

YE-TT20
EUROPE
2020/2021



CUTTING TOOLS















THREADING

 YG-1 CO., LTD.

GUIDE LINE TO ICONS

Working Material

 GS	Steels with good machinability Rm<850N/mm ²
 VG	Heat treated and heat-resistant steels Rm<850N/mm ² ≤Rm≤1,200N/mm ²
 HR	High alloyed steels Rm>1,200N/mm ²
 VA	Stainless steels
 NW	Carbon steels with low contents of alloys Rm<700N/mm ²
 Ti	Titanium alloys
 Ni	Nickel alloys
 GV	Any material with at least 8~10% elongation
 AI	Aluminum & Aluminum alloys
 GG	Grey Cast Iron
 Ms	Brass
 MU	Multi-Purpose

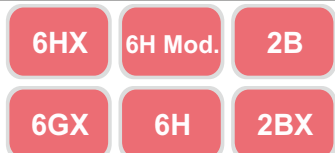
Helix Angle







Standard of Tools










Class of Thread



Tool Material

 CARBIDE	Carbide
 HSS-PM	YG-1 Premium Powder Metallurgy HSS
 HSS-E	5% Cobalt HSS
 HSS	High Speed Steel








Chamfer Lead Acc. to DIN2197

 	Set of Hand Taps
 LONG	Long Chamfer Lead for Nut Tap
 B	Form B (with Gun-nose and Chamfer Lead 4~5 Thread)
 C	Form C (Chamfer Lead 2~3 Thread)
 D	Form D (Chamfer Lead 4~5 Thread)
 E	Form E (Chamfer Lead 1.5~2 Thread)

Thread Angle

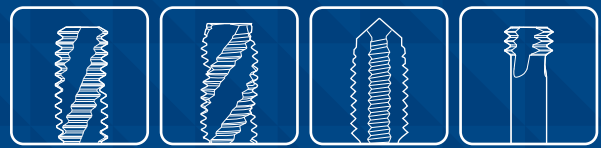


Surface Treatment

 TiCN	Titanium Carbon Nitride Coating
 TiAlN	Titanium Aluminum Nitride Coating
 Hardslick	TiAlN+WC/C Coating
 TiN	Titanium Nitride Coating
 Vap	Steam Tempered
 NI	Nitrided
 Bright	Bright Finish

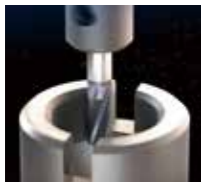




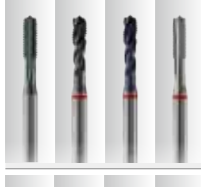

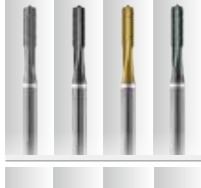
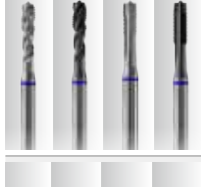
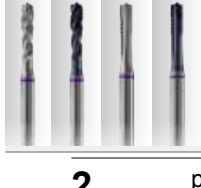


CUTTING TOOLS



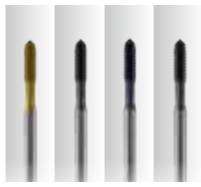
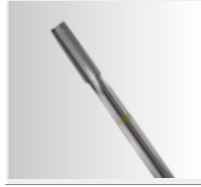
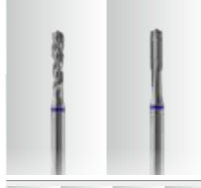
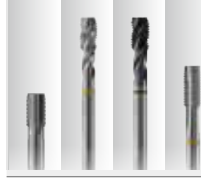
THREADING TOOLS

1. ENGLISH 2.GERMAN 3.FRENCH 4. ITALIAN 5. SPANISH 6. RUSSIAN 7. POLISH 8. TURKISH

PRODUCTS	DESCRIPTION	PAGE
 <p>1 SOLID CARBIDE THREAD MILLS (with & without Coolant Holes) 2 VHM - GEWINDEFÄSER (mit und ohne Kühlkanäle) 3 FRAISE A FILETER CARBURE (avec et sans arrosage central) 4 FRESE A FILETTARE IN METALLO DURO (con e senza fori di refrigerazione) 5 Fresas de roscar de metal duro (con y sin agujeros de refrigeración) 6 Твердосплавные резьбофрезы (с/без отверстий для СОЖ) 7 WĘGLIKOWE FREZY GWINTUJĄCE (Z I BEZ CHŁODZENIA WEWNĘTRZNEGO) 8 SOLID KARBÜR VİDA AÇMA FREZELERİ (Su delikli ve su deliksiz)</p>	<p>Threading Large Diameter in High Quality Available with Chamfer</p>	39
 <p>1 HSS-PM SYNCHRO TAPS (Spiral Flute, Spiral Point, Straight Flute & Cold Forming) 2 HSS Synchro Gewindebohrer 3 Tarauds SYNCHRO HSS 4 MASCHI SYNCHRO 5 MACHOS HSS-PM SYNCHRO 6 Метчики SYNCHRO с покрытием TiN/TiCN из порошковой быстрорежущей стали для высокоскоростного нарезания резьбы 7 GWINTOWNIKI SYNCHRO HSS 8 HSS SYNCHRO TAP KILAVUZLARI</p>	<p>For High Speed Tapping on Rigid CNC Machine</p>	63
 <p>1 HSS-E & HSS-PM COMBO TAPS (Spiral Point & Spiral Flute Tap) 2 HSS COMBO GEWINDEBOHRER (gerade- und drallgenutet) 3 COMBO TAPS - TARAUDS HSS (Entree GUN, HELICOIDAUX) 4 MASCHI COMBO IN HSS (Fori passanti e fori ciechi) 5 Machos Combo HSS (tipo helicoidal con entrada corregida) 6 Метчики COMBO из быстрорежущей стали (с винтовой подточкой, с винтовыми канавками) 7 GWINTOWNIKI COMBO HSS 8 HSS COMBO KILAVUZLARI (Düz kanal eğik ağız bilemeli ve helis kanallı)</p>	<p>For Multi Purpose Tapping YG-1's Patent</p>	71
 <p>1 HSS & HSS-E YG TAP GENERAL 2 YG Gewindebohrer Universal 3 Taraud YG pour usage général 4 MASCHI FORI CIECHI/FORI PASSANTI 5 MACHOS YG PARA USO GENERAL 6 Метчики YG из быстрорежущей стали для общего применения 7 GWINTOWNIKI UNIWERSALNE 8 HSS YG GENEL KILAVUZLARI</p>	<p>Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation</p>	119
 <p>1 HSS-E & HSS-PM YG TAP STEEL 2 HSS YG Gewindebohrer Stähle 3 Taraud YG HSS pour ACIERS 4 MASCHI IN HSS 5 MACHOS HSS YG PARA ACERO 6 Метчики YG из быстрорежущей стали для обработки стали 7 GWINTOWNIKI HSS DO STALI 8 HSS YG ÇELİK KILAVUZLARI</p>	<p>For Steel Materials but also other Long Chip Forming Materials</p>	163
 <p>1 SOLID CARBIDE & HSS-E YG TAP HARDENED 2 HSS YG Gewindebohrer für gehärtete Stähle 3 Taraud YG HSS pour Aciers Trempés 4 MASCHI IN HSS PER ACCIAI TEMPRATI 5 MACHOS HSS YG PARA MATERIALES DE ALTA DUREZA 6 Метчики YG из быстрорежущей стали для закаленной стали 7 GWINTOWNIKI HSS DO STALI ULEPSZONYCH CIEPLNIE 8 HSS YG SERTLEŞTİRİLMİŞ ÇELİK KILAVUZLARI</p>	<p>For Hardened Steels Applications to Control the Continuous and Red-glowing Chips</p>	191
 <p>1 HSS-E & HSS-PM YG TAP INOX 2 HSS YG Gewindebohrer INOX 3 Taraud YG HSS pour INOX 4 MASCHI IN HSS PER INOX 5 MACHOS HSS YG PARA ACEROS INOXIDABLES 6 Метчики YG из быстрорежущей стали для обработки нержавеющей стали 7 GWINTOWNIKI HSS DO STALI NIERDZEWNEJ 8 HSS YG PASLANMAZ ÇELİK KILAVUZLARI</p>	<p>For Stainless Steels with Lamellar, Irregular Chip Formation where the Cutting Forces are Higher</p>	203
 <p>1 SOLID CARBIDE & HSS-E YG TAP CAST IRON 2 HSS Gewindebohrer Guss 3 Taraud YG HSS pour la FONTE 4 MASCHI IN HSS PER GHISA 5 MACHOS HSS YG PARA FUNDICIÓN 6 Метчики YG из быстрорежущей стали для обработки чугуна 7 GWINTOWNIKI HSS DO ŻELIWA 8 HSS YG DÖKME DEMİR KILAVUZLARI</p>	<p>For Cast Iron or Similar Work Materials</p>	227
 <p>1 HSS-E YG TAP ALU 2 HSS YG TAP Aluminium 3 Taraud YG HSS pour ALU 4 MASCHI IN HSS PER ALU 5 MACHOS HSS YG PARA ALUMINIO 6 Метчики YG из быстрорежущей стали для обработки алюминия 7 GWINTOWNIKI HSS DO ALUMINIUM 8 HSS YG ALUMINYUM KILAVUZLARI</p>	<p>For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations</p>	239
 <p>1 HSS-PM YG TAP Ti Ni 2 HSS YG Gewindebohrer Titan / Superlegierungen 3 Taraud YG HSS pour Titane 4 MASCHI IN HSS PER SUPERLEGHE E LEGHE DI TITANIO 5 MACHOS HSS YG PARA TITANIO Y ALEACIONES CON NIQUEL 6 Метчики YG из быстрорежущей стали для обработки никелевых и титановых сплавов 7 GWINTOWNIKI HSS DO STOPÓW TYTANU I NIKLU 8 HSS YG TİTANYUM-NİKEL KILAVUZLARI</p>	<p>For Heat Resistent Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief</p>	253

