



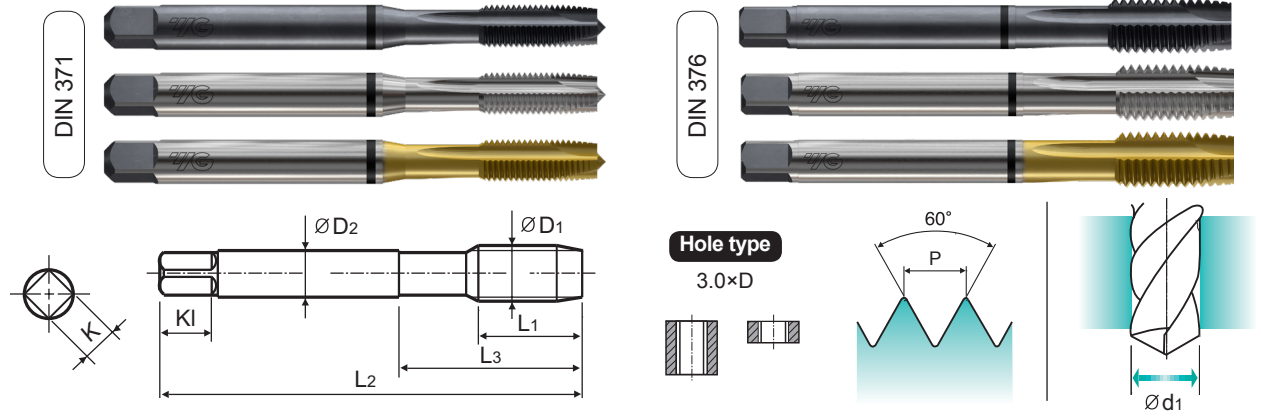
Vap	TB814 SERIES
Bright	TC814 SERIES
TiN	TD814 SERIES

ISO Metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
 ISO MÉTRIQUE DIN13
 ISO Metrico passo grosso DIN 13

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry. YG-1 company has a patent.

► Für vielfältigen Einsatz, genaue Gewindeprofile und lange Standzeitendank einer besonderen Schneidengeometrie. Von YG-1 patentiert.



Material groups **MU** **HSS-E** **DIN 371/376** **6H** **60°** **B** **Vap Bright TiN**

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.116

Unit : mm

SIZE	Pitch	EDP No.			Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Vap	Bright	TiN								
ØD1	P	L1	L2	L3	ØD2	K	KI	Z	Ød1			
M2 × 0.4		TB814136	TC814136	TD814136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB814156	TC814156	TD814156	8	45	13	2.8	2.1	5	3	1.75
M2.3 × 0.4		TB814196	TC814196	TD814196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB814176	TC814176	TD814176	9	50	15	2.8	2.1	5	3	2.05
M2.6 × 0.45		TB814496	TC814496	TD814496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB814206	TC814206	TD814206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB814226	TC814226	TD814226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TB814246	TC814246	TD814246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB814266	TC814266	TD814266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB814286	TC814286	TD814286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TB814316	TC814316	TD814316	17	80	30	6	4.9	8	3	5
M7 × 1		TB814346	TC814346	TD814346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TB814366	TC814366	TD814366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB814396	TC814396	TD814396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TB814426	TC814426	TD814426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TB814466	TC814466	TD814466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TB814506	TC814506	TD814506	24	110	44	9	7	10	3	10.2
M14 × 2		TB814546	TC814546	TD814546	26	110	44	11	9	12	3	12
M16 × 2		TB814606	TC814606	TD814606	27	110	44	12	9	12	3	14
M18 × 2.5		TB814656	TC814656	TD814656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TB814706	TC814706	TD814706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TB814746	TC814746	TD814746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TB814786	TC814786	TD814786	34	160	60	18	14.5	17	4	21
M27 × 3		TB814866	TC814866	TD814866	36	160	60	20	16	19	4	24
M30 × 3.5		TB814946	TC814946	TD814946	40	180	70	22	18	21	4	26.5

►DIN 371(M2~M10) and DIN 376(M11~M30)
* The other coating(TiCN or TiAlN) is available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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	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				
	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
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
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	400Rm	1050Rm	550	630	400	550
Recommended			◎			◎	◎	◎													



