

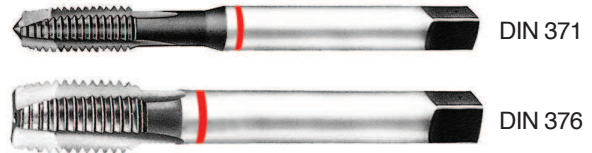
**YG SPIRAL POINT TAPS**

**TC283 SERIES**

**M ISO metric coarse threads DIN 13**  
**Metrisches ISO-Gewinde DIN 13**

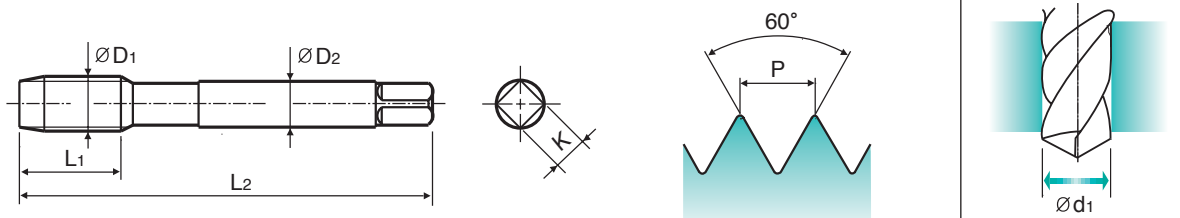
► Suitable for through hole in more cutting speed than other taps due to thick web.

► Geeignet für Durchgangslöcher in höherer Schnittgeschwindigkeit als bei anderen Gewindebohrern dank größerer Kerndicke.



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

Machine taps  
Maschinengewindebohrer



Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Shank Diameter	Square Size	Tapping Drill Diameter
ØD1	P		L1	L2	ØD2	K	Ød1
M2	× 0.4	<b>TC283136</b>	8	45	2.8	2.1	1.6
M2.2	× 0.45	<b>TC283156</b>	8	45	2.8	2.1	1.75
* M2.3	× 0.4	<b>TC283196</b>	8	45	2.8	2.1	1.9
M2.5	× 0.45	<b>TC283176</b>	9	50	2.8	2.1	2.05
* M2.6	× 0.45	<b>TC283496</b>	9	50	2.8	2.1	2.1
M3	× 0.5	<b>TC283206</b>	11	56	3.5	2.7	2.5
M3.5	× 0.6	<b>TC283226</b>	12	56	4	3	2.9
M4	× 0.7	<b>TC283246</b>	13	63	4.5	3.4	3.3
M4.5	× 0.75	<b>TC283266</b>	14	70	6	4.9	3.7
M5	× 0.8	<b>TC283286</b>	15	70	6	4.9	4.2
M6	× 1	<b>TC283316</b>	17	80	6	4.9	5
M7	× 1	<b>TC283346</b>	17	80	7	5.5	6
M8	× 1.25	<b>TC283366</b>	20	90	8	6.2	6.8
M9	× 1.25	<b>TC283396</b>	20	90	9	7	7.8
M10	× 1.5	<b>TC283426</b>	22	100	10	8	8.5
M11	× 1.5	<b>TC283466</b>	22	100	8	6.2	9.5
M12	× 1.75	<b>TC283506</b>	24	110	9	7	10.2
M14	× 2	<b>TC283546</b>	26	110	11	9	12
M16	× 2	<b>TC283606</b>	27	110	12	9	14
M18	× 2.5	<b>TC283656</b>	30	125	14	11	15.5
M20	× 2.5	<b>TC283706</b>	32	140	16	12	17.5
M22	× 2.5	<b>TC283746</b>	32	140	18	14.5	19.5
M24	× 3	<b>TC283786</b>	34	160	18	14.5	21
M27	× 3	<b>TC283866</b>	36	160	20	16	24
M30	× 3.5	<b>TC283946</b>	40	180	22	18	26.5

