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METALWORKING
SOLUTIONS

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www.ahbinc.com
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YU-SY25 AMERICA

BEST VALUE IN THE WORLD OF CUTTING TOOLS



YG-1 CO., LTD.

YG-1 USA

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Vernon Hills, IL 60061 U.S.A.
Phone: 800-991-4225

YG-1 CANADA INC.

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YG
Synchro TAP

**TiN/TiCN-COATED
HSS-PM (Powder Metallurgy) TAP**
For High-Speed Tapping on Rigid CNC Machine

NEW
SYNCHRO TAP with Internal Coolant

- For extreme spindle speeds
- Axial and Radial coolant for reduced heat and longer tool life at higher spindle speeds
- Better chip flow for improved thread finish

FEATURES OF GEOMETRY

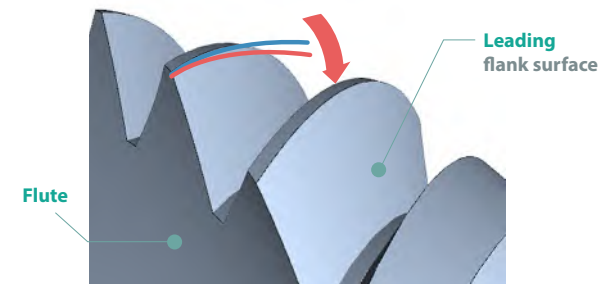
- ▶ **Shorter thread length** will reduce chip problems at higher speed tapping conditions



- ▶ **Shank Tolerance 'h7'** for precision clamping and rigid tapping

- ▶ **More thread relief** allows high speed cutting

- ▶ **HSS-PM (Powder Metallurgy)** for more reliable performance and wear resistance

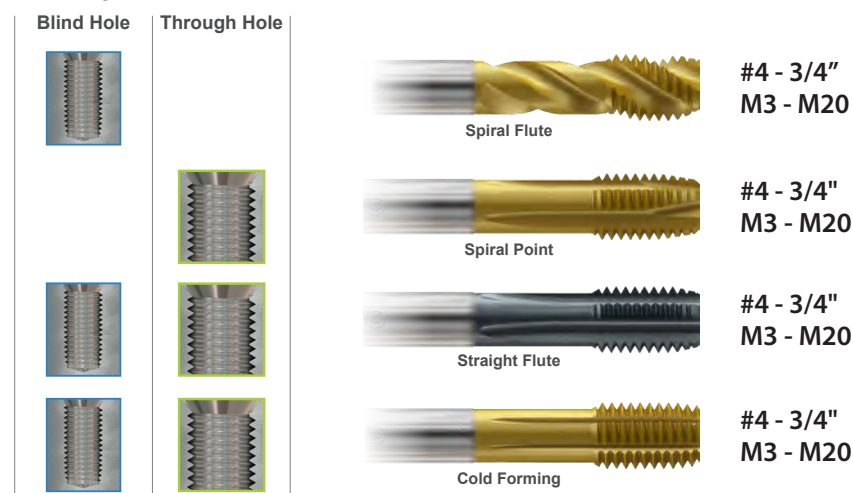


ADVANTAGES

- ▶ **PRODUCTIVITY**
Up to 3 times Faster in tapping compared to conventional taps (General Steel)



- ▶ **4 kinds** of taps are available



SYNCHRO TAPPING CHUCK (ER TYPE)

See Page No. 32

- ▶ When using Synchro taps, YG-1 strongly recommends SYNCHRO Tapping Chuck for the best thread quality and superior tool life



CAT(ASME B5.50)

- ▶ Feature :
 - To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle
- ▶ BT(JIS B6339/MAS-403), HSK(DIN 69893/ISO 12164-1) and K-STRAIGHT taper products are available

GUIDE LINE TO ICONS

Work Piece Material

GS
Steels with good machinability
Rm<850N/mm²

GV
Any material with at least
8-10% elongation

GG
Grey Cast Iron
and Cast Aluminum

Helix Angle

R45°

Thread Angle

60°

Pitch Limit

H D

Chamfer Lead

1P~2P 2P~3P 4P~5P

Tool Raw Material

HSS PM

Surface Treatment

TiCN

Titanium Carbon Nitride Coating

TiN

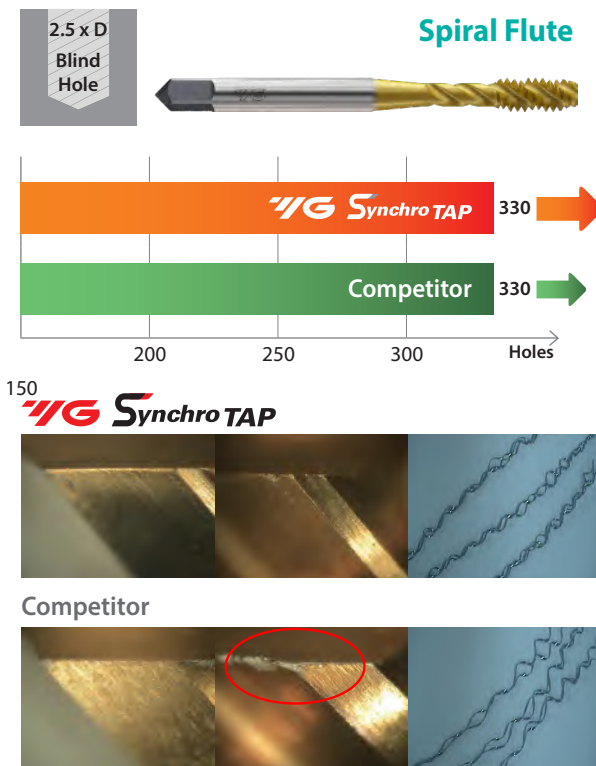
Titanium Nitride Coating

CASE STUDY

TEST I SPIRAL FLUTE TAP (M10x1.5)

Cutting Condition

Tool	<i>Synchro TAP</i> Spiral Flute Tap	Competitor
Size	M10 x 1.5	
Work Material	C45 / 1045 / S45C Hardness : HRC20	
Cutting Speed	98.4 ft/min.	
RPM	955 rev./min.	
Tapping Depth	.9843" (2.5xD / Blind Hole)	
Tapping Holes	330	
Cooling Method	External Cooling Water Soluble (9% Emulsion)	
Machine	Machining Center	



TEST III STRAIGHT FLUTE TAP (M10x1.5)

Cutting Condition

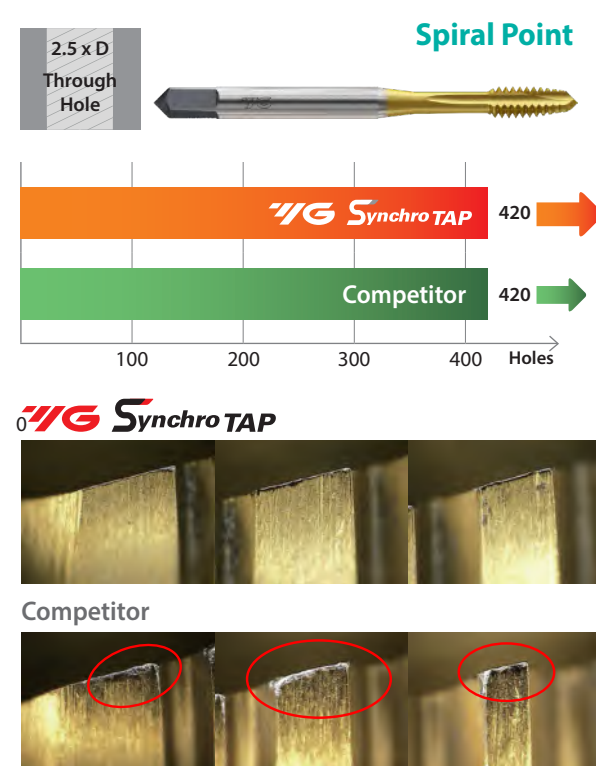
Tool	<i>Synchro TAP</i> Straight Flute Tap	Competitor
Size	M10 x 1.5	
Work Material	4140 / 42CrMo4 / SCM440 Hardness : HRC20	
Cutting Speed	82.0 ft/min.	
RPM	1326 rev./min.	
Tapping Depth	.7874" (2.0xD / Through Hole)	
Tapping Holes	500	
Cooling Method	External Cooling Water Soluble (9% Emulsion)	
Machine	Machining Center	



TEST II SPIRAL POINT TAP (M6x1.0)

Cutting Condition

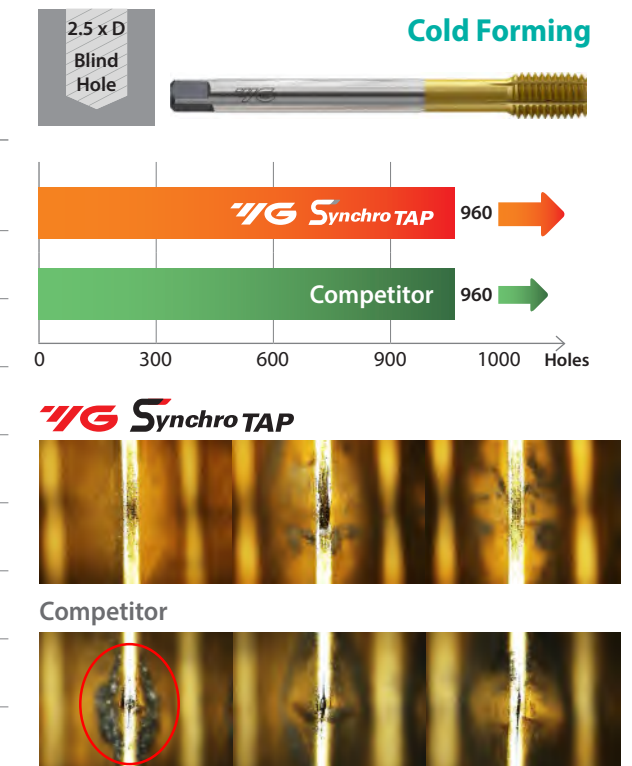
Tool	<i>Synchro TAP</i> Spiral Point Tap	Competitor
Size	M6 x 1.0	
Work Material	4140 / 42CrMo4 / SCM440 Hardness : HRC20	
Cutting Speed	98.4 ft/min.	
RPM	1592 rev./min.	
Tapping Depth	.5906" (2.5xD / Through Hole)	
Tapping Holes	420	
Cooling Method	External Cooling Water Soluble (9% Emulsion)	
Machine	Machining Center	



TEST IV COLD FORMING TAP (M6x1.0)

Cutting Condition

Tool	<i>Synchro TAP</i> Forming Tap	Competitor
Size	M6 x 1.0	
Work Material	1045 / C45 / S45C Hardness : HRC20	
Cutting Speed	114.8 ft/min.	
RPM	1857 rev./min.	
Tapping Depth	.5906" (2.5xD / Blind Hole)	
Tapping Holes	960	
Cooling Method	External Cooling Water Soluble (9% Emulsion)	
Machine	Machining Center	



***HSS-PM
SYNCHRO
TAP***

High Speed Tapping with Rigid CNC Machines



Please visit
globalyig1.com/mat
for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC	Examples		
P	1	Non-alloy steel	About 0.15% C	Annealed	125		S15C, C15, 1015	⊙ (79-148)	⊙ (79-148)
	2		About 0.45% C	Annealed	190	13	S45C, C45, 1045	⊙ (79-148)	⊙ (79-148)
	3		About 0.45% C	Quenched & tempered	250	25		⊙ (79-148)	⊙ (79-148)
	4		About 0.75% C	Annealed	270	28	SK5, Ck75, 1080	⊙ (66-128)	⊙ (66-128)
	5		About 0.75% C	Quenched & tempered	300	32			
	6	Low alloy steel		Annealed	180	10	SCM440, 42CrMo4, 410	⊙ (66-128)	⊙ (66-128)
	7			Quenched & tempered	275	29		⊙ (66-128)	⊙ (66-128)
	8			Quenched & tempered	300	32			
	9			Quenched & tempered	350	38			
	10	High alloyed steel, and tool steel		Annealed	200	15		SKD, D2	
	11			Quenched & Tempered	325	35	SKH, SUH, M42		
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	SUS 420, X40Cr13, 420	⊙ (39-98)	⊙ (39-98)
	13		Martensitic	Quenched & Tempered	240	23		⊙ (39-98)	⊙ (39-98)
	14			Austenitic	180	10	SUS 316, 316, X5CrNiMo 17 12 2	○ (39-60)	○ (39-60)
K	15	Grey cast iron	Pearlitic / ferritic		180	10	FC, GG, EN-GJL-250	○ (98-148)	○ (98-148)
	16		Pearlitic (Martensitic)		260	26			
	17	Nodular cast iron	Ferritic	160	3	FCD, GGG, EN-GJS-500-7	⊙ (82-148)	⊙ (82-148)	
	18		Pearlitic	250	25				
	19	Malleable cast iron	Ferritic	130		FCMW, FCMP, GTS, GJMB350-10			
20	Pearlitic		230	21					
N	21	Aluminum-wrought alloy	Not Curable		60		SAE 1000, AlMg 1, 3.3315		
	22		Curable		Hardened	100	SAE 7050, AlCuMg 1, 3.1325		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		ADC12, G-AlSi12, 3.2581	⊙ (148-197)	⊙ (148-197)
	24		≤ 12% Si, Curable		Hardened	90	C4BS, G-AlSi10Mg, 3.2381	⊙ (148-197)	⊙ (148-197)
	25		> 12% Si, Not Curable		130		⊙ (82-118)	⊙ (82-118)	
	26	"Copper and Copper Alloys (Bronze / Brass)"	Cutting Alloys, PB>1%		110		CuZn36Pb 3, 2.0375	⊙ (98-148)	⊙ (98-148)
	27		CuZn, CuSnZn (Brass)		90	CuZn 15, 2.0240			
	28		CuSn, lead-free copper and electrolytic copper		100	G-CuZn40Fe, 2.0590	○ (82-118)	○ (82-118)	
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				CFRP		
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	X12 NiCrSi 36-16, 1.4864		
	Cured			280	30				
	33		Ni or Co Based	Annealed	250	25	Inconel 718, NiCr20TiAl, 2.4631		
	Cured			350	38	NiCu30Al, 2.4375			
	35			Cast	320	34	G-X120Mn12, 1.3401		
	36	Titanium Alloys	Pure Titanium		400 Rm				
	37		Alpha + Beta Alloys		1050 Rm		TiAl6V4, 3.7165		
H	38	Hardened steel	Hardened		550	55	SK3		
	39		Hardened		630	60			
	40	Chilled Cast Iron	Cast		400	42			
	41	Hardened Cast Iron	Hardened		550	55			

