

**M Solid Carbide Drill and Thread Mill with Chamfer for ISO Metric Internal Thread - DIN 13**

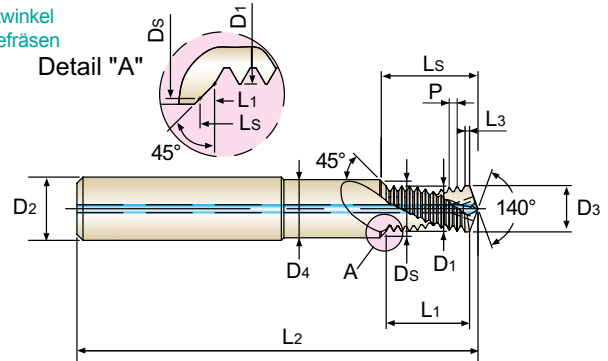
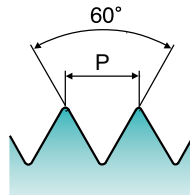
**M** ● VOLLHARTMETALL BOHRGEWINDEFÄSER MIT SENKFASE für ISO METRISCHE INNENGEWINDE - DIN 13  
 ● FRAISES À FILETER ET À PERCER CARBURE MONOBLOC AVEC CHANFREIN POUR FILETAGE INTER - DIN 13  
 ● Fresa fora, fileta e smussa , filettature interne, ISO metriche passo grosso - DIN 13

- ▶ No. of Flute : 2
- ▶ Drill Point : 140° / Countersink : 90°
- ▶ Drilling, Chamfering and Thread milling
- ▶ Anz. der Nuten : 2
- ▶ 140° Spitzenwinkel, 90° Senkwinkel
- ▶ Bohren, Senken und Gewindefräsen



**Thread Depth**

$2 \times D$



Material groups **GG** **AI** CARBIDE DIN 6535HA 60° Bright TiAIN p.B53

Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
⊙	END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
⊙	POWER MILLING CHUCK			D161 - 176
○	ER COLLET CHUCK			D73 - 115 D183 - 201

EDP No.		Nominal Diameter [ D ]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Effect. Diameter Ds	Drill Diameter D3	Max. C'sink D4	Thread Length L1	Effect. Length Ls	Drill Length L3	Overall Length L2
Bright	TiAIN											
L41A1310	L42A1310	M6	1.0	4.75	8	6.3	5.00	6.6	13.00	14.68	1.00	62
L41A1360	L42A1360	M8	1.25	6.35	10	8.3	6.75	9.0	16.27	18.48	1.25	74
L41A1420	L42A1420	M10	1.5	7.95	12	10.3	8.50	11.0	21.05	23.77	1.50	79
L41A1500	L42A1500	M12	1.75	9.95	14	12.3	10.25	13.5	24.21	27.25	1.50	89
L41A1540	L42A1540	M14	2.0	11.20	16	14.3	12.00	15.5	29.58	33.32	1.50	102

Unit : mm

\* Other coatings are available on your request

⊙ : Excellent ○ : Good

ISO Material Description	P											M				K							
	Non-alloy steel					Low alloy steel						High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular 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 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	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	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

# SELECTION GUIDE



## THREADING TOOLS

### THREAD MILLS

TYPE	Thread Mill without Coolant Hole				Thread Mill with Coolant Hole		
	M	MF	UNC	UNF	M	MF	BSP(G)
THREAD FORM							
HOLE TYPE	Max. 2.0xD Blind /Through Hole	Max. 1.5xD Blind /Through Hole	Max. 2.0xD Blind /Through Hole	Max. 2.0xD Blind /Through Hole	Max. 2.0xD Blind /Through Hole	Max. 1.5xD Blind /Through Hole	-
TOOL MATERIAL	CARBIDE						
FLUTE TYPE	Helix						
HELIX ANGLE	R15						
SERIES NO.	L1211 (p.B34)	L1212 (p.B35)	L1213 (p.B36)	L1214 (p.B37)	L4211 (p.B38)	L4212 (p.B39)	L6215 (p.B40)
SURFACE TREATMENT	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN
MODEL							