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

► \* DIN profile not ISO

Unit : N/mm²

◎ : Excellent ○ : Good

Steel < 400	Steel < 700	Steel < 850	St. Alloy < 850	St. Alloy ≤ 1200	St. Alloy > 1200	INOX Free < 850	INOX Aust. < 850	INOX < 1000	GG Cast < 500	GG Cast < 1000	GGG Cast < 700	GGG Cast < 1000	Ti < 700	Ti Alloy < 900
				○	◎			○						
Ti Alloy ≤ 1300	Ni < 500	Ni Alloy < 900	Ni Alloy ≤ 1400	Cu < 350	Cu Alloy Short	Cu Alloy Long	Cu-Al-Fe < 1500	Al / Mg < 350	Al Wrought	Al Si ≤ 10%	Al Si > 10%	Plastic Thermosoft	Plastic Thermoset	Plastic FRP
					○		◎						○	○



# MACHINE TAPS

## RECOMMENDATION TABLE

### USE

⊙ = EXCELLENT

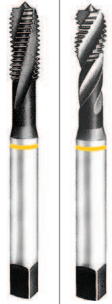
○ = GOOD



MATERIAL GROUPS			GS	GS
DIN 371/376	M	EDP No. (Page)	TC517 (p.403)	TC711 (p.404)
DIN 371/376	EG-M	EDP No. (Page)		
DIN 352	M	EDP No. (Page)	TC612 (p.401)	
DIN 374	MF	EDP No. (Page)		TC411 (p.429)
DIN 371/376	UNC	EDP No. (Page)		TC144 (p.437)
DIN 371/376	EG-UNC	EDP No. (Page)		
DIN 371/374	UNF	EDP No. (Page)		TC124 (p.442)
DIN 371/376	EG-UNF	EDP No. (Page)		
DIN 2182/2183	BSW	EDP No. (Page)		TC134 (p.446)
DIN 357/5156	M/G(BSP)	EDP No. (Page)		TC728 (p.549)
LONG	M	EDP No. (Page)		
SURFACE TREATMENT / COATING			Bright	Bright
SPIRAL FLUTE ANGLE			R20	R40
CHAMFER LEAD ACC. DIN 2197			C	C
HOLE TYPE			2-3	1-2-3

### COOLANT

- A = Cutting Oil
- T = Oil Emulsion
- X = Cutting Oil/Oil Emulsion
- S = Dry
- Z = Dry/Oil Emulsion