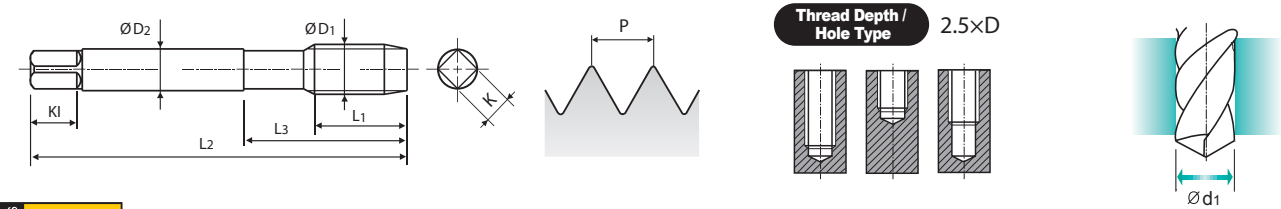
													
HSS-PM													
4p-5p		2p-3p		2p-3p		2p-3p		4p-5p		2p-3p			
Spiral Point		Straight Flute		Forming		Spiral Flute		Spiral Point		Straight Flute			
-	-	-	-	-	-	R45		-	-	-	-	-	-
	TTS62 (p. 13)		TKS63 (p. 16)		TTS64 (p. 19)								
							TTS81 (p. 22)		TTS82 (p. 25)			TKS83 (p. 28)	TKS84 (p. 31)
TTS66 (p. 11)		TKS67 (p. 14)		TTS68 (p. 17)									
						TTS86 (p. 20)		TTS87 (p. 23)		TKS88 (p. 26)		TKS89 (p. 29)	
TiN	TiN	TiCN	TiCN	TiN	TiN	TiN	TiN	TiN	TiN	TiCN	TiCN	TiCN	TiCN
													
⊙ (79-148)	⊙ (79-148)	○ (79-148)	○ (79-148)	⊙ (115-184)	⊙ (115-184)	⊙ (79-163)	⊙ (79-163)	⊙ (79-163)	⊙ (79-163)	○ (79-163)	○ (79-163)	○ (79-163)	○ (79-163)
⊙ (79-148)	⊙ (79-148)	○ (79-148)	○ (79-148)	⊙ (115-184)	⊙ (115-184)	⊙ (79-163)	⊙ (79-163)	⊙ (79-163)	⊙ (79-163)	○ (79-163)	○ (79-163)	○ (79-163)	○ (79-163)
⊙ (79-148)	⊙ (79-148)	○ (79-148)	○ (79-148)	⊙ (115-184)	⊙ (115-184)	⊙ (79-163)	⊙ (79-163)	⊙ (79-163)	⊙ (79-163)	○ (79-163)	○ (79-163)	○ (79-163)	○ (79-163)
⊙ (66-128)	⊙ (66-128)	○ (66-128)	○ (66-128)	⊙ (98-164)	⊙ (98-164)	⊙ (66-141)	⊙ (66-141)	⊙ (66-141)	⊙ (66-141)	○ (66-141)	○ (66-141)	○ (66-141)	○ (66-141)
⊙ (66-128)	⊙ (66-128)	○ (66-128)	○ (66-128)	⊙ (98-164)	⊙ (98-164)	⊙ (66-141)	⊙ (66-141)	⊙ (66-141)	⊙ (66-141)	○ (66-141)	○ (66-141)	○ (66-141)	○ (66-141)
⊙ (39-98)	⊙ (39-98)			⊙ (49-108)	⊙ (49-108)	⊙ (39-108)	⊙ (39-108)	⊙ (39-108)	⊙ (39-108)				
⊙ (39-98)	⊙ (39-98)			⊙ (49-108)	⊙ (49-108)	⊙ (39-108)	⊙ (39-108)	⊙ (39-108)	⊙ (39-108)				
○ (39-60)	○ (39-60)			⊙ (49-75)	⊙ (49-75)	○ (39-66)	○ (39-66)	○ (39-66)	○ (39-66)				
○ (98-148)	○ (98-148)	⊙ (98-148)	⊙ (98-148)			○ (98-163)	○ (98-163)	○ (98-163)	○ (98-163)	⊙ (98-163)	⊙ (98-163)	⊙ (98-163)	⊙ (98-163)
		⊙ (98-148)	⊙ (98-148)							⊙ (98-163)	⊙ (98-163)	⊙ (98-163)	⊙ (98-163)
⊙ (82-148)	⊙ (82-148)	⊙ (82-148)	⊙ (82-148)			⊙ (82-163)	⊙ (82-163)	⊙ (82-163)	⊙ (82-163)	⊙ (82-163)	⊙ (82-163)	⊙ (82-163)	⊙ (82-163)
		⊙ (82-148)	⊙ (82-148)							⊙ (82-163)	⊙ (82-163)	⊙ (82-163)	⊙ (82-163)
		○ (82-148)	○ (82-148)							○ (82-163)	○ (82-163)	○ (82-163)	○ (82-163)
		○ (82-148)	○ (82-148)							○ (82-163)	○ (82-163)	○ (82-163)	○ (82-163)
				⊙ (131-184)	⊙ (131-184)								
				⊙ (131-184)	⊙ (131-184)								
⊙ (148-197)	⊙ (148-197)	○ (148-197)	○ (148-197)	⊙ (184-230)	⊙ (184-230)	⊙ (148-217)	⊙ (148-217)	⊙ (148-217)	⊙ (148-217)	○ (148-217)	○ (148-217)	○ (148-217)	○ (148-217)
⊙ (148-197)	⊙ (148-197)	○ (148-197)	○ (148-197)	⊙ (184-230)	⊙ (184-230)	⊙ (148-217)	⊙ (148-217)	⊙ (148-217)	⊙ (148-217)	○ (148-217)	○ (148-217)	○ (148-217)	○ (148-217)
⊙ (82-118)	⊙ (82-118)	○ (82-118)	○ (82-118)	○ (115-148)	○ (115-148)	⊙ (82-130)	⊙ (82-130)	⊙ (82-130)	⊙ (82-130)	○ (82-130)	○ (82-130)	○ (82-130)	○ (82-130)
⊙ (98-148)	⊙ (98-148)					⊙ (98-163)	⊙ (98-163)	⊙ (98-163)	⊙ (98-163)				
○ (82-118)	○ (82-118)			⊙ (115-148)	⊙ (115-148)	○ (82-130)	○ (82-130)	○ (82-130)	○ (82-130)				

TiN-COATED HSS-PM SYNCHRO TAP
Spiral Flute Tap for High Speed Tapping

TTS65 SERIES



- ▶ 2-3 times faster when tapping the GS material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Material groups

GS

HSS PM

UNC UNF

H

60°

R45

2P~3P

TiN

p.6

Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
#4 - 40		TTS65162	H2	.250	1.88	.563	.141	.110	.19	3	-	2.3
#4 - 48		TTS65181	H1	.209	1.88	.563	.141	.110	.19	3	3/32	-
#4 - 48		TTS65182	H2	.209	1.88	.563	.141	.110	.19	3	3/32	-
#5 - 40		TTS65202	H2	.250	1.94	.626	.141	.110	.19	3	-	2.6
#5 - 44		TTS65221	H1	.227	1.94	.626	.141	.110	.19	3	37	-
#5 - 44		TTS65222	H2	.227	1.94	.626	.141	.110	.19	3	37	-
#6 - 32		TTS65242	H2	.313	2.00	.689	.141	.110	.19	3	-	2.8
#6 - 32		TTS65243	H3	.313	2.00	.689	.141	.110	.19	3	-	2.8
#6 - 40		TTS65262	H2	.250	2.00	.689	.141	.110	.19	3	-	2.9
#8 - 32		TTS65282	H2	.313	2.13	.752	.168	.131	.25	3	-	3.4
#8 - 32		TTS65283	H3	.313	2.13	.752	.168	.131	.25	3	-	3.4
#8 - 36		TTS65302	H2	.278	2.13	.752	.168	.131	.25	3	-	3.5
#10 - 24		TTS65323	H3	.417	2.38	.906	.194	.152	.25	3	-	3.9
#10 - 32		TTS65342	H2	.313	2.38	.906	.194	.152	.25	3	-	4.1
#10 - 32		TTS65343	H3	.313	2.38	.906	.194	.152	.25	3	-	4.1
#12 - 24		TTS65363	H3	.417	2.38	.906	.220	.165	.28	3	-	4.5
#12 - 28		TTS65383	H3	.357	2.38	.906	.220	.165	.28	3	-	4.7
1/4 - 20		TTS65403	H3	.500	2.50	1.000	.255	.191	.31	3	-	5.2
1/4 - 20		TTS65405	H5	.500	2.50	1.000	.255	.191	.31	3	-	5.2
1/4 - 28		TTS65423	H3	.357	2.50	1.000	.255	.191	.31	3	-	5.5
1/4 - 28		TTS65424	H4	.357	2.50	1.000	.255	.191	.31	3	-	5.5
5/16 - 18		TTS65443	H3	.556	2.72	1.126	.318	.238	.38	3	-	6.7
5/16 - 18		TTS65445	H5	.556	2.72	1.126	.318	.238	.38	3	-	6.7
5/16 - 24		TTS65463	H3	.417	2.72	1.126	.318	.238	.38	3	-	7.0
5/16 - 24		TTS65464	H4	.417	2.72	1.126	.318	.238	.38	3	-	7.0

▶ NEXT PAGE

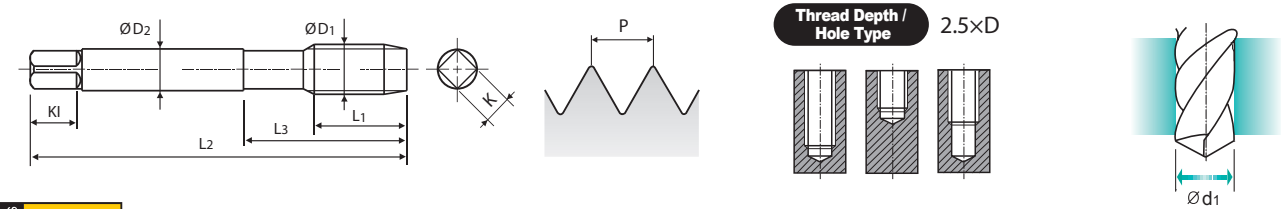
ISO Material Description	P										M				K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250
Recommended	◎	◎	◎	◎		◎	◎				◎	◎	○	○	◎		◎	
ISO Material Description	N										S				H			
	Aluminum- wrought alloy					Copper and Copper Alloys (Bronze / Brass)					Heat Resistant Super Alloys				Titanium Alloys			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
HRc											15	30	25	38	34			55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550
Recommended			◎	◎	◎	◎		○										

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H

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2P~3P

TiN

p.6

Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
3/8 - 16		TTS65483	H3	.625	2.94	1.252	.381	.286	.44	3	-	8.1
3/8 - 16		TTS65485	H5	.625	2.94	1.252	.381	.286	.44	3	-	8.1
3/8 - 24		TTS65503	H3	.417	2.94	1.252	.381	.286	.44	3	-	8.6
3/8 - 24		TTS65504	H4	.417	2.94	1.252	.381	.286	.44	3	-	8.6
7/16 - 14		TTS65523	H3	.714	3.16	1.850	.323	.242	.41	3	-	9.5
7/16 - 14		TTS65525	H5	.714	3.16	1.850	.323	.242	.41	3	-	9.5
7/16 - 20		TTS65543	H3	.500	3.16	1.850	.323	.242	.41	3	-	10.0
7/16 - 20		TTS65545	H5	.500	3.16	1.850	.323	.242	.41	3	-	10.0
1/2 - 13		TTS65563	H3	.769	3.38	2.067	.367	.275	.44	3	-	11.0
1/2 - 13		TTS65565	H5	.769	3.38	2.067	.367	.275	.44	3	-	11.0
1/2 - 20		TTS65583	H3	.500	3.38	2.067	.367	.275	.44	3	-	11.6
1/2 - 20		TTS65585	H5	.500	3.38	2.067	.367	.275	.44	3	-	11.6
9/16 - 12		TTS65603	H3	.833	3.59	2.067	.429	.322	.50	3	-	12.5
9/16 - 12		TTS65605	H5	.833	3.59	2.067	.429	.322	.50	3	-	12.5
9/16 - 18		TTS65623	H3	.556	3.59	2.067	.429	.322	.50	3	-	13.0
9/16 - 18		TTS65625	H5	.556	3.59	2.067	.429	.322	.50	3	-	13.0
5/8 - 11		TTS65643	H3	.909	3.81	2.205	.480	.360	.56	3	-	13.9
5/8 - 11		TTS65645	H5	.909	3.81	2.205	.480	.360	.56	3	-	13.9
5/8 - 18		TTS65663	H3	.556	3.81	2.205	.480	.360	.56	3	-	14.6
5/8 - 18		TTS65665	H5	.556	3.81	2.205	.480	.360	.56	3	-	14.6
3/4 - 10		TTS65705	H5	1.000	4.25	2.480	.590	.442	.69	4	-	16.9
3/4 - 16		TTS65723	H3	.625	4.25	2.480	.590	.442	.69	4	-	17.7
3/4 - 16		TTS65725	H5	.625	4.25	2.480	.590	.442	.69	4	-	17.7