COMBO TAPS

RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

THREAD MILLS	SYNCHRO TAPS	COMBO TAPS	ISO	VDI 3323	Material Description	HB	HRc	TB744	TC814	TD814	TB814	TCJ05	TDJ05	TBJ05	TCJ06
								TB754	TC854	TD854	TB854	TCJ09	TDJ09		
								TQ744	TC834	TD834	TB834	TCJ01	TDJ01		
								TQ754	TC874	TD874	TB874	TCJ02	TDJ02		
								Vc (m/min)							
COMBO TAPS	YG TAP GENERAL	P	1	Non-alloy steel	125				15-20	20-25	15-20	15-20	20-25	15-20	15-20
			2		190	13	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	
			3		250	25		12-18	18-24	12-18	12-18	18-24	12-18	12-18	
			4		270	28	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	
			5		300	32		6-10	10-14	6-10	6-10	10-14	6-10	6-10	
			6	Low alloy steel	180	10	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	
			7		275	29	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	
			8		300	32		6-10	10-14	6-10	6-10	10-14	6-10	6-10	
			9		350	38		3-5	5-7	3-5	3-5	5-7	3-5	3-5	
			10		High alloyed steel, and tool steel	200	15		3-5	5-7	3-5	3-5	5-7	3-5	3-5
			11			325	35								
COMBO TAPS	YG TAP CAST IRON	M	12	Stainless steel	200	15		7-10	7-10	10-15	7-10	7-10	10-15	7-10	7-10
			13		240	23	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	
			14		180	10	4-6	4-6	6-8	4-6	4-6	6-8	4-6	4-6	
COMBO TAPS	YG TAP ALU	K	15	Grey cast iron	180	10		10-15	15-20	10-15	10-15	10-15	15-20	10-15	10-15
			16		260	26		5-8	8-11	5-8	5-8	8-11	5-8	5-8	
			17	Nodular cast iron	160	3		10-15	15-20	10-15	10-15	15-20	10-15	10-15	
			18		250	25		5-8	8-11	5-8	5-8	8-11	5-8	5-8	
			19		130										
20	Malleable cast iron	230	21												
COMBO TAPS	NUT TAPS	N	21	Aluminum-wrought alloy	60										
			22		100										
			23	Aluminum-cast, alloyed	75		15-20	20-25	15-20	15-20	20-25	15-20	15-20		
			24		90										
			25		130										
			26	Copper and Copper Alloys (Bronze / Brass)	110		25-35	35-40	25-35	25-35	35-40	25-35	25-35		
			27		90		8-12	12-17	8-12	8-12	12-17	8-12	8-12		
			28		100	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20		
			29	Non Metallic Materials											
			30												
COMBO TAPS	PIPE TAPS	S	31	Heat Resistant Super Alloys	200	15									
			32		280	30									
			33		250	25									
			34		350	38									
			35		320	34									
			36	Titanium Alloys	400 Rm										
			37		1050 Rm										
COMBO TAPS	TECHNICAL DATA	H	38	Hardened steel	550	55									
			39		630	60									
			40	Chilled Cast Iron	400	42									
			41	Hardened Cast Iron	550	55									

SURFACE TREATMENT AND COATING

The applied High Speed Steels holds a grant of good wear resistance and toughness. Therefore YG-1 normally delivers taps with bright and unfinished surface. For certain materials, various surface treatments provide higher advantage in machining.

STEAM TEMPERED - Vap

Steam Tempered is a Fe₃O₄-oxyd-coating which reduces friction between the tool and workpiece, also preventing cold welding.

NITRIDING - NI

Recommend surface treatment for machining materials that affect wear abrasion, such as grey cast iron, alu-alloys with high Si-percentages (more than 10%).

Below are the various surface treatments for excellent finish surfaces suitable for many applications. The surface treatments are produced and developed within the company.

TiN-COATING

TiN-coating yields a hardness of approx. 2,300 HV and also a heat resistant up to approx. 600°C. The current coating is an excellent all-round coating for normal applications.

Colour : Golden Coefficient of friction against steel : 0.4

TiCN-COATING

TiCN takes place of TiN when the conditions require the coating to have a different hardness and toughness.

The TiCN brings advantages for machining very difficult steels or cutting interrupted bores.

The TiCN-coating has a hardness of approx. 3,000 HV, but is heat resistance only holds up to approx. 400°C, meaning that the TiCN needs an excellent cooling system for a long service life.

