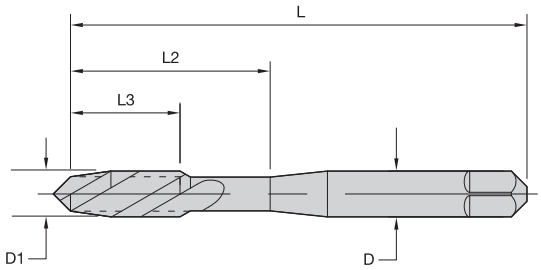
catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
13319	7/16 - 14	3.16	1.44	.323	3	H3	**2750060**
13320	7/16 - 14	3.16	1.44	.323	3	H5	**2750058**
13324	7/16 - 20	3.16	1.44	.323	3	H3	**2750055**
13325	7/16 - 20	3.16	1.44	.323	3	H5	**2750054**
13327	1/2 - 13	3.38	1.66	.367	3	H2	**2750053**
13328	1/2 - 13	3.38	1.66	.367	3	H3	**2750052**
13330	1/2 - 13	3.38	1.66	.367	3	H5	**2750047**
13333	1/2 - 20	3.38	1.66	.367	3	H2	**2750041**
13334	1/2 - 20	3.38	1.66	.367	3	H3	**2750040**
13336	1/2 - 20	3.38	1.66	.367	3	H5	**2750039**
13339	5/8 - 11	3.81	1.81	.480	3	H3	**2750036**
13340	5/8 - 11	3.81	1.81	.480	3	H5	**2750032**
13342	5/8 - 18	3.81	1.81	.480	3	H3	**2750028**
13343	3/4 - 10	4.25	2.00	.590	3	H3	**2750024**
13344	3/4 - 10	4.25	2.00	.590	3	H5	**2750023**

NOTE: GUN taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

Spiral-Flute Taps • Series 2364/5364 • Bottoming Chamfer • Metric ANSI



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catalog number	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit	uncoated
16054	M3 X 0,5	1.94	.31	—	.141	2	D3	**2748300**
16058	M4 X 0,7	2.13	.38	.75	.168	3	D4	**2748296**
16062	M5 X 0,8	2.38	.50	.88	.194	3	D4	**2748293**
16064	M6 X 1	2.50	.38	.75	.255	3	D5	**2748288**
16070	M8 X 1,25	2.72	.69	1.12	.318	3	D5	**2748284**
16072	M10 X 1,5	2.94	.75	1.25	.381	3	D6	**2748275**
16074	M12 X 1,75	3.38	.94	—	.367	3	D6	**2748271**

NOTE: Metric D limits are suitable for ISO 6H tolerance class.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

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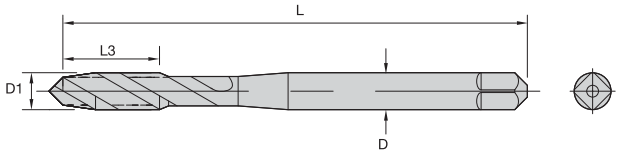
Spiral-Flute Taps • Series 2314/5314 • Machine Screw and Fractional • Bottoming Chamfer



HSS 1–2 ANSI UNC ANSI UNF

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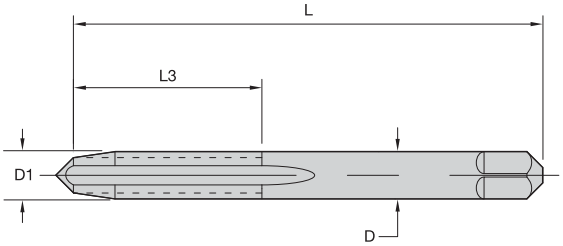
catalog number	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit	uncoated
16004	4 - 40	1.88	.56	—	.141	2	H2	**2748375**
16006	5 - 40	1.94	.56	—	.141	2	H2	**2748370**
16008	6 - 32	2.00	.38	.69	.141	2	H3	**2748367**
16010	8 - 32	2.13	.38	.75	.168	3	H3	**3083563**
16012	10 - 24	2.38	.50	.88	.194	3	H3	**2748361**
16014	10 - 32	2.38	.50	.88	.194	3	H3	**2748356**
16016	12 - 24	2.38	.50	.94	.220	3	H3	**2748353**
16018	1/4 - 20	2.50	.63	1.00	.255	3	H3	**2748351**
16022	1/4 - 28	2.50	.63	1.00	.255	3	H3	**1775500**
16024	5/16 - 18	2.72	.69	1.12	.318	3	H3	**2748339**
16028	5/16 - 24	2.72	.69	1.12	.318	3	H3	**3012779**
16030	3/8 - 16	2.94	.75	1.25	.381	3	H3	**3083460**
16034	3/8 - 24	2.94	.75	1.25	.381	3	H3	**2748329**
16036	7/16 - 14	3.16	.88	—	.323	3	H3	**2748325**
16038	7/16 - 20	3.16	.88	—	.323	3	H3	**2748321**
16040	1/2 - 13	3.38	.94	—	.367	3	H3	**2748317**
16042	1/2 - 20	3.38	.94	—	.367	3	H3	**2748314**
16048	5/8 - 11	3.81	1.09	—	.480	4	H3	**2748309**
16052	3/4 - 10	4.25	1.22	—	.590	4	H3	**3083458**

NOTE: Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

Hand Taps • Series 5305 • Machine Screw Sizes • Taper Chamfer



● first choice
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K		○
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catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
15102	0 - 80	1.63	.31	.141	2	H1	**2748991**
15114	1 - 64	1.69	.38	.141	2	H1	**2748975**
15120	1 - 72	1.69	.38	.141	2	H1	**2748964**
15128	2 - 56	1.75	.44	.141	3	H1	**2748956**
15134	2 - 56	1.75	.44	.141	3	H2	**2748951**
15144	2 - 64	1.75	.44	.141	3	H2	**2748935**
15156	3 - 48	1.81	.50	.141	3	H2	**2748925**
15166	3 - 56	1.81	.50	.141	3	H2	**2748913**
15184	4 - 40	1.88	.56	.141	3	H2	**2748887**
15196	4 - 48	1.88	.56	.141	3	H2	**2748869**
15209	5 - 40	1.94	.63	.141	3	H2	**2865323**
15220	5 - 44	1.94	.63	.141	3	H2	**2748858**
15225	6 - 32	2.00	.69	.141	3	H1	**2865295**
15231	6 - 32	2.00	.69	.141	3	H2	**2748845**
15237	6 - 32	2.00	.69	.141	3	H3	**2865268**
15257	6 - 40	2.00	.69	.141	3	H2	**2748827**
15275	8 - 32	2.13	.75	.168	4	H2	**2748806**
15283	8 - 32	2.13	.75	.168	4	H3	**2748787**
15301	8 - 36	2.13	.75	.168	4	H2	**2748764**
15320	10 - 24	2.38	.88	.194	4	H2	**2748747**
15327	10 - 24	2.38	.88	.194	4	H3	**2748738**
15344	10 - 32	2.38	.88	.194	4	H1	**2748708**
15352	10 - 32	2.38	.88	.194	4	H2	**2748694**
15360	10 - 32	2.38	.88	.194	4	H3	**2748679**
15383	12 - 24	2.38	.94	.220	4	H3	**2748645**
15390	12 - 28	2.38	.94	.220	4	H3	**2748631**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

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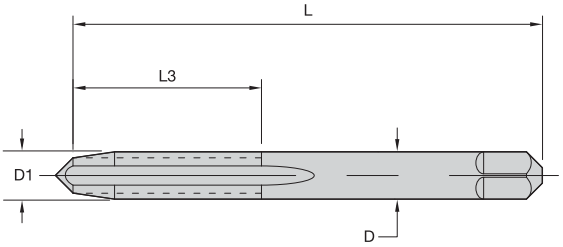
Hand Taps • Series 5303 • Fractional Sizes • Taper Chamfer



● first choice
○ alternate choice

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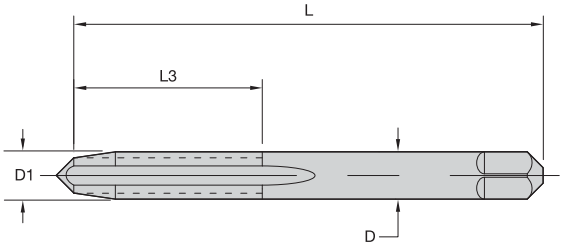
catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
14010	1/4 - 20	2.50	1.00	.255	4	H1	**2749838**
14015	1/4 - 20	2.50	1.00	.255	4	H2	**2749832**
14022	1/4 - 20	2.50	1.00	.255	4	H3	**3139335**
14055	1/4 - 28	2.50	1.00	.255	4	H3	**2749775**
14092	5/16 - 18	2.72	1.13	.318	4	H3	**2749737**
14122	5/16 - 24	2.72	1.13	.318	4	H3	**2749689**
14157	3/8 - 16	2.94	1.25	.381	4	H3	**2749651**
14190	3/8 - 24	2.94	1.25	.381	4	H3	**2749611**
14221	7/16 - 14	3.16	1.44	.323	4	H3	**2749586**
14246	7/16 - 20	3.16	1.44	.323	4	H3	**2749568**
14281	1/2 - 13	3.38	1.66	.367	4	H3	**2749543**
14308	1/2 - 20	3.38	1.66	.367	4	H3	**2749514**
14338	9/16 - 12	3.59	1.66	.429	4	H3	**3139336**
14356	9/16 - 18	3.59	1.66	.429	4	H3	**2749476**
14379	5/8 - 11	3.81	1.81	.480	4	H3	**2749460**
14402	5/8 - 18	3.81	1.81	.480	4	H3	**2749432**
14423	11/16 - 11	4.03	1.06	.542	4	H3	**2749406**
14427	11/16 - 16	4.03	1.06	.542	4	H3	**2749400**
14448	3/4 - 10	4.25	2.00	.590	4	H3	**2749394**
14471	3/4 - 16	4.25	2.00	.590	4	H3	**2749374**
14499	7/8 - 9	4.69	2.22	.697	4	H4	**2749356**
14516	7/8 - 14	4.69	2.22	.697	4	H4	**2749340**
14544	1 - 8	5.13	2.50	.800	4	H4	**2749327**
14557	1 - 12	5.13	2.50	.800	4	H4	**2749308**
14568	1 - 14	5.13	2.50	.800	4	H4	**2749294**
14594	1 1/8 - 7	5.44	2.56	.896	4	H4	**2749281**
14603	1 1/8 - 12	5.44	2.56	.896	4	H4	**2749274**
14612	1 1/4 - 7	5.75	2.56	1.021	4	H4	**2749265**
14620	1 1/4 - 12	5.75	2.56	1.021	6	H4	**3171056**
14632	1 3/8 - 6	6.06	3.00	1.108	4	H4	**3012774**
14640	1 3/8 - 12	6.06	3.00	1.108	6	H4	**3171057**
14645	1 1/2 - 6	6.38	3.00	1.233	4	H4	**2749241**
14653	1 1/2 - 12	6.38	3.00	1.233	6	H4	**3012776**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

Hand Taps • Series 5305/2305 • Machine Screw Sizes • Plug Chamfer



● first choice
○ alternate choice

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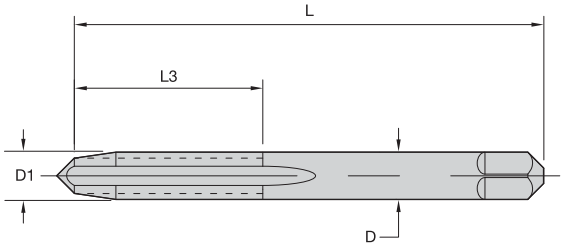
catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
15103	0 - 80	1.63	.31	.141	2	H1	2748988
15107	0 - 80	1.63	.31	.141	2	H2	2748979
15115	1 - 64	1.69	.38	.141	2	H1	2748972
15121	1 - 72	1.69	.38	.141	2	H1	2748963
15125	1 - 72	1.69	.38	.141	2	H2	2748959
15129	2 - 56	1.75	.44	.141	3	H1	2865450
15135	2 - 56	1.75	.44	.141	3	H2	2748950
15145	2 - 64	1.75	.44	.141	3	H2	2748933
15157	3 - 48	1.81	.50	.141	3	H2	2748924
15167	3 - 56	1.81	.50	.141	3	H2	2748911
15185	4 - 40	1.88	.56	.141	3	H2	2748885
15197	4 - 48	1.88	.56	.141	3	H2	2748867
15210	5 - 40	1.94	.63	.141	3	H2	2865319
15221	5 - 44	1.94	.63	.141	3	H2	2748855
15226	6 - 32	2.00	.69	.141	3	H1	2865292
15232	6 - 32	2.00	.69	.141	3	H2	2865279
15238	6 - 32	2.00	.69	.141	3	H3	2748843
15258	6 - 40	2.00	.69	.141	3	H2	2748825
15268	8 - 32	2.13	.75	.168	4	H1	2748813
15276	8 - 32	2.13	.75	.168	4	H2	2748804
15284	8 - 32	2.13	.75	.168	4	H3	2748785
15302	8 - 36	2.13	.75	.168	4	H2	2748761
15314	10 - 24	2.38	.88	.194	4	H1	2748749
15321	10 - 24	2.38	.88	.194	4	H2	2748746
15328	10 - 24	2.38	.88	.194	4	H3	2748736
15345	10 - 32	2.38	.88	.194	4	H1	2748706
15353	10 - 32	2.38	.88	.194	4	H2	2748692
15361	10 - 32	2.38	.88	.194	4	H3	2748678
15384	12 - 24	2.38	.94	.220	4	H3	2748643
15391	12 - 28	2.38	.94	.220	4	H3	2748628

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

THE ALL-STAR PROGRAM FEATURES ONLY THE MOST POPULAR PLATFORMS, GRADES, AND SIZES.
FOR THE COMPLETE OFFERING, VISIT WIDIA NOVO™ OR WIDIA.COM.