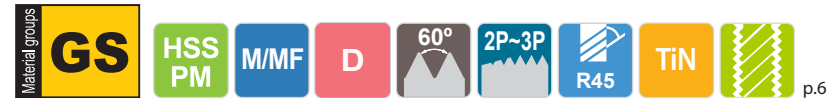
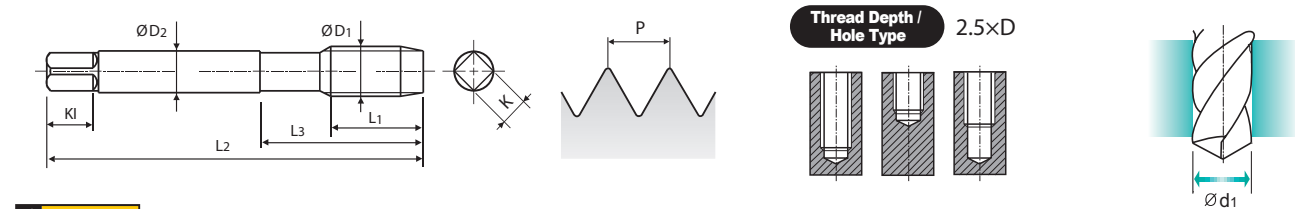
ISO Material Description	P										M				K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250
Recommended	◎	◎	◎	◎		◎	◎				◎	◎	○	○	◎		◎	
ISO Material Description	N										S				H			
	Aluminum- wrought alloy					Copper and Copper Alloys (Bronze / Brass)					Heat Resistant Super Alloys				Titanium Alloys			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
HRc											15	30	25	38	34			55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550
Recommended			◎	◎	◎	◎		○										

TiN-COATED HSS-PM SYNCHRO TAP
Spiral Flute Tap for High Speed Tapping

TTS61 SERIES



- ▶ 2-3 times faster when tapping the GS material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

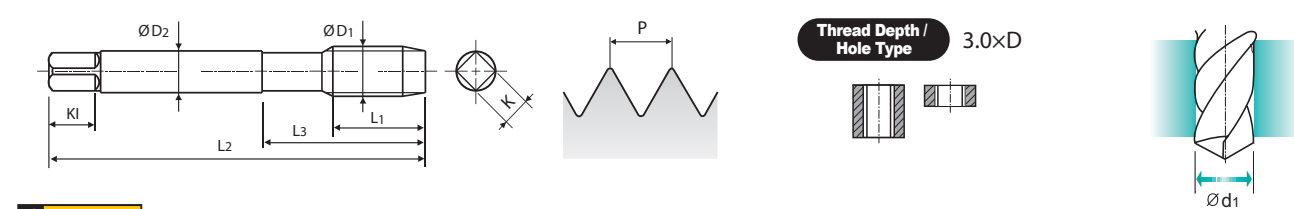
Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	K1	Z	Inch	Metric
M3 x 0.5		TTS61203	D3	.197	1.94	.646	.141	.110	.19	3	-	2.5
M4 x 0.7		TTS61244	D4	.276	2.13	.768	.168	.131	.25	3	-	3.4
M5 x 0.8		TTS61284	D4	.315	2.38	.933	.194	.152	.25	3	-	4.3
M6 x 1.0		TTS61315	D5	.394	2.50	1.000	.255	.191	.31	3	-	5.1
M8 x 1.25		TTS61365	D5	.512	2.72	1.126	.318	.238	.38	3	-	6.9
M8 x 1.0		TTS61375	D5	.394	2.72	1.126	.318	.238	.38	3	-	7.1
M10 x 1.5		TTS61426	D6	.591	2.94	1.252	.381	.286	.44	3	-	8.7
M10 x 1.25		TTS61435	D5	.512	2.94	1.252	.381	.286	.44	3	-	8.9
M12 x 1.75		TTS61506	D6	.709	3.38	2.067	.367	.275	.44	3	-	10.5
M12 x 1.25		TTS61525	D5	.512	3.38	2.067	.367	.275	.44	3	-	10.7
M14 x 2.0		TTS61547	D7	.787	3.59	2.067	.429	.322	.50	3	-	12.3
M14 x 1.5		TTS61556	D6	.591	3.59	2.067	.429	.322	.50	3	-	12.7
M16 x 2.0		TTS61607	D7	.787	3.81	2.205	.480	.360	.56	3	-	14.3
M16 x 1.5		TTS61616	D6	.591	3.81	2.205	.480	.360	.56	3	-	14.7
M18 x 2.5		TTS61657	D7	.984	4.03	2.205	.542	.406	.63	4	-	15.8
M18 x 1.5		TTS61676	D6	.591	4.03	2.205	.542	.406	.63	4	-	16.7
M20 x 2.5		TTS61707	D7	.984	4.47	2.480	.652	.489	.69	4	-	17.8
M20 x 1.5		TTS61726	D6	.591	4.47	2.480	.652	.489	.69	4	-	18.7

TiN-COATED HSS-PM SYNCHRO TAP
Spiral Point Tap for High Speed Tapping

TTS66 SERIES



- ▶ 2-3 times faster when tapping the GS material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiN		L1	L2	L3	D2	K	K1	Z	Inch	Metric
#4 - 40		TTS66162	H2	.250	1.88	.563	.141	.110	.19	3	-	2.3
#4 - 48		TTS66181	H1	.209	1.88	.563	.141	.110	.19	3	3/32	-
#4 - 48		TTS66182	H2	.209	1.88	.563	.141	.110	.19	3	3/32	-
#5 - 40		TTS66202	H2	.250	1.94	.626	.141	.110	.19	3	-	2.6
#5 - 44		TTS66221	H1	.227	1.94	.626	.141	.110	.19	3	37	-
#5 - 44		TTS66222	H2	.227	1.94	.626	.141	.110	.19	3	37	-
#6 - 32		TTS66242	H2	.313	2.00	.689	.141	.110	.19	3	-	2.8
#6 - 32		TTS66243	H3	.313	2.00	.689	.141	.110	.19	3	-	2.8
#6 - 40		TTS66262	H2	.250	2.00	.689	.141	.110	.19	3	-	2.9
#8 - 32		TTS66282	H2	.313	2.13	.752	.168	.131	.25	3	-	3.4
#8 - 32		TTS66283	H3	.313	2.13	.752	.168	.131	.25	3	-	3.4
#8 - 36		TTS66302	H2	.278	2.13	.752	.168	.131	.25	3	-	3.5
#10 - 24		TTS66323	H3	.417	2.38	.906	.194	.152	.25	3	-	3.9
#10 - 32		TTS66342	H2	.313	2.38	.906	.194	.152	.25	3	-	4.1
#10 - 32		TTS66343	H3	.313	2.38	.906	.194	.152	.25	3	-	4.1
#12 - 24		TTS66363	H3	.417	2.38	.906	.220	.165	.28	3	-	4.5
#12 - 28		TTS66383	H3	.357	2.38	.906	.220	.165	.28	3	-	4.7
1/4 - 20		TTS66403	H3	.500	2.50	1.000	.255	.191	.31	3	-	5.2
1/4 - 20		TTS66405	H5	.500	2.50	1.000	.255	.191	.31	3	-	5.2
1/4 - 28		TTS66423	H3	.357	2.50	1.000	.255	.191	.31	3	-	5.5
1/4 - 28		TTS66424	H4	.357	2.50	1.000	.255	.191	.31	3	-	5.5
5/16 - 18		TTS66443	H3	.556	2.72	1.126	.318	.238	.38	3	-	6.7
5/16 - 18		TTS66445	H5	.556	2.72	1.126	.318	.238	.38	3	-	6.7
5/16 - 24		TTS66463	H3	.417	2.72	1.126	.318	.238	.38	3	-	7.0
5/16 - 24		TTS66464	H4	.417	2.72	1.126	.318	.238	.38	3	-	7.0

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M					K				
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
ISO	N										S					H				
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent ○ : Good

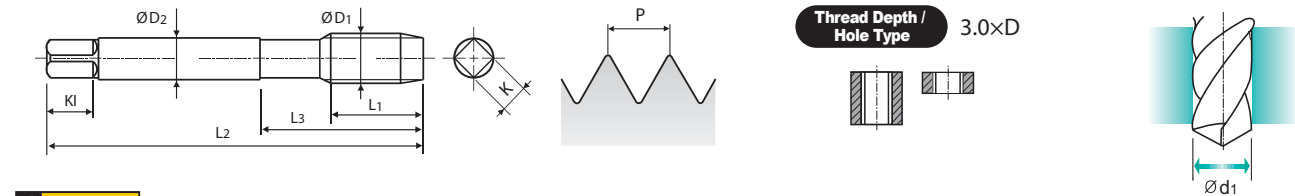
ISO	P										M					K				
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
ISO	N										S					H				
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

TiN-COATED HSS-PM SYNCHRO TAP Spiral Point Tap for High Speed Tapping

TTS66 SERIES



- ▶ 2-3 times faster when tapping the GS material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiN		L1	L2	L3	D2	K	K1	Z	Inch	Metric
3/8 - 16		TTS66483	H3	.625	2.94	1.252	.381	.286	.44	3	-	8.1
3/8 - 16		TTS66485	H5	.625	2.94	1.252	.381	.286	.44	3	-	8.1
3/8 - 24		TTS66503	H3	.417	2.94	1.252	.381	.286	.44	3	-	8.6
3/8 - 24		TTS66504	H4	.417	2.94	1.252	.381	.286	.44	3	-	8.6
7/16 - 14		TTS66523	H3	.714	3.16	1.850	.323	.242	.41	4	-	9.5
7/16 - 14		TTS66525	H5	.714	3.16	1.850	.323	.242	.41	4	-	9.5
7/16 - 20		TTS66543	H3	.500	3.16	1.850	.323	.242	.41	4	-	10.0
7/16 - 20		TTS66545	H5	.500	3.16	1.850	.323	.242	.41	4	-	10.0
1/2 - 13		TTS66563	H3	.769	3.38	2.067	.367	.275	.44	4	-	11.0
1/2 - 13		TTS66565	H5	.769	3.38	2.067	.367	.275	.44	4	-	11.0
1/2 - 20		TTS66583	H3	.500	3.38	2.067	.367	.275	.44	4	-	11.6
1/2 - 20		TTS66585	H5	.500	3.38	2.067	.367	.275	.44	4	-	11.6
9/16 - 12		TTS66603	H3	.833	3.59	2.067	.429	.322	.50	4	-	12.5
9/16 - 12		TTS66605	H5	.833	3.59	2.067	.429	.322	.50	4	-	12.5
9/16 - 18		TTS66623	H3	.556	3.59	2.067	.429	.322	.50	4	-	13.0
9/16 - 18		TTS66625	H5	.556	3.59	2.067	.429	.322	.50	4	-	13.0
5/8 - 11		TTS66643	H3	.909	3.81	2.205	.480	.360	.56	4	-	13.9
5/8 - 11		TTS66645	H5	.909	3.81	2.205	.480	.360	.56	4	-	13.9
5/8 - 18		TTS66663	H3	.556	3.81	2.205	.480	.360	.56	4	-	14.6
5/8 - 18		TTS66665	H5	.556	3.81	2.205	.480	.360	.56	4	-	14.6
3/4 - 10		TTS66703	H3	1.000	4.25	2.480	.590	.442	.69	4	-	16.9
3/4 - 10		TTS66705	H5	1.000	4.25	2.480	.590	.442	.69	4	-	16.9
3/4 - 16		TTS66723	H3	.625	4.25	2.480	.590	.442	.69	4	-	17.7
3/4 - 16		TTS66725	H5	.625	4.25	2.480	.590	.442	.69	4	-	17.7

◎ : Excellent ○ : Good

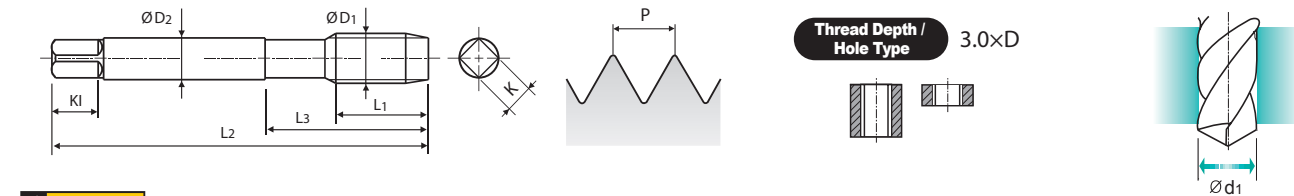
ISO	P										M				K			
Material Description	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel				Stainless steel			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	○	○		◎	
ISO	N										S					H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys					Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
HRc												15	30	25	38	34	55	60
HB	60	100	75	90	130	110	90	100				200	280	250	350	320	400 Rm	1050 Rm
Recommended			◎	◎	◎	◎		○									550	630