  

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRC	L1211	L1212	L1213	L1214	L4211	L4212	L6215
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	◎	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎	◎
	9	350	38	◎	◎	◎	◎	◎	◎	◎	◎
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎
	11		325	35	◎	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15	○	○	○	○	○	○	○
	13		240	23	○	○	○	○	○	○	○
	14		180	10	○	○	○	○	○	○	○
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	110		◎	◎	◎	◎	◎	◎	◎
	27		90		◎	◎	◎	◎	◎	◎	◎
	28	Bronze / Brass	100		◎	◎	◎	◎	◎	◎	◎
	29		100		◎	◎	◎	◎	◎	◎	◎
30	Non Metallic Materials			◎	◎	◎	◎	◎	◎	◎	
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							
	39		630	60							
	40	Chilled Cast Iron	400	42							
	41	Hardened Cast Iron	550	55							

# THREAD MILLS

Thread Mill with Coolant Hole & Chamfer					Miniature Thread Mill		Miniature Thread Mill for Hard Materials		Drill & Thread Mill with Chamfer
M	MF	UNC	UNF	NPT	M	UNC	M	UNC	M
Max. 2.0xD  Blind/Through Hole	Max. 1.5xD  Blind/Through Hole	Max. 2.0xD  Blind/Through Hole	Max. 2.0xD  Blind/Through Hole	-	Max. 2.0xD  Blind/Through Hole	Max. 2.0xD  Blind/Through Hole	Max. 2.0xD  Blind/Through Hole	Max. 2.0xD  Blind/Through Hole	Max. 2.0xD  Blind/Through Hole

CARBIDE

Helix					Helix		Straight		Helix
R15					R15		—		R25
L4271 (p.B41)	L4272 (p.B42)	L4273 (p.B43)	L4274 (p.B44)	L4276 (p.B45)	L12D1 (p.B46)	L12D3 (p.B47)	L19E1 (p.B48)	L19E3 (p.B49)	L41A1 / L42A1 (p.B50)



⊙	⊙	⊙	⊙	⊙	⊙	⊙				1
⊙	⊙	⊙	⊙	⊙	⊙	⊙				2
⊙	⊙	⊙	⊙	⊙	⊙	⊙				3
⊙	⊙	⊙	⊙	⊙	⊙	⊙				4
⊙	⊙	⊙	⊙	⊙	⊙	⊙				5
⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○		6 P
⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○		7
⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○		8
⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○		9
⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○		10
⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○		11
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⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	20
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	21
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	22
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	23
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	24
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	25
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	26 N
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	27
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	28
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	29
⊙	⊙	⊙	⊙	⊙	⊙	⊙			⊙	30
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							⊙	⊙		38
							⊙	⊙		39 H
							⊙	⊙		40
							⊙	⊙		41