Hand Taps • Series 5303/2303 • Fractional Sizes • Plug Chamfer



● first choice
○ alternate choice

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catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
14011	1/4 - 20	2.50	1.00	.255	4	H1	2749837
14016	1/4 - 20	2.50	1.00	.255	4	H2	2749830
14023	1/4 - 20	2.50	1.00	.255	4	H3	2957247
14036	1/4 - 20	2.50	1.00	.255	4	H5	2749795
14052	1/4 - 28	2.50	1.00	.255	4	H2	2749780
14053	1/4 - 28	2.50	1.00	.255	4	H2	2749777
14056	1/4 - 28	2.50	1.00	.255	4	H3	2749772
14067	1/4 - 28	2.50	1.00	.255	4	H4	2749751
14082	5/16 - 18	2.72	1.13	.318	4	H1	2749744
14087	5/16 - 18	2.72	1.13	.318	4	H2	2435312
14093	5/16 - 18	2.72	1.13	.318	4	H3	2749734
14104	5/16 - 18	2.72	1.13	.318	4	H5	2749709
14113	5/16 - 24	2.72	1.13	.318	4	H1	2749694
14118	5/16 - 24	2.72	1.13	.318	4	H2	2749691
14123	5/16 - 24	2.72	1.13	.318	4	H3	2749686
14133	5/16 - 24	2.72	1.13	.318	4	H4	2749666
14147	3/8 - 16	2.94	1.25	.381	4	H1	2749659
14152	3/8 - 16	2.94	1.25	.381	4	H2	2749655
14158	3/8 - 16	2.94	1.25	.381	4	H3	2749649
14169	3/8 - 16	2.94	1.25	.381	4	H5	2749629
14185	3/8 - 24	2.94	1.25	.381	4	H2	2749613
14191	3/8 - 24	2.94	1.25	.381	4	H3	2749609
14201	3/8 - 24	2.94	1.25	.381	4	H4	2749591
14222	7/16 - 14	3.16	1.44	.323	4	H3	2749584
14232	7/16 - 14	3.16	1.44	.323	4	H5	2749572
14247	7/16 - 20	3.16	1.44	.323	4	H3	1951473
14256	7/16 - 20	3.16	1.44	.323	4	H5	2749550
14274	1/2 - 13	3.38	1.66	.367	4	H1	2866262
14282	1/2 - 13	3.38	1.66	.367	4	H3	2415661
14293	1/2 - 13	3.38	1.66	.367	4	H5	2957246
14301	1/2 - 20	3.38	1.66	.367	4	H1	2749517
14309	1/2 - 20	3.38	1.66	.367	4	H3	2749513
14319	1/2 - 20	3.38	1.66	.367	4	H5	2749491
14339	9/16 - 12	3.59	1.66	.429	4	H3	2866187
14346	9/16 - 12	3.59	1.66	.429	4	H5	2749481
14353	9/16 - 18	3.59	1.66	.429	4	H2	2749478
14357	9/16 - 18	3.59	1.66	.429	4	H3	2749475
14364	9/16 - 18	3.59	1.66	.429	4	H5	2749463
14378	5/8 - 11	3.81	1.81	.480	4	H2	2749461
14380	5/8 - 11	3.81	1.81	.480	4	H3	2749458
14388	5/8 - 11	3.81	1.81	.480	4	H5	2749444
14400	5/8 - 18	3.81	1.81	.480	4	H2	2749434
14403	5/8 - 18	3.81	1.81	.480	4	H3	2749431
14411	5/8 - 18	3.81	1.81	.480	4	H5	2749414
14424	11/16 - 11	4.03	1.06	.542	4	H3	2749405
14428	11/16 - 16	4.03	1.06	.542	4	H3	2749397
14449	3/4 - 10	4.25	2.00	.590	4	H3	2749392
14457	3/4 - 10	4.25	2.00	.590	4	H5	2749379
14472	3/4 - 16	4.25	2.00	.590	4	H3	1825322
14479	3/4 - 16	4.25	2.00	.590	4	H4	2710849
14482	3/4 - 16	4.25	2.00	.590	4	H5	2749359
14500	7/8 - 9	4.69	2.22	.697	4	H4	2749354
14508	7/8 - 9	4.69	2.22	.697	4	H6	2749342
14517	7/8 - 14	4.69	2.22	.697	4	H4	2749338
14524	7/8 - 14	4.69	2.22	.697	4	H6	2749329
14545	1 - 8	5.13	2.50	.800	4	H4	2749326

Hand Taps • Series 5303/2303 • Fractional Sizes • Plug Chamfer

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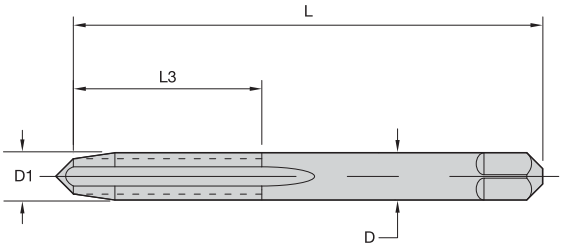

● first choice
○ alternate choice

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catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
14553	1 - 8	5.13	2.50	.800	4	H6	**2749311**
14558	1 - 12	5.13	2.50	.800	4	H4	**2749305**
14567	1 - 14	5.13	2.50	.800	4	H2	**2749297**
14569	1 - 14	5.13	2.50	.800	4	H4	**2749292**
14595	1 1/8 - 7	5.44	2.56	.896	4	H4	**2749280**
14604	1 1/8 - 12	5.44	2.56	.896	4	H4	**2749271**
14613	1 1/4 - 7	5.75	2.56	1.021	4	H4	**2749263**
14621	1 1/4 - 12	5.75	2.56	1.021	6	H4	**2749258**
14633	1 3/8 - 6	6.06	3.00	1.108	4	H4	**2749252**
14641	1 3/8 - 12	6.06	3.00	1.108	6	H4	**2749247**
14646	1 1/2 - 6	6.38	3.00	1.233	4	H4	**3012775**
14654	1 1/2 - 12	6.38	3.00	1.233	6	H4	**2749234**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

THE ALL-STAR PROGRAM FEATURES ONLY THE MOST POPULAR PLATFORMS, GRADES, AND SIZES.
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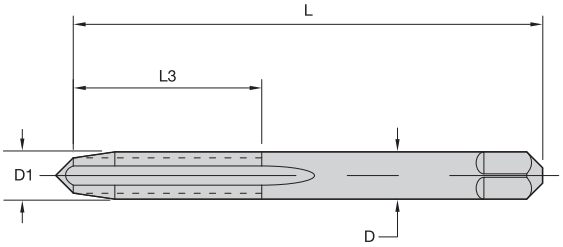
Hand Taps • Series 5305/2305 • Machine Screw Sizes • Bottoming Chamfer



HSS | 1–2 | ANSI UNC | ANSI UNF

● first choice
○ alternate choice

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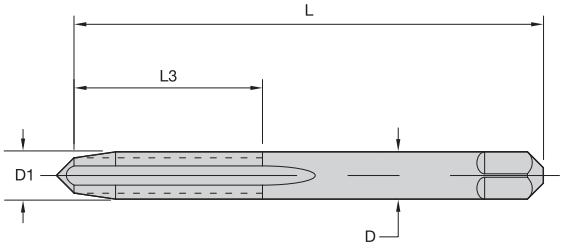
catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
15104	0 - 80	1.63	.31	.141	2	H1	**2748985**
15108	0 - 80	1.63	.31	.141	2	H2	**2748977**
15116	1 - 64	1.69	.38	.141	2	H1	**2748970**
15122	1 - 72	1.69	.38	.141	2	H1	**2748962**
15126	1 - 72	1.69	.38	.141	2	H2	**3049563**
15130	2 - 56	1.75	.44	.141	3	H1	**2748955**
15136	2 - 56	1.75	.44	.141	3	H2	**2748947**
15146	2 - 64	1.75	.44	.141	3	H2	**2748930**
15158	3 - 48	1.81	.50	.141	3	H2	**2748920**
15168	3 - 56	1.81	.50	.141	3	H2	**2748906**
15186	4 - 40	1.88	.56	.141	3	H2	**2748882**
15198	4 - 48	1.88	.56	.141	3	H2	**2748864**
15211	5 - 40	1.94	.63	.141	3	H2	**2865316**
15222	5 - 44	1.94	.63	.141	3	H2	**2748852**
15227	6 - 32	2.00	.69	.141	3	H1	**2865289**
15233	6 - 32	2.00	.69	.141	3	H2	**2865277**
15239	6 - 32	2.00	.69	.141	3	H3	**2748840**
15259	6 - 40	2.00	.69	.141	3	H2	**2748820**
15269	8 - 32	2.13	.75	.168	4	H1	**2748811**
15277	8 - 32	2.13	.75	.168	4	H2	**2748803**
15285	8 - 32	2.13	.75	.168	4	H3	**2748781**
15303	8 - 36	2.13	.75	.168	4	H2	**2748758**
15322	10 - 24	2.38	.88	.194	4	H2	**2748744**
15329	10 - 24	2.38	.88	.194	4	H3	**2748733**
15346	10 - 32	2.38	.88	.194	4	H1	**2748702**
15354	10 - 32	2.38	.88	.194	4	H2	**2748689**
15362	10 - 32	2.38	.88	.194	4	H3	**2748675**
15385	12 - 24	2.38	.94	.220	4	H3	**2748641**
15392	12 - 28	2.38	.94	.220	4	H3	**2748624**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

Hand Taps • Series 5303/2303 • Fractional Sizes • Bottoming Chamfer



HSS 1–2 ANSI UNC ANSI UNF

● first choice
○ alternate choice

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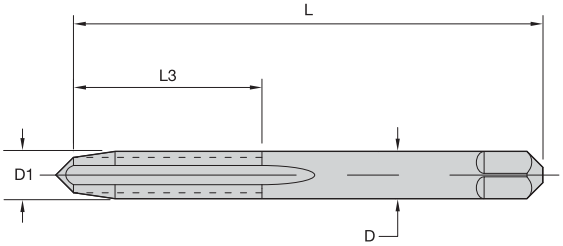
catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
14012	1/4 - 20	2.50	1.00	.255	4	H1	**2749836**
14017	1/4 - 20	2.50	1.00	.255	4	H2	**2749826**
14024	1/4 - 20	2.50	1.00	.255	4	H3	**2749818**
14037	1/4 - 20	2.50	1.00	.255	4	H5	**2749793**
14057	1/4 - 28	2.50	1.00	.255	4	H3	**2749766**
14068	1/4 - 28	2.50	1.00	.255	4	H4	**1854370**
14083	5/16 - 18	2.72	1.13	.318	4	H1	**2749742**
14088	5/16 - 18	2.72	1.13	.318	4	H2	**2749739**
14094	5/16 - 18	2.72	1.13	.318	4	H3	**2749732**
14105	5/16 - 18	2.72	1.13	.318	4	H5	**2749706**
14124	5/16 - 24	2.72	1.13	.318	4	H3	**2038474**
14134	5/16 - 24	2.72	1.13	.318	4	H4	**2749662**
14148	3/8 - 16	2.94	1.25	.381	4	H1	**2749656**
14153	3/8 - 16	2.94	1.25	.381	4	H2	**2749652**
14159	3/8 - 16	2.94	1.25	.381	4	H3	**2749647**
14170	3/8 - 16	2.94	1.25	.381	4	H5	**2749625**
14192	3/8 - 24	2.94	1.25	.381	4	H3	**1951472**
14202	3/8 - 24	2.94	1.25	.381	4	H4	**2749589**
14223	7/16 - 14	3.16	1.44	.323	4	H3	**2749582**
14233	7/16 - 14	3.16	1.44	.323	4	H5	**2749570**
14248	7/16 - 20	3.16	1.44	.323	4	H3	**2038865**
14257	7/16 - 20	3.16	1.44	.323	4	H5	**2749548**
14275	1/2 - 13	3.38	1.66	.367	4	H1	**2749545**
14283	1/2 - 13	3.38	1.66	.367	4	H3	**2749540**
14294	1/2 - 13	3.38	1.66	.367	4	H5	**2749520**
14310	1/2 - 20	3.38	1.66	.367	4	H3	**1951476**
14340	9/16 - 12	3.59	1.66	.429	4	H3	**2866184**
14358	9/16 - 18	3.59	1.66	.429	4	H3	**2749474**
14381	5/8 - 11	3.81	1.81	.480	4	H3	**2749456**
14389	5/8 - 11	3.81	1.81	.480	4	H5	**2749441**
14404	5/8 - 18	3.81	1.81	.480	4	H3	**2749428**
14412	5/8 - 18	3.81	1.81	.480	4	H5	**2749411**
14425	11/16 - 11	4.03	1.06	.542	4	H3	**2749403**
14429	11/16 - 16	4.03	1.06	.542	4	H3	**2749396**
14450	3/4 - 10	4.25	2.00	.590	4	H3	**3180808**
14458	3/4 - 10	4.25	2.00	.590	4	H5	**2749376**
14473	3/4 - 16	4.25	2.00	.590	4	H3	**2749370**
14483	3/4 - 16	4.25	2.00	.590	4	H5	**2749358**
14501	7/8 - 9	4.69	2.22	.697	4	H4	**2749352**
14518	7/8 - 14	4.69	2.22	.697	4	H4	**2749336**
14546	1 - 8	5.13	2.50	.800	4	H4	**2749324**
14559	1 - 12	5.13	2.50	.800	4	H4	**3006761**
14570	1 - 14	5.13	2.50	.800	4	H4	**3180807**
14596	1 1/8 - 7	5.44	2.56	.896	4	H4	**2749278**
14605	1 1/8 - 12	5.44	2.56	.896	4	H4	**2749269**
14614	1 1/4 - 7	5.75	2.56	1.021	4	H4	**2749261**
14622	1 1/4 - 12	5.75	2.56	1.021	6	H4	**2749256**
14634	1 3/8 - 6	6.06	3.00	1.108	4	H4	**2749251**
14642	1 3/8 - 12	6.06	3.00	1.108	6	H4	**2749246**
14647	1 1/2 - 6	6.38	3.00	1.233	4	H4	**2749240**
14655	1 1/2 - 12	6.38	3.00	1.233	6	H4	**2749233**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

Hand Taps Sets • Series 5305 • Machine Screw Sizes • Sets of One Each Taper, Plug, and Bottoming Chamfer



