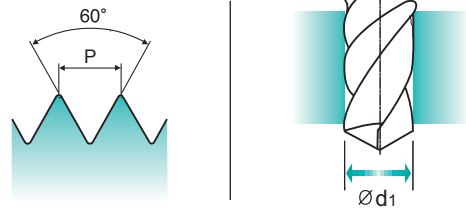
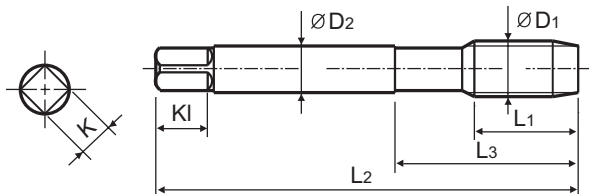
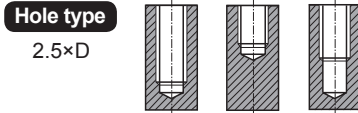


M ISO metric coarse threads DIN 13
 Metrisches ISO-Gewinde DIN 13
 ISO MÉTRIQUE DIN13
 ISO Metrico passo grosso DIN 13

► Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

► Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups **HR** HSS-E DIN 371/376 6H 60° C Vap R40

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.201

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Vap	L1	L2	L3	ØD2	K	K1	Z	Ød1
M2 × 0.4		TB313136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB313156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TB313196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB313176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TB313496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB313206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB313226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TB313246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB313266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB313286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TB313316	10	80	30	6	4.9	8	3	5
M7 × 1		TB313346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TB313366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB313396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TB313426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TB313466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TB313506	18	110	44	9	7	10	3	10.2
M14 × 2		TB313546	20	110	44	11	9	12	3	12
M16 × 2		TB313606	20	110	44	12	9	12	3	14
M18 × 2.5		TB313656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TB313706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TB313746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TB313786	30	160	60	18	14.5	17	4	21
M27 × 3		TB313866	30	160	60	20	16	19	4	24
M30 × 3.5		TB313946	35	180	70	22	18	21	4	26.5

► DIN 371(M2~M10) and DIN 376(M11~M30)

► * DIN profile not ISO

◎ : 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	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	400Rm	1050Rm	550	630	400	550
Recommended							○														



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

ISO	VDI 3323	Material Description	HB	HRc	T0997-TIC	T0999-TIC	TC313 TB313 TY313	TC283 TY283
					Vc (m/min)			
P	1	Non-alloy steel	125					
	2		190	13				
	3		250	25				
	4		270	28				
	5		300	32				
	6	Low alloy steel	180	10				
	7		275	29			10-15	10-15
	8		300	32			6-10	6-10
	9		350	38	5-8	5-8	3-5	3-5
	10	High alloyed steel, and tool steel	200	15				
	11		325	35				
M	12	Stainless steel	200	15				
	13		240	23				
	14		180	10			4-6	4-6
K	15	Grey cast iron	180	10				
	16		260	26				
	17	Nodular cast iron	160	3				
	18		250	25				
	19		Malleable cast iron	130				
20	230	21						
N	21	Aluminum-wrought alloy	60					
	22		100					
	23	Aluminum-cast, alloyed	75					
	24		90					
	25		130					
	26		Copper and Copper Alloys (Bronze / Brass)	110				25-35
	27	90						
	28	100						
	29	Non Metallic Materials						
	30							
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					
H	38	Hardened steel	550	55	3-7	3-7		
	39		630	60	3-7	3-7		
	40	Chilled Cast Iron	400	42	3-7	3-7		
	41	Hardened Cast Iron	550	55	3-7	3-7		

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



**SOLID CARBIDE & HSS-E
YG TAP
HARDENED**

For Hardened Steels Applications
to Control the Continuous and Red-glowing Chips

HOLE TYPE	Max. 2.0xD Blind / Through Hole			
TOOL MATERIAL	CARBIDE			
CHAMFER LEAD ACC. TO DIN2197	C	D		
FLUTE TYPE	Straight Flute	Straight Flute		
SPIRAL FLUTE ANGLE	-	-		
MODEL	M	DIN371/376	T0997-TIC (P.194)	T0999-TIC (P.195)
		DIN352		
		DIN357/LONG		
	MF	DIN—374		
		DIN2181		
	UNC	DIN371/376		
		DIN351		
	UNF	DIN371/374		
		DIN2181		
	BSW	DIN2182/2183		
		DIN351		
	G(BSP)	DIN5156/5157		
EG-M	DIN371/376			
EG-UNC	DIN371/376			
EG-UNF	DIN371/374			
SURFACE TREATMENT	TiCN			
MODEL				



Please visit
globalyg1.com/mat
for material search

© : Excellent ○ : Good

Recommended cutting conditions : P.201

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc			
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			
	Low alloy steel	4	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			
		8	Quenched & Tempered	300	32			
		9	Quenched & Tempered	350	38	○	○	
		10	High alloyed steel, and tool steel	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			
	Malleable cast iron	19	Ferritic	130				
		20	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		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1% CuZn, CuSnZn (Brass) CuSn, lead-free copper and electrolytic copper	110 90 100			
	27							
	28							
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.					
	30							
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	◎	◎	

THREAD MILLS

SYNCHRO TAPS

COMBO TAPS

YG TAP GENERAL

YG TAP STEEL

YG TAP HARDENED

YG TAP INOX

YG TAP CAST IRON

YG TAP ALU

YG TAP Ti Ni

YG TAP FORMING

NUT TAPS

STI TAPS

PIPE TAPS

TECHNICAL DATA

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Max. 2.5xD
Blind Hole



Max. 3.0xD
Through Hole

HSS-E

HSS-E

C

C

C

B

B

Spiral Flute

Spiral Flute

Spiral Flute

Spiral Point

Spiral Point

R40

R40

R40

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TC313
(P.196)

TB313
(P.197)

TY313
(P.198)

TC283
(P.199)

TY283
(P.200)

Bright

VAP

TiAlN

Bright

TiAlN



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