HSS

THREAD MILLS

SYNCHRO TAPS

PRIME 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

				L4273	L4274	L4276	L12D1	L12D3	L19E1	L19E3	L41A1 L42A1
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)						
<b>P</b>	1	Non-alloy steel	125		80-120	80-120	80-120	80-120	80-120		
	2		190	13	80-120	80-120	80-120	80-120	80-120		
	3		250	25	80-120	80-120	80-120	80-120	80-120		
	4		270	28	80-120	80-120	80-120	80-120	80-120		
	5		300	32	80-120	80-120	80-120	80-120	80-120		
	6	Low alloy steel	180	10	80-120	80-120	80-120	80-120	80-120	80-120	80-120
	7		275	29	80-120	80-120	80-120	80-120	80-120	80-120	80-120
	8		300	32	80-120	80-120	80-120	80-120	80-120	80-120	80-120
	9		350	38	80-120	80-120	80-120	80-120	80-120	80-120	80-120
	10	High alloyed steel, and tool steel	200	15	80-120	80-120	80-120	80-120	80-120	80-120	80-120
	11		325	35	80-120	80-120	80-120	80-120	80-120	80-120	80-120
<b>M</b>	12	Stainless steel	200	15	40-80	40-80	40-80	40-80	40-80	40-80	40-80
	13		240	23	40-80	40-80	40-80	40-80	40-80	40-80	40-80
	14		180	10	40-80	40-80	40-80	40-80	40-80	40-80	40-80
<b>K</b>	15	Grey cast iron	180	10	50-100	50-100	50-100	50-100	50-100	50-100	50-100
	16		260	26	50-100	50-100	50-100	50-100	50-100	50-100	80-150
	17	Nodular cast iron	160	3	50-100	50-100	50-100	50-100	50-100	50-100	50-100
	18		250	25	50-100	50-100	50-100	50-100	50-100	50-100	80-150
	19	Malleable cast iron	130		50-100	50-100	50-100	50-100	50-100	50-100	50-100
20	230		21	50-100	50-100	50-100	50-100	50-100	50-100	80-150	
<b>N</b>	21	Aluminum- wrought alloy	60		100-300	100-300	100-300	100-300	100-300		100-300
	22		100		100-300	100-300	100-300	100-300	100-300		100-300
	23	Aluminum- cast, alloyed	75		100-300	100-300	100-300	100-300	100-300		100-300
	24		90		100-300	100-300	100-300	100-300	100-300		100-300
	25		130		100-300	100-300	100-300	100-300	100-300		100-300
	26		110		100-300	100-300	100-300	100-300	100-300		100-300
	27	Copper and Copper Alloys (Bronze / Brass)	90		100-300	100-300	100-300	100-300	100-300		100-300
	28		100		100-300	100-300	100-300	100-300	100-300		100-300
	29	Non Metallic Materials			100-300	100-300	100-300	100-300	100-300		80-150
	30				100-300	100-300	100-300	100-300	100-300		80-150
<b>S</b>	31	Heat Resistant Super Alloys	200	15	20-60	20-60	20-60	20-60	20-60	20-60	20-60
	32		280	30	20-60	20-60	20-60	20-60	20-60	20-60	20-60
	33		250	25	20-60	20-60	20-60	20-60	20-60	20-60	20-60
	34		350	38	20-60	20-60	20-60	20-60	20-60	20-60	20-60
	35		320	34	20-60	20-60	20-60	20-60	20-60	20-60	20-60
	36	Titanium Alloys	400Rm		20-60	20-60	20-60	20-60	20-60	20-60	20-60
	37		1050Rm		20-60	20-60	20-60	20-60	20-60	20-60	20-60
<b>H</b>	38	Hardened steel	550	55					25-60	25-60	
	39		630	60					25-50	25-50	
	40	Chilled Cast Iron	400	42					25-70	25-70	
	41	Hardened Cast Iron	550	55					25-60	25-60	

CARBIDE

HSS

THREAD MILLS

SYNCHRO TAPS

PRIME TAPS

COMBO TAPS

YG TAP GENERAL

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YG TAP CAST IRON

YG TAP ALU

YG TAP Ti Ni

YG TAP FORMING

NUT TAPS

STI TAPS

PIPE TAPS

TECHNICAL DATA

### TO CALCULATE SPEED & FEED RATES

#### SCHNITTGESCHWINDIGKEIT & VORSCHUB KALKULIEREN

Calculate R.P.M of Cutter	Calculate Feed per Revolution	Finally Calculate Feed at Tool Center Line
$n = \frac{1000 \times V}{d \times \pi}$	$F_1 = F_z \times Z \times N$	$F_2 = \frac{F_1 \times (D - d)}{D}$

- N** RPM
- V** Recommended Cutting Speed
- d** Diameter of Cutter
- Fz** Recommended Feed per Tooth
- Z** Number of Teeth
- F2** Feed at Center Line of Cutting
- F1** Feed at Cutting Edge
- D** Major Diameter of Component

# 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 Fe<sub>3</sub>O<sub>4</sub>-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