THREADING TOOLS

1. ENGLISH 2.GERMAN 3.FRENCH 4. ITALIAN 5. SPANISH 6. RUSSIAN 7. POLISH 8. TURKISH

PRODUCTS	DESCRIPTION	PAGE
 <p>1 HSS-E & HSS-PM YG TAP FORMING 2 HSS INNENGEWINDEFORMER 3 TARAUDS HSS A REFOULER 4 MASCHI A RULLARE 5 Machos HSS de laminación 6 Раскатники из быстрорежущей стали 7 WYGNIAKAKI Z HSS 8 HSS OVALAMA KILAVUZLARI</p>	<p>Tapping by Forming Soft Materials</p>	269
 <p>1 HSS-E NUT TAPS 2 HSS MUTTERGEWINDEBOHRER 3 TARAUDS HSS ENFILADE 4 MASCHI PER DADI 5 Machos HSS para roscado de tuercas 6 Гаечные метчики из быстрорежущей стали 7 GWINTOWNIKI NAKRĘTKOWE HSS 8 HSS SOMUN KILAVUZLARI</p>	<p>Nut Tapping Machines</p>	287
 <p>1 HSS-E SCREW THREAD INSERT TAPS 2 HSS GEWINDEBOHRER FÜR GEWINDEDRAHTENSÄTZE 3 TARAUDS HSS POUR FILETS RAPPORTES 4 MASCHI PER HELICOIL 5 Machos HSS para insertos de roscas de tornillo (helicoil) 6 Метчики из быстрорежущей стали под резьбовые вставки 7 GWINTOWNIKI EG HSS 8 HSS HELICOIL KILAVUZLARI</p>	<p>Tapping STI Threads of Soft Materials</p>	291
 <p>1 HSS & HSS-E PIPE TAPS 2 HSS GASGEWINDEBOHRER 3 TARAYDS HSS POUR TUBE 4 MASCHI PER TUBI 5 Machos HSS rosca GAS 6 Метчики из быстрорежущей стали для трубной резьбы 7 GWINTOWNIKI RUROWE 8 HSS BORU KILAVUZLARI</p>	<p>Tapping Whitworth Pipe threads</p>	299

SYNCHRO TAPS

Reference page : p.63 - p.69

TEST I - SPIRAL FLUTE

Cutting Condition

Tool	HSS-PM Synchro Spiral Flute Tap
Size	M10x1.5
Work Material	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Cutting Speed	30 m/min.
RPM (rev./min)	955 rev./min.
Feed(mm/min)	1.5 mm/rev.
Tapping Depth	25 mm
Tapping Method	Blind Hole Tapping
Coolant	Wet Cut
Machine	Machining Center

YG-1(Total Tapping 330 Holes)-Chamfer



Competitor A(Total Tapping 330 Holes)-Chamfer



YG-1(Total Tapping 330 Holes)-Thread



Competitor A(Total Tapping 330 Holes)-Thread



TEST II - SPIRAL FLUTE

Cutting Condition

Tool	HSS-PM Synchro Spiral Flute Tap
Size	M6x1.0
Work Material	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Cutting Speed	30 m/min.
RPM (rev./min)	1,592 rev./min.
Feed(mm/min)	1.0 mm/rev.
Tapping Depth	25 mm
Tapping Method	Blind Hole Tapping
Coolant	Wet Cut
Machine	Machining Center

YG-1(Total Tapping 490 Holes)-Chamfer



Competitor A(Total Tapping 490 Holes)-Chamfer



YG-1(Total Tapping 490 Holes)-Thread



Competitor A(Total Tapping 490 Holes)-Thread



COMBO TAPS - MULTI PURPOSE

Reference page : p.71 - p.117

TEST I - SPIRAL FLUTE

Cutting Condition

Tool	Combo Spiral Flute Tap
Size	M8x1.25
Work Material	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Tapping Depth	20mm
Coolant	Water Soluble Oil
Vc (Tapping Speed)	10.0m/min

YG-1(Total Tapping 204 Holes)

Surface Roughness of Work Piece
Oberflächengüte des Werkstücks



204 Holes ▶

Competitor A (Total Tapping 159 Holes)

Surface Roughness of Work Piece
Oberflächengüte des Werkstücks



159 Holes ▶

Competitor B (Total Tapping 204 Holes)

Surface Roughness of Work Piece
Oberflächengüte des Werkstücks



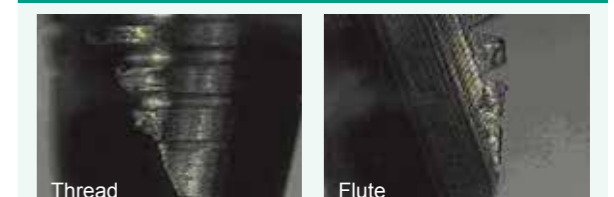
204 Holes ▶

TEST II - SPIRAL POINT

Cutting Condition

Tool	Combo Spiral Point Tap
Size	M2x0.4
Work Material	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Tapping Depth	6mm
Coolant	Tapping Oil
Machine	Machining Center

YG-1(Total Tapping 450 Holes)



Competitor A (Total Tapping 318 Holes)

Tool broke after tapping 318 holes

Competitor B (Total Tapping 103 Holes)

Tool broke after tapping 103 holes

COMBO TAPS - INOX

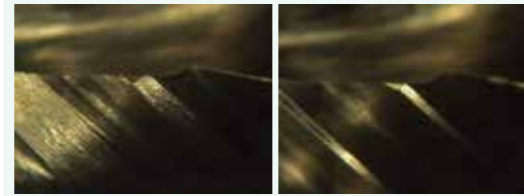
Reference page : p.71 - p.117

TEST I - SPIRAL FLUTE

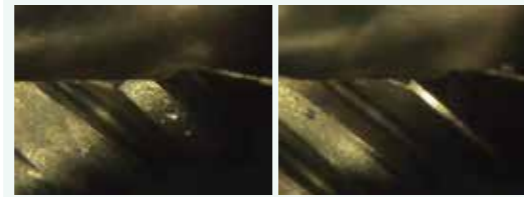
Cutting Condition

Tool	Combo tap for Stainless Steels (TQ744246)
Size	M4x0.7
Work Material	JIS : SUS304 DIN : X5CrNi18 10(X 4 CrNi18-10) WR : 1.4303
Tapping Depth	10mm
Coolant	Wet Cut
Vc (Tapping Speed)	8m/min.

YG-1 (Total Tapping 170 Holes)



Competitor A (Total Tapping 170 Holes)



Competitor B

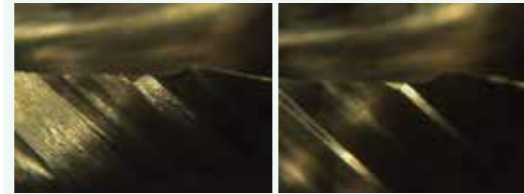
Tool broke after tapping 83 holes

TEST II - SPIRAL FLUTE

Cutting Condition

Tool	Combo tap for Stainless Steels (TQ744316)
Size	M6x1.0
Work Material	JIS : SUS304 DIN : X5CrNi18 10(X 4 CrNi18-10) WR : 1.4303
Tapping Depth	15mm
Coolant	Wet Cut
Vc (Tapping Speed)	8m/min.

YG-1 (Total Tapping 230 Holes)



Competitor A

Tool broke after tapping 92 holes

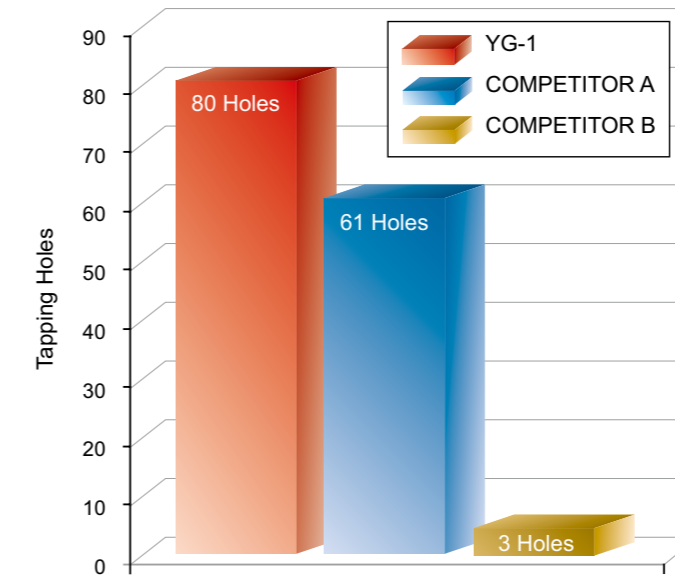
Competitor B

Tool broke after tapping 98 holes

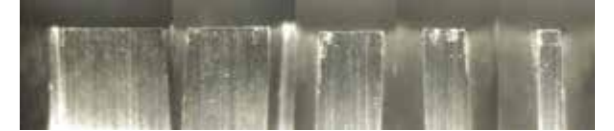
CARBIDE TAP for HARDENED STEELS

Reference page : p.191 - p.201

TEST I - STRAIGHT FLUTE TAPS



YG-1 (Total Tapping 80 Holes)



Competitor A (Total Tapping 61 Holes)

Tool broke after tapping 61 holes

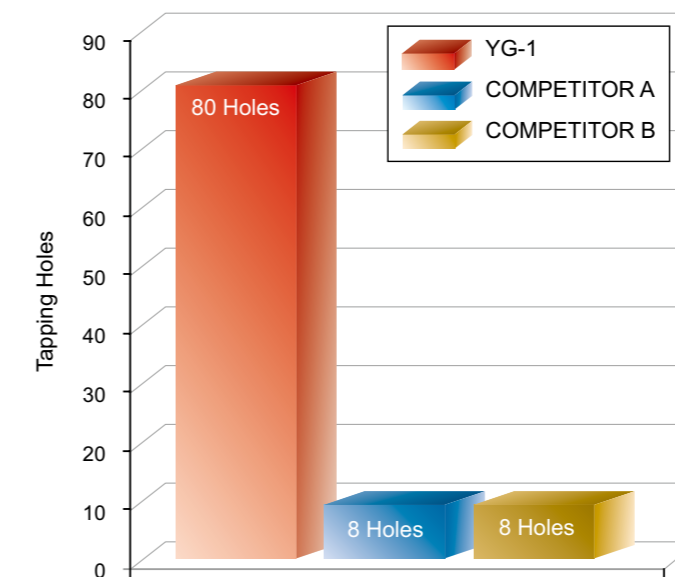
Competitor B (Total Tapping 3 Holes)

Tool broke after tapping 3 holes

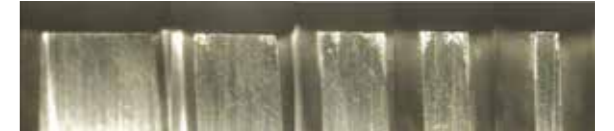
Cutting Condition

Tool	Straight flute tap
Size	M6x1.0
Work Material	JIS : SKD61 (HRc50) DIN : X40GrMoV51(1.2344) AISI : H13
R.P.M.	120 rev./min.
Feed	1.0 mm/rev.
Tapping Depth	9mm (1.5xD)
Coolant	Wet Cut

TEST II - STRAIGHT FLUTE TAPS



YG-1 (Total Tapping 80 Holes)



Competitor A (Total Tapping 8 Holes)



Competitor B (Total Tapping 8 Holes)