MATERIAL GROUPS	LIST OF MATERIALS	HARDNESS HB	TENSILE STRENGTH Rm N/mm <sup>2</sup>	CHIP	CUTTING SPEED Vc m/min	COOLANT		
								10. STEELS
20. STAINLESS STEELS	<b>21</b> INOX Free < 850 <b>22</b> INOX Aust.< 850 <b>23</b> INOX < 1,100	Free machining Austenitic Ferritic, Ferritic+Austenitic, Martensitic	< 250 < 250 < 300	< 850 < 850 < 1,100	Medium Long Long	7-10 5-8 4-6	A A A	⊙ ⊙ ⊙
30. CAST IRON	<b>31</b> GG Cast < 500 <b>32</b> GG Cast < 1,000 <b>33</b> GGG Cast < 700 <b>34</b> GGG Cast < 1,000	Grey cast iron Grey cast iron Nodular graphite, Malleable cast iron Nodular graphite, Malleable cast iron	< 150 < 300 < 200 < 300	< 500 < 1,000 < 700 < 1,000	Extra short Extra short Short Short	10-15 5-8 10-15 5-8	X T X X	⊙ ⊙ ⊙ ⊙
40. TITANIUM	<b>41</b> Ti < 700 <b>42</b> Ti Alloy < 900 <b>43</b> Ti Alloy ≤ 1,300	Titanium, Unalloyed Titanium, Alloyed Titanium, Alloyed	< 200 < 270 < 350	< 700 < 900 ≤ 1,300	Extra long Medium/Short Medium/Short	10-15 8-12 4-6	T A A	⊙ ⊙ ⊙
50. NICKEL	<b>51</b> Ni < 500 <b>52</b> Ni Alloy < 900 <b>53</b> Ni Alloy ≤ 1,400	Nickel, Unalloyed Nickel, Alloyed Nickel, Alloyed	< 150 < 270 < 410	< 500 < 900 ≤ 1,400	Extra long Long Long	8-12 10-15 2-4	A A A	⊙ ⊙ ⊙
60. COPPER, BRASS, BRONZE	<b>61</b> Cu < 350 <b>62</b> Cu Alloy (Short) <b>63</b> Cu Alloy (Long) <b>64</b> Cu-Al-Fe < 1,500	Copper, Unalloyed Short chip Brass, Bronze, Copper Long chip Brass, Bronze, Copper Cu-Al-Fe alloys	< 100 < 200 < 200 < 470	< 350 < 700 < 700 < 1,500	Extra long Medium/Short Long Short	8-12 25-35 15-20 3-5	T T T A	⊙ ⊙ ⊙ ⊙
70. ALUMINUM	<b>71</b> Al/Mg < 350 <b>72</b> Al Wrought <b>73</b> Al (Si ≤ 10%) <b>74</b> Al (Si > 10%)	Aluminum, Magnesium, Unalloyed Aluminum, Alloyed Si < 0.5% Aluminum, Alloyed, Si ≤ 10% Aluminum, Alloyed, Si > 10%	< 100 < 150 < 120 < 120	< 350 < 500 < 400 < 400	Extra long Medium Medium/Short Short	10-15 25-35 15-20 10-15	T T T T	⊙ ⊙ ⊙ ⊙
80. PLASTICS	<b>81</b> Thermosoft. <b>82</b> Thermoset. <b>83</b> FRP	Thermoplastics Thermosetting Plastics Fiber Reinforced Plastics			Extra long Short Extra short	20-30 8-12 5-7	T Z Z	⊙ ⊙ ⊙



# CUTTING SPEED TABLE

## CUTTING SPEED TABLE SCHNITTGESCHWINDIGKEITSTABELLE Cutting Speeds m/min. into revolutions per minute

TOOL R.P.M.(rev/min)																
Tool Dia.	Cutting Speed (m/min)															
	1	2	3	4	5	6	8	10	12	15	20	25	30	40	50	60
1	318	637	955	1274	1592	1910	2548	3185	3822	4777	6396	7962	9554	12739	15924	19108
2	159	318	478	637	796	955	1274	1592	1911	2388	3185	3981	4777	6369	7962	9554
3	106	212	318	425	531	637	849	1062	1274	1592	2123	2654	3185	4246	5308	6369
4	80	159	239	318	398	478	637	796	955	1194	1592	1990	2389	3185	3981	4777
5	64	127	191	255	318	382	510	637	764	955	1274	1592	1911	2548	3185	3822
6	53	106	159	212	265	318	425	531	637	796	1062	1327	1592	2123	2653	3185
8	40	80	119	159	199	239	318	398	478	597	796	955	1194	1592	1990	2388
10	31	64	96	127	159	191	255	318	382	478	637	796	955	1274	1592	1911
12	26	53	80	106	133	159	212	265	318	398	531	663	796	1062	1327	1592
14	23	45	68	91	114	136	182	227	273	341	455	569	682	910	1137	1365
16	20	40	60	80	100	119	159	199	239	299	398	498	597	796	995	1194
18	18	35	53	71	88	106	142	177	212	265	354	442	531	708	885	1062
20	16	32	48	64	80	96	127	159	191	239	318	398	478	637	796	955
25	13	25	38	51	64	76	102	127	153	191	255	318	382	510	637	764
30	11	21	32	42	53	64	85	106	127	159	212	265	318	425	531	637
35	9	18	27	36	45	55	73	91	109	136	182	227	273	364	455	546
40	8	16	24	32	40	48	64	80	96	119	159	199	239	118	398	478

RPM = rev/min

V = m/min

D = Dia.(mm)

$$V = \frac{RPM \cdot \pi \cdot D}{1000}$$

$$RPM = \frac{1000 \cdot V}{\pi \cdot D}$$