TiN-COATED HSS-PM SYNCHRO TAP Spiral Point Tap for High Speed Tapping

TTS62 SERIES



- ▶ 2-3 times faster when tapping the GS material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	K1	Z	Inch	Metric
M3 x 0.5		TTS62203	D3	.197	1.94	.646	.141	.110	.19	3	-	2.5
M4 x 0.7		TTS62244	D4	.276	2.13	.768	.168	.131	.25	3	-	3.4
M5 x 0.8		TTS62284	D4	.315	2.38	.933	.194	.152	.25	3	-	4.3
M6 x 1.0		TTS62315	D5	.394	2.50	1.000	.255	.191	.31	3	-	5.1
M8 x 1.25		TTS62365	D5	.512	2.72	1.126	.318	.238	.38	3	-	6.9
M8 x 1.0		TTS62375	D5	.394	2.72	1.126	.318	.238	.38	3	-	7.1
M10 x 1.5		TTS62426	D6	.591	2.94	1.252	.381	.286	.44	3	-	8.7
M10 x 1.25		TTS62435	D5	.512	2.94	1.252	.381	.286	.44	3	-	8.9
M12 x 1.75		TTS62506	D6	.709	3.38	2.067	.367	.275	.44	4	-	10.5
M12 x 1.25		TTS62525	D5	.512	3.38	2.067	.367	.275	.44	4	-	10.7
M14 x 2.0		TTS62547	D7	.787	3.59	2.067	.429	.322	.50	4	-	12.3
M14 x 1.5		TTS62556	D6	.591	3.59	2.067	.429	.322	.50	4	-	12.7
M16 x 2.0		TTS62607	D7	.787	3.81	2.205	.480	.360	.56	4	-	14.3
M16 x 1.5		TTS21616	D6	.591	3.81	2.205	.480	.360	.56	4	-	14.7
M18 x 2.5		TTS62657	D7	.984	4.03	2.205	.542	.406	.63	4	-	15.8
M18 x 1.5		TTS62676	D6	.591	4.03	2.205	.542	.406	.63	4	-	16.7
M20 x 2.5		TTS62707	D7	.984	4.47	2.480	.652	.489	.69	4	-	17.8
M20 x 1.5		TTS62726	D6	.591	4.47	2.480	.652	.489	.69	4	-	18.7

◎ : Excellent ○ : Good

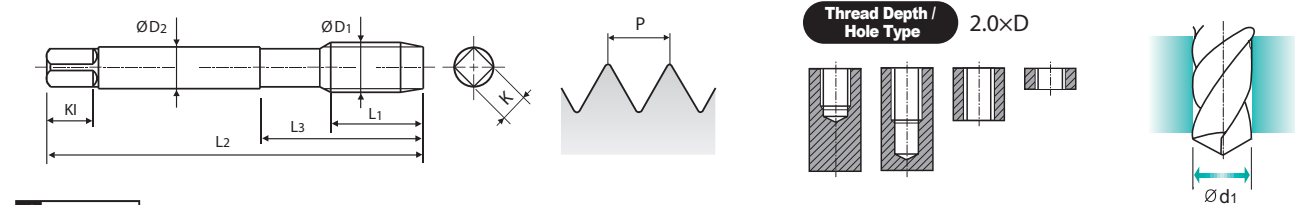
ISO	P										M				K			
Material Description	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel				Stainless steel			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	○	○		◎	
ISO	N										S					H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys					Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
HRc												15	30	25	38	34	55	60
HB	60	100	75	90	130	110	90	100				200	280	250	350	320	400 Rm	1050 Rm
Recommended			◎	◎	◎	◎		○									550	630

TiCN-COATED HSS-PM SYNCHRO TAP Straight Flute Tap for High Speed Tapping

TKS67 SERIES



- ▶ 2-3 times faster when tapping the GG material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiCN		L1	L2	L3	D2	K	K1	Z	Inch	Metric
#4 - 40		TKS67162	H2	.250	1.88	.563	.141	.110	.19	3	-	2.3
#4 - 48		TKS67181	H1	.209	1.88	.563	.141	.110	.19	3	3/32	-
#4 - 48		TKS67182	H2	.209	1.88	.563	.141	.110	.19	3	3/32	-
#5 - 40		TKS67202	H2	.250	1.94	.626	.141	.110	.19	3	-	2.6
#5 - 44		TKS67221	H1	.227	1.94	.626	.141	.110	.19	3	37	-
#5 - 44		TKS67222	H2	.227	1.94	.626	.141	.110	.19	3	37	-
#6 - 32		TKS67242	H2	.313	2.00	.689	.141	.110	.19	3	-	2.8
#6 - 32		TKS67243	H3	.313	2.00	.689	.141	.110	.19	3	-	2.8
#6 - 40		TKS67262	H2	.250	2.00	.689	.141	.110	.19	3	-	2.9
#8 - 32		TKS67282	H2	.313	2.13	.752	.168	.131	.25	3	-	3.4
#8 - 32		TKS67283	H3	.313	2.13	.752	.168	.131	.25	3	-	3.4
#8 - 36		TKS67302	H2	.278	2.13	.752	.168	.131	.25	3	-	3.5
#10 - 24		TKS67323	H3	.417	2.38	.906	.194	.152	.25	3	-	3.9
#10 - 32		TKS67342	H2	.313	2.38	.906	.194	.152	.25	3	-	4.1
#10 - 32		TKS67343	H3	.313	2.38	.906	.194	.152	.25	3	-	4.1
#12 - 24		TKS67363	H3	.417	2.38	.906	.220	.165	.28	3	-	4.5
#12 - 28		TKS67383	H3	.357	2.38	.906	.220	.165	.28	3	-	4.7
1/4 - 20		TKS67403	H3	.500	2.50	1.000	.255	.191	.31	3	-	5.2
1/4 - 20		TKS67405	H5	.500	2.50	1.000	.255	.191	.31	3	-	5.2
1/4 - 28		TKS67423	H3	.357	2.50	1.000	.255	.191	.31	3	-	5.5
1/4 - 28		TKS67424	H4	.357	2.50	1.000	.255	.191	.31	3	-	5.5
5/16 - 18		TKS67443	H3	.556	2.72	1.126	.318	.238	.38	3	-	6.7
5/16 - 18		TKS67445	H5	.556	2.72	1.126	.318	.238	.38	3	-	6.7
5/16 - 24		TKS67463	H3	.417	2.72	1.126	.318	.238	.38	3	-	7.0
5/16 - 24		TKS67464	H4	.417	2.72	1.126	.318	.238	.38	3	-	7.0.

▶ NEXT PAGE

◎ : Excellent ○ : Good

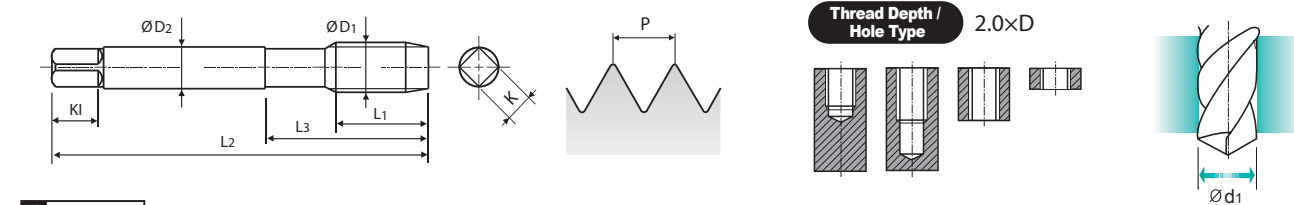
ISO	P										M					K				
Material Description	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel					Stainless steel				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	○	○
ISO	N										S					H				
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	400 Rm	1050 Rm	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

TiCN-COATED HSS-PM SYNCHRO TAP Straight Flute Tap for High Speed Tapping

TKS67 SERIES



- ▶ 2-3 times faster when tapping the GG material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiCN		L1	L2	L3	D2	K	K1	Z	Inch	Metric
3/8 - 16		TKS67483	H3	.625	2.94	1.252	.381	.286	.44	4	-	8.1
3/8 - 16		TKS67485	H5	.625	2.94	1.252	.381	.286	.44	4	-	8.1
3/8 - 24		TKS67503	H3	.417	2.94	1.252	.381	.286	.44	4	-	8.6
3/8 - 24		TKS67504	H4	.417	2.94	1.252	.381	.286	.44	4	-	8.6
7/16 - 14		TKS67523	H3	.714	3.16	1.850	.323	.242	.41	4	-	9.5
7/16 - 14		TKS67525	H5	.714	3.16	1.850	.323	.242	.41	4	-	9.5
7/16 - 20		TKS67543	H3	.500	3.16	1.850	.323	.242	.41	4	-	10.0
7/16 - 20		TKS67545	H5	.500	3.16	1.850	.323	.242	.41	4	-	10.0
1/2 - 13		TKS67563	H3	.769	3.38	2.067	.367	.275	.44	4	-	11.0
1/2 - 13		TKS67565	H5	.769	3.38	2.067	.367	.275	.44	4	-	11.0
1/2 - 20		TKS67583	H3	.500	3.38	2.067	.367	.275	.44	4	-	11.6
1/2 - 20		TKS67585	H5	.500	3.38	2.067	.367	.275	.44	4	-	11.6
9/16 - 12		TKS67603	H3	.833	3.59	2.067	.429	.322	.50	4	-	12.5
9/16 - 12		TKS67605	H5	.833	3.59	2.067	.429	.322	.50	4	-	12.5
9/16 - 18		TKS67623	H3	.556	3.59	2.067	.429	.322	.50	4	-	13.0
9/16 - 18		TKS67625	H5	.556	3.59	2.067	.429	.322	.50	4	-	13.0
5/8 - 11		TKS67643	H3	.909	3.81	2.205	.480	.360	.56	4	-	13.9
5/8 - 11		TKS67645	H5	.909	3.81	2.205	.480	.360	.56	4	-	13.9
5/8 - 18		TKS67663	H3	.556	3.81	2.205	.480	.360	.56	4	-	14.6
5/8 - 18		TKS67665	H5	.556	3.81	2.205	.480	.360	.56	4	-	14.6
3/4 - 10		TKS67703	H3	1.000	4.25	2.480	.590	.442	.69	4	-	16.9
3/4 - 10		TKS67705	H5	1.000	4.25	2.480	.590	.442	.69	4	-	16.9
3/4 - 16		TKS67723	H3	.625	4.25	2.480	.590	.442	.69	4	-	17.7
3/4 - 16		TKS67725	H5	.625	4.25	2.480	.590	.442	.69	4	-	17.7

◎ : Excellent ○ : Good

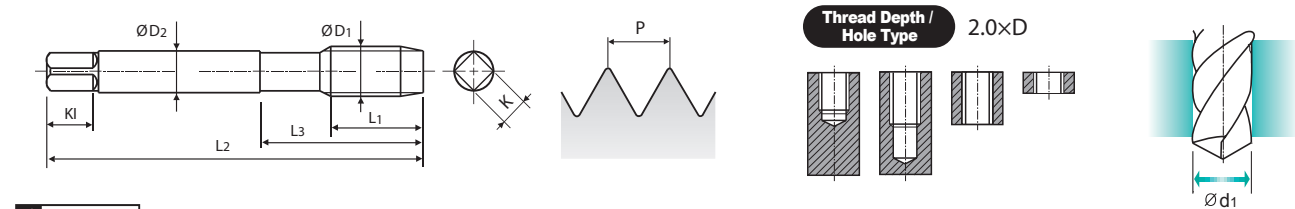
ISO	P										M					K				
Material Description	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel					Stainless steel				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	○	○	○
ISO	N										S					H				
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	400 Rm	1050 Rm	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

TiCN-COATED HSS-PM SYNCHRO TAP
Straight Flute Tap for High Speed Tapping

TKS63 SERIES



- ▶ 2-3 times faster when tapping the GG material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling



Unit : Inch

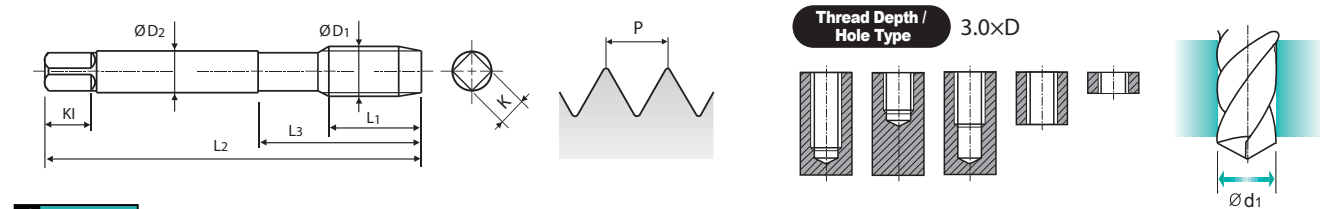
Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)
D1	P	TiCN		L1	L2	L3	D2	K	KI	Z	Inch Metric
M3 x 0.5		TKS63203	D3	.197	1.94	.646	.141	.110	.19	3	- 2.5
M4 x 0.7		TKS63244	D4	.276	2.13	.768	.168	.131	.25	3	- 3.4
M5 x 0.8		TKS63284	D4	.315	2.38	.933	.194	.152	.25	3	- 4.3
M6 x 1.0		TKS63315	D5	.394	2.50	1.000	.255	.191	.31	3	- 5.1
M8 x 1.25		TKS63365	D5	.512	2.72	1.126	.318	.238	.38	3	- 6.9
M8 x 1.0		TKS63375	D5	.394	2.72	1.126	.318	.238	.38	3	- 7.1
M10 x 1.5		TKS63426	D6	.591	2.94	1.252	.381	.286	.44	4	- 8.7
M10 x 1.25		TKS63435	D5	.512	2.94	1.252	.381	.286	.44	4	- 8.9
M12 x 1.75		TKS63506	D6	.709	3.38	2.067	.367	.275	.44	4	- 10.5
M12 x 1.25		TKS63525	D5	.512	3.38	2.067	.367	.275	.44	4	- 10.7
M14 x 2.0		TKS63547	D7	.787	3.59	2.067	.429	.322	.50	4	- 12.3
M14 x 1.5		TKS63556	D6	.591	3.59	2.067	.429	.322	.50	4	- 12.7
M16 x 2.0		TKS63607	D7	.787	3.81	2.205	.480	.360	.56	4	- 14.3
M16 x 1.5		TKS63616	D6	.591	3.81	2.205	.480	.360	.56	4	- 14.7
M18 x 2.5		TKS63657	D7	.984	4.03	2.205	.542	.406	.63	4	- 15.8
M18 x 1.5		TKS63676	D6	.591	4.03	2.205	.542	.406	.63	4	- 16.7
M20 x 2.5		TKS63707	D7	.984	4.47	2.480	.652	.489	.69	4	- 17.8
M20 x 1.5		TKS63726	D6	.591	4.47	2.480	.652	.489	.69	4	- 18.7