Colour : Blue-Grey Coefficient of friction against steel : 0.4

TiAlN-COATING

A special coating for machining abrasive materials such as grey cast iron, alu-alloys with silicon, fiber reinforced plastics, etc., or machining at high temperatures with insufficient cooling, or at high speeds ≥ 600 m/min. TiAlN has a hardness of approx. 3,000 HV and is heat resistant up to approx. 800°C.

Colour : Violet-Grey Coefficient of friction against steel : 0.4

Hardslick-COATING

Hardslick combines the advantages of an extremely hard, thermally stable TiAlN-coating with the sliding and lubricating properties of an outer WC/C(Tungsten carbide/carbon)-coating in a novel way. The Hardslick coating has a hardness of approx. 3,000 HV and is temperature-resistant up to approx. 800°C.

Colour : Violet-Grey Coefficient of friction against steel : 0.2

SELECTION GUIDE



HSS-E & HSS-PM COMBO TAPS

For Multi Purpose Tapping
YG-1's Patent



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.114

HOLE TYPE		Max. 3.0xD Through Hole						
TOOL MATERIAL		HSS-E						
CHAMFER LEAD ACC. TO DIN2197		B	B	B	B	B	B	
FLUTE TYPE		Spiral Point	Spiral Point	Spiral Point	Spiral Point	Spiral Point	Spiral Point	
SPIRAL FLUTE ANGLE		-	-	-	-	-	-	
SERIES	M	DIN 371/376	TC814 (P95)	TD814 (P95)	TB814 (P95)	TCJ05 (P96)	TDJ05 (P96)	TBJ05 (P96)
		DIN352						
		DIN357/LONG						
	MF	DIN374	TC854 (P100)	TD854 (P100)	TB854 (P100)	TCJ09 (P102)	TDJ09 (P102)	
		DIN2181						
	UNC	DIN 371/376	TC834 (P109)	TD834 (P109)	TB834 (P109)	TCJ01 (P110)	TDJ01 (P110)	
		DIN351						
	UNF	DIN 371/374	TC874 (P111)	TD874 (P111)	TB874 (P111)	TCJ02 (P112)	TDJ02 (P112)	
		DIN2181						
	BSW	DIN2182/2183						
		DIN351						
	G(BSP)	DIN5156/5157						
	EG-M	DIN 371/376						
	EG-UNC	DIN 371/376						
EG-UNF	DIN 371/374							
SURFACE TREATMENT		Bright	TiN	VAP	Bright	TiN	VAP	
MODEL								

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC	Bright	TiN	VAP	Bright	TiN	VAP	
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	○	○	○	○	○	
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	◎	
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎	
	YG TAP Ti Ni	4	Low alloy steel	About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	◎
		5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎
		6		Annealed	180	10	◎	◎	◎	◎	◎	◎	
		7		Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎	
	YG TAP FORMING	8	High alloyed steel, and tool steel	Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎
		9		Quenched & Tempered	350	38	◎	◎	◎	◎	◎	◎	
		10		Annealed	200	15	○	○	○	○	○	○	
		11		Quenched & Tempered	325	35							
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎	◎	◎	◎	
	13		Martensitic	Quenched & Tempered	240	23	◎	◎	◎	◎	◎	◎	
	14		Austenitic	180	10	◎	◎	◎	◎	◎	◎		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	◎	◎		
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎	◎	◎	◎		
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎	◎	◎		
	18		Pearlitic	250	25	◎	◎	◎	◎	◎	◎		
	19		Ferritic	130									
20	Malleable cast iron	Pearlitic	230	21									
N	21	Aluminum-wrought alloy	Not Curable	60									
	22		Curable Hardened	100									
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎	◎	◎	◎	◎	◎		
	24		≤ 12% Si, Curable Hardened	90									
	25		> 12% Si, Not Curable	130									
	26		Cutting Alloys, PB>1%	110		◎	◎	◎	◎	◎	◎		
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		◎	◎	◎	◎	◎	◎		
	28		CuSn, lead-free copper and electrolytic copper	100		◎	◎	◎	◎	◎	◎		
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic										
	30		Rubber, Wood, etc.										
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15							
	32		Cured	280	30								
	33		Annealed	250	25								
	34		Ni or Co Based	Cured	350	38							
	35	Cast	320	34									
	36	Titanium Alloys	Pure Titanium	400 Rm									
	37		Alpha + Beta Alloys	Hardened	1050 Rm								
H	38	Hardened steel	Hardened	550	55								
	39		Hardened	630	60								
	40	Chilled Cast Iron	Cast	400	42								
	41	Hardened Cast Iron	Hardened	550	55								