● first choice
○ alternate choice

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N		○
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catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
15105	0 - 80	1.63	.31	.141	2	H1	**2748981**
15117	1 - 64	1.69	.38	.141	2	H1	**2748968**
15123	1 - 72	1.69	.38	.141	2	H1	**2748961**
15137	2 - 56	1.75	.44	.141	3	H2	**2748945**
15147	2 - 64	1.75	.44	.141	3	H2	**2748928**
15159	3 - 48	1.81	.50	.141	3	H2	**2748918**
15169	3 - 56	1.81	.50	.141	3	H2	**2748902**
15187	4 - 40	1.88	.56	.141	3	H2	**2748880**
15199	4 - 48	1.88	.56	.141	3	H2	**2748863**
15212	5 - 40	1.94	.63	.141	3	H2	**2865313**
15223	5 - 44	1.94	.63	.141	3	H2	**2748851**
15228	6 - 32	2.00	.69	.141	3	H1	**2865286**
15234	6 - 32	2.00	.69	.141	3	H2	**2865274**
15240	6 - 32	2.00	.69	.141	3	H3	**2748838**
15260	6 - 40	2.00	.69	.141	3	H2	**2748818**
15278	8 - 32	2.13	.75	.168	4	H2	**2748801**
15286	8 - 32	2.13	.75	.168	4	H3	**2865185**
15304	8 - 36	2.13	.75	.168	4	H2	**2748756**
15323	10 - 24	2.38	.88	.194	4	H2	**2748743**
15330	10 - 24	2.38	.88	.194	4	H3	**2748731**
15355	10 - 32	2.38	.88	.194	4	H2	**2748685**
15363	10 - 32	2.38	.88	.194	4	H3	**2748670**
15386	12 - 24	2.38	.94	.220	4	H3	**2748637**
15393	12 - 28	2.38	.94	.220	4	H3	**2748623**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Tap sets include one of each: taper, plug, and bottoming chamfer.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

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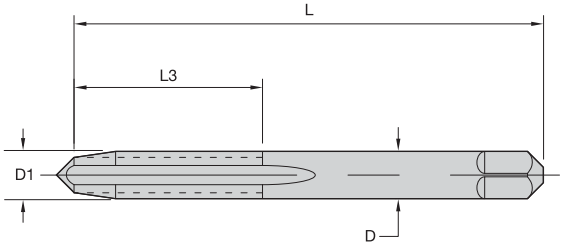
Hand Taps Sets • Series 5303 • Fractional Sizes • Sets of One Each Taper, Plug, and Bottoming Chamfer



● first choice
○ alternate choice

P		●
M		○
K		○
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S		
H		

catalog number	D1 size	L	L3	D	number of flutes	pitch diameter limit	uncoated
14013	1/4 - 20	2.50	1.00	.255	4	H1	**2749834**
14018	1/4 - 20	2.50	1.00	.255	4	H2	**2749824**
14025	1/4 - 20	2.50	1.00	.255	4	H3	**2749815**
14058	1/4 - 28	2.50	1.00	.255	4	H3	**2749764**
14095	5/16 - 18	2.72	1.13	.318	4	H3	**2749729**
14125	5/16 - 24	2.72	1.13	.318	4	H3	**2749680**
14160	3/8 - 16	2.94	1.25	.381	4	H3	**2749644**
14193	3/8 - 24	2.94	1.25	.381	4	H3	**2749605**
14224	7/16 - 14	3.16	1.44	.323	4	H3	**2749581**
14249	7/16 - 20	3.16	1.44	.323	4	H3	**2749560**
14284	1/2 - 13	3.38	1.66	.367	4	H3	**2749538**
14311	1/2 - 20	3.38	1.66	.367	4	H3	**2749503**
14341	9/16 - 12	3.59	1.66	.429	4	H3	**2749488**
14359	9/16 - 18	3.59	1.66	.429	4	H3	**2749472**
14382	5/8 - 11	3.81	1.81	.480	4	H3	**2749454**
14405	5/8 - 18	3.81	1.81	.480	4	H3	**2749426**
14426	11/16 - 11	4.03	1.06	.542	4	H3	**2749402**
14451	3/4 - 10	4.25	2.00	.590	4	H3	**2749388**
14474	3/4 - 16	4.25	2.00	.590	4	H3	**2749368**
14502	7/8 - 9	4.69	2.22	.697	4	H4	**2749350**
14519	7/8 - 14	4.69	2.22	.697	4	H4	**2749335**
14547	1 - 8	5.13	2.50	.800	4	H4	**2749320**
14560	1 - 12	5.13	2.50	.800	4	H4	**3303777**
14571	1 - 14	5.13	2.50	.800	4	H4	**2749288**
14597	1 1/8 - 7	5.44	2.56	.896	4	H4	**2749275**
14606	1 1/8 - 12	5.44	2.56	.896	4	H4	**2749267**
14615	1 1/4 - 7	5.75	2.56	1.021	4	H4	**2749260**
14623	1 1/4 - 12	5.75	2.56	1.021	6	H4	**2749254**
14635	1 3/8 - 6	6.06	3.00	1.108	4	H4	**2749249**
14643	1 3/8 - 12	6.06	3.00	1.108	6	H4	**2749243**
14648	1 1/2 - 6	6.38	3.00	1.233	4	H4	**2749237**
14656	1 1/2 - 12	6.38	3.00	1.233	6	H4	**2749231**

NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Tap sets include one of each: taper, plug, and bottoming chamfer.
Refer to tables on pages F102–F103 in the Technical Data Catalog for the recommended pitch diameter limit for 2B or 3B class of fit.

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Metalworking's Oldest and Most Trusted Brand

WIDIA™

Tap into the Power of the Original

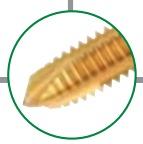
WIDIA-GTD™ represents the powerful combination of speed and precision matched with high performance, consistent quality, and relentless innovation.

1872
Wiley and Russell started to produce taps

1912
Greenfield Tap & Die (GTD) is formed

1917
GTD GUN™ tap patented

1982
Launched first PVD TiN coated taps (VTD)



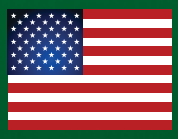
2005
Launched new generation HP carbide tap line (GX series)

2009
GTD brand becomes part of WIDIA™ Products Group

2013
New VariTap™ series launched

2018
WIDIA-GTD™ celebrates 146 years of excellence

2019 LAUNCH
High-Performance Taps for Aerospace Fasteners



MADE IN THE USA

Original GTD GREENFIELD TAP & DIE 1912

THEN & NOW WIDIA™ GTD™

VariTap™

SPIRAL-POINT HSS-E

Pages D22, D26–D31

Materials:

P M K N

The most efficient taps for through holes.

- Shoots chips ahead of the cutting action to reduce overloading and clogging in flutes, protecting the workpiece.
- Advanced steam oxide finish and high-performance TiN, TiN+CrC/C, and TiCN coatings with alternate tap coatings available as stock modifications.
- Extended life in ferrous materials.

SPIRAL-FLUTE HSS-E

Pages D23–D25, D32–D36

Materials:

P M K N

Spiral-flute taps are manufactured from high-speed steel (HSS) and are designed for blind-hole applications.

- Stronger, smoother threads.
- Displaces metal while producing no chips.
- Faster tapping speed to double production time.

ALL-STAR

PIPE TAPS

Page D37

Materials:

P M K N

Manufactured from high-speed steel and available with coolant holes.

- For through- or blind-hole tapping.
- Can be used in general machinery or CNC tapping applications.
- Store chips in their flutes during threading, which protects the workpiece.

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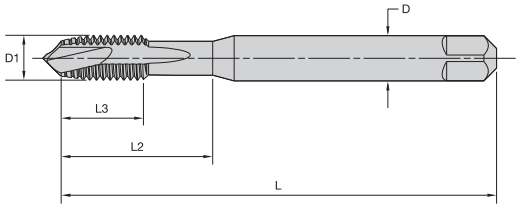
VT-SPO • Form B Plug Chamfer • DIN 371 and 376



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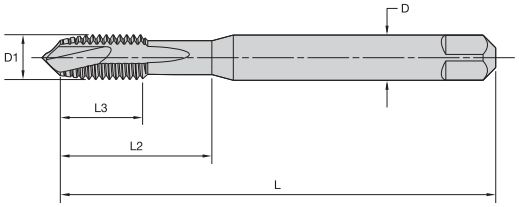
catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WU41EG
VTSPO6035	3/4 - 10	140	30	64	16,0	3	DIN 376	2B	5472665
VTSPO6039	1 - 8	160	38	81	18,0	3	DIN 376	2B	5472669

VT-SPO • Form B Plug Chamfer • Metric DIN 371, 374, and 376



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catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WP49EG	WU40EG
VTSPO6505	M2 X 0,4	45	7	13	2,8	2	DIN 371	6H	5366648	–
VTSPO6547	M5 X 0,5	70	12	25	3,5	2	DIN 374	6H	–	5368607

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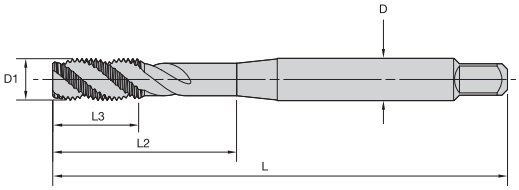
VT-SFT TC • Form C Semi-Bottoming Chamfer • Metric DIN 371, 374, and 376



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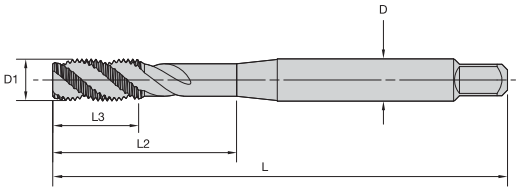
catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WU41EG
VTSFT-TC6518	M8 X 1,25	90	13	37	8,0	3	DIN 371	6H	**6172486**

VT-SFT TC • Form C Semi-Bottoming Chamfer • DIN 371, 374, and 376



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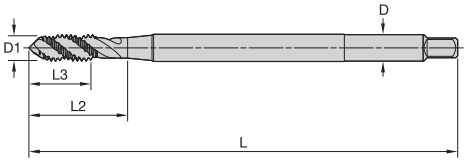
catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WU41EG
VTSFT-TC6016	1/4 - 20	80	10	29	7,0	3	DIN 371	2B	**6172794**
VTSFT-TC6052	5/16 - 18	90	13	37	8,0	3	DIN 371	2B	**6172802**
VTSFT-TC6062	1/2 - 13	110	18	50	9,0	3	DIN 376	2B	**6172818**

VT-SFT TC • Form C Semi-Bottoming Chamfer • 6" Length • ANSI



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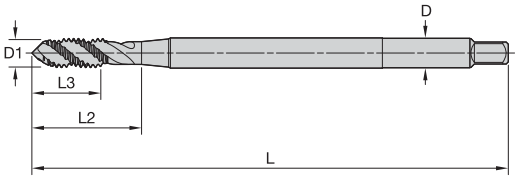
catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSFT-TC5408	1/4 - 20	6.00	.63	1.00	.255	3	H3	**5602114**
VTSFT-TC5410	5/16 - 18	6.00	.69	1.13	.318	3	H3	**5602116**
VTSFT-TC5412	3/8 - 16	6.00	.75	1.27	.381	3	H3	**5602118**
VTSFT-TC5416	1/2 - 13	6.00	.94	1.74	.367	3	H3	**5602122**

NOTE: Suitable for tension/compression holders.

VT-SFT TC • Form C Semi-Bottoming Chamfer • 4" Length • ANSI



● first choice
○ alternate choice

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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSFT-TC5419	4 - 40	4.00	.56	.87	.141	2	H2	**5602125**
VTSFT-TC5420	6 - 32	4.00	.38	.71	.141	2	H3	**5602126**
VTSFT-TC5421	8 - 32	4.00	.38	.76	.168	3	H3	**5602127**
VTSFT-TC5422	10 - 24	4.00	.50	.91	.194	3	H3	**5602128**
VTSFT-TC5423	10 - 32	4.00	.50	.91	.194	3	H3	**5602129**
VTSFT-TC5424	1/4 - 20	4.00	.63	1.00	.255	3	H3	**5602130**

NOTE: Suitable for tension/compression holders.

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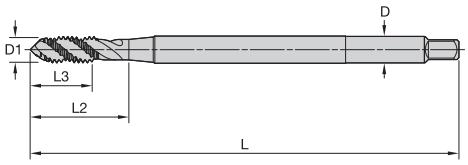
VT-SFT TC • Form E Bottoming Chamfer • 6" Length • ANSI



● first choice
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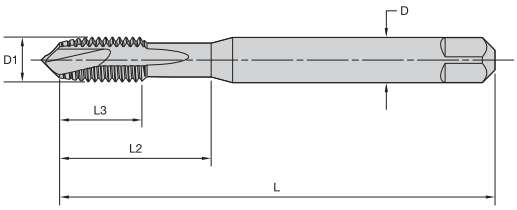
catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSFT-TC5425	4 - 40	6.00	.56	.87	.141	2	H2	**5602131**
VTSFT-TC5426	6 - 32	6.00	.38	.71	.141	2	H3	**5602132**
VTSFT-TC5427	8 - 32	6.00	.38	.76	.168	3	H3	**5602133**
VTSFT-TC5428	10 - 32	6.00	.50	.91	.194	3	H3	**5602134**
VTSFT-TC5429	1/4 - 20	6.00	.63	1.00	.255	3	H3	**5602135**
VTSFT-TC5430	1/4 - 28	6.00	.63	1.01	.255	3	H3	**5602136**
VTSFT-TC5431	5/16 - 18	6.00	.69	1.13	.318	3	H3	**5602137**
VTSFT-TC5432	3/8 - 16	6.00	.75	1.27	.381	3	H3	**5602138**
VTSFT-TC5433	3/8 - 24	6.00	.75	1.26	.381	3	H3	**5602139**
VTSFT-TC5434	7/16 - 14	6.00	.88	1.49	.323	3	H3	**5602140**

NOTE: Suitable for tension/compression holders.