TiN-COATED HSS-PM SYNCHRO TAP
Forming for High Speed Tapping

TTS68 SERIES



- ▶ 2-3 times faster when machining the GV material group
- ▶ Precision Threads



Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)
D1		TiN		L1	L2	L3	D2	K	KI	Z	Inch Metric
#4 - 40		TTS68163	H3	.250	1.88	.563	.141	.110	.19	4	- 2.6
#4 - 40		TTS68165	H5	.250	1.88	.563	.141	.110	.19	4	- 2.6
#4 - 48		TTS68183	H3	.209	1.88	.563	.141	.110	.19	4	- 2.6
#4 - 48		TTS68185	H5	.209	1.88	.563	.141	.110	.19	4	- 2.6
#5 - 40		TTS68203	H3	.250	1.94	.626	.141	.110	.19	5	- 2.9
#5 - 40		TTS68205	H5	.250	1.94	.626	.141	.110	.19	5	- 2.9
#5 - 44		TTS68223	H3	.227	1.94	.626	.141	.110	.19	5	- 2.9
#5 - 44		TTS68225	H5	.227	1.94	.626	.141	.110	.19	5	- 2.9
#6 - 32		TTS68243	H3	.313	2.00	.689	.141	.110	.19	5	- 3.1
#6 - 32		TTS68245	H5	.313	2.00	.689	.141	.110	.19	5	- 3.1
#6 - 40		TTS68263	H3	.250	2.00	.689	.141	.110	.19	5	- 3.2
#6 - 40		TTS68265	H5	.250	2.00	.689	.141	.110	.19	5	- 3.2
#8 - 32		TTS68283	H3	.313	2.13	.752	.168	.131	.25	5	- 3.8
#8 - 32		TTS68285	H5	.313	2.13	.752	.168	.131	.25	5	- 3.8
#8 - 36		TTS68303	H3	.278	2.13	.752	.168	.131	.25	5	- 3.9
#8 - 36		TTS68305	H5	.278	2.13	.752	.168	.131	.25	5	- 3.9
#10 - 24		TTS68324	H4	.417	2.38	.906	.194	.152	.25	5	- 4.4
#10 - 24		TTS68326	H6	.417	2.38	.906	.194	.152	.25	5	- 4.4
#10 - 32		TTS68344	H4	.313	2.38	.906	.194	.152	.25	5	- 4.5
#10 - 32		TTS68346	H6	.313	2.38	.906	.194	.152	.25	5	- 4.5
#12 - 24		TTS68364	H4	.417	2.38	.906	.220	.165	.28	5	- 5.0
#12 - 24		TTS68366	H6	.417	2.38	.906	.220	.165	.28	5	- 5.0
1/4 - 20		TTS68404	H4	.500	2.50	1.000	.255	.191	.31	5	- 5.8
1/4 - 20		TTS68406	H6	.500	2.50	1.000	.255	.191	.31	5	- 5.8
1/4 - 28		TTS68424	H4	.357	2.50	1.000	.255	.191	.31	5	- 5.9
1/4 - 28		TTS68426	H6	.357	2.50	1.000	.255	.191	.31	5	- 5.9

▶ NEXT PAGE

ISO	P										M					K				
Material Description	Non-alloy steel					Low alloy steel					Stainless steel					Grey cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○					◎	◎	◎	◎	◎	◎	◎	○	○
ISO	N										S					H				
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc																				
HB	60	100	75	90	130	110	90	100												
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

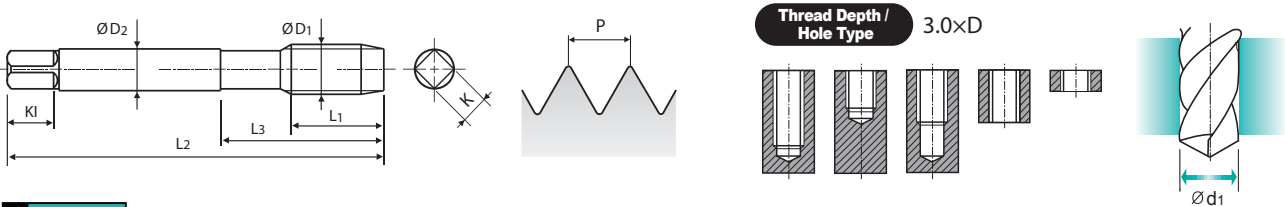
ISO	P										M					K				
Material Description	Non-alloy steel					Low alloy steel					Stainless steel					Grey cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎	◎	○	○
ISO	N										S					H				
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc																				
HB	60	100	75	90	130	110	90	100												
Recommended	◎	◎	◎	◎	○											◎	◎	◎	◎	◎

TiN-COATED HSS-PM SYNCHRO TAP
Forming for High Speed Tapping

TTS68 SERIES



- ▶ 2-3 times faster when machining the GV material group
- ▶ Precision Threads



Material groups

GV

HSS PM

UNC UNF

H

60°

2P~3P

TiN

p.7

Unit : Inch

Size	TPI	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1		TiN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
5/16 - 18		TTS68445	H5	.556	2.72	1.126	.318	.238	.38	5	-	7.3
5/16 - 18		TTS68447	H7	.556	2.72	1.126	.318	.238	.38	5	-	7.3
5/16 - 24		TTS68465	H5	.417	2.72	1.126	.318	.238	.38	5	-	7.5
5/16 - 24		TTS68467	H7	.417	2.72	1.126	.318	.238	.38	5	-	7.5
3/8 - 16		TTS68485	H5	.625	2.94	1.252	.381	.286	.44	6	-	8.8
3/8 - 16		TTS68487	H7	.625	2.94	1.252	.381	.286	.44	6	-	8.8
3/8 - 24		TTS68505	H5	.417	2.94	1.252	.381	.286	.44	6	-	9.0
3/8 - 24		TTS68507	H7	.417	2.94	1.252	.381	.286	.44	6	-	9.0
7/16 - 14		TTS68525	H5	.714	3.16	1.850	.323	.242	.41	6	-	10.3
7/16 - 14		TTS68528	H8	.714	3.16	1.850	.323	.242	.41	6	-	10.3
7/16 - 20		TTS68545	H5	.500	3.16	1.850	.323	.242	.41	6	-	10.5
7/16 - 20		TTS68548	H8	.500	3.16	1.850	.323	.242	.41	6	-	10.5
1/2 - 13		TTS68566	H6	.769	3.38	2.067	.367	.275	.44	6	-	11.9
1/2 - 13		TTS68568	H8	.769	3.38	2.067	.367	.275	.44	6	-	11.9
1/2 - 20		TTS68585	H5	.500	3.38	2.067	.367	.275	.44	6	-	12.1
1/2 - 20		TTS68588	H8	.500	3.38	2.067	.367	.275	.44	6	-	12.1
9/16 - 12		TTS68607	H7	.833	3.59	2.067	.429	.322	.50	8	-	13.4
9/16 - 12		TTS68600	H10	.833	3.59	2.067	.429	.322	.50	8	-	13.4
9/16 - 18		TTS68627	H7	.556	3.59	2.067	.429	.322	.50	8	-	13.7
9/16 - 18		TTS68620	H10	.556	3.59	2.067	.429	.322	.50	8	-	13.7
5/8 - 11		TTS68647	H7	.909	3.81	2.205	.480	.360	.56	8	-	14.9
5/8 - 11		TTS68640	H10	.909	3.81	2.205	.480	.360	.56	8	-	14.9
5/8 - 18		TTS68667	H7	.556	3.81	2.205	.480	.360	.56	8	-	15.2
5/8 - 18		TTS68660	H10	.556	3.81	2.205	.480	.360	.56	8	-	15.2
3/4 - 10		TTS68707	H7	1.000	4.25	2.480	.590	.442	.69	8	-	18
3/4 - 10		TTS68700	H10	1.000	4.25	2.480	.590	.442	.69	8	-	18
3/4 - 16		TTS68727	H7	.625	4.25	2.480	.590	.442	.69	8	-	18.4
3/4 - 16		TTS68720	H10	.625	4.25	2.480	.590	.442	.69	8	-	18.4

◎ : Excellent ○ : Good

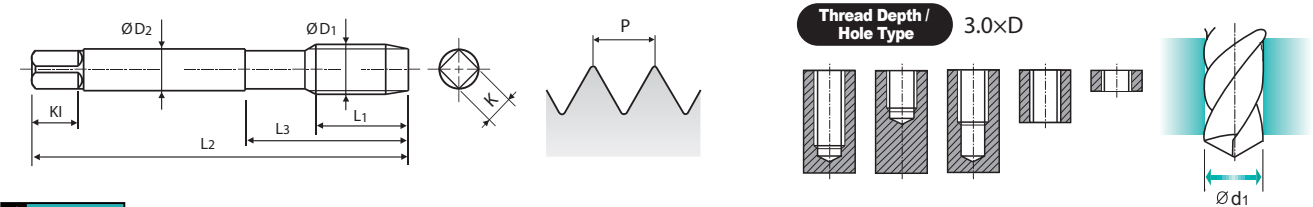
ISO	P										M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC		13	25	28	32		29	32	38	15	35	15	23	10	10	26	3	25			
HB		125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	◎							
ISO	N										S						H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	○			◎													

TiN-COATED HSS-PM SYNCHRO TAP
Forming for High Speed Tapping

TTS64 SERIES



- ▶ 2-3 times faster when machining the GV material group
- ▶ Precision Threads



Material groups

GV

HSS PM

M/MF

D

60°

2P~3P

TiN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Lobe	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
M3 x 0.5		TTS64205	D5	.197	1.94	.646	.141	.110	.19	5	-	2.8
M4 x 0.7		TTS64246	D6	.276	2.13	.768	.168	.131	.25	5	-	3.7
M5 x 0.8		TTS64287	D7	.315	2.38	.933	.194	.152	.25	5	-	4.6
M6 x 1.0		TTS64318	D8	.394	2.50	1.000	.255	.191	.31	5	-	5.6
M8 x 1.0		TTS64378	D8	.394	2.72	1.126	.318	.238	.38	5	-	7.5
M8 x 1.25		TTS64369	D9	.512	2.72	1.126	.318	.238	.38	5	-	7.6
M10 x 1.25		TTS64439	D9	.492	2.94	1.252	.381	.286	.44	6	-	9.4
M10 x 1.5		TTS64420	D10	.591	2.94	1.252	.381	.286	.44	6	-	9.5
M12 x 1.25		TTS64520	D10	.492	3.38	2.067	.367	.275	.44	6	-	11.2
M12 x 1.75		TTS6450A	D11	.709	3.38	2.067	.367	.275	.44	6	-	11.4
M14 x 1.5		TTS64550	D10	.591	3.59	2.067	.429	.322	.50	8	-	13.1
M14 x 2.0		TTS6454B	D12	.787	3.59	2.067	.429	.322	.50	8	-	13.3
M16 x 1.5		TTS64610	D10	.591	3.81	2.205	.480	.360	.56	8	-	15.1
M16 x 2.0		TTS6460B	D12	.787	3.81	2.205	.480	.360	.56	8	-	15.3
M18 x 1.5		TTS64670	D10	.591	4.03	2.205	.542	.406	.63	8	-	16.9
M18 x 2.5		TTS6465B	D12	.984	4.03	2.205	.542	.406	.63	8	-	17.3
M20 x 1.5		TTS64720	D10	.984	4.47	2.480	.652	.489	.69	8	-	18.9
M20 x 2.5		TTS6470B	D12	.984	4.47	2.480	.652	.489	.69	8	-	19.3

◎ : Excellent ○ : Good

ISO	P										M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	◎							
ISO	N										S						H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
HRC											15	30	25	38	34			55	60	42	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	
Recommended	◎	◎	◎	◎	○			◎													

TiN-COATED HSS-PM SYNCHRO TAP
Spiral Flute Tap for High Speed Tapping

NEW

TTS86 SERIES

DIN/ANSI

with Internal Coolant

2-3 times faster when tapping the GS material group

Precision Threads

Unsurpassed chip handling

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
1/4 - 20		TTS86403IC	H3	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4 - 20		TTS86405IC	H5	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4 - 28		TTS86423IC	H3	.358	3.14	1.179	.255	.191	.31	3	-	5.5
1/4 - 28		TTS86424IC	H4	.358	3.14	1.179	.255	.191	.31	3	-	5.5
5/16 - 18		TTS86443IC	H3	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16 - 18		TTS86445IC	H5	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16 - 24		TTS86463IC	H3	.417	3.54	1.376	.318	.238	.38	3	-	7.0
5/16 - 24		TTS86464IC	H4	.417	3.54	1.376	.318	.238	.38	3	-	7.0
3/8 - 16		TTS86483IC	H3	.625	3.93	1.533	.381	.286	.44	3	-	8.1
3/8 - 16		TTS86485IC	H5	.625	3.93	1.533	.381	.286	.44	3	-	8.1
3/8 - 24		TTS86503IC	H3	.417	3.93	1.533	.381	.286	.44	3	-	8.6
3/8 - 24		TTS86504IC	H4	.417	3.93	1.533	.381	.286	.44	3	-	8.6
7/16 - 14		TTS86523IC	H3	.715	3.93	1.847	.323	.242	.41	3	-	9.5
7/16 - 14		TTS86525IC	H5	.715	3.93	1.847	.323	.242	.41	3	-	9.5
7/16 - 20		TTS86543IC	H3	.499	3.93	1.847	.323	.242	.41	3	-	10.0
7/16 - 20		TTS86545IC	H5	.499	3.93	1.847	.323	.242	.41	3	-	10.0
1/2 - 13		TTS86563IC	H3	.770	4.32	2.064	.367	.275	.44	3	-	11.0
1/2 - 13		TTS86565IC	H5	.770	4.32	2.064	.367	.275	.44	3	-	11.0
1/2 - 20		TTS86583IC	H3	.499	3.93	2.064	.367	.275	.44	3	-	11.6
1/2 - 20		TTS86585IC	H5	.499	3.93	2.064	.367	.275	.44	3	-	11.6
9/16 - 12		TTS86603IC	H3	.833	4.32	2.064	.429	.322	.50	3	-	12.5
9/16 - 12		TTS86605IC	H5	.833	4.32	2.064	.429	.322	.50	3	-	12.5
9/16 - 18		TTS86623IC	H3	.558	3.93	2.064	.429	.322	.50	3	-	13.0
9/16 - 18		TTS86625IC	H5	.558	3.93	2.064	.429	.322	.50	3	-	13.0
5/8 - 11		TTS86643IC	H3	.908	4.32	2.201	.480	.360	.56	3	-	13.9
5/8 - 11		TTS86645IC	H5	.908	4.32	2.201	.480	.360	.56	3	-	13.9

