



Leading Through Innovation

SOLID CARBIDE & HSS-E

YG TAP CAST IRON

HSS YG Gewindebohrer Guss

- For Cast Iron or Similar Work Materials
- Für Gusseisen oder ähnliche Werkstoffe

CARBIDE

HSS

THREAD MILL

SYNCHRO TAP

PRIME TAP

COMBO TAP

YG TAP STEEL

YG TAP CHIP BREAKER

YG TAP INOX

YG TAP CAST IRON

YG TAP HARDENED STEEL

YG TAP Ti Ni

YG TAP ALU

YG TAP FORMING

YG TAP GENERAL

PIPE TAP

STI TAP

NUT TAP

SELECTION GUIDE

THREADING TOOLS

SOLID CARBIDE & HSS-E

YG TAP

CAST IRON

For Cast Iron or Similar Work Materials

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.B205

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc	HOLE TYPE					
							TOOL MATERIAL		HSS-E			
							CARBIDE					
							CHAMFER LEAD ACC. TO DIN2197					
FLUTE TYPE		Straight Flute	Straight Flute	Straight Flute	Straight Flute	Straight Flute						
SPIRAL FLUTE ANGLE		-	-	-	-	-						
P	1	Non-alloy steel	About 0.15% C	Annealed	125	13						
			About 0.45% C	Annealed	190	25						
			About 0.45% C	Quenched & Tempered	250	28						
	2	Low alloy steel	About 0.75% C	Annealed	270	32						
			About 0.75% C	Quenched & Tempered	300	10						
			Quenched & Tempered	180	29							
			Quenched & Tempered	275	32							
	3	High alloyed steel, and tool steel	Quenched & Tempered	300	38							
			Annealed	350	15							
			Quenched & Tempered	325	35							
M	Stainless steel	Ferritic / Martensitic	Annealed	200	15							
		Martensitic	Quenched & Tempered	240	23							
		Austenitic	180	10								
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	◎		
			Pearlitic (Martensitic)	260	26	◎	◎	◎	◎	◎		
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎	◎		
			Pearlitic	250	25	◎	◎	◎	◎	◎		
	19	Malleable cast iron	Ferritic	130		○	○	○	○	○		
Pearlitic			230	21	○	○	○	○	○			
N	21	Aluminum-wrought alloy	Not Curable		60							
			Curable	Hardened	100							
			≤ 12% Si, Not Curable		75	◎						
			≤ 12% Si, Curable	Hardened	90							
	23	Aluminum-cast, alloyed	> 12% Si, Not Curable		130	◎						
			Cutting Alloys, PB>1%		110							
			CuZn, CuSnZn (Brass)		90		○	◎	◎	◎		
	25	Copper and Copper Alloys (Bronze / Brass)	CuSn, lead-free copper and electrolytic copper		100							
			Duroplastic, Fiber Reinforced Plastic									
			Rubber, Wood, etc.									
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15						
				Cured	280	30						
				Annealed	250	25						
			Ni or Co Based	Cured	350	38						
	33	Titanium Alloys	Pure Titanium		400 Rm							
Alpha + Beta Alloys			Hardened	1050 Rm								
H	38	Hardened steel	Hardened		550	55						
			Hardened		630	60						
	40	Chilled Cast Iron	Cast		400	42	◎					
			Hardened		550	55						

B196

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YG-1 CO., LTD.

YG TAP

CAST IRON

T0993

SERIES

M

ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13

ISO MÉTRIQUE DIN13

ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

► Carbide tap can increase tool life longer than HSS taps due to higher hardness. Suitable for cast iron and high silicon aluminiums.

► Der VHM-Gewindebohrer kann die Lebensdauer gegenüber HSS-Gewindebohrern erhöhen dank der größeren Härte. Geeignet für Guss und Aluminium mit hohem Siliziumanteil