VT-SPO • Form B Plug Chamfer • Metric • DIN Length ANSI Shank



● first choice
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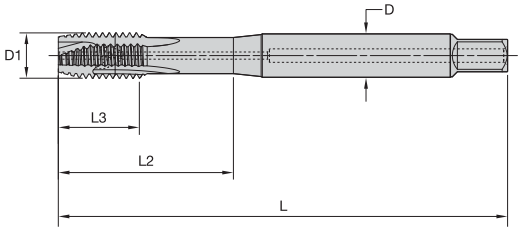
H			

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WP42EG	WP49EG
VTSPO9509	M6 X 1	3.15	.47	1.18	.255	3	DIN-ANSI	6H	**5368178**	**–**
VTSPO9510	M8 X 1,25	3.54	.59	1.37	.318	3	DIN-ANSI	6H	**5368180**	**5368179**
VTSPO9512	M10 X 1,5	3.94	.71	1.53	.381	3	DIN-ANSI	6H	**–**	**5368183**

VT-SPO • Form B Plug Chamfer • DIN Length ANSI Shank



● first choice
○ alternate choice

P		●
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K		●
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S		
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catalog number	D1 TPI	L	L3	L2	D	number of flutes	dimension standard	class of fit	WP42EG
VTSPO9722	1 - 8	6.30	1.50	3.19	.800	3	DIN-ANSI	2B	**5368511**

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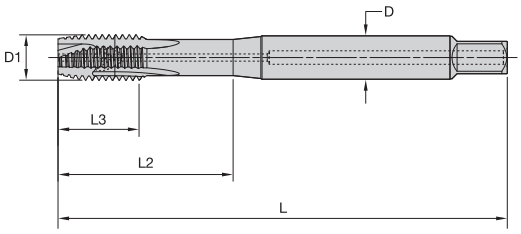
VT-SPO • Form B Plug Chamfer • Metric • DIN Length ANSI Shank



HSS-E 3–5 DIN ANSI 6H M MF

● first choice
○ alternate choice

P		●
M		●
K		●
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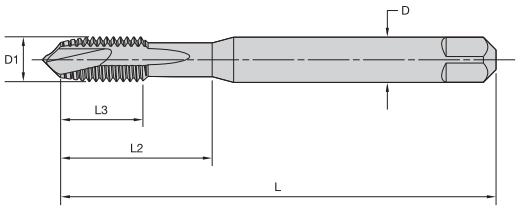
H		

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WP42EG
VTSPO9908	M10 X 1,5	3.94	.71	1.54	.381	3	DIN-ANSI	6H	**5368480**

VT-SPO • Form B Plug Chamfer • DIN Length ANSI Shank



HSS-E 3–5 DIN ANSI 2B UNC UNF

● first choice
○ alternate choice

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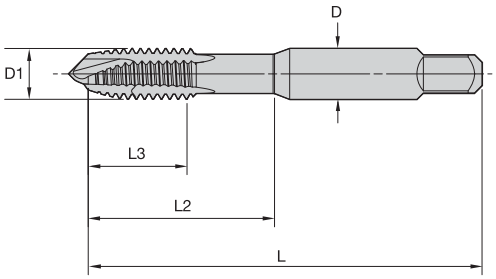
catalog number	D1 TPI	L	L3	L2	D	number of flutes	dimension standard	class of fit	WP42EG	WP49EG
VTSPO9008	10 - 32	2.75	.47	.98	.194	2	DIN-ANSI	2B	**5366580**	**–**
VTSPO9009	1/4 - 20	3.15	.59	1.18	.255	3	DIN-ANSI	2B	**5366582**	**5366581**
VTSPO9010	1/4 - 28	3.14	.58	1.17	.255	3	DIN-ANSI	2B	**5366584**	**–**
VTSPO9013	3/8 - 16	3.94	.75	1.54	.381	3	DIN-ANSI	2B	**5366590**	**–**
VTSPO9017	1/2 - 13	4.33	.91	1.85	.367	3	DIN-ANSI	2B	**5366598**	**–**
VTSPO9019	5/8 - 11	4.33	.94	2.01	.480	3	DIN-ANSI	2B	**5366602**	**–**
VTSPO9021	3/4 - 10	4.92	1.18	2.52	.590	3	DIN-ANSI	2B	**5366606**	**–**
VTSPO9022	3/4 - 16	4.92	1.18	2.52	.590	3	DIN-ANSI	2B	**5366608**	**–**

VT-SPO • Form B Plug Chamfer • ANSI



● first choice
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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP42EG	WU41EG	WP49EG	WU40EG
VTSPO5001	2 - 56	1.75	.39	.50	.141	2	H2	5357242	–	5357241	–
VTSPO5002	2 - 56	1.75	.39	.50	.141	2	H3	–	–	5357244	–
VTSPO5004	3 - 48	1.82	.45	.57	.141	2	H2	–	–	5357246	–
VTSPO5005	4 - 40	1.88	.51	.69	.141	2	H2	5357260	–	5357249	–
VTSPO5006	4 - 40	1.88	.51	.69	.141	2	H3	5357264	–	5357263	–
VTSPO5010	4 - 48	1.88	.51	.69	.141	2	H2	5357276	–	5357275	–
VTSPO5012	5 - 40	1.94	.58	.75	.141	2	H2	–	–	5357279	–
VTSPO5365	5 - 40	1.94	.58	.75	.141	3	H2	5631491	–	5631490	–
VTSPO5013	6 - 32	1.99	.38	.71	.141	2	H2	–	–	5357282	–
VTSPO5366	6 - 32	1.99	.38	.71	.141	3	H2	5631494	–	5631493	–
VTSPO5014	6 - 32	1.99	.38	.71	.141	2	H3	5357286	5357287	5357285	–
VTSPO5367	6 - 32	1.99	.38	.71	.141	3	H3	5631497	–	5631496	–
VTSPO5369	6 - 32	1.99	.38	.71	.141	3	H5	5631504	–	5631503	–
VTSPO5372	6 - 40	1.99	.38	.71	.141	3	H2	5631516	–	5631515	–
VTSPO5021	6 - 40	1.99	.38	.71	.141	2	H3	–	–	5365709	–
VTSPO5373	6 - 40	1.99	.38	.71	.141	3	H3	–	–	5631518	–
VTSPO5374	8 - 32	2.12	.38	.76	.168	3	H2	–	–	5631519	–
VTSPO5023	8 - 32	2.12	.38	.76	.168	2	H3	5365744	5365745	5365743	–
VTSPO5375	8 - 32	2.12	.38	.76	.168	3	H3	5631523	–	5631522	–
VTSPO5377	8 - 32	2.12	.38	.76	.168	3	H5	–	–	5631529	–
VTSPO5027	8 - 32	2.12	.38	.76	.168	2	H7	5365758	–	–	–
VTSPO5381	8 -36	2.12	.38	.76	.168	3	H2	5631552	–	5631550	–
VTSPO5030	10 - 24	2.37	.50	.91	.194	2	H3	5365776	5365778	5365774	–
VTSPO5382	10 - 24	2.37	.50	.91	.194	3	H3	5631558	–	5631556	–
VTSPO5384	10 - 24	2.37	.50	.91	.194	3	H5	5631568	–	5631566	–
VTSPO5037	10 - 32	2.36	.50	.91	.194	2	H3	5365764	5365766	5365763	5365768
VTSPO5389	10 - 32	2.36	.50	.91	.194	3	H3	5631600	–	5631598	–
VTSPO5390	10 - 32	2.36	.50	.91	.194	3	H4	–	–	5631606	–
VTSPO5039	10 - 32	2.36	.50	.91	.194	2	H5	–	–	5365777	–
VTSPO5391	10 - 32	2.36	.50	.91	.194	3	H5	5631614	–	5631612	–
VTSPO5392	10 - 32	2.36	.50	.91	.194	3	H6	–	–	5631618	–
VTSPO5041	10 - 32	2.36	.50	.91	.194	2	H7	5365791	–	–	–
VTSPO5043	12 - 24	2.37	.50	.96	.220	2	H3	–	–	5365800	–
VTSPO5395	12 - 24	2.37	.50	.96	.220	3	H3	5631635	–	5631634	–
VTSPO5396	12 - 28	2.37	.50	.96	.220	3	H3	5631638	–	5631637	–
VTSPO5045	1/4 - 20	2.50	.63	1.00	.255	3	H3	5365807	5365808	5365806	5365809
VTSPO5046	1/4 - 20	2.50	.63	1.00	.255	3	H5	5365821	–	5365820	–
VTSPO5047	1/4 - 20	2.50	.63	1.00	.255	3	H7	5365825	–	5365823	–
VTSPO5049	1/4 - 28	2.50	.63	1.00	.255	3	H3	5365840	5365841	5365829	–
VTSPO5050	1/4 - 28	2.50	.63	1.00	.255	3	H4	5365844	–	5365843	–
VTSPO5051	1/4 - 28	2.50	.63	1.01	.255	3	H5	5365849	–	5365848	–
VTSPO5052	1/4 - 28	2.50	.63	1.01	.255	3	H6	5365922	–	5365921	–
VTSPO5053	1/4 - 28	2.50	.63	1.01	.255	3	H7	5365925	–	5365924	–
VTSPO5055	5/16 - 18	2.72	.69	1.14	.318	3	H3	5365932	5365933	5365931	5365934
VTSPO5056	5/16 - 18	2.72	.69	1.14	.318	3	H5	5365936	–	5365935	–
VTSPO5057	5/16 - 18	2.72	.69	1.14	.318	3	H7	5365939	–	5365938	–
VTSPO5058	5/16 - 18	2.72	.69	1.14	.318	3	H11	5365942	–	–	–
VTSPO5059	5/16 - 24	2.72	.69	1.14	.318	3	H3	5365946	–	5365945	–
VTSPO5061	5/16 - 24	2.72	.69	1.14	.318	3	H5	5365963	–	5365962	–
VTSPO5062	5/16 - 24	2.72	.69	1.14	.318	3	H6	–	–	5365965	–
VTSPO5075	7/16 - 14	3.16	.88	1.49	.323	3	H3	5366966	–	5366965	–
VTSPO5076	7/16 - 14	3.16	.88	1.49	.323	3	H5	5366970	–	5366969	–
VTSPO5079	7/16 - 20	3.16	.88	1.49	.323	3	H3	5366979	–	5366978	–
VTSPO5080	7/16 - 20	3.16	.88	1.49	.323	3	H5	5366983	–	5366982	–
VTSPO5084	1/2 - 13	3.38	.94	1.74	.367	3	H3	5366075	5366076	5366074	5366077
VTSPO5085	1/2 - 13	3.38	.94	1.74	.367	3	H5	5366079	–	5366078	–

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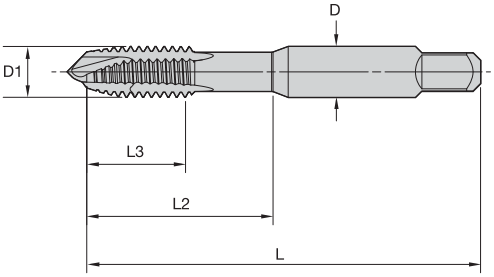

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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP42EG	WU41EG	WP49EG	WU40EG
VTSPO5087	1/2 - 13	3.38	.94	1.74	.367	3	H11	5366086	–	–	–
VTSPO5088	1/2 - 20	3.38	.94	1.74	.367	3	H3	5366089	–	5366088	–
VTSPO5089	1/2 - 20	3.38	.94	1.74	.367	3	H5	5366113	–	5366112	–
VTSPO5091	1/2 - 20	3.38	.94	1.74	.367	3	H7	5366117	–	5366116	–
VTSPO5093	9/16 - 12	3.59	1.00	1.74	.429	3	H3	5366133	–	5366132	–
VTSPO5094	9/16 - 18	3.59	1.00	1.74	.429	3	H3	5366137	5366138	5366136	–
VTSPO5095	5/8 - 11	3.81	1.09	1.89	.480	3	H3	5366141	5366142	5366140	–
VTSPO5096	5/8 - 11	3.81	1.09	1.89	.480	3	H5	5366145	–	5366144	–
VTSPO5098	5/8 - 18	3.81	1.09	1.89	.480	3	H3	5367005	–	5367004	–
VTSPO5099	5/8 - 18	3.81	1.09	1.89	.480	3	H5	5367008	–	5367007	–
VTSPO5102	3/4 - 10	4.25	1.22	2.08	.590	3	H3	5367035	–	5367034	–
VTSPO5103	3/4 - 10	4.25	1.22	2.08	.590	3	H5	5367039	–	5367038	–
VTSPO5104	3/4 - 16	4.25	1.22	2.08	.590	3	H3	5367062	–	5367061	–
VTSPO5105	3/4 - 16	4.25	1.22	2.08	.590	3	H5	5367066	–	5367065	–
VTSPO5065	3/8 - 16	2.94	.75	1.27	.381	3	H3	5365975	5365976	5365974	5365977
VTSPO5066	3/8 - 16	2.94	.75	1.27	.381	3	H5	5366898	–	5366897	–
VTSPO5068	3/8 - 16	2.94	.75	1.27	.381	3	H11	5366944	–	–	–
VTSPO5069	3/8 - 24	2.94	.75	1.27	.381	3	H3	5366947	–	5366946	–
VTSPO5070	3/8 - 24	2.94	.75	1.27	.381	3	H4	5366951	–	5366950	–
VTSPO5071	3/8 - 24	2.94	.75	1.27	.381	3	H5	5366954	–	5366953	–
VTSPO5106	7/8 - 9	4.69	1.34	2.30	.697	3	H4	–	–	5367068	–
VTSPO5107	7/8 - 9	4.69	1.34	2.30	.697	3	H5	5367073	–	5367072	–
VTSPO5108	7/8 - 14	4.69	1.34	2.30	.697	3	H4	5367076	–	5367075	–
VTSPO5109	1 - 8	5.13	1.50	2.58	.800	3	H5	5366406	–	5366404	–
VTSPO5110	1 - 12	5.13	1.50	2.58	.800	3	H4	5366440	–	5366409	–
VTSPO5111	1 1/8 - 7	5.44	1.71	2.56	.896	4	H6	–	–	5366442	–
VTSPO5112	1 1/8 - 8	5.44	1.71	2.56	.896	4	H6	–	–	5366443	–
VTSPO5113	1 1/8 - 12	5.44	1.71	2.56	.896	4	H5	–	–	5366444	–
VTSPO5115	1 1/4 - 8	5.75	1.71	2.56	1.020	4	H6	–	–	5366446	–
VTSPO5114	1 1/4 - 7	5.75	1.71	2.56	1.021	4	H6	–	–	5366445	–
VTSPO5116	1 1/4 - 12	5.75	1.71	2.56	1.021	4	H5	–	–	5366447	–
VTSPO5117	1 3/8 - 6	6.07	2.00	3.00	1.108	4	H6	–	–	5366448	–
VTSPO5118	1 3/8 - 8	6.07	2.00	3.00	1.108	4	H6	–	–	5366449	–
VTSPO5119	1 3/8 - 12	6.07	2.00	3.00	1.108	4	H5	–	–	5366450	–
VTSPO5120	1 1/2 - 6	6.38	2.00	3.00	1.233	4	H6	–	–	5366451	–
VTSPO5121	1 1/2 - 8	6.38	2.00	3.00	1.233	4	H6	–	–	5366452	–
VTSPO5122	1 1/2 - 12	6.38	2.00	3.00	1.233	4	H5	–	–	5366453	–