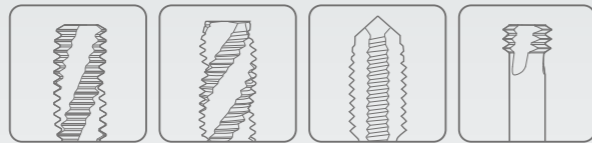
Tool broke after tapping 8 holes

Cutting Condition

Tool	Straight flute tap
Size	M6x1.0
Work Material	JIS : SKD61 (HRc50) DIN : X40GrMoV51(1.2344) AISI : H13
R.P.M.	120 rev./min.
Feed	1.0 mm/rev.
Tapping Depth	9mm (1.5xD)
Coolant	Wet Cut



Global Cutting Tool Leader **YG-1**



THREADING

THREADING TOOLS

SOLID CARBIDE THREAD MILLS (with & without Coolant Holes)

HSS-PM SYNCHRO TAPS (Spiral Flute, Spiral Point, Straight Flute & Cold Forming)

HSS-E & HSS-PM COMBO TAPS (Spiral Point & Spiral Flute Tap)

HSS & HSS-E YG TAP GENERAL

HSS-E & HSS-PM YG TAP STEEL

SOLID CARBIDE & HSS-E YG TAP HARDENED

HSS-E & HSS-PM YG TAP INOX

SOLID CARBIDE & HSS-E YG TAP CAST IRON

HSS-E YG TAP ALU

HSS-PM YG TAP Ti Ni

HSS-E & HSS-PM YG TAP FORMING

HSS-E NUT TAPS

HSS-E SCREW THREAD INSERT TAPS

HSS & HSS-E PIPE TAPS

	SOLID CARBIDE THREAD MILLS (with & without Coolant Holes) Threading Large Diameter in High Quality / Available with Chamfer	THREAD MILLS
SOLID CARBIDE THREAD MILLS	HSS-PM SYNCHRO TAPS (Spiral Flute, Spiral Point, Straight Flute & Cold Forming) For High Speed Tapping on Rigid CNC Machine	SYNCHRO TAPS
HSS MACHINE TAPS	HSS-E & HSS-PM COMBO TAPS (Spiral Point & Spiral Flute Tap) For Multi Purpose Tapping / YG-1's Patent	COMBO TAPS
HSS MACHINE & HAND TAPS	HSS & HSS-E YG TAP GENERAL Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation	YG TAP GENERAL
HSS MACHINE TAPS	HSS-E & HSS-PM YG TAP STEEL For Steel Materials but also other Long Chip Forming Materials	YG TAP STEEL
SOLID CARBIDE & HSS MACHINE TAPS	SOLID CARBIDE & HSS-E YG TAP HARDENED For Hardened Steels Applications to Control the Continuous and Red-glowing Chips	YG TAP HARDENED
HSS MACHINE TAPS	HSS-E & HSS-PM YG TAP INOX For Stainless Steels with Lamellar, Irregular Chip Formation where the Cutting Forces are Higher	YG TAP INOX
SOLID CARBIDE & HSS MACHINE TAPS	SOLID CARBIDE & HSS-E YG TAP CAST IRON For Cast Iron or Similar Work Materials	YG TAP CAST IRON
	HSS-E YG TAP ALU For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations	YG TAP ALU
	HSS-PM YG TAP Ti Ni For Heat Resistant Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief	YG TAP Ti Ni
HSS MACHINE TAPS	HSS-E & HSS-PM YG TAP FORMING Tapping by Forming Soft Materials	YG TAP FORMING
	HSS-E NUT TAPS Nut Tapping Machines	NUT TAPS
	HSS-E SCREW THREAD INSERT TAPS Tapping STI Threads of Soft Materials	STI TAPS
HSS PIPE TAPS	HSS & HSS-E PIPE TAPS Tapping Whitworth Pipe threads	PIPE TAPS
TECHNICAL DATA	TECHNICAL DATA	TECHNICAL DATA

SELECTION GUIDE



THREADING TOOLS

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

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 (P42)	L1212 (P43)	L1213 (P44)	L1214 (P45)	L4211 (P46)	L4212 (P47)	L6215 (P48)
SURFACE TREATMENT	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN
MODEL							

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	180	Low alloy steel	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		110		◎	◎	◎	◎	◎	◎	◎
	27	Copper and Copper Alloys (Bronze / Brass)	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							
	39		630	60							
	40	Hardened Cast Iron	400	42							
	41		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 (P49)	L4272 (P50)	L4273 (P51)	L4274 (P52)	L4276 (P53)	L12D1 (P54)	L12D3 (P55)	L19E1 (P56)	L19E3 (P57)	L41A1 / L42A1 (P58)
TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	AlTiN	AlTiN	Bright / TiAIN

ISO	VDI 3323	Material Description	HB	HRc	L4271	L4272	L4273	L4274	L4276	L12D1	L12D3	L19E1	L19E3	L41A1 / L42A1
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎			
	2		190	13	◎	◎	◎	◎	◎	◎	◎			
	3		250	25	◎	◎	◎	◎	◎	◎	◎			
	4		270	28	◎	◎	◎	◎	◎	◎	◎			
	5		300	32	◎	◎	◎	◎	◎	◎	◎			
	6	180	Low alloy steel	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		110		◎	◎	◎	◎	◎	◎	◎			◎
	27	Copper and Copper Alloys (Bronze / Brass)	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								◎	◎	
	39		630	60								◎	◎	
	40	Hardened Cast Iron	400	42								◎	◎	
	41		550	55								◎	◎	

SELECTION GUIDE



THREADING TOOLS

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, SERIES (M, MF, UNC, UNF, BSW, G(BSP), EG-M, EG-UNC, EG-UNF), SURFACE TREATMENT, MODEL, ISO, VDI 3323, Material Description, HB, HRC, and material compatibility icons.

Table with columns: COMBO TAPS (HSS-E), HSS-PM, and material compatibility icons for various hole types and materials.

SELECTION GUIDE



THREADING TOOLS

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRC	YG TAP HARDENED							
					Max. 2.0xD Blind / Through Hole	Max. 2.5xD Blind Hole				Max. 3.0xD Through Hole		
HOLE TYPE					CARBIDE				HSS-E			
TOOL MATERIAL					CARBIDE				HSS-E			
CHAMFER LEAD ACC. TO DIN2197					C	D	C	C	C	B	B	
FLUTE TYPE					Straight Flute	Straight Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Point	Spiral Point	
SPIRAL FLUTE ANGLE					-	-	R40	R40	R40	-	-	
SERIES	M	DIN371/376	T0997-TIC (P.194)	T0999-TIC (P.195)	TC313 (P.196)	TB313 (P.197)	TY313 (P.198)	TC283 (P.199)	TY283 (P.200)			
		DIN352										
		DIN357/LONG										
	MF	DIN374										
		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	TiCN	Bright	VAP	TiAlN	Bright	TiAlN	
MODEL												
P	1	Non-alloy steel	125									
	2		190	13								
	3		250	25								
	4		270	28								
	5		300	32								
	6		180	10								
	7	275	29			○	○	○	○	○		
	8	300	32			○	○	○	○	○		
	9	350	38			○	○	◎	◎	◎		
	10	200	15									
	11	325	35									
M	12	200	15									
	13	240	23									
	14	180	10			○	○	○	○	○		
K	15	180	10									
	16	260	26									
	17	160	3									
	18	250	25									
	19	130										
20	230	21										
N	21	60										
	22	100										
	23	75										
	24	90										
	25	130										
	26	110			○	○	○	○	○	○		
	27	90										
	28	100										
	29											
30												
S	31	200	15									
	32	280	30									
	33	250	25									
	34	350	38									
	35	320	34									
	36	400 Rm										
	37	1050 Rm										
H	38	550	55		◎	◎						
	39	630	60		◎	◎						
	40	400	42		◎	◎						
	41	550	55		◎	◎						

YG TAP INOX

Max. 2.0xD Blind Hole	Max. 2.5xD Blind Hole										Max. 3.0xD Through Hole		
	HSS-E			HSS-PM			HSS-E					HSS-PM	
TOOL MATERIAL													
CHAMFER LEAD ACC. TO DIN2197													
FLUTE TYPE													
SPIRAL FLUTE ANGLE													
SERIES	HSS-E	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Point	Spiral Point	
		R40	R40	R40	R40	R40	R40	R40	R40	R40	-	-	
		TB711 (P.206)	TQ813 (P.207)	TR813 (P.208)	TB914 (P.209)	TI914 (P.209)	TBE15 (P.210)	TBE16 (P.211)	TBE17 (P.212)	TBE18 (P.213)	TCH14 (P.214)	TQ853 (P.215)	TR853 (P.216)
	HSS-PM	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Point	Spiral Point	
		TB183 (P.219)	TB904 (P.220)	TB924 (P.221)									
	SURFACE TREATMENT												
	MODEL												
	1	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	1
	2	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	2
	3	○	○	○	○	○	○	○	○	○	○	○	3
	4	○	○	○	○	○	○	○	○	○	○	○	4
	5												5
6		○	○	○	○	○	○	○	○	○	○	6	
7												7	
8												8	
9												9	
10												10	
11												11	
12	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	12	
13	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	13	
14	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	14	
15												15	
16												16	
17												17	
18												18	
19												19	
20												20	
21	○											21	
22												22	
23												23	
24												24	
25												25	
26												26	
27												27	
28	○											28	
29												29	
30												30	
31		○	○	○	○	○	○	○	○	○	○	31	
32												32	
33												33	
34												34	
35												35	
36		○	○	○	○	○	○	○	○	○	○	36	
37												37	
38												38	
39												39	
40												40	
41												41	

SELECTION GUIDE



THREADING TOOLS

YG TAP Ti Ni

Table with columns for HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, and SERIES (M, MF, UNC, UNF, BSW, G(BSP), EG-M, EG-UNC, EG-UNF). It includes icons for Max. 2.5xD Blind Hole and Max. 3.0xD Through Hole.



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Large table with columns: ISO, VDI 3323, Material Description, HB, HRC, and 10 columns for surface treatments (Bright, TiAlN, VAP). It lists materials from Non-alloy steel to Hardened Cast Iron.

YG TAP FORMING

Table with columns for HSS-E, HSS-PM, and HSS-E. It lists tool models like TD703, TE703, TY703, etc., with icons for Max. 3.0xD Blind / Through Hole.



Table with columns for surface treatments (TiN, Ni, TiAlN, VAP) and 10 columns for material compatibility. It shows performance indicators (◎ or ○) for each tool model across different materials.