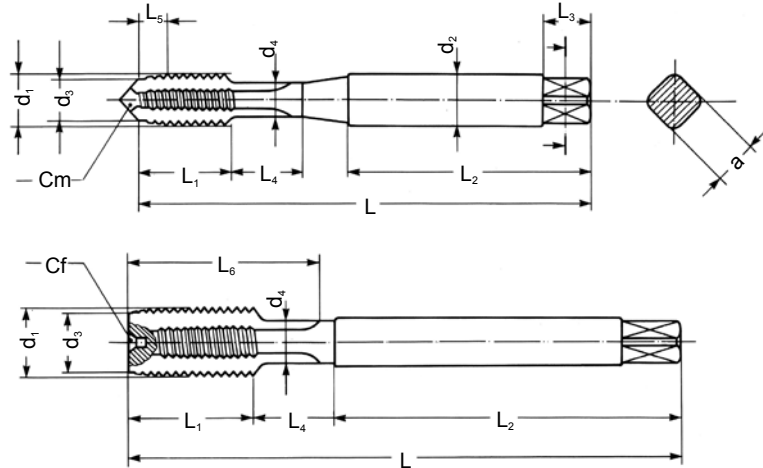
A special coating for machining abrasive materials such as grey cast iron, alu-alloys with silicon, fiber reinforced plastics, etc., or machining at high temperatures with insufficient cooling, or at high speeds  $\geq 600\text{m/min}$ . TiAlN has a hardness of approx. 3,000 HV and is heat resistant 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.

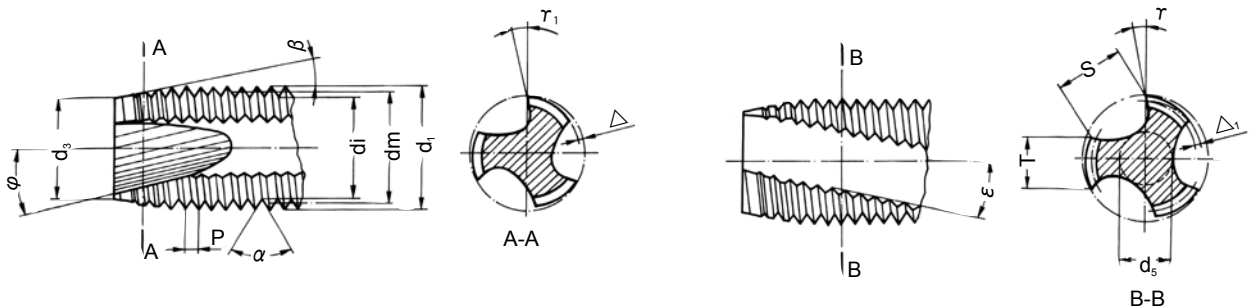
Colour : Violet-Grey Coefficient of friction against steel : 0.2


**TAPS TERMINOLOGY**
**FACHAUSDRÜCKE BEI GEWINDEBOHRERN (Terminologie)**


$d_1$  Major diameter  
 $d_2$  Shank diameter  
 $d_3$  Chamfer diameter  
 $d_4$  Neck diameter  
 $L$  Total length  
 $L_1$  Thread length  
 $L_2$  Shank length  
 $L_3$  Square length  
 $L_4$  Neck length  
 $L_5$  Chamfer length  
 $L_6$  Flutes length  
 $a$  Square  
 $Cm$  Center male  
 $Cf$  Center female

$d_1$  Nenn Aussendurchmesser  
 $d_2$  Schaftdurchmesser  
 $d_3$  Anschnittdurchmesser  
 $d_4$  Bunddurchmesser  
 $L$  Gesamtlänge  
 $L_1$  Gewindelänge  
 $L_2$  Schaftlänge  
 $L_3$  Vierkantlänge  
 $L_4$  Bundlänge  
 $L_5$  Anschnittlänge  
 $L_6$  Nutenlänge  
 $a$  Vierkantmaß  $\beta$   
 $Cm$  Mittelpunkt des Aussengewindes  
 $Cf$  Mittelpunkt des Innengewindes