DIN 371

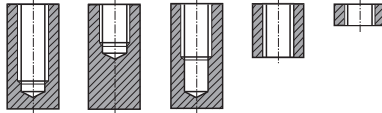


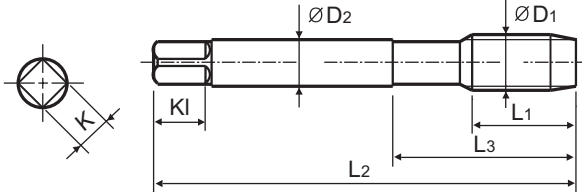
DIN 376



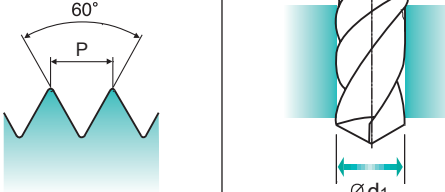
Hole type

2.0×D





60°



Material groups

GG

CARBIDE

DIN 371/376

6HX

60°

C

Bright



p.B205

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	Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
M3 × 0.5		T0993206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		T0993226	12	56	20	4	3	6	3	2.9
M4 × 0.7		T0993246	13	63	21	4.5	3.4	6	3	3.3
M5 × 0.8		T0993286	15	70	25	6	4.9	8	4	4.2
M6 × 1.0		T0993316	17	80	30	6	4.9	8	4	5
M8 × 1.25		T0993366	20	90	35	8	6.2	9	4	6.8
M10 × 1.5		T0993426	22	100	39	10	8	11	4	8.5
M12 × 1.75		T0993506	24	110	44	9	7	10	4	10.2
M14 × 2.0		T0993546	26	110	44	11	9	12	4	12
M16 × 2.0		T0993606	27	110	44	12	9	12	4	14
M18 × 2.5		T0993656	30	125	50	14	11	14	4	15.5
M20 × 2.5		T0993706	32	140	54	16	12	15	4	17.5

► DIN 371(M2~M10) and DIN 376(M11~M20)

◎ : 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	21	22	
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	42	
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			◎		◎															◎			

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B197

CARBIDE

HSS

YG TAP
CAST IRON

TI821

SERIES

M

ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13

ISO MÉTRIQUE DIN13

ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

Suitable for tapping cast iron or similar work materials.

Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen

DIN 371

DIN 376

Hole type

2.0×D

60°

P

L1

L2

L3

ØD1

ØD2

KI

K

Ød1

Material groups

GG

HSS-E

DIN 371/376

6HX

60°

C

TiCN

p.B205

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	TiCN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2	× 0.4	TI821136	8	45	13	2.8	2.1	5	3	1.6
M2.5	× 0.45	TI821176	9	50	15	2.8	2.1	5	3	2.05
M3	× 0.5	TI821206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TI821226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TI821246	13	63	21	4.5	3.4	6	3	3.3
M5	× 0.8	TI821286	15	70	25	6	4.9	8	4	4.2
M6	× 1.0	TI821316	17	80	30	6	4.9	8	4	5
M7	× 1.0	TI821346	17	80	30	7	5.5	8	4	6
M8	× 1.25	TI821366	20	90	35	8	6.2	9	4	6.8
M9	× 1.25	TI821396	20	90	35	9	7	10	4	7.8
M10	× 1.5	TI821426	22	100	39	10	8	11	4	8.5
M11	× 1.5	TI821466	22	100	40	8	6.2	9	4	9.5
M12	× 1.75	TI821506	24	110	44	9	7	10	4	10.2
M14	× 2.0	TI821546	26	110	44	11	9	12	4	12
M16	× 2.0	TI821606	27	110	44	12	9	12	4	14
M18	× 2.5	TI821656	30	125	50	14	11	14	4	15.5
M20	× 2.5	TI821706	32	140	54	16	12	15	4	17.5
M22	× 2.5	TI821746	32	140	54	18	14.5	17	4	19.5
M24	× 3.0	TI821786	34	160	60	18	14.5	17	4	21
M27	× 3.0	TI821866	36	160	60	20	16	19	4	24
M30	× 3.5	TI821946	40	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					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	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					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			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																					

B200

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YG TAP
CAST IRON

TY821

SERIES

M

ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13

ISO MÉTRIQUE DIN13

ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

Suitable for tapping cast iron or similar work materials.

Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen

DIN 371

DIN 376

Hole type

2.0×D

60°

P

L1

L2

L3

ØD1

ØD2

KI

K

Ød1

Material groups

GG

HSS-E

DIN 371/376

6HX

60°

C

TiAlN

p.B205

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	TiAlN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2	× 0.4	TY821136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TY821156	8	45	13	2.8	2.1	5	3	1.75
M2.5	× 0.45	TY821176	9	50	15	2.8	2.1	5	3	2.05
M3	× 0.5	TY821206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TY821226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TY821246	13	63	21	4.5	3.4	6	3	3.3
M5	× 0.8	TY821286	15	70	25	6	4.9	8	4	4.2
M6	× 1.0	TY821316	17	80	30	6	4.9	8	4	5
M7	× 1.0	TY821346	17	80	30	7	5.5	8	4	6
M8	× 1.25	TY821366	20	90	35	8	6.2	9	4	6.8
M9	× 1.25	TY821396	20	90	35	9	7	10	4	7.8
M10	× 1.5	TY821426	22	100	39	10	8	11	4	8.5
M12	× 1.75	TY821506	24	110	44	9	7	10	4	10.2
M14	× 2.0	TY821546	26	110	44	11	9	12	4	12
M16	× 2.0	TY821606	27	110	44	12	9	12	4	14
M18	× 2.5	TY821656	30	125	50	14	11	14	4	15.5
M20	× 2.5	TY821706	32	140	54	16	12	15	4	17.5
M24	× 3.0	TY821786	34	160	60	18	14.5	17	4	21
M30	× 3.5	TY821946	40	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					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	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					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			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																					