CARBIDE

CARBIDE

SELECTION GUIDE



THREADING TOOLS



Please visit
globalyg1.com/mat
 for material search

◎ : Excellent ○ : Good

		NUT TAPS		SCREW THREAD INSERT TAPS		PIPE TAPS			
		Max. 2.0xD Through Hole		Max. 2.5xD Blind Hole		Max. 3.0xD Through Hole			
		HSS-E		HSS-E		HSS			
		Long		C		B			
		Straight Flute		Spiral Flute		Spiral Point			
		-		R40		-			
SERIES	M	DIN371/376							
		DIN352							
		DIN357/Long	TC803 (P.289)						
	MF	DIN374							
		DIN2181							
	UNC	DIN371/376							
		DIN351							
	UNF	DIN371/374							
		DIN2181							
		DIN2182/2183							
BSW	DIN351								
G(BSP)	DIN5156/5157				T7709 (P.301)	TC728 (P.302)			
EG-M	DIN371/376		TC909 (P.293)	TC973 (P.294)					
EG-UNC	DIN371/376		TC944 (P.295)	TC934 (P.296)					
EG-UNF	DIN371/374			TC954 (P.297)					
SURFACE TREATMENT		Bright	Bright	Bright	Bright	Bright			
MODEL									
ISO	VDI 3323	Material Description	HB	HRc					
P	1	Non-alloy steel	125		○	○	○	○	○
	2		190	13	○	○	○	○	◎
	3		250	25	○	○	○	○	◎
	4		270	28	○				◎
	5		300	32					◎
	6	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		75			◎	◎	○	
	24	Aluminum-cast, alloyed	90			◎	◎	○	
	25		130			○		◎	
	26		110			○		◎	
	27	Copper and Copper Alloys (Bronze / Brass)	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					
	39		630	60					
	40	Chilled Cast Iron	400	42					
	41		550	55					

PIPE TAPS			
Max. 2.5xD Blind Hole		Max. 3.0xD Through Hole	
HSS-E			
C	C	B	
Spiral Flute	Spiral Flute	Spiral Point	
R40	R40	-	
			M
			MF
			UNC
			UNF
			BSW
TC729 (P.303)	TB514 (P.304)	TC727 (P.305)	GBSP
			EG-M
			EG-UNC
			EG-UNF
Bright		VAP	Bright
	◎	◎	1
	◎	◎	2
		◎	3
		◎	4
		◎	5
○		◎	6 P
○		◎	7
◎			8
◎			9
			10
			11
	◎		12
	◎		13 M
○	◎		14
			15
			16
		◎	17 K
		◎	18
			19
			20
		○	21
		○	22
		○	23
		○	24
		◎	25 N
		◎	26
		○	27
			28
			29
			30
			31
			32
			33
			34 S
			35
			36
			37
			38
			39
			40 H
			41

HSS

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

CUTTING SPEED TABLE

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

Tool Dia.	TOOL R.P.M. (rev/min)															
	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	318	398	478

RPM = rev/min
V = m/min
D = Dia.(mm)

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

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

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

EXAMPLES FOR APPLICATION MATERIAL GROUPS

11 Magnetic Soft Steels < 400 N/mm ² 1.1013 RFe 100 1.1014 RFe 80 1.1015 RFe 60 1.0718 9 S MnPb 28	12 Structure/Case Carburizing Steels < 700 N/mm ² 1.0037 St 37-2 1.0050 St 50-2 1.0060 St 60-2 1.0070 St 70-2 1.0401 C 15 1.1141 Ck 15	13 Plain Carbon Steels < 850 N/mm ² 1.0501 C 35 1.0503 C 45 1.0535 C 55 1.0601 C 60 1.1181 Ck 35 1.1191 Ck 45	14 Alloy Steels < 850 N/mm ² 1.2080 X210Cr12 1.2363 X100CrMoV5-1 1.3243 S 6-5-2-5 1.3343 S 6-5-2 1.7218 25CrMo4 1.7220 34CrMo4
15 Alloy, Hardened & Tempered Steels < 1,200 N/mm ² 1.2581 X30WCrV9 3 1.2622 X60WCrMoV9 1.2550 60WCrV7 1.6580 30CrNiMo8 1.7361 32CrMo12 1.8515 31CrMo12	16 Alloy, Hardened & Tempered Steels > 1,200 N/mm ² To this group belong most of the materials of group 15, but present a higher tensile strength.	21 Free machining stainless Steels < 850 N/mm ² 1.4005 X12CrS13 1.4006 X10Cr13 1.4016 X6Cr17 1.4104 X12CrMoS17 1.4305 X10CrNiS18 9	22 Austenitic stainless Steels < 850 N/mm ² 1.4301 X5CrNi18 10 1.4406 X2CrNiMoN17 12 2 1.4435 X2CrNiMo18 14 3 1.4541 X6CrNiTi18 10 1.4571 X6CrNiMoTi17 12 2 1.4828 X15CrNiSi20 12
23 Martensitic/Ferritic/Fer.-Aus. Stainless Steels < 1,000 N/mm ² 1.4112 X90CrMoV18 1.4125 X105CrMo17 1.4002 X6CrAl13 1.4512 X6CrTi12 1.4582 X4CrNiMoNb25 7 1.4821 X20CrNiSi25 4	31 Grey graphite cast irons < 500 N/mm ² 0.6015 GG-15 0.6020 GG-20 0.6025 GG-25 0.6030 GG-30 0.6035 GG-35 0.6040 GG-40	32 Grey graphite cast irons < 1,000 N/mm ² 0.6020 GG-20 0.6025 GG-25 0.6030 GG-30 0.6035 GG-35 0.6040 GG-40	33 Nodular graphite, Malleable cast irons < 700 N/mm ² 0.7040 GGG-40 0.7043 GGG-40.3 0.7050 GGG-50 0.7060 GGG-60 0.7070 GGG-70 0.7080 GGG-80
34 Nodular graphite, Malleable cast irons < 1,000 N/mm ² 0.7040 GGG-40 0.7043 GGG-40.3 0.7050 GGG-50 0.7060 GGG-60 0.7070 GGG-70 0.7080 GGG-80	41 Titanium unalloys < 700 N/mm ² 3.7024 Ti99.5 3.7034 Ti99.7 3.7035 Ti2 3.7055 Ti99.4 3.7064 Ti99.2 3.7065 Ti4	42 Titanium alloys < 900 N/mm ² TiA14Mn4 3.7114 TiA15Sn2 3.7124 TiCu2 3.7164 TiA16V4 3.7174 TiA16V6Sn2	43 Titanium alloys < 1,300 N/mm ² 3.7124 TiCu2 3.7144 TiA16Sn2Zr4Mo2 3.7154 TiAl6Zr5 3.7164 TiA16V4 3.7174 TiA16V6Sn2 3.7184 TiAl4Mo4Sn2
51 Nickel unalloys < 500 N/mm ² 2.1504 NiAlBz 2.4042 Ni99CSi 2.4060 Ni99.6 2.4062 Ni99.4Fe	52 Heat resisting Nickel alloys < 900 N/mm ² 2.4360 Monel 400 2.4374 Monel 500 2.4665 Hastelloy X 2.4812 Hastelloy C 2.4816 Inconel 600 1.4876 Incoloy 800	53 Heat resisting Nickel alloys < 1,400 N/mm ² 2.4631 Nimonic80A 2.4632 Nimonic90 2.4634 Nimonic105 2.4662 Nimonic901 2.4668 Inconel 718 2.4669 Inconel X-750	61 Copper unalloys < 350 N/mm ² 2.0060 E-Cu57 2.0070 SE-Cu 2.0090 SF-Cu 2.1356 CuMn3 2.1522 CuSi2Mn
62 Short chip Brass, Bronze copper alloys < 700N/mm ² 2.0360 CuZn40 (Ms60) 2.0380 CuZn39Pb2 (Ms58) 2.0410 CuZn44Pb2 2.0580 CuZn40Mn1Pb 2.1086 G-CuSn10Zn 2.1096 G-CuSn5ZnPb	63 Long chip Brass, Bronze copper alloys < 700 N/mm ² 2.0250 CuZn20 2.0321 CuZn37 2.1020 CuSn6 2.1080 CuSn6Zn6 2.1245 CuBel.7 2.1293 G-CrZr	64 Cu-Al-Fe alloys < 1,500 N/mm ²	71 Aluminum-Magnesium unalloys < 350 N/mm ² 3.0250 Al99.5H 3.0280 Al99.8H 3.0305 Al99.9 3.3308 Al99.9Mg0.5
72 Aluminum alloys, Si < 1.5% < 600 N/mm ² 3.0515 AlMn1 3.0525 AlMn1Mg0.5 3.1325 AlCuMg1 3.3315 AlMg1 3.3241 G-AlMg3Si 3.3292 GD-AlMg9	73 Aluminum alloys, 0.5-10% Si < 600 N/mm ² 3.2134 G-AISi5Cu1Mg 3.2152 GD-AISi6Cu4 3.2162 GD-AISi8Cu3 3.2373 G-AISi9Mg	74 Aluminum alloys, Si > 10% < 600 N/mm ² 3.2381 G-AISi10Mg 3.2383 G-AISi10Mg(Cu) 3.2581 G-AISi12 3.2583 G-AISi12(Cu) 3.5662 G-MgA16 3.5812 G-MgA18Zn1	81 Thermoplastics Delrin(POM) Teflon Nylon
82 Thermosetting plastics Bakelit Novopan	83 Reinforced plastics materials Glass fiber reinforced Thermo and Duroplastics	Reference: DIN	