$d_1$  Diamètre externe nominal  
 $d_2$  Diamètre de la queue  
 $d_3$  Diamètre de l'entrée  
 $d_4$  Diamètre de la collerette de dégagement  
 $L$  Longueur totale  
 $L_1$  Longueur de la partie filetée  
 $L_2$  Longueur de la queue  
 $L_3$  Longueur du carré  
 $L_4$  Longueur de la collerette de dégagement  
 $L_5$  Longueur de l'entrée  
 $L_6$  Longueur des goujures  
 $a$  Carré  
 $Cm$  Centre mâle  
 $Cf$  Centre femelle



$d_1$  Major diameter  
 $dm$  Flank diameter  
 $d_i$  Minor diameter  
 $d_3$  Chamfer diameter  
 $P$  Pitch  
 $a$  Flank angle  
 $\beta$  Chamfer angle  
 $\varphi$  Gun nose angle  
 $r$  Gun nose rake angle in front  
 $\Delta$  Chamfer relief  
 $\Delta_1$  Pitch diameter relief on the land  
 $\tau$  Rake angle  
 $T$  Width of land  
 $S$  Flute width  
 $d_5$  Web thickness  
 $\varepsilon$  Angle of spiral flute

$d_1$  Nenn Aussendurchmesser  
 $dm$  Flankendurchmesser  
 $d_i$  Kerndurchmesser  
 $d_3$  Anschnittdurchmesser  
 $P$  Steigung  
 $a$  Flankenwinkel  
 $\beta$  Anschnittwinkel  
 $\varphi$  Schälsschnittwinkel  
 $r$  Schälsschnitt-Spanwinkel  
 $\Delta$  Hinterschliff am Anschnitt  
 $\Delta_1$  Flankenhinterschliff auf Zahnbreite  
 $\tau$  Spanwinkel  
 $T$  Zahnstollenbreite  
 $S$  Nutenbreite  
 $d_5$  Seelendicke  
 $\varepsilon$  Spiralwinkel

$d_1$  Diamètre externe nominal  
 $dm$  Diamètre moyen  
 $d_i$  Diamètre interne  
 $d_3$  Diamètre de l'entrée  
 $P$  Pas  
 $a$  Angle du filet  
 $\beta$  Demi-angle du cône d'entrée  
 $\varphi$  Angle de l'entrée GUN  
 $r$  Angle de coupe sur l'entrée GUN  
 $\Delta$  Détalonnage sur l'entrée  
 $\Delta_1$  Détalonnage sur le filet  
 $\tau$  Angle de coupe frontale  
 $T$  Largeur des dents  
 $S$  Largeur des goujures  
 $d_5$  Diamètre de l'âme  
 $\varepsilon$  Angle d'hélice des goujures