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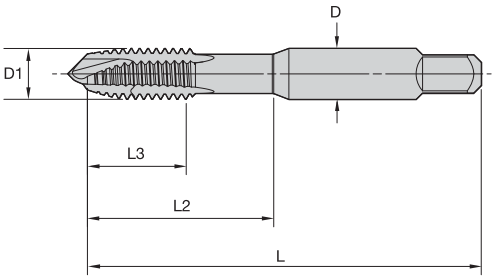

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catalog number	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit	WP42EG	WU41EG	WP49EG	WU40EG
VTSPO5505	M3 X 0,5	1.94	.58	.75	.141	2	D3	5362670	–	5362589	–
VTSPO5613	M3 X 0,5	1.94	.58	.75	.141	3	D3	5631641	–	5631640	–
VTSPO5615	M3,5 X 0,6	1.99	.38	.71	.141	3	D4	–	–	5631646	–
VTSPO5509	M4 X 0,7	2.12	.38	.76	.168	2	D4	5362692	5362693	5362691	–
VTSPO5617	M4 X 0,7	2.12	.38	.76	.168	3	D4	5631652	–	5631651	–
VTSPO5511	M5 X 0,8	2.37	.50	.91	.194	2	D4	5362698	5362699	5362697	–
VTSPO5619	M5 X 0,8	2.37	.50	.91	.194	3	D4	5631659	–	5631658	–
VTSPO5513	M6 X 1	2.50	.63	1.00	.255	3	D5	5362704	5362705	5362703	5362706
VTSPO5515	M7 X 1	2.72	.69	1.15	.318	3	D5	5362710	–	5362709	–
VTSPO5517	M8 X 1	2.71	.69	1.12	.318	3	D5	5362715	–	5362714	–
VTSPO5519	M8 X 1,25	2.71	.69	1.13	.318	3	D5	5362722	5362723	5362720	5362724
VTSPO5521	M10 X 1	2.91	.75	1.24	.381	3	D5	5362730	–	5362729	–
VTSPO5523	M10 X 1,25	2.92	.74	1.25	.381	3	D5	5367305	–	5367304	–
VTSPO5525	M10 X 1,5	2.92	.75	1.26	.381	3	D6	5367340	–	5367309	–
VTSPO5527	M12 X 1,25	3.38	.94	1.74	.367	3	D6	5367346	–	5367345	–
VTSPO5529	M12 X 1,5	3.38	.94	1.74	.367	3	D6	5367351	–	5367350	–
VTSPO5531	M12 X 1,75	3.38	.94	1.74	.367	3	D6	5367356	–	5367355	–
VTSPO5533	M14 X 1,5	3.59	1.00	1.74	.429	3	D6	5367362	–	5367361	–
VTSPO5534	M14 X 2	3.59	1.00	1.74	.429	3	D7	5367365	–	5367364	–
VTSPO5535	M16 X 1,5	3.81	1.09	1.89	.480	3	D6	5366476	–	5366475	–
VTSPO5536	M16 X 2	3.81	1.09	1.89	.480	3	D7	5366480	–	5366479	–
VTSPO5537	M18 X 1,5	4.03	1.09	1.89	.542	3	D6	5366485	–	5366483	–
VTSPO5538	M18 X 2,5	4.03	1.22	1.89	.542	3	D7	5366488	–	5366487	–
VTSPO5539	M20 X 1,5	4.47	1.22	2.08	.652	3	D6	5366491	–	5366490	–
VTSPO5540	M20 X 2,5	4.47	1.22	2.08	.652	3	D7	5366493	–	5366492	–
VTSPO5541	M22 X 1,5	4.69	1.22	2.30	.697	3	D6	–	–	5366494	–
VTSPO5542	M22 X 2,5	4.69	1.22	2.30	.697	3	D7	–	–	5366495	–
VTSPO5543	M24 X 2	4.91	1.22	2.30	.760	3	D7	–	–	5366496	–
VTSPO5544	M24 X 3	4.91	1.22	2.30	.760	3	D8	–	–	5366497	–
VTSPO5545	M27 X 1,5	5.13	1.22	2.50	.896	4	D7	–	–	5366498	–
VTSPO5546	M27 X 3	5.13	1.22	2.50	.896	4	D8	–	–	5366499	–
VTSPO5547	M30 X 1,5	5.44	1.22	2.56	1.021	4	D6	–	–	5366510	–
VTSPO5548	M30 X 3,5	5.44	1.22	2.56	1.021	4	D9	–	–	5366511	–

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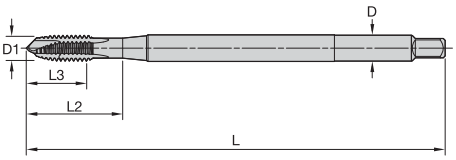

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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSPO5403	4 - 40	6.00	.56	.87	.141	2	H2	5608551
VTSPO5404	6 - 32	6.00	.38	.71	.168	2	H3	5608552
VTSPO5405	8 - 32	6.00	.38	.76	.168	2	H3	5608553
VTSPO5406	10 - 24	6.00	.50	.91	.194	2	H3	5608554
VTSPO5407	10 - 32	6.00	.50	.91	.194	2	H3	5608555
VTSPO5408	1/4 - 20	6.00	.63	1.01	.255	3	H3	5608556
VTSPO5409	1/4 - 28	6.00	.63	1.01	.255	3	H3	5608557
VTSPO5410	5/16 - 18	6.00	.69	1.13	.318	3	H3	5608558
VTSPO5411	5/16 - 24	6.00	.69	1.13	.318	3	H3	5608559
VTSPO5412	3/8 - 16	6.00	.75	1.27	.381	3	H3	5608570
VTSPO5413	3/8 - 24	6.00	.75	1.27	.381	3	H3	5608571
VTSPO5414	7/16 - 14	6.00	.88	1.49	.323	3	H3	5608572
VTSPO5415	7/16 - 20	6.00	.88	1.49	.323	3	H3	5608573
VTSPO5416	1/2 - 13	6.00	.94	1.74	.367	3	H3	5608575
VTSPO5417	1/2 - 20	6.00	.94	1.74	.367	3	H3	5608576
VTSPO5418	5/8 - 11	6.00	1.09	1.89	.480	3	H3	5608577

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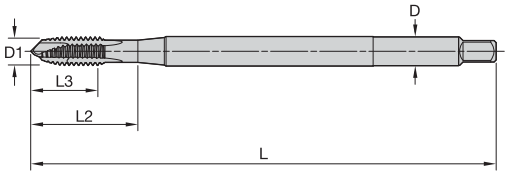

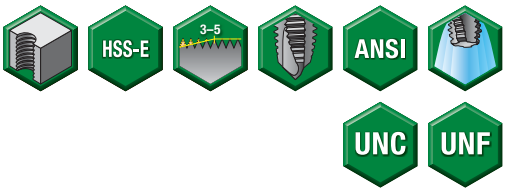

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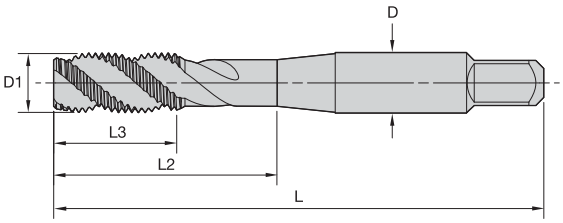
catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSPO5424	1/4 - 20	4.00	.63	1.01	.255	3	H3	5608585

VT-SFT TC • Form C Semi-Bottoming Chamfer • Metric • ANSI



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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP42EG	WP49EG
VTSFT-TC5505	M3 X 0,5	1.94	.58	.76	.141	3	D3	5887085	5887084
VTSFT-TC5507	M3,5 X 0,6	1.99	.38	.71	.141	2	D4	6141630	6141781
VTSFT-TC5509	M4 X 0,7	2.12	.38	.76	.168	3	D4	5887087	5887086
VTSFT-TC5511	M5 X 0,8	2.37	.50	.91	.194	3	D4	5887089	5887088
VTSFT-TC5513	M6 X 1	2.50	.63	1.01	.255	3	D5	5887091	5887090
VTSFT-TC5515	M7 X 1	2.73	.69	1.15	.318	3	D5	–	6141792
VTSFT-TC5517	M8 X 1	2.71	.69	1.12	.318	3	D5	6141796	6141797
VTSFT-TC5519	M8 X 1,25	2.71	.69	1.12	.318	3	D5	5887093	5887092
VTSFT-TC5523	M10 X 1,25	2.92	.74	1.25	.381	3	D5	–	6141805
VTSFT-TC5525	M10 X 1,5	2.92	.75	1.26	.381	3	D6	6141808	6141809
VTSFT-TC5527	M12 X 1,25	3.38	.94	1.74	.367	3	D5	–	6140508
VTSFT-TC5529	M12 X 1,5	3.38	.94	1.74	.367	3	D6	–	6140512
VTSFT-TC5531	M12 X 1,75	3.38	.94	1.74	.367	3	D6	5887097	5887096
VTSFT-TC5533	M14 X 1,5	3.59	1.00	1.74	.429	3	D6	–	6140518
VTSFT-TC5535	M14 X 2	3.59	1.00	1.74	.429	3	D7	–	6140520
VTSFT-TC5536	M16 X 1,5	3.81	1.09	1.89	.480	3	D6	6140521	6140522
VTSFT-TC5537	M16 X 2	3.81	1.09	1.89	.480	3	D7	5887099	5887098
VTSFT-TC5538	M18 X 1,5	4.03	1.09	1.89	.542	4	D6	6140523	6140524
VTSFT-TC5539	M18 X 2,5	4.03	1.22	1.89	.542	4	D7	6140525	6140526
VTSFT-TC5540	M20 X 1,5	4.47	1.22	2.08	.652	4	D6	6140527	6140528
VTSFT-TC5541	M20 X 2,5	4.47	1.34	2.30	.652	4	D7	6140529	6140530
VTSFT-TC5542	M22 X 1,5	4.69	1.34	2.30	.697	4	D6	–	6140531
VTSFT-TC5543	M22 X 2,5	4.69	1.34	2.30	.697	4	D7	–	6140532
VTSFT-TC5545	M24 X 3	4.91	1.34	2.30	.760	4	D8	–	6140534
VTSFT-TC5547	M27 X 3	5.13	1.50	2.50	.896	4	D8	–	6140536

NOTE: Suitable for tension/compression holders.

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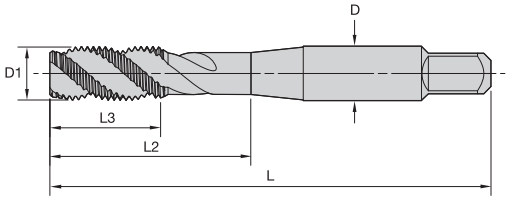

● first choice
○ alternate choice

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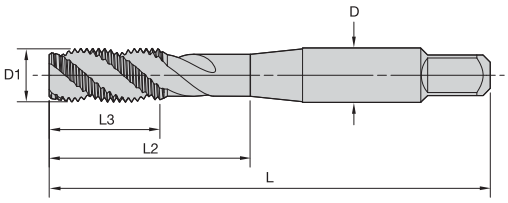
catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSFT-TC5550	M3 X 0,5	1.94	—	.75	.141	2	D3	**6140343**
VTSFT-TC5551	M3,5 X 0,6	2.00	.38	.71	.141	2	D4	**6140344**
VTSFT-TC5552	M4 X 0,7	2.13	.38	.76	.168	3	D4	**6140345**
VTSFT-TC5553	M5 X 0,8	2.38	.50	.91	.194	3	D4	**6140346**
VTSFT-TC5554	M6 X 1	2.50	.63	1.00	.255	3	D5	**6140347**
VTSFT-TC5555	M7 X 1	2.72	.69	1.15	.318	3	D5	**6140348**
VTSFT-TC5556	M8 X 1,25	2.72	.69	1.12	.318	3	D5	**6140349**
VTSFT-TC5557	M8 X 1	2.72	.69	1.12	.318	3	D5	**6140350**
VTSFT-TC5558	M10 X 1,5	2.94	.75	1.26	.381	3	D6	**6140391**
VTSFT-TC5559	M10 X 1,25	2.94	.75	1.26	.381	3	D5	**6140392**
VTSFT-TC5560	M12 X 1,75	3.38	.94	1.74	.367	3	D6	**6140393**
VTSFT-TC5561	M12 X 1,5	3.38	.94	1.74	.367	3	D5	**6140394**
VTSFT-TC5562	M12 X 1,25	3.38	.94	1.74	.367	3	D5	**6140395**
VTSFT-TC5563	M14 X 2	3.59	1.00	1.74	.429	3	D7	**6140396**
VTSFT-TC5564	M14 X 1,5	3.59	1.00	1.74	.429	3	D6	**6140397**
VTSFT-TC5565	M16 X 2	3.81	1.09	1.89	.480	3	D7	**6140398**
VTSFT-TC5566	M16 X 1,5	3.81	1.09	1.89	.480	3	D6	**6140399**