MATERIAL GROUP STANDARDS

W.Nr	GERMANY		FRANCE AFNOR	GREAT BRITAIN B.S.	EN & OTHER CLASSIFICATIONS	U.S.A. AISI
	DIN					
10 - STEEL						
11 - Magnetic soft steels - Hardness < 120 HB 30 - Tensile strength < 400 N/mm²						
1.1013	RFe 100			OSOA12	EN2	
1.1014	RFe 80					
1.1015	RFe 60			230Mo7	EN1	
1.0718	9 S MnPb 28					
12 - Structural steels - Hardness < 200 HB 30 - Tensile strength < 700 N/mm²						
12.1 - Structural steels						
1.0034	RSt 34-2		A34-2 EN	1449 34/20 HR		
1.0035	St 33		A33	Fe 310-0		
1.0036	St 37-2			060A35	EN3A,4,5,6,7,8	
1.0037	RSt 37-2					
1.0044	St 44-2					
1.0050	St 50-2			4360-50B	EN 207	
1.0060	St 60-2					
1.0070	St 70-2					
1.0116	St 37-3					
1.0144	St 44-3					
12.2 - Case carburizing steels						
1.0301	C 10		AF 34 C 10	040 A 10		M 1010
1.0401	C 15		AF 37 C 12	080 A 15		M 1015
1.1121	Ck 10		XC 10	040 A 10		1010
1.1141	Ck 15		XC 12	040 A 15		1015
1.5732	14 Ni Cr 10		14 NC 11			3415
1.7015	15 Cr 3		12 C 3	523 M 15		5015
1.7131	16 Mn Cr 5		16 MC 4	527 M 17	EN 32	5115
1.7147	20 Mn Cr 5		20 MC 5			5120
12.3 - Free machining steels						
1.0710	15 S 10					
1.0715	9 S Mn 28		S 250	230 M 07		1213
1.0718	9 S Mn Pb 28		S 250 Pb			12 L 13
1.0721	10 S 20		10 F1	210 M 15		1108 1109
1.0722	10 S Pb 20		10 Pb F 2			11 L 08
1.0723	15 S 20		210 A 15		
1.0726	35 S 20		35 MF 6	212 M 36		1140
1.0727	45 S 20		45 MF 4			1146
1.0736	9 S Mn 36		S 300			1215
1.0737	9 S Mn Pb 36		S 300 Pb			12 L 14
12.4 - Cast structural steels						
1.0416	GS - 38					
1.0446	GS - 45					
1.0552	GS - 52					
1.0553	GS - 60		E 36 - 3			
1.0554	GS - 70					
13 - Plain carbon steels - tempered						
13.1 - Steels, tempered - Hardness < 250 HB 30 - Tensile strength < 850 N/mm²						
1.0402	C 22		1 C 22	070 M 20		M 1023
1.0501	C 35		1 C 35	080 A 32		1035
1.0503	C 45		1 C 45	060 A 47		1045
1.0535	C 55		1 C 55	070 M 55		1055
1.0601	C 60		1 C 60	060 A 62	EN 43	1060
1.1157	40 Mn 4		35 M 5	150 M 36		1035 1041
1.1151	Ck 22		2 C 22	055 M 15		1020 1023
1.1181	Ck 35		2 C 35	080 A 35		1035 1038
1.1191	Ck 45		2 C 45	080 M 46	EN 9, 10	1045
1.1203	Ck 55		2 C 55	060 A 57		1055
1.1221	Ck 60		2 C 60	060 A 62		1060 1064

MATERIAL GROUP					
STANDARDS					
GERMANY		FRANCE AFNOR	GREAT BRITAIN B.S.	EN & OTHER CLASSIFICATIONS	U.S.A. AISI
W.Nr	DIN				
14 - Alloy steels - Hardness < 250 HB 30, < 25 HRC - Tensile strength < 850 N/mm²					
14.1 - Cold work tool steels					
1.2056	90 Cr 3				
1.2067	100 Cr 6	Y 100 C 6	BL 3		L 1 L 3
1.2080	X 210 Cr 12	Z 200 C 12	BD 3		D3
1.2083	X 42 Cr 13	Z 40 C 14			420
1.2363	X 100 CrMoV5 1	Z 100 CDV 5	BA 2		A 2
1.2379	X 155 CrV Mo 12 1	Z 160 CDV 12	BD 2		D 2
1.2510	100 MnCrW 4	90 MWCV 5	BO 1		O1
1.2550	60 WCrV 7	55WC 20	BS 1		S1
1.2823	70 Si 7				
1.2826	60 Mn Si Cr 4				
1.2842	90 MnCrV 8	90 MV 8	BO 2		O 2
14.2 - High speed steels					
1.3202	S 12-4-4-5	Z 130 WKCV 12-05-04-04	BT 15		T 15
1.3207	S 10-4-3-10	Z130 WKCDV10-10-04-04-03	BT 42		T 42
1.3243	S 6-5-2-5	Z85 WDKCV 06-05-05-04-02	BM 35		M 35
1.3247	S 2-10-1-8	Z110 DKCWW 09-08-04-02-01	BM 42		M 42
1.3343	S 6-5-2	Z 85 WDCV 06-05-04-02	BM 2		M 2
1.3344	S 6-5-3	Z 120 WDCV 06-05-04-03			M 3 / 2
1.3348	S 2-9-2	Z 100 DCVV 09-04-02-02			M 7
ASP 23	(S 6-5-3)				
ASP 30					
ASP 60					
14.3 - Alloy steels					
1.5919	GS-15Cr Ni 6	16 NC 6			3115
1.7218	GS-25Cr Mo 4	25 C D 4	70 8A 25		4130
1.7220	GS-34Cr Mo 4	35 C D 4	70 8A 37		4135 4137
1.7379	GS-18 Cr Mo 9 10				
14.4 - Tempered steels					
1.0503	C 45	1 C 45	060 A 47		1045
1.7220	34 Cr Mo 4	34 Cr Mo 4	708 A 37		4135, 4137
1.7225	42 Cr Mo 4	42 CD 4	708 A 42	EN 16, 17, 19	4140, 4142
1.7228	50 Cr Mo 4	50 Cr Mo 4	708 A 47		4150
14.5 - Nitriding steels					
1.7779	20 Cr Mo V 13.5				
1.8504	34 Cr Al 6				
1.8506	34 Cr Al S 5				
1.8507	34 Cr Al Mo 5	30 CAD 6.12			A 355 Cl.D
1.8509	41 Cr Al Mo 7	40 CAD 6.12	905 M 39		A 355 Cl.A
1.8515	31 Cr Mo 12	30 CD 12	722 M 24		
15 - Alloy steels / Tempered steels - Hardness 250-350 HB 30, 25-38 HRC - Tensile strength 850-1,200 N/mm²					
15.1 - Alloy steels for tools					
1.2311	40 Cr Mn Mo 7				
1.2312	40 Cr Mn Mo S 86				
1.2436	X 210 Cr W 12	Z 200 CW 12			
1.2711	54 Ni Cr Mo V 6				
1.2713	55 Ni Cr Mo V 6	55 NCDV 7	826 M 40	S 95, S 97, S 98	L 6
1.2714	56 Ni Cr Mo V 7				
1.2743	60 Ni Cr Mo V 12 4				
1.2766	35 Ni Cr Mo 16				
15.2 - Alloy steels for hot work					
1.2343	X 38 Cr Mo V 5 1	Z 38 CDV 5	BH 11		H 11
1.2344	X 40 Cr Mo V 5 1	Z 40 CDV 5	BH 13		H 13
1.2365	X 32 Cr Mo V 3 3	32 DCV 28	BH 10		H 10
1.2367	X 40 Cr Mo V 5 3	Z 38 CDV 5.3			
1.2581	X 30 W Cr V 9 3	Z 30 WCV 9.3	BH 21		H 21
1.2622	X 60 W Cr Mo V 9				
1.2678	X 45 CoCrWV 5 5 5				
1.2550	60 WCr V 7	55 WC 20	BS 1		S 1
1.2567	X 30 W Cr V 5 3	Z 32 WCV 5			

MATERIAL GROUP					
STANDARDS					
GERMANY		FRANCE AFNOR	GREAT BRITAIN B.S.	EN & OTHER CLASSIFICATIONS	U.S.A. AISI
W.Nr	DIN				
15.3 - Hardened tempered steels - Hardness may be different according to presentation and dimensions of material					
1.5864	35 Ni Cr 18				
1.6580	30 Cr Ni Mo 8	30 Cr Ni Mo 8			
1.7361	32 Cr Mo 12	30 CD 12	722 M 24		
1.7707	30 Cr Mo V 9				
1.8161	58 Cr V 4				
15.4 - Nitriding steels					
1.8515	31 Cr Mo 12	30 CD 12	722 M 24		
1.8519	31 Cr Mo V 9		830 M 31		
1.8523	39 Cr Mo V 13 9		897 M 39		
1.8550	34 Cr Al Ni 7		826 M 40		
16 - Alloy steels / Hardened tempered steels - Hardness > 38 HRC - Tensile strength > 1,200 N/mm²					
To this group belong most of the materials of group 15, but present a higher tensile strength					
20 - STAINLESS STEELS					
21 - Free machining stainless steels - Hardness < 250 HB 30 - Tensile strength < 850 N/mm²					
1.4104	X 12 Cr Mo S 17	Z 13 CF 17	416 S 37	EN 56	430 F
1.4305	X 10 Cr Ni S 18 09	Z 8 CNF 18-09	303 S 21	EN 60	303
22 - Austenitic stainless steels - Hardness < 250 HB 30 - Tensile strength < 850 N/mm²					
1.4300	X 12 Cr Ni 18 8		320 S 12		
1.4301	X 5 Cr Ni 18 10	Z 6 CN 18-09	304 S 15	EN 80, EN 58 + C	304
1.4311	X 2 CrNiN 18 10	Z 3 CN 18-07 Az	304 S 61		304 LN
1.4406	X 2 CrNiMoN 17 12 2	Z 3 CND 17 11 02	316 S 61		316 LN
1.4433	X 2 CrNiMo 18 15		316 S		
1.4435	X 2 CrNiMo 18 14 3	Z3 CND 17-12-03	316 S 11		316 L
1.4539	X 1 CrNiMoCu 25 20 5	Z 1 NCDU 25-20	321 S 17		UNS N08904
1.4541	X 6 CrNiTi 18 10	Z 6 CNT 18 10	321 S 18	EN 58 J, 316	321
1.4571	X 6 CrNiMoTi 17 12 2	Z 6 CNDT 17 12	320 S 18		316 Ti
1.4573	X 10 CrNiMoTi 18 12		320 S 33		
1.4828	X 15 CrNiSi 20 12	Z 15 CNS 20-12	309 S 24		309
22.1 - Cast austenitic stainless steels					
1.4308	G-X 6 CrNi 18 9	Z 6 CN 18.10 M	304 C 15(LT196)		CF-8
1.4313	G-X 5 CrNi 13 4	Z 8 CD 17-01	425 C 12		CA 6 -NM
1.4408	G-X 6 CrNiMo 18 10		316 C 16(LT196)		CF-8M
1.4581	G-X 5 CrNiMoNb 18 10	Z 4 CNDNb 18.12M	318 C 17		
23 - Martensitic stainless steels - Hardness < 320 HB 30 - Tensile strength < 1,000 N/mm²					
1.4021	X 20 Cr 13	Z 20 C 13	420 S 37		420
1.4034	X 46 Cr 13	Z 44 C 14	(420 S 45)		
1.4057	X 20 CrNi 17 2	Z 15 CN 16-02	431 S 29		431
1.4112	X 90 CrMoV 18				
1.4116	X 45 CrMoV 15			EN 58, b.e.j.t	
1.4125	X 105 CrMo 17	Z 100 CD 17		Duplex alloys	440 C
1.4718	X 45 CrSi 9 3	Z 45 CS 9	401 S 45		HNV 3
1.4747	X 80 CrNiSi 20	Z 80 CSN 20-02	443 S 65		HNV 6
1.4086	G-X 120 Cr 29				
1.4106	G-X 10 CrMo 13				
1.4138	G-X 120 CrMo 29 2				
24 - Ferritic stainless steels - Hardness < 320 HB 30 - Tensile strength < 1,100 N/mm²					
1.4002	X 6 Cr Al 13	Z 8 CA 12	405 S 17		405
1.4006	X 10 Cr 13	Z 10 C 13	410 C 21		410
1.4016	X 6 Cr 17	Z 8 C 17	430 S 17		430
1.4510	X 6 Cr Ti 17	Z 8 CT 17			430 Ti
1.4512	X 6 Cr Ti 12	Z 6 CT 12	409 S 19		409
25 - Ferritic-Austenitic stainless steels - Hardness < 320 HB 30 - Tensile strength < 1,100 N/mm²					
1.4460	X 8 CrNiMo 27 5	Z 5 CND 27-05 Az			329
1.4582	X 4 CrNiMoNb 25 7				
1.4821	X 20 CrNiSi 25 4				