**RECOMMENDED TAP DRILL SIZE  
EMPFOHLENE KERNLOCHMASSE**

Unit : mm

Metric-ISO threads coarse pitch				Metric-ISO threads fine pitch				Metric-ISO threads fine pitch			
M	Pitch	Maximum core dia.	Drill size	MF	Pitch	Maximum core dia.	Drill size	MF	Pitch	Maximum core dia.	Drill size
1	0.25	0.785	0.75	2.5	0.35	2.221	2.15	25	2.00	23.210	23.00
1.1	0.25	0.885	0.85	3	0.35	2.271	2.65	26	1.50	24.676	24.50
1.2	0.25	0.985	0.95	3.5	0.35	3.221	3.15	27	1.00	26.153	26.00
1.4	0.30	1.160	1.10	4	0.50	3.599	3.50	27	1.50	25.676	25.50
1.6	0.35	1.321	1.25	4.5	0.50	4.099	4.00	27	2.00	25.210	25.00
1.7	0.35	1.346	1.30	5	0.50	4.599	4.50	28	1.00	27.153	27.00
1.8	0.35	1.521	1.45	5.5	0.50	5.099	5.00	28	1.50	26.676	26.50
2	0.40	1.679	1.60	6	0.75	5.378	5.20	28	2.00	26.210	26.00
2.2	0.45	1.838	1.75	7	0.75	6.378	6.20	30	1.00	29.153	29.00
2.3	0.40	1.920	1.90	8	0.75	7.378	7.20	30	1.50	28.676	28.50
2.5	0.45	2.138	2.05	8	1.00	7.153	7.00	30	2.00	28.210	28.00
2.6	0.45	2.176	2.10	9	0.75	8.378	8.20	30	3.00	27.252	27.00
3	0.50	2.599	2.50	9	1.00	8.153	8.00	32	1.50	30.675	30.50
3.5	0.60	3.010	2.90	10	0.75	9.378	9.20	32	2.00	30.210	30.00
4	0.70	3.422	3.30	10	1.00	9.153	9.00	33	1.50	31.676	31.50
4.5	0.75	3.878	3.70	10	1.25	8.912	8.80	33	2.00	31.210	31.00
5	0.80	4.334	4.20	11	0.75	10.378	10.20	33	3.00	30.252	30.00
6	1.00	5.153	5.00	11	1.00	10.153	10.00	35	1.50	33.676	33.50
7	1.00	6.153	6.00	12	1.00	11.153	11.00	36	1.50	34.676	34.50
8	1.25	6.912	6.80	12	1.25	10.912	10.80	36	2.00	34.210	34.00
9	1.25	7.912	7.80	12	1.50	10.676	10.50	36	3.00	33.252	33.00
10	1.50	8.676	8.50	14	1.00	13.153	13.00	38	1.50	36.676	36.50
11	1.50	9.676	9.50	14	1.25	12.912	12.80	39	1.50	37.676	37.50
12	1.75	10.441	10.20	14	1.50	12.676	12.50	39	2.00	37.210	37.00
14	2.00	12.210	12.00	15	1.00	14.153	14.00	39	3.00	36.252	36.00
16	2.00	14.210	14.00	15	1.50	13.676	13.50	40	1.50	38.676	38.50
18	2.50	15.744	15.50	16	1.00	15.153	15.00	40	2.00	38.210	38.00
20	2.50	17.744	17.50	16	1.50	14.676	14.50	40	3.00	37.252	37.00
22	2.50	19.744	19.50	17	1.00	16.153	16.00	42	1.50	40.676	40.50
24	3.00	21.252	21.00	17	1.50	15.676	15.50	42	2.00	40.210	40.00
27	3.00	24.252	24.00	18	1.00	17.153	17.00	42	3.00	39.252	39.00
30	3.50	26.771	26.50	18	1.50	16.676	16.50	45	1.50	43.676	43.50
33	3.50	29.771	29.50	18	2.00	16.210	16.00	45	2.00	43.210	43.00
36	4.00	32.270	32.00	20	1.00	19.153	19.00	45	3.00	42.252	42.00
39	4.00	35.270	35.00	20	1.50	18.676	18.50	48	1.50	46.676	46.50
42	4.50	37.799	37.50	20	2.00	18.210	18.00	48	2.00	46.210	46.00
45	4.50	40.799	40.50	22	1.00	21.153	21.00	48	3.00	45.252	45.00
48	5.00	43.297	43.00	22	1.50	20.676	20.50	50	1.50	48.676	48.50
52	5.00	47.297	47.00	22	2.00	20.210	20.00	50	2.00	48.210	48.00
56	5.50	50.796	50.50	24	1.00	23.153	23.00	50	3.00	47.252	47.00
60	5.50	54.796	54.50	24	1.50	22.676	22.50	52	1.50	50.676	50.50
64	6.00	58.305	58.00	24	2.00	22.210	22.00	52	2.00	50.210	50.00
68	6.00	62.305	62.00	25	1.00	24.153	24.00	52	3.00	49.252	49.00
				25	1.50	23.676	23.50				