VT-SFT TC • Form C Semi-Bottoming Chamfer • ANSI



● first choice
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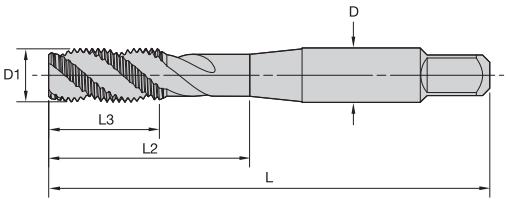
catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP42EG	WP49EG
VTSFT-TC5001	2 - 56	1.76	.39	.50	.141	2	H2	6140248	6140249
VTSFT-TC5002	3 - 48	1.82	.46	.57	.141	2	H2	6140250	6140271
VTSFT-TC5003	4 - 40	1.88	.52	.70	.141	2	H2	6140272	6140273
VTSFT-TC5004	4 - 40	1.88	.52	.70	.141	2	H3	6140274	6140275
VTSFT-TC5008	4 - 48	1.88	.53	.70	.141	2	H2	–	6140282
VTSFT-TC5009	5 - 40	1.95	.59	.76	.141	2	H2	6140283	6140284
VTSFT-TC5011	6 - 32	2.00	.38	.72	.141	3	H3	5886705	5886704
VTSFT-TC5013	6 - 32	2.00	.38	.71	.141	3	H5	–	5886706
VTSFT-TC5016	6 - 40	2.00	.39	.72	.141	2	H2	6140293	6140294
VTSFT-TC5017	6 - 40	2.00	.39	.72	.141	2	H3	–	6140295
VTSFT-TC5018	8 - 32	2.13	.38	.77	.168	3	H2	6140296	6140297
VTSFT-TC5019	8 - 32	2.13	.38	.77	.168	3	H3	5886708	5886707
VTSFT-TC5021	8 - 32	2.13	.38	.77	.168	3	H5	6140299	5886709
VTSFT-TC5025	8 - 36	2.13	.38	.77	.168	3	H3	–	6140305
VTSFT-TC5027	10 - 24	2.38	.50	.92	.194	3	H3	5887031	5886710
VTSFT-TC5029	10 - 24	2.38	.50	.92	.194	3	H5	–	5887032
VTSFT-TC5033	10 - 32	2.38	.50	.92	.194	3	H3	5887034	5887033
VTSFT-TC5034	10 - 32	2.38	.50	.92	.194	3	H4	–	6140314
VTSFT-TC5035	10 - 32	2.37	.50	.91	.194	3	H5	–	5887035
VTSFT-TC5035	10 - 32	2.38	.50	.91	.194	3	H5	6140315	–
VTSFT-TC5036	10 - 32	2.38	.50	.92	.194	3	H6	–	6140316
VTSFT-TC5039	12 - 24	2.43	.50	.96	.220	3	H3	5887037	5887036
VTSFT-TC5040	12 - 28	2.43	.50	.96	.220	3	H3	6140321	6140322
VTSFT-TC5041	1/4 - 20	2.50	.63	1.00	.255	3	H3	5887039	5887038
VTSFT-TC5042	1/4 - 20	2.50	.63	1.00	.255	3	H5	6140183	–
VTSFT-TC5043	1/4 - 20	2.50	.63	1.00	.255	3	H7	6140184	6140185
VTSFT-TC5045	1/4 - 28	2.49	.62	1.00	.255	3	H3	5887042	5887041
VTSFT-TC5046	1/4 - 28	2.50	.63	1.00	.255	3	H4	6140188	6140190
VTSFT-TC5047	1/4 - 28	2.49	.62	1.00	.255	3	H5	–	5887043
VTSFT-TC5047	1/4 - 28	2.50	.63	1.00	.255	3	H5	6140191	–
VTSFT-TC5048	1/4 - 28	2.50	.63	1.00	.255	3	H6	–	6140192
VTSFT-TC5049	1/4 - 28	2.50	.63	1.00	.255	3	H7	6140193	6140195
VTSFT-TC5051	5/16 - 18	2.72	.69	1.13	.318	3	H3	5887045	5887044
VTSFT-TC5052	5/16 - 18	2.72	.69	1.13	.318	3	H5	6140198	5887046
VTSFT-TC5053	5/16 - 18	2.72	.69	1.13	.318	3	H7	6140200	6140201
VTSFT-TC5055	5/16 - 24	2.71	.68	1.13	.318	3	H3	5887048	5887047
VTSFT-TC5057	5/16 - 24	2.71	.68	1.12	.318	3	H5	–	5887049
VTSFT-TC5058	5/16 - 24	2.72	.69	1.12	.318	3	H6	–	6140216
VTSFT-TC5061	3/8 - 16	2.94	.75	1.27	.381	3	H3	5887051	5887050
VTSFT-TC5062	3/8 - 16	2.94	.75	1.27	.381	3	H5	6140222	5887052
VTSFT-TC5065	3/8 - 24	2.92	.74	1.25	.381	3	H3	5887054	5887053
VTSFT-TC5066	3/8 - 24	2.94	.75	1.27	.381	3	H4	6140227	6140228
VTSFT-TC5067	3/8 - 24	2.92	.74	1.25	.381	3	H5	–	5887055
VTSFT-TC5067	3/8 - 24	2.94	.75	1.27	.381	3	H5	6140229	–
VTSFT-TC5071	7/16 - 14	3.16	.88	1.49	.323	3	H3	5887057	5887056
VTSFT-TC5072	7/16 - 14	3.16	.88	1.49	.323	3	H5	6140235	5887058
VTSFT-TC5075	7/16 - 20	3.16	.88	1.49	.323	3	H3	5887061	5887059
VTSFT-TC5076	7/16 - 20	3.16	.88	1.49	.323	3	H5	6140240	5887062
VTSFT-TC5080	1/2 - 13	3.38	.94	1.74	.367	3	H3	5887064	5887063
VTSFT-TC5081	1/2 - 13	3.38	.94	1.74	.367	3	H5	6140422	5887065
VTSFT-TC5084	1/2 - 20	3.38	.94	1.74	.367	3	H3	5887068	5887067
VTSFT-TC5085	1/2 - 20	3.38	.94	1.74	.367	3	H5	6140427	5887069
VTSFT-TC5087	1/2 - 20	3.38	.94	1.74	.367	3	H7	–	6140430
VTSFT-TC5089	9/16 - 12	3.59	1.00	1.74	.429	3	H3	6140434	6140436
VTSFT-TC5091	9/16 - 18	3.59	1.00	1.74	.429	3	H3	6140440	6140452
VTSFT-TC5093	5/8 - 11	3.81	1.09	1.89	.480	3	H3	5887071	5887070

VT-SFT TC • Form C Semi-Bottoming Chamfer • ANSI

(continued)



● first choice
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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP42EG	WP49EG
VTSFT-TC5094	5/8 - 11	3.81	1.09	1.89	.480	3	H5	**6140456**	**5887072**
VTSFT-TC5096	5/8 - 18	3.81	1.09	1.89	.480	3	H3	**5887074**	**5887073**
VTSFT-TC5097	5/8 - 18	3.81	1.09	1.89	.480	3	H5	**–**	**5887075**
VTSFT-TC5100	3/4 - 10	4.25	1.22	2.08	.590	4	H3	**5887077**	**5887076**
VTSFT-TC5101	3/4 - 10	4.25	1.22	2.08	.590	4	H5	**6140465**	**5887078**
VTSFT-TC5102	3/4 - 16	4.25	1.22	2.08	.590	4	H3	**5887080**	**5887079**
VTSFT-TC5103	3/4 - 16	4.25	1.22	2.08	.590	4	H5	**6140467**	**5887081**
VTSFT-TC5106	7/8 - 9	4.69	1.34	2.30	.697	4	H5	**6140471**	**6140473**
VTSFT-TC5107	7/8 - 14	4.69	1.34	2.30	.697	4	H4	**6140475**	**6140477**
VTSFT-TC5108	1 - 8	5.13	1.50	2.58	.800	4	H5	**–**	**5887083**
VTSFT-TC5109	1 - 12	5.13	1.50	2.58	.800	4	H4	**6140479**	**6140481**
VTSFT-TC5110	1 1/8 - 7	5.44	1.71	2.56	.896	4	H6	**–**	**6140483**
VTSFT-TC5111	1 1/8 - 8	5.44	1.71	2.56	.896	4	H6	**–**	**6140484**
VTSFT-TC5113	1 1/4 - 7	5.75	1.71	2.56	1.021	4	H6	**–**	**6140488**
VTSFT-TC5115	1 1/4 - 8	5.75	1.71	2.56	1.021	4	H6	**–**	**6140492**
VTSFT-TC5118	1 3/8 - 8	6.06	2.00	3.00	1.108	5	H6	**–**	**6140498**
VTSFT-TC5119	1 1/2 - 6	6.38	2.00	3.00	1.233	5	H6	**–**	**6140500**

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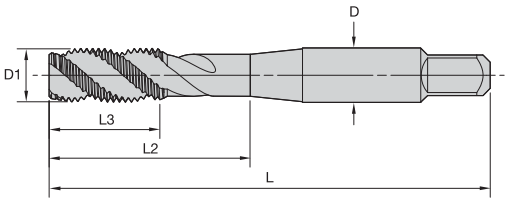

● first choice
○ alternate choice

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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WP49EG
VTSFT-TC5130	4 - 40	1.88	.51	.69	.141	2	H2	6140539
VTSFT-TC5131	4 - 40	1.88	.51	.69	.141	2	H3	6140540
VTSFT-TC5134	6 - 32	1.99	.38	.71	.141	2	H2	6140543
VTSFT-TC5135	6 - 32	1.99	.38	.71	.141	2	H3	6140544
VTSFT-TC5136	6 - 32	1.99	.38	.71	.141	2	H5	6140545
VTSFT-TC5137	6 - 40	2.00	.38	.71	.141	2	H2	6140546
VTSFT-TC5138	6 - 40	2.00	.38	.71	.141	2	H3	6140547
VTSFT-TC5139	8 - 32	2.12	.38	.76	.168	3	H2	6140548
VTSFT-TC5140	8 - 32	2.12	.38	.76	.168	3	H3	6140549
VTSFT-TC5141	8 - 32	2.12	.38	.76	.168	3	H5	6140550
VTSFT-TC5142	10 - 24	2.37	.50	.91	.194	3	H3	6140561
VTSFT-TC5143	10 - 24	2.37	.50	.91	.194	3	H5	6140562
VTSFT-TC5144	10 - 32	2.38	.50	.91	.194	3	H3	6140563
VTSFT-TC5145	10 - 32	2.38	.50	.91	.194	3	H5	6140564
VTSFT-TC5146	1/4 - 20	2.50	.63	1.00	.255	3	H3	6140565
VTSFT-TC5147	1/4 - 20	2.50	.63	1.00	.255	3	H5	6140566
VTSFT-TC5148	1/4 - 28	2.50	.63	1.00	.255	3	H3	6140567
VTSFT-TC5149	1/4 - 28	2.50	.63	1.00	.255	3	H5	6140568
VTSFT-TC5150	5/16 - 18	2.72	.69	1.13	.318	3	H3	6140569
VTSFT-TC5151	5/16 - 18	2.72	.69	1.13	.318	3	H5	6140570
VTSFT-TC5152	5/16 - 24	2.72	.69	1.13	.318	3	H3	6140571
VTSFT-TC5153	5/16 - 24	2.72	.69	1.12	.318	3	H5	6140572
VTSFT-TC5154	3/8 - 16	2.94	.75	1.27	.381	3	H5	6140573
VTSFT-TC5155	3/8 - 16	2.94	.75	1.27	.381	3	H3	6140574
VTSFT-TC5156	3/8 - 24	2.94	.75	1.27	.381	3	H3	6140579
VTSFT-TC5157	3/8 - 24	2.94	.75	1.27	.381	3	H4	6140580
VTSFT-TC5158	3/8 - 24	2.94	.75	1.27	.381	3	H5	6140581
VTSFT-TC5159	7/16 - 14	3.16	.88	1.49	.323	3	H3	6140582
VTSFT-TC5160	7/16 - 14	3.16	.88	1.49	.323	3	H5	6140583
VTSFT-TC5161	7/16 - 20	3.16	.88	1.49	.323	3	H3	6140584
VTSFT-TC5162	7/16 - 20	3.16	.88	1.49	.323	3	H5	6140585
VTSFT-TC5163	1/2 - 13	3.38	.94	1.74	.367	3	H3	6140586
VTSFT-TC5164	1/2 - 13	3.38	.94	1.74	.367	3	H5	6140587
VTSFT-TC5165	1/2 - 20	3.38	.94	1.74	.367	3	H3	6140588
VTSFT-TC5166	9/16 - 12	3.59	1.00	1.74	.429	3	H3	6140589
VTSFT-TC5167	9/16 - 18	3.59	1.00	1.74	.429	3	H3	6140590
VTSFT-TC5168	5/8 - 11	3.81	1.09	1.89	.480	3	H3	6140591
VTSFT-TC5169	5/8 - 11	3.81	1.09	1.89	.480	3	H5	6140592
VTSFT-TC5170	5/8 - 18	3.81	1.09	1.89	.480	3	H3	6140593
VTSFT-TC5171	5/8 - 18	3.81	1.09	1.89	.480	3	H5	6140595
VTSFT-TC5172	3/4 - 10	4.25	1.22	2.08	.590	4	H3	6140597
VTSFT-TC5173	3/4 - 16	4.25	1.22	2.08	.590	4	H3	6140599

NOTE: Suitable for tension/compression holders.

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

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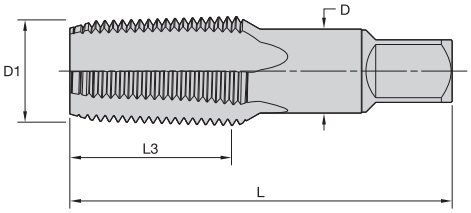

● first choice
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catalog number	D1 TPI	L	L3	D	number of flutes	thread type	WU40EG
VTSTR8002	1/4 - 18	2.44	1.03	.563	4	NPT	**5629647**
VTSTR8003	3/8 - 18	2.56	1.03	.700	4	NPT	**5629648**
VTSTR8005	3/4 - 14	3.25	1.38	.906	5	NPT	**5629904**

HIGH-PERFORMANCE

SPIRAL-POINT AND LEFT-HAND SPIRAL FLUTE

Pages D40, D43, D47–D50

Materials:

P M K N S

Left-hand spiral flutes are designed to push the chips ahead in through holes.

- Most efficient geometry to tap through-holes.