MATERIAL GROUP					
STANDARDS					
GERMANY		FRANCE AFNOR	GREAT BRITAIN B.S.	EN & OTHER CLASSIFICATIONS	U.S.A. AISI
W.Nr	DIN				
30 - CAST IRONS					
31 - Grey graphite cast irons - Hardness < 150 HB 30 - Tensile strength < 500 N/mm²					
0.6010	GG-10	Ft 10 D			A 48-20 B
0.6015	GG-15	Ft 20 D	Grade 150	Grey cast iron soft	A 48-25 B
0.6020	GG-20	Ft 25 D	Grade 220		A 48-30 B
0.6025	GG-25	Ft 30 D	Grade 260		A 48-40 B
0.6030	GG-30	Ft 30 D	Grade 300		A 48-45 B
0.6035	GG-35	Ft 35 D	Grade 350		A 48-50 B
0.6040	GG-40	Ft 40 D	Grade 400		A 48-60 B
31.1 - Meehanite - Hardness < 150 HB 30 - Tensile strength < 500 N/mm²					
.....	GF - 150				
.....	GD - 260				
32 - Grey graphite cast irons - Hardness 150 - 300 HB 30 - Tensile strength 500 - 1,000 N/mm²					
0.6020	GG - 20	Ft 25 D	Grade 220	Grey cast iron hard	A 48-30 B
0.6025	GG - 25	Ft 30 D	Grade 260		A 48-40 B
0.6030	GG - 30	Ft 30 D	Grade 300		A 48-45 B
0.6035	GG - 35	Ft 35 D	Grade 350		A 48-50 B
0.6040	GG - 40	Ft 40 D	Grade 400		A 48-60 B
32.1 - Meehanite - Hardness 150-300 HB 30 - Tensile strength 500-1,000 N/mm²					
.....	GF - 150				
.....	GD - 260				
15 - Alloy steels / Tempered steels - Hardness 250-350 HB 30, 25-38 HRC - Tensile strength 850-1,200 N/mm²					
0.7033	GGG-35.3				
0.7040	GGG-40	FGS 400-12	420 / 12		60-40-18
0.7043	GGG-40.3	FGS 370-17	370 / 17		
0.7050	GGG-50	FGS 500-7	500 / 7		65-45-12
0.7060	GGG-60	FGS 600-3	600 / 3	S.G.iron, Meehanite	80-55-06
0.8035	GTW-35		700/2,30g/72	Black & White Heart	
0.8040	GTW-40				
0.8045	GTW-45				
0.8065	GTW-65				
0.8135	GTS-35				
0.8145	GTS-45				
0.8155	GTS-55				
0.8165	GTS-65				
33.1 - Meehanite - Hardness < 200 HB 30 - Tensile strength < 700 N/mm²					
SF 400					
SPF 600					
34 - Nodular graphite, tempered malleable cast irons - Hardness 200-300 HB 30 - Tensile strength 700-1,000 N/mm²					
0.7070	GGG-70	FGS 700-2	700 / 2	S.G.iron,Meehanite	100-70-03
0.7080	GGG-80	FGS 800-2	800 / 2	Black & White Heart	120-90-02
And materials from group 33 tempered					
34.1 - Meehanite - Hardness 200-300 HB 30 - Tensile strength 700-1,000 N/mm²					
	SH 800		420/12, P 440/7		
	SH 1000				
40 - TITANIUM					
41 - Titanium, unalloys - Hardness < 200 HB 30 - Tensile strength < 700 N/mm²					
3.7024.1LN	Ti 99.5				
3.7034.1LN	Ti 99.7				
3.7035	Ti 2				
3.7055	Ti 99.4		TA 1-9	Ti 99.0	
3.7064.1LN	Ti 99.2				
3.7065	Ti 4				
3.7255	Ti 3 Pd				

MATERIAL GROUP					
STANDARDS					
GERMANY		FRANCE AFNOR	GREAT BRITAIN B.S.	EN & OTHER CLASSIFICATIONS	U.S.A. AISI
W.Nr	DIN				
42 - Titanium, alloys - Hardness < 270 HB 30 - Tensile strength < 900 N/mm²					
	Ti Al 4 Mn 4				
3.7144 LN	Ti Al 5 Sn 2				
3.7124 LN	Ti Cu 2		TA 10-14, TA 17	Ti - 2AL	
3.7164 LN	Ti Al 6 V 4		TA 18		
3.7174 LN	Ti Al 6 V 6 Sn 2				
43 - Titanium, alloys - Hardness 270-300 HB 30 - Tensile strength 900-1,300 N/mm²					
3.7124 LN	Ti Cu 2				
3.7144 LN	Ti Al 6 Sn 2 Zr4 Mo2			Ti AL	
3.7154 LN	Ti Al 6 Zr 5		TA 10-13, TA 28	3.7174LN, 3.7148LN	
3.7164 LN	Ti Al 6 V 4				
3.7174 LN	Ti Al 6 V Sn 2				
3.7184 LN	Ti Al 4 Mo 4 Sn 2				
50 - NICKEL					
51 - Nickel, unalloys - Hardness < 150 HB 30 - Tensile strength < 500 N/mm²					
2.1504 LN	Ni Al Bz				
2.4042	Ni 99 CSi		NA 11, NA 12	Nickel 200	
2.4060	Ni 99.6			Nickel 270	
2.4062	Ni 99.4 Fe				
52 - Heat resisting nickel alloys - Hardness < 270 HB 30 - Tensile strength < 900 N/mm²					
2.4360 LN	Monel 400				
2.4374 LN	Monel 500				
2.4617	Hastelloy B 2			Nimonic 75	
2.4665	Hastelloy X		HR 203		
2.4812	Hastelloy C		3027-76	Hastelloy C	
2.4816	Inconel 600			Haynes Alloys 263	
1.4876	Incoloy 800				
2.4983	Udimet 500				
53 - Heat resisting nickel alloys - Hardness 270-410 HB 30 - Tensile strength 900-1,400 N/mm²					
2.4631	Nimonic 80 A			Nimonic 80	
2.4632	Nimonic 90				
2.4634	Nimonic 105				
2.4662	Nimonic 901		HR 8		
2.4668	Inconel 718		HR 401, 601	Rene 41	
2.4669	Inconel X-750				
2.4670 LN	Nimocast 713				
2.4674 LN	Nimocast PK 24				
2.4856	Inconel 625				
2.6554 LN	Waspaloy				
60 - COPPER					
61 - Copper, unalloys - Hardness < 100 HB 30 - Tensile strength < 350 N/mm²					
2.0060	E - Cu 57				
2.0070	SE - Cu			Commercially Pure	
2.0090	SF - Cu		C 101		
2.1356	Cu Mn 3				
2.1522	Cu Si 2 Mn				
62 - Short chip copper alloys - Hardness < 200 HB 30 - Tensile strength < 700 N/mm²					
62.1 - Brass					
2.0360	Cu Zn 40(MS 60)				
2.0380	Cu Zn 39 Pb 2 (MS 58)		CZ120, CZ109		
2.0410	Cu Zn 44 Pb 2		PB104		
2.0561	Cu Zn 40 Al 1			2.1030, 2.1080	
2.0580	Cu Zn 40 Mn 1 Pb				
2.0771	Cu Ni 7 Zn 39 Mn 5 Pb3				
62.2 - Bronzes					
2.1086	G-Cu Sn 10 Zn				
2.1093	G-Cu Sn 6 Zn Ni				
2.1096	G-Cu Sn 5 Zn Pb				

MATERIAL GROUP					
STANDARDS					
GERMANY		FRANCE AFNOR	GREAT BRITAIN B.S.	EN & OTHER CLASSIFICATIONS	U.S.A. AISI
W.Nr	DIN				
63 - Long chip copper alloys - Hardness < 200 HB 30 - Tensile strength < 700 N/mm²					
63.1 - Brass					
2.0250	Cu Zn 20				
2.0265	Cu Zn 30				
2.0321	Cu Zn 37		CZ108, CZ106		
2.0335	Cu Zn 36 (Ms 63)				
63.2 - Bronzes					
2.1020	Cu Sn 6				
2.1030	Cu Sn 8				
2.1080	Cu Sn 6 Zn 6				
63.3 - Copper alloys tempered by forging					
2.1245	Cu Be 1.7				
2.1247	Cu Be 2				
2.1293	Cu Cr Zr				
64 - Cu - Al - Fe alloys Hardness < 440 HB 30 - Tensile strength < 1,500 N/mm²					
70 - ALUMINIUM - MAGNESIUM					
71 - Aluminum - Magnesium, unalloys - Hardness < 100 HB 30 - Tensile strength < 350 N/mm²					
3.0250	Al 99.5 H				
3.0280	Al 99.8 H				
3.0305	Al 99.9				
3.3308	Al 99.9 Mg 0.5				
72 - Aluminum alloys, Si < 1.5% - Hardness < 180 HB 30 - Tensile strength < 600 N/mm²					
72.1 - Forging aluminum alloys					
3.0515	Al Mn 1				
3.0516	S-Al Mn				
3.0525	Al Mn 1 Mg 0.5				
3.0615	Al Mg Si Pb				
3.1325	Al Cu Mg 1				
3.1355	Al Cu Mg 2				
3.3315	Al Mg 1				
3.3535	Al Mg 3				
3.4365	Al Zn Mg Cu 1.5				
72.2 - Cast aluminum alloys					
3.1841	G - Al Cu 4 Ti				
3.3241	G - Al Mg 3 Si				
3.3292	GD - Al Mg 9				
73 - Aluminum alloys, 0.5-10% Si - Hardness < 180 HB 30 - Tensile strength < 600 N/mm²					
73.1 - Cast aluminum alloys					
3.2134	G - Al Si 5 Cu 1 Mg				
3.2152	GD - Al Si 6 Cu 4				
3.2162	GD - Al Si 8 Cu 3				
3.2373	G - Al Si 9 Mg				
74 - Aluminum alloys, Si > 10% - Hardnes < 180 HB 30 - Tensile strength < 600 N/mm²					
74.1 - Cast aluminum alloys					
3.2381	G - Al Si 10 Mg				
3.2383	G - Al Si 10 Mg (Cu)				
3.2581	G - Al Si 12				
3.2583	G - Al Si 12 (Cu)				
3.2982	GD - Al Si 12 (Cu)				
74.2 - Cast aluminum - magnesium alloys					
3.5106	G - Mg Ag 3 SE 2 Zr 1				
3.5662	G - Mg Al 6				
3.5812	G - Mg Al 8 Zn 1				
3.5912	G - Mg Al 9 Zn 1				