Unit : mm

	American Unified coarse threads				American Unified fine threads			
	UNC	T.P.I	Maximum core dia.	Drill size	UNF	T.P.I	Maximum core dia.	Drill size
	#1	64	1.585	1.50	#0	80	1.306	1.30
	#2	56	1.872	1.80	#1	72	1.613	1.60
	#3	48	2.146	2.10	#2	64	1.913	1.90
COMBO TAPS	#4	40	2.385	2.30	#3	56	2.197	2.10
	#5	40	2.697	2.60	#4	48	2.459	2.40
	#6	32	2.896	2.85	#5	44	2.741	2.70
YG TAP GENERAL	#8	32	3.528	3.50	#6	40	3.012	3.00
	#10	24	3.950	3.90	#8	36	3.597	3.50
YG TAP STEEL	#12	24	4.590	4.50	#10	32	4.168	4.10
	1/4"	20	5.250	5.20	#12	28	4.717	4.70
	5/16"	18	6.680	6.60	1/4"	28	5.563	5.50
YG TAP HARDENED	3/8"	16	8.082	8.00	5/16"	24	6.995	6.90
	7/16"	14	9.441	9.40	3/8"	24	8.565	8.50
	1/2"	13	10.881	10.75	7/16"	20	9.947	9.90
YG TAP INOX	9/16"	12	12.301	12.25	1/2"	20	11.524	11.50
	5/8"	11	13.693	13.50	9/16"	18	12.969	12.90
	3/4"	10	16.624	16.50	5/8"	18	14.554	14.50
YG TAP CAST IRON	7/8"	9	19.520	19.50	3/4"	16	17.546	17.50
	1"	8	22.344	22.25	7/8"	14	20.493	20.50
	1*1/8"	7	25.082	25.00	1"	12	23.363	23.25
YG TAP ALU	1*1/4"	7	28.258	28.25	1*1/8"	12	26.538	26.50
	1*3/8"	6	30.851	30.75	1*1/4"	12	29.713	29.50
YG TAP Ti Ni	1*1/2"	6	34.026	34.00	1*3/8"	12	32.888	32.70
	1*3/4"	5	39.560	39.50	1*1/2"	12	36.063	36.00
YG TAP FORMING	2"	4.5	45.367	45.25				

	Whitworth threads B.S.W.				Whitworth pipe thread BSP.PI			
	BSW	T.P.I	Maximum core dia.	Drill size	G(BSP)	T.P.I	Maximum core dia.	Drill size
	3/32"	48	1.910	1.80	1/8"	28	8.848	8.80
NUT TAPS	1/8"	40	2.590	2.50	1/4"	19	11.890	11.80
STI TAPS	5/32"	32	3.211	3.10	3/8"	19	15.395	15.25
PIPE TAPS	3/16"	24	3.743	3.60	1/2"	14	19.172	19.00
	7/32"	24	4.538	4.40	5/8"	14	21.128	21.00
	1/4"	20	5.224	5.10	3/4"	14	24.658	24.50
	5/16"	18	6.661	6.50	7/8"	14	28.418	28.25
	3/8"	16	8.052	7.90	1"	11	30.931	30.75
	7/16"	14	9.379	9.30	1*1/8"	11	35.579	35.50
	1/2"	12	10.610	10.50	1*1/4"	11	39.592	39.50
	9/16"	12	12.176	12.00	1*3/8"	11	42.005	42.00
	5/8"	11	13.598	13.50	1*1/2"	11	45.485	45.20
	3/4"	10	16.538	16.50	1*5/8"	11	49.670	49.60
	7/8"	9	19.411	19.25	1*3/4"	11	51.428	51.40
	1"	8	22.185	22.00	2"	11	57.296	57.20
	1*1/8"	7	24.879	24.75	2*1/4"	11	63.392	63.30
	1*1/4"	7	28.054	27.75	2*3/8"	11	67.080	67.00
	1*3/8"	6	30.555	30.50	2*1/2"	11	72.866	72.80
	1*1/2"	6	33.730	33.50	2*3/4"	11	79.216	79.10
	1*5/8"	5	35.921	35.50	3"	11	85.566	85.50
	1*3/4"	5	39.096	39.00	3*1/4"	11	91.662	91.50
	1*7/8"	4.5	41.648	41.50	3*1/2"	11	98.012	98.00
	2"	4.5	44.823	44.50	3*3/4"	11	104.362	104.00
	2*1/4"	4	50.420	50.00	4"	11	110.712	110.50
	2*1/2"	4	56.770	56.50				
	2*3/4"	3.5	62.108	62.00				
	3"	3.5	68.459	68.50				