SPIRAL FLUTE

Pages D42, D48–D50

Materials:

P M K N S

Spiral-flute taps are designed to remove the chips back from the hole to prevent tap breakage.

- Optimized spiral-flute design enables blind holes to be threaded.
- Ideal for interrupted cuts.
- Best suited for blind and deep blind holes.

GT SERIES

ALL-STAR

FORMING TAPS

Pages D41, D44–D45

Materials:

P M N

Forming taps produce a stronger and smoother thread.

- Stronger, smoother threads.
- Displaces metal while producing no chips.
- Faster tapping speed to double production time.

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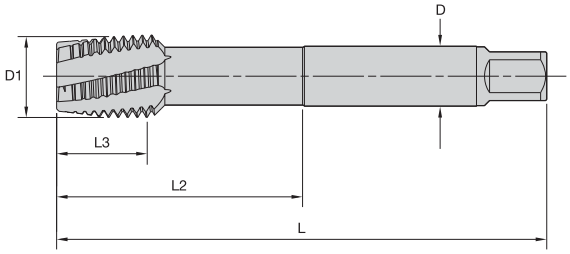
Victory™ • GT20 • Form D Plug Chamfer • Metric DIN 376 • Left-Hand Spiral Flute



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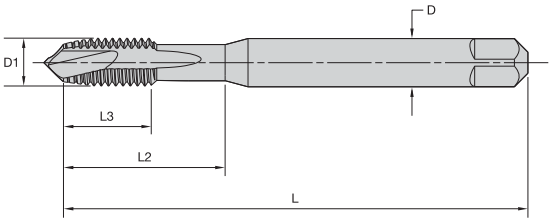
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	GP6520
GT205111	M24 X 3	160	30	77	18,0	5	DIN 376	6HX	4033723

Victory • GT00 • Form B Plug Chamfer • Metric DIN 371, 374, and 376 • Spiral-Point Plug



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WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	WP31MG
GT005011	M20 X 2,5	140	32	—	16,0	4	DIN 376	6HX	4153759

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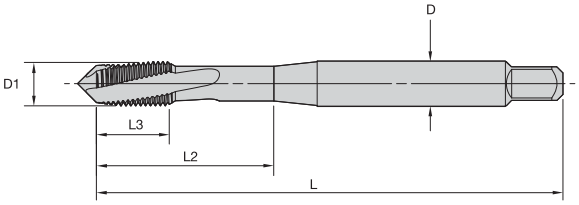
Victory™ • GT20 • Form D Plug Chamfer • Metric DIN 371, 374, and 376 • Left-Hand Spiral Flute



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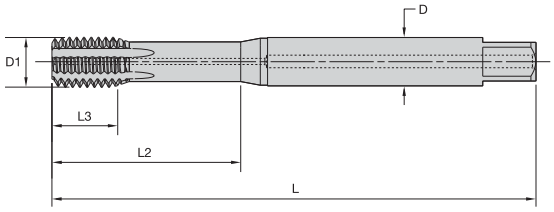
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	GP6520
GT205102	M16 X 2	110	20	51	12,0	4	DIN 376	6HX	**3955092**
GT205103	M20 X 2,5	140	25	64	16,0	4	DIN 376	6HX	**3955123**
GT205111	M24 X 3	160	30	77	18,0	5	DIN 376	6HX	**4033723**

Victory • GT23 • Form C Semi-Bottoming Entry Taper • Metric DIN 2174



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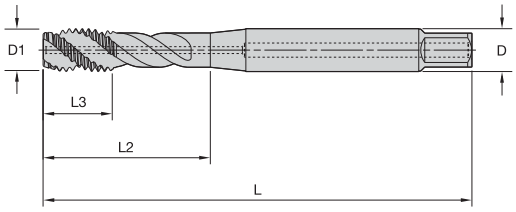
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	dimension standard	class of fit	WP31MG
GT235013	M6 X 1	80	10	30	6,0	DIN 2174	6HX	**4159966**
GT235015	M10 X 1,5	100	16	39	10,0	DIN 2174	6HX	**4159968**

Victory™ • GT31 • Form C Semi-Bottoming Chamfer • Metric DIN 371 and 376 • Spiral Flute



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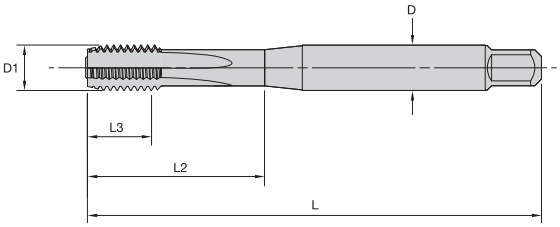
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	GP6520
GT315008	M6 X 1	80	10	30	6,0	3	DIN 371	6HX	3955350

Victory™ • GT40 • Form C Semi-Bottoming Chamfer • ANSI • Straight flute



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WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit	GP6520
GT405005	M10 X 1,5	100	15	39	10,0	4	DIN 371	6HX	4033753

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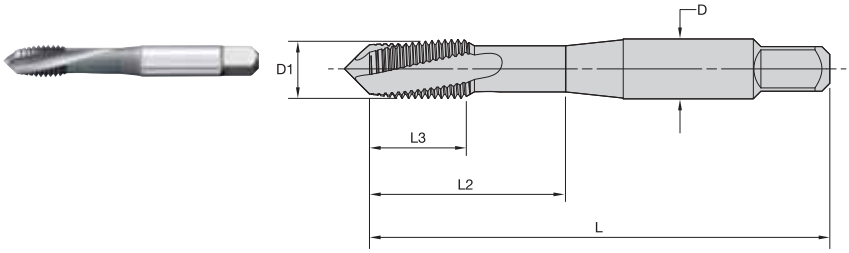
Victory™ • GT20 • Form D Plug Chamfer • ANSI • Left-Hand Spiral Flute



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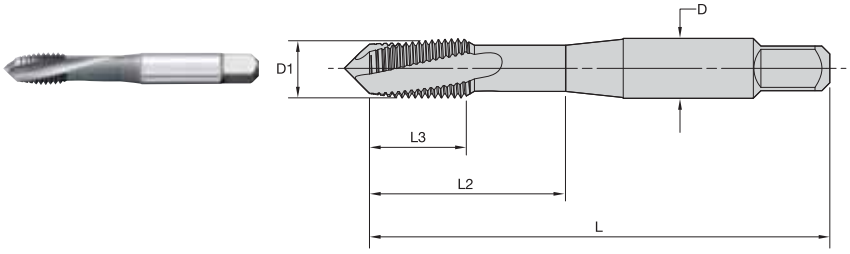
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	class of fit	GP6520	GM6515
GT205013	1/4 - 20	2.50	.44	1.00	.255	3	3BX	–	3955285
GT205043	1/4 - 20	2.50	.44	1.00	.255	3	3BX	3954989	–
GT205045	5/16 - 18	2.72	.49	1.13	.318	3	3BX	3954991	–
GT205047	3/8 - 16	2.94	.60	1.27	.381	3	3BX	3954993	–
GT205049	1/2 - 13	3.38	.77	1.74	.367	3	3BX	3954995	–
GT205050	5/8 - 11	3.81	.91	1.89	.480	4	3BX	3954996	–

Victory • GT20 • Form D Plug Chamfer • Metric ANSI • Left-Hand Spiral Flute



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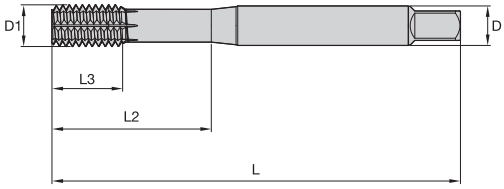
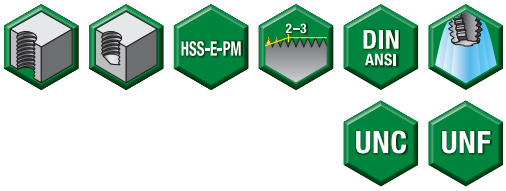
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of flutes	class of fit	GP6520
GT205075	M10 X 1,5	2.92	.53	1.26	.381	3	6HX	3955045

Victory™ • GT24 • Form C Semi-Bottoming Entry Taper • DIN Length ANSI Shank





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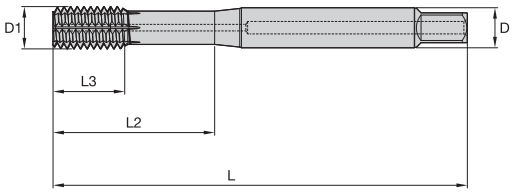
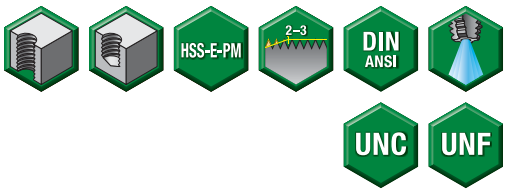
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of lube grooves	pitch diameter limit	WU32MG
GT245009	1/4 - 20	3.18	.51	1.22	.255	4	H4	5944974
GT245010	1/4 - 20	3.18	.51	1.21	.255	4	H6	5944975
GT245025	1/2 - 13	4.33	.79	1.85	.367	6	H5	5944990

Victory • GT25 • Form C Semi-Bottoming Entry Taper • DIN Length ANSI Shank





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WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of lube grooves	pitch diameter limit	WU32MG
GT255001	1/4 - 20	3.15	.51	1.18	.255	4	H4	5945029

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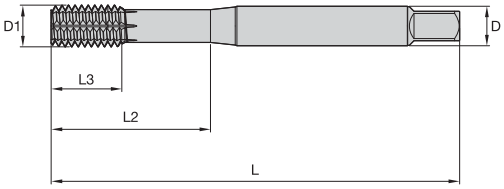
Victory™ • GT26 • Form E Bottoming Entry Taper • DIN Length ANSI Shank



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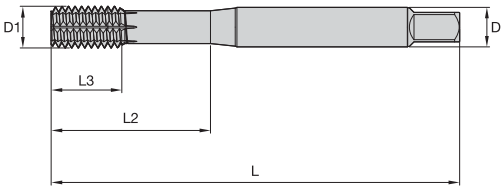
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of lube grooves	pitch diameter limit	WU32MG
GT265005	4 - 40	2.20	.39	.71	.141	0	H3	5945094
GT265016	10 - 32	2.76	.39	.98	.194	4	H4	5945105
GT265018	1/4 - 20	3.15	.51	1.18	.255	4	H4	5945107
GT265019	1/4 - 20	3.15	.51	1.18	.255	4	H6	5945108

Victory • GT26 • Form E Bottoming Entry Taper • Metric • DIN Length ANSI Shank



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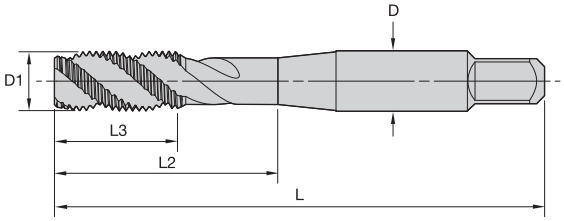
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of lube grooves	pitch diameter limit	WU32MG
GT265058	M12 X 1,75	4.33	.71	1.73	.367	6	D11	5945147

Victory™ • GT30 • Form C Semi-Bottoming Chamfer • ANSI • Spiral Flute



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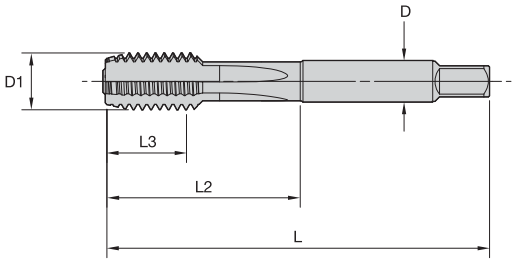
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	class of fit	GP6520	GM6515
GT305006	8 - 32	2.12	.31	.76	.168	3	3BX	–	3955136
GT305008	1/4 - 20	2.50	.44	1.01	.255	3	2BX	–	3955138
GT305009	1/4 - 20	2.50	.44	1.01	.255	3	3BX	–	3955139
GT305038	1/4 - 20	2.50	.44	1.01	.255	3	2BX	3955168	–
GT305011	5/16 - 18	2.72	.49	1.13	.318	3	3BX	–	3955141
GT305042	3/8 - 16	2.94	.60	1.27	.381	3	2BX	3955172	–
GT305059	7/16 - 20	3.16	.71	1.49	.323	5	3BX	3955199	–
GT305045	1/2 - 13	3.38	.77	1.74	.367	4	2BX	3955185	–
GT305018	5/8 - 11	3.81	.91	1.89	.480	4	3BX	–	3955148

Victory • GT40 • Form C Semi-Bottoming Chamfer • ANSI • Spiral Flute



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WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	class of fit	GP6520
GT405019	5/16 - 18	2.72	.49	1.13	.318	4	3BX	4035542
GT405028	5/8 - 11	3.81	.91	1.89	.480	4	3BX	4035571

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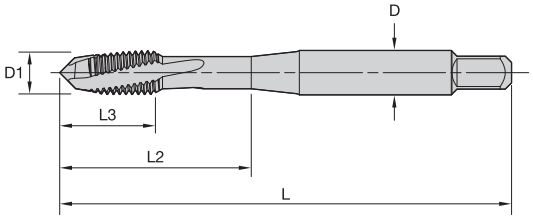
Victory™ • GT60 • Form D Plug Chamfer • Metric ANSI • Left-Hand Spiral Flute



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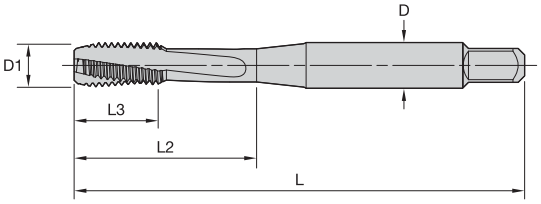
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WS30MG
GT605503	M2,5 X 0,45	1.81	.49	.56	.141	3	D3	5563021
GT605507	M4 X 0,7	2.12	.32	.76	.168	3	D4	5563025