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K								
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230			
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	○		○	◎						
ISO	N										S						H						
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc											15	30	25	38	34			55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommended			◎	◎	◎	◎		○															

TiN-COATED HSS-PM SYNCHRO TAP
Spiral Flute Tap for High Speed Tapping

NEW

TTS86 SERIES

DIN/ANSI

with Internal Coolant

2-3 times faster when tapping the GS material group

Precision Threads

Unsurpassed chip handling

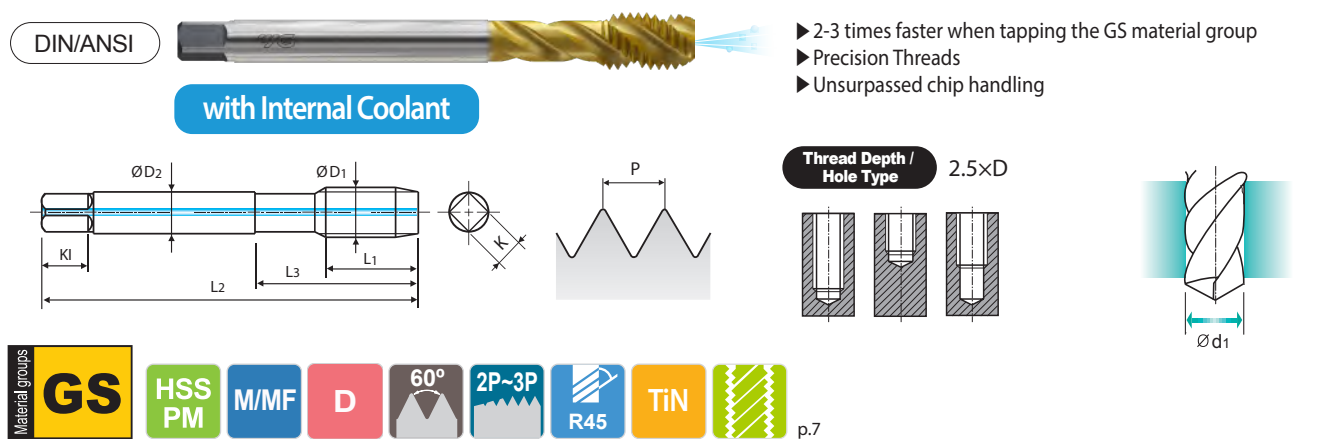
p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
5/8 - 18		TTS86663IC	H3	.558	3.93	2.201	.480	.360	.56	3	-	14.6
5/8 - 18		TTS86665IC	H5	.558	3.93	2.201	.480	.360	.56	3	-	14.6
3/4 - 10		TTS86703IC	H3	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 10		TTS86705IC	H5	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 16		TTS86723IC	H3	.625	4.32	2.476	.590	.442	.69	4	-	17.7
3/4 - 16		TTS86725IC	H5	.625	4.32	2.476	.590	.442	.69	4	-	17.7

◎ : Excellent ○ : Good

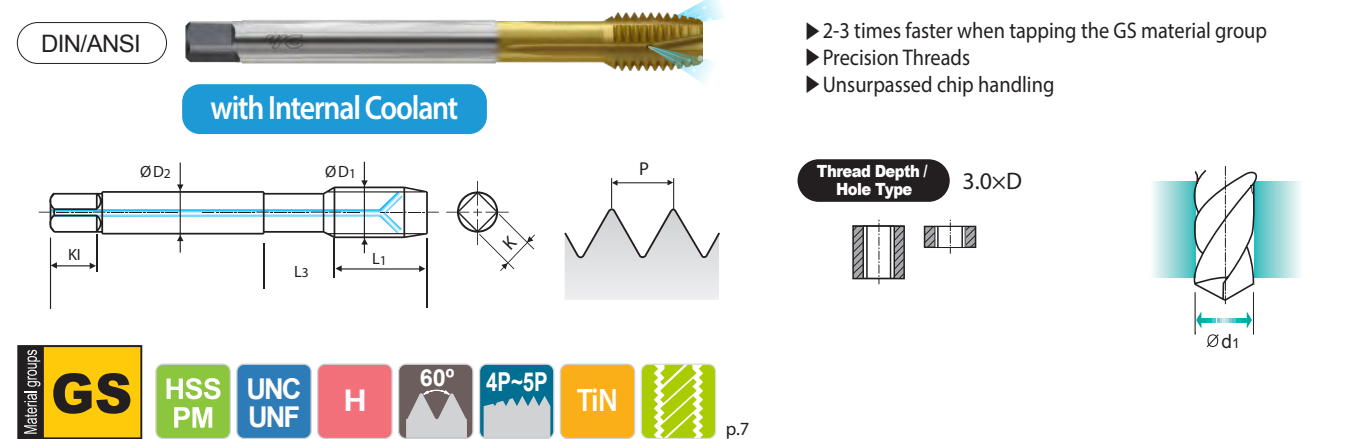
ISO	P										M				K								
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
HRc		13	25	28	32	10	29	32	38	15	35	20	23	10	10	26	3	25					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230			
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	○		○		◎					
ISO	N										S										H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc											15	30	25	38	34			55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommended			◎	◎	◎	◎		○															



Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	Kl	Z	Inch	Metric
M6 x 1.0		TTS81315IC	D5	.393	3.14	1.179	.255	.191	.31	3	-	5.1
M8 x 1.25		TTS81365IC	D5	.511	3.54	1.376	.318	.238	.38	3	-	6.9
M8 x 1.0		TTS81375IC	D5	.393	3.54	1.376	.318	.238	.38	3	-	7.1
M10 x 1.5		TTS81426IC	D6	.590	3.93	1.533	.381	.286	.44	3	-	8.7
M10 x 1.25		TTS81435IC	D5	.511	3.93	1.533	.381	.286	.44	3	-	8.9
M12 x 1.75		TTS81506IC	D6	.708	4.32	2.064	.367	.275	.44	3	-	10.5
M12 x 1.25		TTS81525IC	D5	.511	3.93	2.064	.367	.275	.44	3	-	10.9
M14 x 2.0		TTS81547IC	D7	.786	4.32	2.064	.429	.322	.50	3	-	12.3
M14 x 1.5		TTS81556IC	D6	.590	3.93	2.064	.429	.322	.50	3	-	12.7
M16 x 2.0		TTS81607IC	D7	.786	4.32	2.201	.480	.360	.56	3	-	14.3
M16 x 1.5		TTS81616IC	D6	.590	3.93	2.201	.480	.360	.56	3	-	14.7
M18 x 2.5		TTS81657IC	D7	.983	4.91	2.476	.542	.406	.63	4	-	15.8
M18 x 1.5		TTS81676IC	D6	.590	4.32	2.476	.542	.406	.63	4	-	16.7
M20 x 2.5		TTS81707IC	D7	.983	5.50	2.752	.652	.489	.69	4	-	17.8
M20 x 1.5		TTS81726IC	D6	.590	4.91	2.752	.652	.489	.69	4	-	18.7

◎: Excellent ○: Good

[illegible]

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	Kl	Z	Inch	Metric
1/4 - 20		TTS87403RCP	H3	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4 - 20		TTS87405RCP	H5	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4 - 28		TTS87423RCP	H3	.358	3.14	1.179	.255	.191	.31	3	-	5.5
1/4 - 28		TTS87424RCP	H4	.358	3.14	1.179	.255	.191	.31	3	-	5.5
5/16 - 18		TTS87443RCP	H3	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16 - 18		TTS87445RCP	H5	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16 - 24		TTS87463RCP	H3	.417	3.54	1.376	.318	.238	.38	3	-	7.0
5/16 - 24		TTS87464RCP	H4	.417	3.54	1.376	.318	.238	.38	3	-	7.0
3/8 - 16		TTS87483RCP	H3	.625	3.93	1.533	.381	.286	.44	3	-	8.1
3/8 - 16		TTS87485RCP	H5	.625	3.93	1.533	.381	.286	.44	3	-	8.1
3/8 - 24		TTS87503RCP	H3	.417	3.93	1.533	.381	.286	.44	3	-	8.6
3/8 - 24		TTS87504RCP	H4	.417	3.93	1.533	.381	.286	.44	3	-	8.6
7/16 - 14		TTS87523RCP	H3	.715	3.93	1.847	.323	.242	.41	4	-	9.5
7/16 - 14		TTS87525RCP	H5	.715	3.93	1.847	.323	.242	.41	4	-	9.5
7/16 - 20		TTS87543RCP	H3	.499	3.93	1.847	.323	.242	.41	4	-	10.0
7/16 - 20		TTS87545RCP	H5	.499	3.93	1.847	.323	.242	.41	4	-	10.0
1/2 - 13		TTS87563RCP	H3	.770	4.32	2.064	.367	.275	.44	4	-	11.0
1/2 - 13		TTS87565RCP	H5	.770	4.32	2.064	.367	.275	.44	4	-	11.0
1/2 - 20		TTS87583RCP	H3	.499	3.93	2.064	.367	.275	.44	4	-	11.6
1/2 - 20		TTS87585RCP	H5	.499	3.93	2.064	.367	.275	.44	4	-	11.6
9/16 - 12		TTS87603RCP	H3	.833	4.32	2.064	.429	.322	.50	4	-	12.5
9/16 - 12		TTS87605RCP	H5	.833	4.32	2.064	.429	.322	.50	4	-	12.5
9/16 - 18		TTS87623RCP	H3	.558	3.93	2.064	.429	.322	.50	4	-	13.0
9/16 - 18		TTS87625RCP	H5	.558	3.93	2.064	.429	.322	.50	4	-	13.0
5/8 - 11		TTS87643RCP	H3	.908	4.32	2.201	.480	.360	.56	4	-	13.9
5/8 - 11		TTS87645RCP	H5	.908	4.32	2.201	.480	.360	.56	4	-	13.9

► NEXT PAGE

[illegible]

◎ : Excellent ○ : Good

TiN-COATED HSS-PM SYNCHRO TAP Spiral Point Tap for High Speed Tapping

NEW

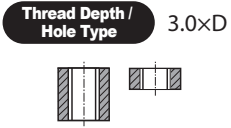
TTS87 SERIES

DIN/ANSI

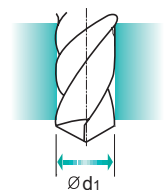


with Internal Coolant

▶ 2-3 times faster when tapping the GS material group
 ▶ Precision Threads
 ▶ Unsurpassed chip handling



Thread Depth / Hole Type 3.0×D



Ø d1

Material groups

GS

HSS PM

UNC UNF

H

60°

4P~5P

TiN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	Kl	Z	Inch	Metric
5/8 - 18		TTS87663RCP	H3	.558	3.93	2.201	.480	.360	.56	4	-	14.6
5/8 - 18		TTS87665RCP	H5	.558	3.93	2.201	.480	.360	.56	4	-	14.6
3/4 - 10		TTS87703RCP	H3	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 10		TTS87705RCP	H5	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 16		TTS87723RCP	H3	.625	4.32	2.476	.590	.442	.69	4	-	17.7
3/4 - 16		TTS87725RCP	H5	.625	4.32	2.476	.590	.442	.69	4	-	17.7

TiN-COATED HSS-PM SYNCHRO TAP Spiral Point Tap for High Speed Tapping

NEW

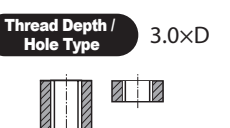
TTS82 SERIES

DIN/ANSI

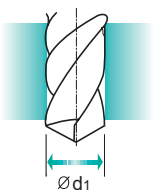


with Internal Coolant

▶ 2-3 times faster when tapping the GS material group
 ▶ Precision Threads
 ▶ Unsurpassed chip handling