SOLID CARBIDE

THREAD MILLS

GEWINDEFRÄSER

- Threading Large Diameter in High Quality
Available with Chamfer

- Zur Fertigung von Gewinden mit großen Durchmessern in hoher Qualität,
verfügbar mit Fase

SELECTION GUIDE



SOLID CARBIDE THREAD MILLS

Threading Large Diameter in High Quality Available with Chamfer

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.59

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	◎	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎	
	6	Low alloy steel	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	◎	◎	◎	◎	
	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		Cured	350	38	○	○	○	○	
	35	Ni or Co Based 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	Hardened Cast Iron	Cast	400	42					
	41		Hardened	550	55					

Thread Mill with Coolant Hole			Thread Mill with Coolant Hole & Chamfer					Miniature Thread Mill		Miniature Thread Mill for Hard Materials		Drill & Thread Mill with Chamfer
M	MF	BSP(G)	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. 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					Helix	Straight		Helix	
R15			R15					R15	-		R25	
L4211 (P46)	L4212 (P47)	L6215 (P48)	L4271 (P49)	L4272 (P50)	L4273 (P51)	L4274 (P52)	L4276 (P53)	L12D1 (P54)	L12D3 (P55)	L19E1 (P56)	L19E3 (P57)	L41A1/L42A1 (P58)
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

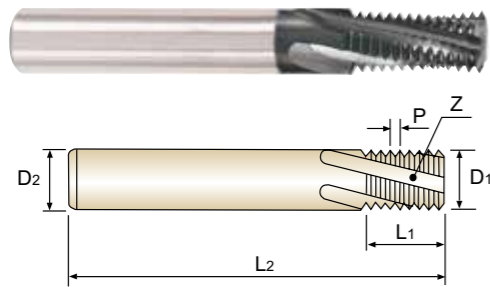
YG THREAD MILLS

L1211 SERIES

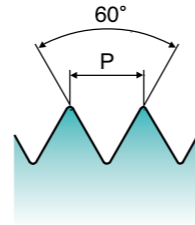
M Solid Carbide Thread Mill for ISO Metric Internal Thread - DIN 13
 VOLLHARTMETALL GEWINDEFÄHRER für ISO METRISCHES INNENGEWINDE - DIN 13
 FRAISES A FILETER CARBURE MONOBLOC POUR FILETAGE ISO INTER MÉTRIQUE - DIN13
 Filettature interne, ISO metriche, passo grosso - DIN 13

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
2×D



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	No. of Flute Z
L1211200	M3	0.5	2.2	6	5	57	3
L1211240	M4	0.7	2.9	6	7	57	3
L1211280	M5	0.8	3.8	6	8	57	3
L1211310	M6	1.0	4.5	6	13	57	3
L1211360	M8	1.25	6.0	6	17.5	65	3
L1211420	M10	1.5	7.5	8	21	72	4
L1211500	M12	1.75	9.5	10	26.25	80	4
L1211540	M14	2.0	10.0	10	30	83	4
L1211600	M16	2.0	12.0	12	34	92	4
L1211650	M18	2.5	14.0	14	37.5	92	5
L1211700	M20	2.5	16.0	16	42.5	105	5

* 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		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	38	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			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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

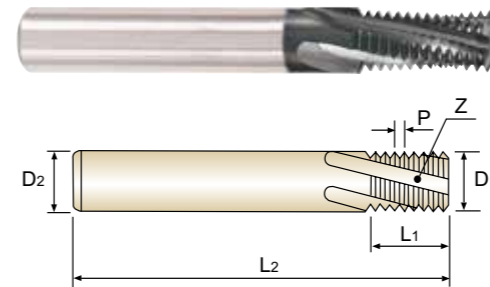
YG THREAD MILLS

L1212 SERIES

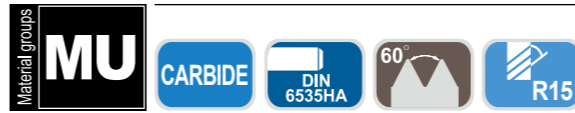
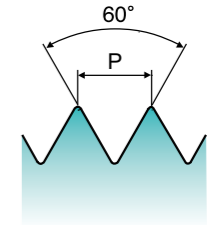
MF Solid Carbide Thread Mill for ISO Metric Internal Thread - DIN 13
 VOLLHARTMETALL GEWINDEFÄHRER für ISO METRISCH - FEIN INNENGEWINDE - DIN 13
 FRAISES A FILETER CARBURE MONOBLOC POUR FILETAGE ISO INTER MÉTRIQUE - DIN13
 Filettature interne, ISO metriche, passo grosso - DIN 13

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
1.5×D



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	No. of Flute Z
L1212370	M8	1.0	6.0	6	13	57	3
L1212380	M8	0.75	6.0	6	12.75	57	3
L1212440	M10	1.0	8.0	8	16	63	4
L1212510	M12	1.5	9.5	10	19.5	72	4
L1212520	M12	1.25	9.5	10	18.75	72	4
L1212530	M12	1.0	9.5	10	19	72	4
L1212550	M14	1.5	10.0	10	22.5	83	4
L1212570	M14	1.0	10.0	10	22	83	4
L1212610	M16	1.5	12.0	12	25.5	83	4
L1212620	M16	1.0	12.0	12	25	83	4
L1212670	M18	1.5	14.0	14	28.5	92	5
L1212680	M18	1.0	14.0	14	28	92	5
L1212720	M20	1.5	16.0	16	31.5	92	5
L1212730	M20	1.0	16.0	16	31	92	5

* 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		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	38	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			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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

Y/G THREAD MILLS

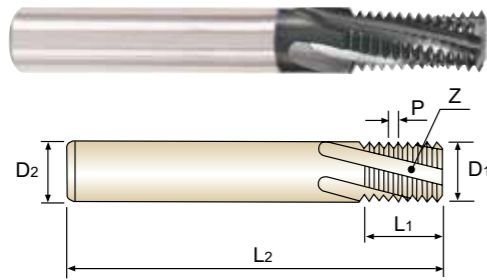
L1213 SERIES

UNC Solid Carbide Thread Mill for UNC Internal Thread - ANSI B 1.1

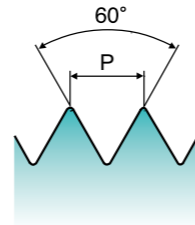
● VOLLHARTMETALL GEWINDEFÄHRER für UNC INNENGEWINDE, ANSI B 1.1
● FRAISES A FILETER CARBURE MONOBLOC POUR FILETAGE INTER UNC - ANSI B 1.1
● Filettature interne, unificato, passo grosso - ANSI B 1.1

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
2×D



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	No. of Flute Z
L1213400	1/4	20	4.5	6	14	57	3
L1213440	5/16	18	5.8	6	16.9	65	3
L1213480	3/8	16	7.0	8	20.6	72	4
L1213520	7/16	14	8.0	8	23.6	72	4
L1213560	1/2	13	9.5	10	27.4	80	4
L1213600	9/16	12	10.0	10	31.8	83	4
L1213640	5/8	11	12.0	12	34.6	92	4
L1213700	3/4	10	14.0	14	40.6	104	5

* 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		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	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

Y/G THREAD MILLS

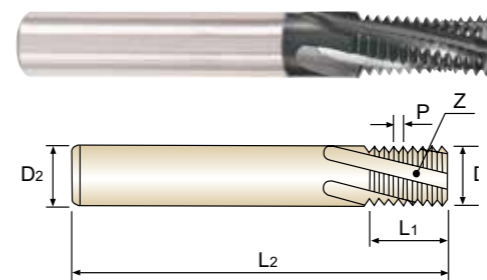
L1214 SERIES

UNF Solid Carbide Thread Mill for UNF Internal Thread - ANSI B 1.1

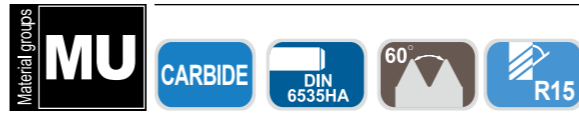
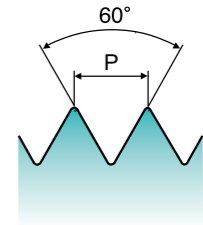
● VOLLHARTMETALL GEWINDEFÄHRER für UNF INNENGEWINDE, ANSI B 1.1
● FRAISES A FILETER CARBURE MONOBLOC POUR FILETAGE INTER UNC - ANSI B 1.1
● Filettature interne, unificato, passo grosso - ANSI B 1.1

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
2×D



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	No. of Flute Z
L1214420	1/4	28	5.0	6	13.6	57	3
L1214460	5/16	24	6.0	6	16.9	65	3
L1214500	3/8	24	8.0	8	20.1	72	4
L1214540	7/16	20	8.0	8	24.1	72	4
L1214580	1/2	20	10.0	10	26.7	80	4
L1214620	9/16	18	12.0	12	29.6	83	4
L1214660	5/8	18	12.0	12	33.9	92	4
L1214720	3/4	16	14.0	14	39.7	104	5

* 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		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	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

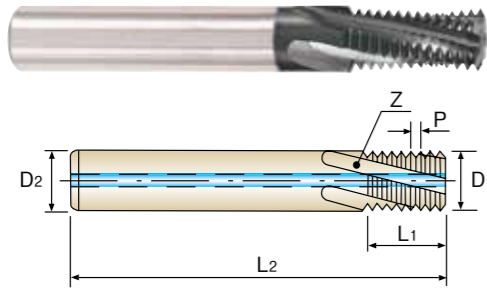
YG THREAD MILLS

L4211 SERIES

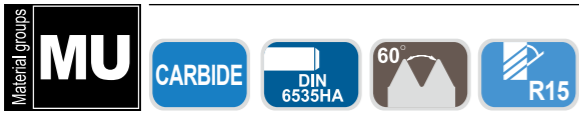
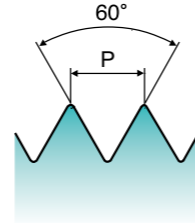
M Solid Carbide Thread Mill with Coolant Hole for ISO Metric Internal Thread - DIN 13
 VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL für ISO METRISCHES INNENGEWINDE - DIN 13
 FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL POUR FILETAGE ISO INTER MÉTRIQUE - DIN13
 Con fori di lubrificazione, Filettature interne, ISO metriche, passo grosso - DIN 13