Victory • GT62 • Form C Semi-Bottoming Chamfer • ANSI • Spiral Flute



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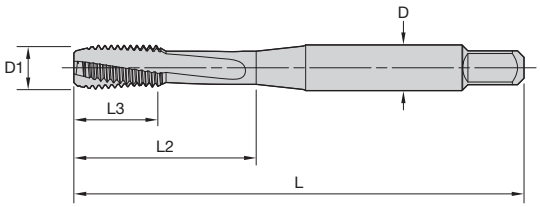
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WS30MG
GT625025	10 - 32	2.37	.47	.91	.194	3	H3	5565145

Victory™ • GT62 • Form C Semi-Bottoming Chamfer • Metric ANSI • Spiral Flute



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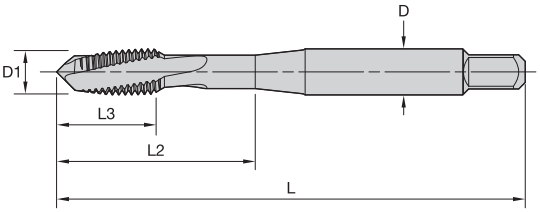
WIDIA VICTORY

catalog number	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit	WS30MG
GT625511	M6 X 1	2.50	.46	1.00	.255	3	D5	5565227

Victory • GT90 • Form D Plug Chamfer • Machine Screw and Fractional • Left-Hand Spiral Flute



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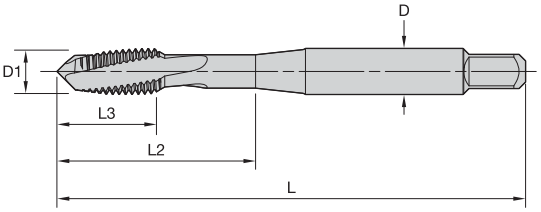
WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WU32MG	WS39MG
GT905001	2 - 56	1.75	.44	.50	.141	2	H2	–	5705546
GT905008	6 - 32	2.00	.36	.72	.141	3	H3	–	5705559
GT905074	6 - 32	2.00	.36	.72	.141	3	H3	5705025	–
GT905014	8 - 32	2.13	.31	.77	.168	3	H3	–	5705568
GT905080	8 - 32	2.13	.31	.77	.168	3	H3	5705024	–
GT905019	10 - 24	2.38	.47	.92	.194	3	H3	–	5705059
GT905023	10 - 32	2.38	.47	.92	.194	3	H3	–	5705507
GT905028	1/4 - 20	2.51	.44	1.02	.255	3	H3	–	5705584
GT905094	1/4 - 20	2.51	.44	1.02	.255	3	H3	5705062	–
GT905031	1/4 - 28	2.51	.44	1.02	.255	3	H3	–	5705060
GT905097	1/4 - 28	2.51	.44	1.02	.255	3	H3	5705061	–
GT905036	5/16 - 18	2.73	.49	1.15	.318	3	H3	–	5705629
GT905102	5/16 - 18	2.73	.49	1.15	.318	3	H3	5705054	–
GT905110	3/8 - 16	2.95	.60	1.28	.381	3	H3	5705615	–
GT905047	3/8 - 24	2.95	.60	1.28	.381	3	H3	–	5705620
GT905113	3/8 - 24	2.95	.60	1.28	.381	3	H3	5705056	–
GT905056	1/2 - 13	3.38	.77	1.74	.367	3	H3	–	5705575
GT905062	5/8 - 11	3.81	.91	1.89	.480	3	H3	–	5705026

Victory™ • GT90 • Form D Plug Chamfer • Metric ANSI • Left-Hand Spiral Flute



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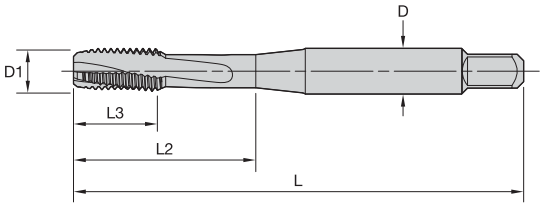
catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WU32MG	WS39MG
GT905134	M3 X 0,5	1.94	.63	.75	.141	3	D3	–	5705662
GT905136	M4 X 0,7	2.12	.32	.77	.168	3	D4	–	5705663
GT905149	M4 X 0,7	2.12	.36	.77	.168	3	D4	5705070	–
GT905137	M5 X 0,8	2.38	.47	.92	.194	3	D4	–	5705069
GT905151	M6 X 1	2.51	.46	1.01	.255	3	D5	5705067	–
GT905141	M8 X 1,25	2.72	.48	1.14	.318	3	D5	–	5705668
GT905154	M8 X 1,25	2.72	.48	1.14	.318	3	D5	5705066	–

Victory • GT92 • 3–4 Pitches Chamfer • ANSI • Spiral Flute



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catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WU32MG	WS39MG
GT925003	4 - 40	1.88	.56	.69	.141	3	H2	–	5708148
GT925077	6 - 32	1.99	.36	.71	.141	3	H3	5705279	–
GT925015	8 - 32	2.12	.31	.76	.168	3	H3	–	5708175
GT925020	10 - 24	2.37	.47	.91	.194	3	H3	–	5708014
GT925023	10 - 32	2.37	.47	.91	.194	3	H3	–	5708018
GT925028	1/4 - 20	2.50	.44	1.00	.255	3	H3	–	5708201
GT925096	1/4 - 20	2.50	.44	1.00	.255	3	H3	5705275	–
GT925036	5/16 - 18	2.72	.49	1.13	.318	3	H3	–	5708261
GT925104	5/16 - 18	2.72	.49	1.13	.318	3	H3	5705273	–
GT925044	3/8 - 16	2.94	.60	1.27	.381	3	H3	–	5708227
GT925112	3/8 - 16	2.94	.60	1.27	.381	3	H3	5705272	–

FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F96–F107 OF THE TECHNICAL CATALOG.

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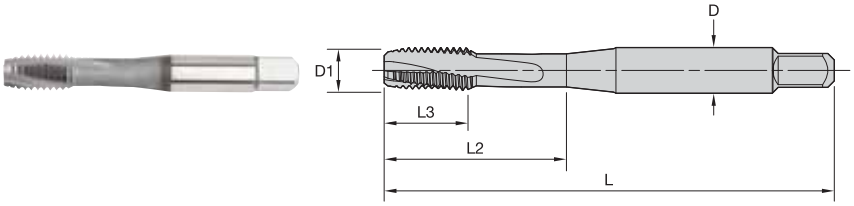
Victory™ • GT92 • 3–4 Pitches Chamfer • Metric ANSI • Spiral Flute



● first choice
○ alternate choice

P		
M		
K		
N		
S		○
H		

WIDIA VICTORY

catalog number	D1 TPI	L	L3	L2	D	number of flutes	pitch diameter limit	WS39MG
GT925138	M3 X 0,5	1.94	.63	.75	.141	3	D3	**5708335**
GT925140	M4 X 0,7	2.12	.32	.76	.168	3	D4	**5708337**
GT925141	M5 X 0,8	2.37	.47	.91	.194	3	D4	**5708339**
GT925142	M6 X 1	2.50	.46	1.00	.255	3	D5	**5708341**
GT925147	M10 X 1,5	2.92	.53	1.26	.381	3	D6	**5708323**

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Tapping Icons

Threading: Through Hole	Tapping: Blind Hole	Tapping: Pipe Thread	HSS: High-Speed Steel	HSS-E: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness
HSS-E-PM: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness (PM = Power Metal Steel)	Chamfer Form B (3.5–5.5)	Chamfer Form C (2–3)	Chamfer Form D (3.5–5)	Chamfer Form E (1.5–2)
Plug Chamfer (3–5)	Chamfer Form 2.5–3.5	Chamfer Form 1–2	Chamfer Form 3–4	Chamfer Form 7–10
Tapping Helix: Angle: 0°	Tapping Helix: Angle: 10°	Tapping Helix: Angle: L15°	Tapping Helix: Angle: 45°	Multipurpose Taps: Spiral Point
Tension/ Compression	DIN Number 371	DIN Number 374	DIN Number 376	Tapping: Through Coolant
Flood Coolant: Tapping	Through Coolant: Axial: Tapping	DIN Number 2174	DIN/ANSI	Class of Fit: 2B
Class of Fit: 6H	Class of Fit: 6HX	Class of Fit: 6G	Class of Fit: 2BX	Class of Fit: 3BX
ANSI Tap Dimensions	ANSI UNF	ANSI M	Unified Fine Thread	Unified Course Thread
American Tapered Pipe Thread for Threads with Dryseal Material	American National Standards Institute	ISO Metric Coarse Thread	ISO Metric Fine Thread	

ANSI

P	Steel	K	Cast Iron	S	High-Temp Alloys
M	Stainless Steel	N	Non-Ferrous	H	Hardened Materials

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	A36, 1008, 1010, 1018 through 1029; 1108, 1117
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	10L18, 1200 Series, 1213, 12L14
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	1035, 1045, 10L45, 1050, 10L50, 1080, 1137, 1144, 11L44, 1525, 1545, 1572
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
M1	Austenitic Stainless Steel	–	<600	130–200	–	200 Series, 301, 302, 304, 304L, 309
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	310, 316, 316L, 321, 347, 384 ASTM Cast XM-1, XM-5, XM-7, XM-21
M3	Duplex Stainless Steel	–	<800	135–275	<30	323, 329, F55, 2205, S329000
K1	Grey Cast Iron	–	125–500	120–290	<32	class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	60-40-18, 65-45-12, 80-55-06, SAE J434:D4018, D4512, D5506, ASTM A47: Grade 32510, 35018, SAE J158: Grade M3210, M4504, M5003, M5503, M7002, ASTMA842: Grade 250, 300, 350, 400, 450
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	ASTM A536:100-70-03, 120-90-02, SAE J434: D7003, SAE J158: Grade M8501AST A897: 125-80-10, 150-100-7, 175-125-4, 200-150-1, 230-185
N1	Wrought Aluminum	–	–	–	–	2025, 5050, 7050, 1000, 2017
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	2024, 6061, 7075
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	–
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	C81500
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	–	–	–	–	–
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	Graphite, CFK, CFRP
N7	Metal Matrix Composites (MMC)	–	–	–	–	C63000
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	A-286, INCOLOY® 800 Series, A608, A567, Discaloy™, INVAR®, N-155, 16-25-6, 19-9 DL; Cast: ASTM A-297, A-351, A-567, A-608
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 25 (L605), Haynes 188, J-1570, Stellite, AiRe-sist 213; Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	Astroloy™, Hastelloy® B/C/ C-276 /X, INCONEL® 600 and 700 Series, IN102, INCOLOY 900 Series, Rene 41, Waspalloy®, Monel®, K-500, MAR-M20, NIMONIC®, UDIMET®
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Pure: Ti 98.8, Ti 98.9,Ti 99.9; Alloyed: Ti 5Al-2.5Sn, Ti6Al-4V, Ti6Al-2Sn-4Zr-2Mo, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al
H1	Hardened Materials	–	–	–	44–48	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H2	Hardened Materials	–	–	–	48–55	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H3	Hardened Materials	–	–	–	56–60	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H4	Hardened Materials	–	–	–	>60	Tool Steel H10, H11, H13, D2, D3, 4340, P20

DIN

P	Steel	K	Cast Iron	S	High-Temp Alloys
M	Stainless Steel	N	Non-Ferrous	H	Hardened Materials

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	–
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	X102CrMo17, G-X120Cr29
M1	Austenitic Stainless Steel	–	<600	130–200	–	X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20
M3	Duplex Stainless Steel	–	<800	135–275	<30	X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4
K1	Gray Cast Iron	–	125–500	120–290	<32	GG15, GG25, GG30, GG40, GTW40
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	GGG40, GTS35
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	GGG60, GTW55, GTS65
N1	Wrought Aluminum	–	–	–	–	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, ALMg-SiPb
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	GAlSiCu4, GDAlSi10Mg
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	G-ALSi12, G-AlSi17Cu4, G-AlSi21CuNiMg
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	–	–	–	–	Lexan®, Hostalen™, Polystyrol, Makralon®
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	CFK, GFK
N7	Metal Matrix Composites (MMC)	–	–	–	–	–
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 188, Stellite® 6,21,31
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	INCONEL® 690, INCONEL 625, Hastelloy®, Nimonic® 75
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	–	–	–	44–48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400
H2	Hardened Materials	–	–	–	48–55	–
H3	Hardened Materials	–	–	–	56–60	–
H4	Hardened Materials	–	–	–	>60	–

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P M K N S

Versatile:

VariDrill™ drilling tools, in combination with VariTap™ tapping tools, are designed for productivity in an array of different materials. These tools feature strong geometries that are ideal for small-batch and varied production.

TOP DRILL S™/GT Series

P

TDS401
TDS402
TDS403

GT00, 20, 24
Spiral Point
GT30, 32, 50
Spiral Flute
GT23, 24, 25
Forming

M

TDS451
TDS452
TDS453

GT20
GT30

K

TDS411
TDS412
TDS413

GT40
GT41

N

TDS421
TDS422

GT70
GT80
GT22
GT40

S

TDS451
TDS452
TDS453

GT60
GT90
GT62
GT92

Optimized:

TOP DRILL S™ drills, combined with GT Series Taps:

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- Expertise
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Notes

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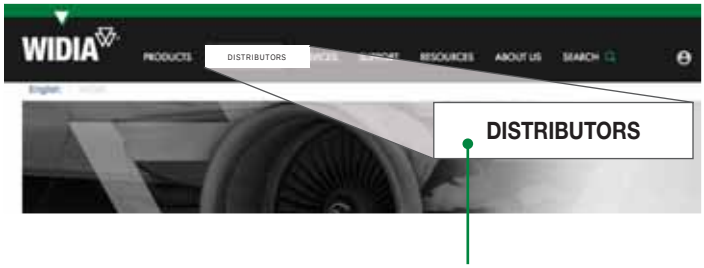

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IMPORTANT SAFETY INSTRUCTIONS: READ BEFORE USING THE TOOLS IN THIS CATALOG

METALCUTTING SAFETY

Projectile and Fragmentation Hazards

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

Breathing and Skin Contact Hazards

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by WIDIA and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation.

For more information, consult the WIDIA Metalcutting Safety booklet, available free from WIDIA at +1 724 539 5747 or fax +1 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at +1 724 539 5066 or fax +1 724 539 5372.

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ALL-STAR

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