Thread Depth / Hole Type 3.0×D



Ø d1

Material groups

GS

HSS PM

M/MF

D

60°

4P~5P

TiN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiN		L1	L2	L3	D2	K	Kl	Z	Inch	Metric
M6 x 1.0		TTS82315RCP	D5	.393	3.14	1.179	.255	.191	.31	3	-	5.1
M8 x 1.25		TTS82365RCP	D5	.511	3.54	1.376	.318	.238	.38	3	-	6.9
M8 x 1.0		TTS82375RCP	D5	.393	3.54	1.376	.318	.238	.38	3	-	7.1
M10 x 1.5		TTS82426RCP	D6	.590	3.93	1.533	.381	.286	.44	3	-	8.7
M10 x 1.25		TTS82435RCP	D5	.511	3.93	1.533	.381	.286	.44	3	-	8.9
M12 x 1.75		TTS82506RCP	D6	.708	4.32	2.064	.367	.275	.44	4	-	10.5
M12 x 1.25		TTS82525RCP	D5	.511	3.93	2.064	.367	.275	.44	4	-	10.9
M14 x 2.0		TTS82547RCP	D7	.786	4.32	2.064	.429	.322	.50	4	-	12.3
M14 x 1.5		TTS82556RCP	D6	.590	3.93	2.064	.429	.322	.50	4	-	12.7
M16 x 2.0		TTS82607RCP	D7	.786	4.32	2.201	.480	.360	.56	4	-	14.3
M16 x 1.5		TTS82616RCP	D6	.590	3.93	2.201	.480	.360	.56	4	-	14.7
M18 x 2.5		TTS82657RCP	D7	.983	4.91	2.476	.542	.406	.63	4	-	15.8
M18 x 1.5		TTS82676RCP	D6	.590	4.32	2.476	.542	.406	.63	4	-	16.7
M20 x 2.5		TTS82707RCP	D7	.983	5.50	2.752	.652	.489	.69	4	-	17.8
M20 x 1.5		TTS82726RCP	D6	.590	4.91	2.752	.652	.489	.69	4	-	18.7

◎ : Excellent ○ : Good

ISO	P										M				K			
Material Description	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel				Stainless steel			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	○	○		◎	
ISO	N										S					H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys					Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
HRc												15	30	25	38	34		55
HB	60	100	75	90	130	110	90	100				200	280	250	350	320	400 Rm	1050 Rm
Recommended			◎	◎	◎	◎		○										

◎ : Excellent ○ : Good

ISO	P										M				K			
Material Description	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel				Stainless steel			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250
Recommended	◎	◎	◎	◎		◎	◎					◎	◎	○	○		◎	
ISO	N										S					H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys					Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
HRc												15	30	25	38	34		55
HB	60	100	75	90	130	110	90	100				200	280	250	350	320	400 Rm	1050 Rm
Recommended			◎	◎	◎	◎		○										

TiCN-COATED HSS-PM SYNCHRO TAP
Straight Flute Tap for High Speed Tapping

NEW

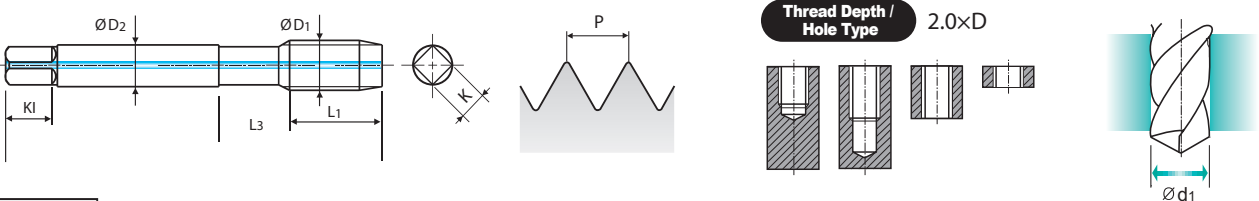
TKS88 SERIES

DIN/ANSI



with Internal Coolant

► 2-3 times faster when tapping the GG material group
► Precision Threads
► Unsurpassed chip handling



Material groups

GG

HSS PM

UNC UNF

H

60°

2P~3P

TiCN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
				L1	L2	L3	D2	K	Kl	Z	Inch	Metric
1/4 - 20		TKS88403IC	H3	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4 - 20		TKS88405IC	H5	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4 - 28		TKS88423IC	H3	.358	3.14	1.179	.255	.191	.31	3	-	5.5
1/4 - 28		TKS88424IC	H4	.358	3.14	1.179	.255	.191	.31	3	-	5.5
5/16 - 18		TKS88443IC	H3	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16 - 18		TKS88445IC	H5	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16 - 24		TKS88463IC	H3	.417	3.54	1.376	.318	.238	.38	3	-	7.0
5/16 - 24		TKS88464IC	H4	.417	3.54	1.376	.318	.238	.38	3	-	7.0
3/8 - 16		TKS88483IC	H3	.625	3.93	1.533	.381	.286	.44	4	-	8.1
3/8 - 16		TKS88485IC	H5	.625	3.93	1.533	.381	.286	.44	4	-	8.1
3/8 - 24		TKS88503IC	H3	.417	3.93	1.533	.381	.286	.44	4	-	8.6
3/8 - 24		TKS88504IC	H4	.417	3.93	1.533	.381	.286	.44	4	-	8.6
7/16 - 14		TKS88523IC	H3	.715	3.93	1.847	.323	.242	.41	4	-	9.5
7/16 - 14		TKS88525IC	H5	.715	3.93	1.847	.323	.242	.41	4	-	9.5
7/16 - 20		TKS88543IC	H3	.499	3.93	1.847	.323	.242	.41	4	-	10.0
7/16 - 20		TKS88545IC	H5	.499	3.93	1.847	.323	.242	.41	4	-	10.0
1/2 - 13		TKS88563IC	H3	.770	4.32	2.064	.367	.275	.44	4	-	11.0
1/2 - 13		TKS88565IC	H5	.770	4.32	2.064	.367	.275	.44	4	-	11.0
1/2 - 20		TKS88583IC	H3	.499	3.93	2.064	.367	.275	.44	4	-	11.6
1/2 - 20		TKS88585IC	H5	.499	3.93	2.064	.367	.275	.44	4	-	11.6
9/16 - 12		TKS88603IC	H3	.833	4.32	2.064	.429	.322	.50	4	-	12.5
9/16 - 12		TKS88605IC	H5	.833	4.32	2.064	.429	.322	.50	4	-	12.5
9/16 - 18		TKS88623IC	H3	.558	3.93	2.064	.429	.322	.50	4	-	13.0
9/16 - 18		TKS88625IC	H5	.558	3.93	2.064	.429	.322	.50	4	-	13.0
5/8 - 11		TKS88643IC	H3	.908	4.32	2.201	.480	.360	.56	4	-	13.9
5/8 - 11		TKS88645IC	H5	.908	4.32	2.201	.480	.360	.56	4	-	13.9

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○		○	○								◎	◎	◎	◎	○	○
ISO Material Description	N										S						H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc											15	30	25	38	34			55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommended			○	○	○															

TiCN-COATED HSS-PM SYNCHRO TAP
Straight Flute Tap for High Speed Tapping

NEW

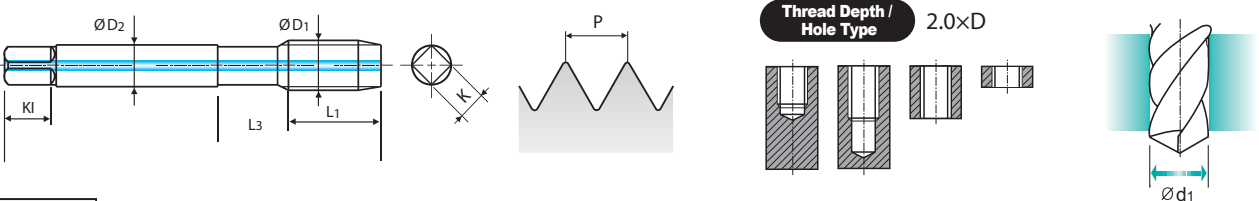
TKS88 SERIES

DIN/ANSI



with Internal Coolant

► 2-3 times faster when tapping the GG material group
► Precision Threads
► Unsurpassed chip handling



Material groups

GG

HSS PM

UNC UNF

H

60°

2P~3P

TiCN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
				L1	L2	L3	D2	K	Kl	Z	Inch	Metric
5/8 - 18		TKS88663IC	H3	.558	3.93	2.201	.480	.360	.56	4	-	14.6
5/8 - 18		TKS88665IC	H5	.558	3.93	2.201	.480	.360	.56	4	-	14.6
3/4 - 10		TKS88703IC	H3	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 10		TKS88705IC	H5	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 16		TKS88723IC	H3	.625	4.32	2.476	.590	.442	.69	4	-	17.7
3/4 - 16		TKS88725IC	H5	.625	4.32	2.476	.590	.442	.69	4	-	17.7

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○		○	○								◎	◎	◎	◎	○	○
ISO Material Description	N										S						H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc											15	30	25	38	34			55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommended			○	○	○															

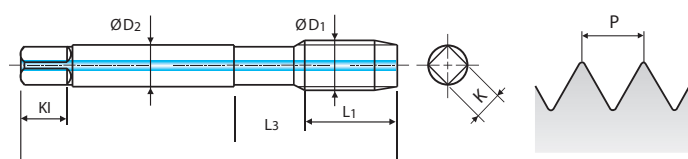
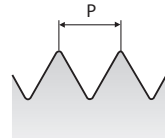
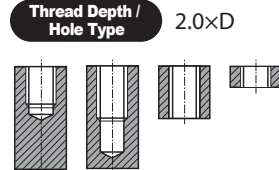
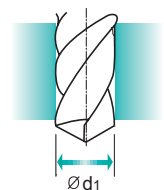
TiCN-COATED HSS-PM SYNCHRO TAP Straight Flute Tap for High Speed Tapping

NEW
TKS83 SERIES

DIN/ANSI


- ▶ 2-3 times faster when tapping the GG material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling

with Internal Coolant

Material groups

GG
HSS PM
M/MF
D
60°
2P~3P
TiCN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiCN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
M6	x 1.0	TKS83315IC	D5	.393	3.14	1.179	.255	.191	.31	3	-	5.1
M8	x 1.25	TKS83365IC	D5	.511	3.54	1.376	.318	.238	.38	3	-	6.9
M8	x 1.0	TKS83375IC	D5	.393	3.54	1.376	.318	.238	.38	3	-	7.1
M10	x 1.5	TKS83426IC	D6	.590	3.93	1.533	.381	.286	.44	4	-	8.7
M10	x 1.25	TKS83435IC	D5	.511	3.93	1.533	.381	.286	.44	4	-	8.9
M12	x 1.75	TKS83506IC	D6	.708	4.32	2.064	.367	.275	.44	4	-	10.5
M12	x 1.25	TKS83525IC	D5	.511	3.93	2.064	.367	.275	.44	4	-	10.9
M14	x 2.0	TKS83547IC	D7	.786	4.32	2.064	.429	.322	.50	4	-	12.3
M14	x 1.5	TKS83556IC	D6	.590	3.93	2.064	.429	.322	.50	4	-	12.7
M16	x 2.0	TKS83607IC	D7	.786	4.32	2.201	.480	.360	.56	4	-	14.3
M16	x 1.5	TKS83616IC	D6	.590	3.93	2.201	.480	.360	.56	4	-	14.7
M18	x 2.5	TKS83657IC	D7	.983	4.91	2.476	.542	.406	.63	4	-	15.8
M18	x 1.5	TKS83676IC	D6	.590	4.32	2.476	.542	.406	.63	4	-	16.7
M20	x 2.5	TKS83707IC	D7	.983	5.50	2.752	.652	.489	.69	4	-	17.8
M20	x 1.5	TKS83726IC	D6	.590	4.91	2.752	.652	.489	.69	4	-	18.7

◎ : Excellent ○ : Good

ISO	P										M					K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron			Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250				
Recommended	○	○		○		○	○								◎	◎	◎	◎	○	○		
ISO	N										S							H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast iron		Hardened Cast iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc						30					15	30	25	38	34	36	37	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended			○	○	○																	

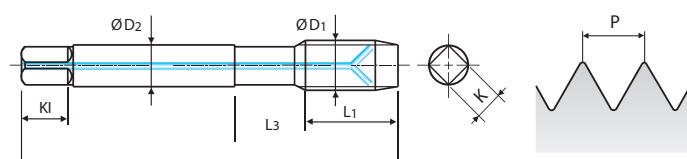
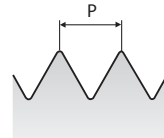
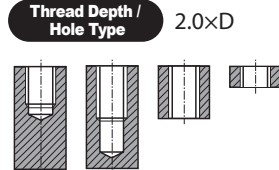
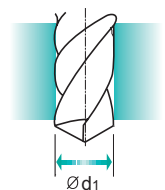
TiCN-COATED HSS-PM SYNCHRO TAP Straight Flute Tap for High Speed Tapping