B201

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TE454 SERIES

UNF

Unified fine threads

Unified Feingewinde

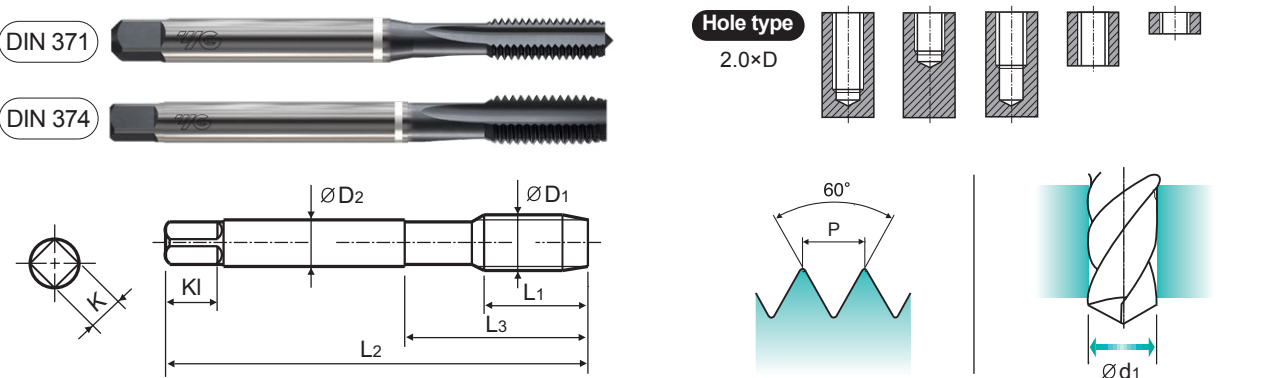
UNF

Unificato passo fine

Machine taps
Maschinengewindebohrer

► Suitable for tapping cast iron or similar work materials due to nitriding.

► Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen dank der Nitrierung



Material groups

GG

HSS-E

DIN 371/374

2BX

60°

C

Nitride

p.B205

Unit : mm										
SIZE	TPI	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1		Ni	L1	L2	L3	ØD2	K	KI	Z	Ød1
#10	- 32UNF	TE454342	15	70	25	6	4.9	8	3	4.1
#12	- 28UNF	TE454382	16	80	30	6	4.9	8	4	4.7
5/16	- 24UNF	TE454462	17	90	35	8	6.2	9	4	6.9
7/16	- 20UNF	TE454542	22	100	40	8	6.2	9	4	9.9

► DIN 371(#4~3/8) and DIN 374(7/16~1-1/8)

																						◎ : Excellent ○ : Good			
ISO	P											M				K									
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			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							○																		

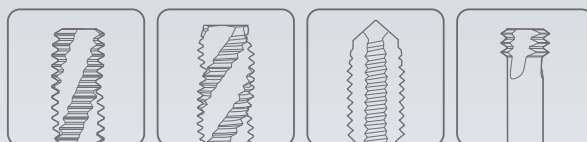


RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

					T0993	TE821 TE403 TE434 TE454	TD821	TI821	TY821
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min.)				
K	15	Grey cast iron	180	10	10-15	10-15	15-20	15-20	15-20
	16		260	26	5-8	5-8	8-11	8-11	8-11
	17	Nodular cast iron	160	3	10-15	10-15	15-20	15-20	15-20
	18		250	25	5-8	5-8	8-11	8-11	8-11
	19	Malleable cast iron	130		10-15	10-15	15-20	15-20	15-20
	20		230	21	5-8	5-8	8-11	8-11	8-11
N	23	Aluminum-cast, alloyed	75		15-20				
	25		130		10-15				
	27	Copper and Copper Alloys (Bronze / Brass)	90			8-12	12-16	12-16	12-16
H	40	Chilled Cast Iron	400	42	3-5				



Global Cutting Tool Leader **YG-1**



THREADING