NEW
TKS89 SERIES

DIN/ANSI


- ▶ 2-3 times faster when tapping the GG material group
- ▶ Precision Threads
- ▶ Unsurpassed chip handling

with Internal Coolant

Material groups

GG
HSS PM
UNC UNF
H
60°
2P~3P
TiCN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiCN		L1	L2	L3	D2	K	KI	Z	Inch	Metric
1/4	- 20	TKS89403RCP	H3	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4	- 20	TKS89405RCP	H5	.499	3.14	1.179	.255	.191	.31	3	-	5.2
1/4	- 28	TKS89423RCP	H3	.358	3.14	1.179	.255	.191	.31	3	-	5.5
1/4	- 28	TKS89424RCP	H4	.358	3.14	1.179	.255	.191	.31	3	-	5.5
5/16	- 18	TKS89443RCP	H3	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16	- 18	TKS89445RCP	H5	.558	3.54	1.376	.318	.238	.38	3	-	6.7
5/16	- 24	TKS89463RCP	H3	.417	3.54	1.376	.318	.238	.38	3	-	7.0
5/16	- 24	TKS89464RCP	H4	.417	3.54	1.376	.318	.238	.38	3	-	7.0
3/8	- 16	TKS89483RCP	H3	.625	3.93	1.533	.381	.286	.44	4	-	8.1
3/8	- 16	TKS89485RCP	H5	.625	3.93	1.533	.381	.286	.44	4	-	8.1
3/8	- 24	TKS89503RCP	H3	.417	3.93	1.533	.381	.286	.44	4	-	8.6
3/8	- 24	TKS89504RCP	H4	.417	3.93	1.533	.381	.286	.44	4	-	8.6
7/16	- 14	TKS89523RCP	H3	.715	3.93	1.847	.323	.242	.41	4	-	9.5
7/16	- 14	TKS89525RCP	H5	.715	3.93	1.847	.323	.242	.41	4	-	9.5
7/16	- 20	TKS89543RCP	H3	.499	3.93	1.847	.323	.242	.41	4	-	10.0
7/16	- 20	TKS89545RCP	H5	.499	3.93	1.847	.323	.242	.41	4	-	10.0
1/2	- 13	TKS89563RCP	H3	.770	4.32	2.064	.367	.275	.44	4	-	11.0
1/2	- 13	TKS89565RCP	H5	.770	4.32	2.064	.367	.275	.44	4	-	11.0
1/2	- 20	TKS89583RCP	H3	.499	3.93	2.064	.367	.275	.44	4	-	11.6
1/2	- 20	TKS89585RCP	H5	.499	3.93	2.064	.367	.275	.44	4	-	11.6
9/16	- 12	TKS89603RCP	H3	.833	4.32	2.064	.429	.322	.50	4	-	12.5
9/16	- 12	TKS89605RCP	H5	.833	4.32	2.064	.429	.322	.50	4	-	12.5
9/16	- 18	TKS89623RCP	H3	.558	3.93	2.064	.429	.322	.50	4	-	13.0
9/16	- 18	TKS89625RCP	H5	.558	3.93	2.064	.429	.322	.50	4	-	13.0
5/8	- 11	TKS89643RCP	H3	.908	4.32	2.201	.480	.360	.56	4	-	13.9
5/8	- 11	TKS89645RCP	H5	.908	4.32	2.201	.480	.360	.56	4	-	13.9

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K									
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron			Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25						
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230				
Recommended	○	○	○	○		○	○								◎	◎	◎	◎	○	○	○	○		
ISO	N										S								H					
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys			Hardened steel		Chilled Cast iron		Hardened Cast iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc											15	30	25	38	34			55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550			
Recommended			○	○	○																			

TiCN-COATED HSS-PM SYNCHRO TAP
Straight Flute Tap for High Speed Tapping

NEW

TKS89 SERIES

DIN/ANSI

with Internal Coolant

► 2-3 times faster when tapping the GG material group
► Precision Threads
► Unsurpassed chip handling

Thread Depth / Hole Type

2.0xD

Material groups

GG

HSS PM

UNC UNF

H

60°

2P~3P

TiCN

p.7

Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiCN		L1	L2	L3	D2	K	Kl	Z	Inch	Metric
5/8 - 18		TKS89663RCP	H3	.558	3.93	2.201	.480	.360	.56	4	-	14.6
5/8 - 18		TKS89665RCP	H5	.558	3.93	2.201	.480	.360	.56	4	-	14.6
3/4 - 10		TKS89703RCP	H3	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 10		TKS89705RCP	H5	.998	4.91	2.476	.590	.442	.69	4	-	16.9
3/4 - 16		TKS89723RCP	H3	.625	4.32	2.476	.590	.442	.69	4	-	17.7
3/4 - 16		TKS89725RCP	H5	.625	4.32	2.476	.590	.442	.69	4	-	17.7

ISO		P										M						K						◎ : Excellent ○ : Good	
Material Description	Non-alloy steel					Low alloy steel				High alloy steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron			Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommended	○	○	○	○		○	○								◎	◎	◎	◎	○	○					
ISO		N										S										H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HRc											15	30	25	38	34	36	37	55	60	42	55				
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				
Recommended			○	○	○																				

TiCN-COATED HSS-PM SYNCHRO TAP
Straight Flute Tap for High Speed Tapping

NEW

TKS84 SERIES

DIN/ANSI

with Internal Coolant

► 2-3 times faster when tapping the GG material group
► Precision Threads
► Unsurpassed chip handling

Thread Depth / Hole Type

2.0xD

Material groups

GG

HSS PM

M/MF

D

60°

2P~3P

TiCN

p.7

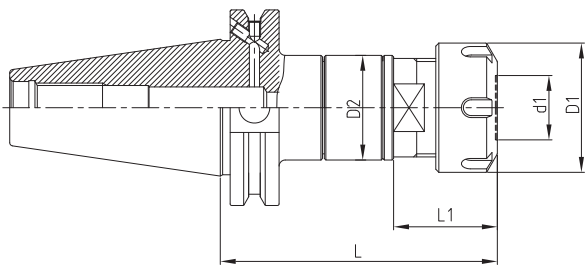
Unit : Inch

Size	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter(Ød1)	
D1	P	TiCN		L1	L2	L3	D2	K	Kl	Z	Inch	Metric
M6 x 1.0		TKS84315RCP	D5	.393	3.14	1.179	.255	.191	.31	3	-	5.1
M8 x 1.25		TKS84365RCP	D5	.511	3.54	1.376	.318	.238	.38	3	-	6.9
M8 x 1.0		TKS84375RCP	D5	.393	3.54	1.376	.318	.238	.38	3	-	7.1
M10 x 1.5		TKS84426RCP	D6	.590	3.93	1.533	.381	.286	.44	4	-	8.7
M10 x 1.25		TKS84435RCP	D5	.511	3.93	1.533	.381	.286	.44	4	-	8.9
M12 x 1.75		TKS84506RCP	D6	.708	4.32	2.064	.367	.275	.44	4	-	10.5
M12 x 1.25		TKS84525RCP	D5	.511	3.93	2.064	.367	.275	.44	4	-	10.9
M14 x 2.0		TKS84547RCP	D7	.786	4.32	2.064	.429	.322	.50	4	-	12.3
M14 x 1.5		TKS84556RCP	D6	.590	3.93	2.064	.429	.322	.50	4	-	12.7
M16 x 2.0		TKS84607RCP	D7	.786	4.32	2.201	.480	.360	.56	4	-	14.3
M16 x 1.5		TKS84616RCP	D6	.590	3.93	2.201	.480	.360	.56	4	-	14.7
M18 x 2.5		TKS84657RCP	D7	.983	4.91	2.476	.542	.406	.63	4	-	15.8
M18 x 1.5		TKS84676RCP	D6	.590	4.32	2.476	.542	.406	.63	4	-	16.7
M20 x 2.5		TKS84707RCP	D7	.983	5.50	2.752	.652	.489	.69	4	-	17.8
M20 x 1.5		TKS84726RCP	D6	.590	4.91	2.752	.652	.489	.69	4	-	18.7

ISO	P										M					K									
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel					Grey cast iron		Nodular cast iron			Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25							
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommended	○	○	○	○		○	○								◎	◎	◎	◎	○	○					
ISO	N										S										H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	36	37	55	60	42	55				
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				
Recommended			○	○	○																				

SYNCHRO TAPPING ER CHUCK

CAT



ASME B5.50-2009-CAT

Unit : mm

EDP No.	TAPER No.	MODEL No.	d1 (TAP SIZE)	NUT/ COLLET	D1	D2	L	L1	WEIGHT(Kg)
JK060SYT	40	CAT40 AD/B - SYTER 12 - 79	M3 - M12	ER16	28	34	79	26	1.00
JK062SYT		CAT40 AD/B - SYTER 16 - 85	M3 - M16	ER20	34	34	85	27	1.08
JK064SYT		CAT40 AD/B - SYTER 20 - 90	M3 - M20	ER25	42	34	90	34	1.08
JK066SYT		CAT40 AD/B - SYTER 27 - 100	M4 - M27	ER32	50	45	100	31	1.37
JK068SYT		CAT40 AD/B - SYTER 33 - 120	M4 - M33	ER40	63	62	120	35	2.16
JL060SYT	50	CAT50 AD/B - SYTER 12 - 79	M3 - M12	ER16	28	34	79	24	2.83
JL062SYT		CAT50 AD/B - SYTER 16 - 85	M3 - M16	ER20	34	34	85	27	2.86
JL064SYT		CAT50 AD/B - SYTER 20 - 90	M3 - M20	ER25	42	34	90	34	2.87
JL066SYT		CAT50 AD/B - SYTER 27 - 100	M4 - M27	ER32	50	45	100	31	3.04
JL068SYT		CAT50 AD/B - SYTER 33 - 120	M4 - M33	ER40	63	62	105	35	3.93

* BT(JIS B6339/MAS-403), HSK(DIN 69893/ISO 12164-1) and STRAIGHT-K Taper products are available.
For details, please discuss separately.

Feature

- To compensate for synchronization errors to extend tap life and to improve thread quality
- To compensate for pitch tolerances of taps
- For machine with synchronized spindle

ER COLLET CHUCK (ER NUT)

PART

EDP No.	SERIES	TYPE
ZZ061	ER 11 - NUT	FIG.1
ZZ063	ER 16 - NUT	FIG.1
ZZ066	ER 20 - NUT	FIG.1

EDP No.	SERIES	TYPE
ZZ069	ER 25 - NUT	FIG.2
ZZ072	ER 32 - NUT	FIG.2
ZZ077	ER 40 - NUT	FIG.2

FIG.1

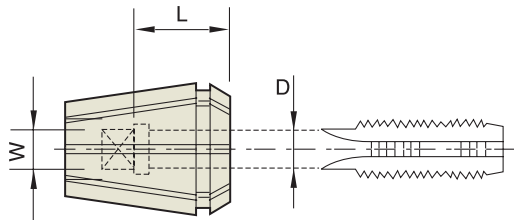


FIG.2



TAP ER COLLET

RD



Below standard Tap ER Collet conforms to ANSI (For STANDARD TAPS)

Unit : Inch

RD 11TC						RD 16TC						RD 20TC					
EDP No.	TAP		D(Ø)	W(□)	L	EDP No.	TAP		D(Ø)	W(□)	L	EDP No.	TAP		D(Ø)	W(□)	L
	Inch	Metric					Inch	Metric					Inch	Metric			
11TC1411	#6	M3	.141	.110	.472	16TC1411	#6	M3	.141	.110	.709	20TC1411	#6	M3	.141	.110	.709
11TC1613	#8	M4	.168	.131	.472	16TC1613	#8	M4	.168	.131	.709	20TC1613	#8	M4	.168	.131	.709
11TC1915	#10	M4.5+M5	.194	.152	.472	16TC1915	#10	M4.5+M5	.194	.152	.709	20TC1915	#10	M4.5+M5	.194	.152	.709
11TC2216	#12	-	.220	.165	.551	16TC2216	#12	-	.220	.165	.709	20TC2216	#12	-	.220	.165	.709
11TC2519	1/4	M6	.255	.191	.551	16TC2519	1/4	M6	.255	.191	.709	20TC2519	1/4	M6	.255	.191	.709
						16TC3123	5/16	M7+M8	.318	.238	.709	20TC3123	5/16	M7+M8	.318	.238	.866
						16TC3224	7/16	-	.323	.242	.709	20TC3828	3/8	M10	.381	.286	.866
												20TC3224	7/16	-	.323	.242	.866
												20TC3622	1/2	M12	.367	.275	.866

RD 25TC						RD 32TC						RD 40TC					
EDP No.	TAP		D(Ø)	W(□)	L	EDP No.	TAP		D(Ø)	W(□)	L	EDP No.	TAP		D(Ø)	W(□)	L
	Inch	Metric					Inch	Metric					Inch	Metric			
25TC1411	#6	M3	.141	.110	.709	32TC1411	#6	M3	.141	.110	.709	40TC1411	#6	M3	.141	.110	.709
25TC1613	#8	M4	.168	.131	.709	32TC1613	#8	M4	.168	.131	.709	40TC1613	#8	M4	.168	.131	.709
25TC1915	#10	M4.5+M5	.194	.152	.709	32TC1915	#10	M4.5+M5	.194	.152	.709	40TC1915	#10	M4.5+M5	.194	.152	.709
25TC2216	#12	-	.220	.165	.709	32TC2216	#12	-	.220	.165	.709	40TC2216	#12	-	.220	.165	.709
25TC2519	1/4	M6	.255	.191	.709	32TC2519	1/4	M6	.255	.191	.709	40TC2519	1/4	M6	.255	.191	.709
25TC3123	5/16	M7+M8	.318	.238	.866	32TC3123	5/16	M7+M8	.318	.238	.866	40TC3123	5/16	M7+M8	.318	.238	.866
25TC3828	3/8	M10	.381	.286	.866	32TC3828	3/8	M10	.381	.286	.866	40TC3828	3/8	M10	.381	.286	.866
25TC3224	7/16	-	.323	.242	.866	32TC3224	7/16	-	.323	.242	.866	40TC3224	7/16	-	.323	.242	.866
25TC3622	1/2	M12	.367	.275	.866	32TC3627	1/2	M12	.367	.275	.866	40TC3627	1/2	M12	.367	.275	.866
25TC4232	9/16	M14	.429	.322	.984	32TC4232	9/16	M14	.429	.322	.984	40TC4232	9/16	M14	.429	.322	.984
25TC4836	5/8	M16	.480	.360	.984	32TC4836	5/8	M16	.480	.360	.984	40TC4836	5/8	M16	.480	.360	.984
25TC5440	11/16	M18	.542	.406	.984	32TC5440	11/16	M18	.542	.406	.984	40TC5440	11/16	M18	.542	.406	.984
25TC5944	3/4	-	.590	.442	.984	32TC5944	3/4	-	.590	.442	.984	40TC5944	3/4	-	.590	.442	.984
						32TC6548	13/16	M20	.652	.489	.984	40TC6548	13/16	M20	.652	.489	.984
												40TC6952	7/8	M22	.697	.523	.984
												40TC7657	15/16	M24	.760	.570	.984
												40TC8060	1	M25	.800	.600	1.102

MEMO

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