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
2×D



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
TiAlN	D	P	D1	D2	L1	L2	Z
L4211310	M6	1.0	4.5	6	13.0	57	3
L4211360	M8	1.25	6.0	6	17.5	65	3
L4211420	M10	1.5	7.5	8	21.0	72	4
L4211500	M12	1.75	9.5	10	26.25	80	4
L4211540	M14	2.0	10.0	10	30.0	83	4
L4211600	M16	2.0	12.0	12	34.0	92	4
L4211700	M20	2.5	16.0	16	42.5	105	5

* 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									
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	38	10	29	32	38	45	15	35	40	48	55	20	25	30	35	40
HB	125	190	250	270	300	180	275	300	350	400	200	240	280	320	360	160	250	300	350	400
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

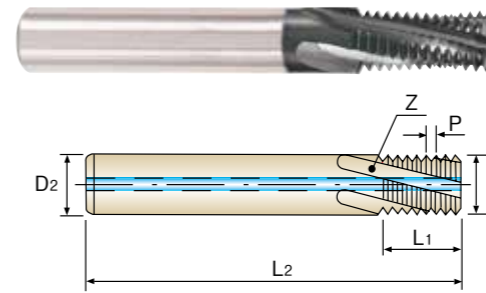
YG THREAD MILLS

L4212 SERIES

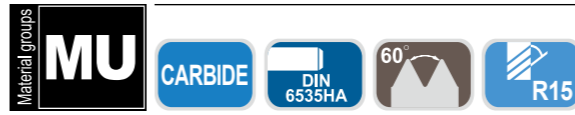
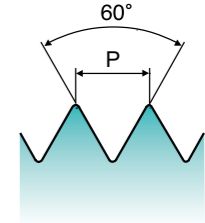
MF Solid Carbide Thread Mill with Coolant Hole for ISO Metric Internal Thread - DIN 13
 VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL für ISO METRISCH - FEIN INNENGEWINDE - DIN 13
 FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL POUR FILETAGE ISO INTER MÉTRIQUE - DIN13
 Con fori di lubrificazione, Filettature interne, ISO metriche, passo grosso - DIN 13

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
1.5×D



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
TiAlN	D	P	D1	D2	L1	L2	Z
L4212370	M8	1.0	6.0	6	13.0	57	3
L4212380	M8	0.75	6.0	6	12.75	57	3
L4212440	M10	1.0	8.0	8	16.0	63	4
L4212510	M12	1.5	9.5	10	19.5	72	4
L4212520	M12	1.25	9.5	10	18.75	72	4
L4212530	M12	1.0	9.5	10	19.0	72	4
L4212550	M14	1.5	10.0	10	22.5	83	4
L4212570	M14	1.0	10.0	10	22.0	83	4
L4212610	M16	1.5	12.0	12	25.5	83	4
L4212620	M16	1.0	12.0	12	25.0	83	4
L4212670	M18	1.5	14.0	14	28.5	92	5
L4212680	M18	1.0	14.0	14	28.0	92	5
L4212720	M20	1.5	16.0	16	31.5	92	5
L4212730	M20	1.0	16.0	16	31.0	92	5

* 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									
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	38	10	29	32	38	45	15	35	40	48	55	20	25	30	35	40
HB	125	190	250	270	300	180	275	300	350	400	200	240	280	320	360	160	250	300	350	400
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

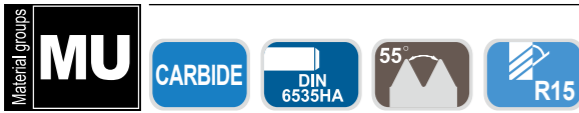
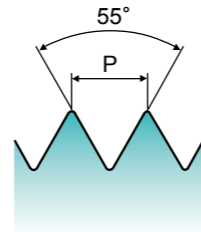
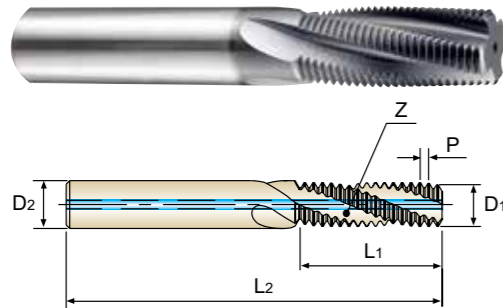
Y/G THREAD MILLS

L6215 SERIES

BSP(G) Solid Carbide Thread Mill with Coolant Hole for BSP(G) Internal/External Thread
 ● VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL für BSP (G) INNEN- /AUSSENGEWINDE
 ○ FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL POUR FILETAGE INTERNE/EXTERNE BSP(G)
 ○ Fresa con fori di lubrificazione, filettature interne ed esterne, BSP(G)

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Recommended Cutting Page : P.59

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	No. of Flute Z
L6215020	1/16	28	5.9	6	16.3	65	3
L6215200	1/8	28	7.9	8	20.0	70	4
L6215400	1/4	19	9.9	10	26.7	80	4
L6215480	3/8	19	13.9	14	33.4	92	4
L6215560	1/2	14	15.9	16	43.5	104	5
L6215700	3/4	14	17.9	18	34.5	100	5
L6215780	1	11	19.9	20	34.6	100	5

* 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		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	38	10	29	32	38	45	15	35	23	10	10	26	3	25	13	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

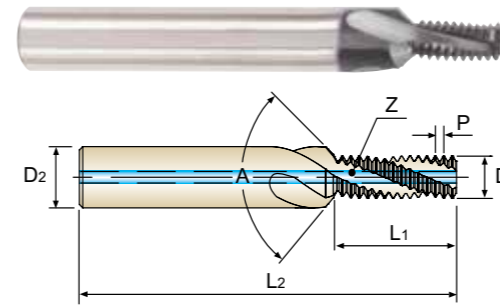
Y/G THREAD MILLS

L4271 SERIES

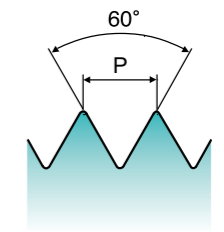
M Solid Carbide Thread Mill with Coolant Hole & Chamfer for ISO Metric Internal Thread - DIN 13
 ● VOLLHARTMETALL GEWINDEFÄSER mit KÜHLKANAL & FASE für METRISCHES INNENGEWINDE - DIN 13
 ○ FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL ET CHANFREIN POUR FILETAGE ISO INTER MÉTRIQUE DIN13
 ○ Con fori di lubrificazione e taglianti per smussi, filettature interne, ISO metriche - DIN 13

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth 2×D



Recommended Cutting Page : P.60

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch P	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	Angle A	No. of Flute Z
L4271310	M6	1.0	4.8	8	12.4	62	90°	3
L4271360	M8	1.25	6.5	10	16.8	74	90°	3
L4271420	M10	1.5	8.2	12	20.15	80	90°	4
L4271500	M12	1.75	9.9	14	25.25	90	90°	4
L4271540	M14	2.0	11.6	16	28.85	100	90°	4
L4271600	M16	2.0	13.6	18	32.85	102	90°	4

* 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		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	38	10	29	32	38	45	15	35	23	10	10	26	3	25	13	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

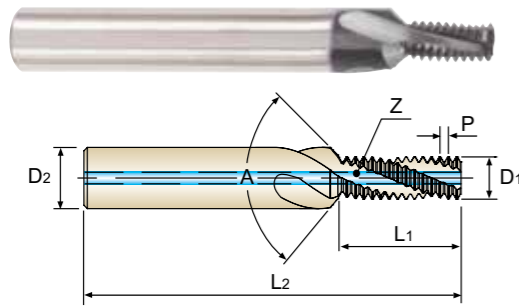
Y/G THREAD MILLS

L4272 SERIES

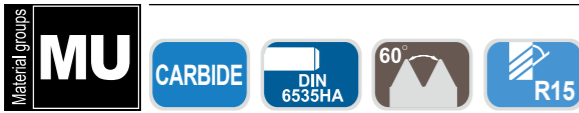
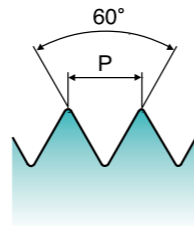
MF Solid Carbide Thread Mill with Coolant Hole & Chamfer for ISO Metric Internal Thread - DIN 13
 ● VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL & FASE für METRISCH - FEIN INNENGEWINDE - DIN 13
 ● FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL ET CHANFREIN POUR FILETAGE ISO INTER MÉTRIQUE DIN13
 ● Con fori di lubrificazione e taglianti per smussi, filettature interne, ISO metriche, passo fine - DIN 13

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
1.5×D



Recommended Cutting Page : P.60

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute
TiAlN	P	D1	D2	L1	L2	A	Z	
L4272370	M8	1.0	6.7	10	12.4	74	90°	3
L4272430	M10	1.25	8.3	12	15.9	80	90°	4
L4272440	M10	1.0	8.7	12	15.4	80	90°	4
L4272510	M12	1.5	10.0	14	18.65	90	90°	4
L4272520	M12	1.25	10.3	14	18.3	80	90°	4
L4272530	M12	1.0	10.7	14	18.4	90	90°	4
L4272550	M14	1.5	12.0	16	21.65	100	90°	4
L4272610	M16	1.5	14.0	18	24.65	102	90°	5

* 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		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	35	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

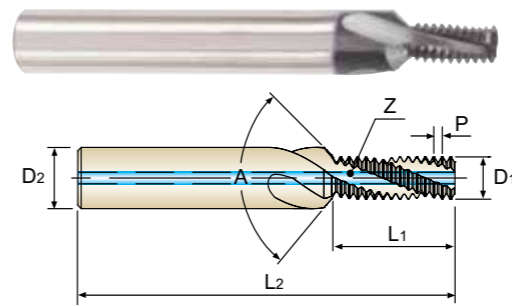
Y/G THREAD MILLS

L4273 SERIES

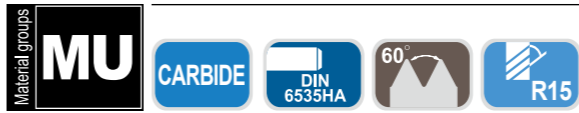
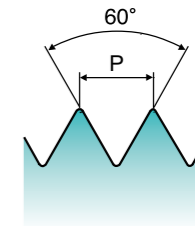
UNC Solid Carbide Thread Mill with Coolant Hole & Chamfer for UNC Internal Thread - ANSI B 1.1
 ● VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL & FASE für UNC INNENGEWINDE - ANSI B 1.1
 ● FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL ET CHANFREIN POUR FILETAGE INTER UNC - ANSI B 1.1
 ● Con fori di lubrificazione e taglianti per smussi, filettature interne, unificato, passo grosso - ANSI B 1.1

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
2×D



Recommended Cutting Page : P.60

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute
TiAlN	P	D1	D2	L1	L2	A	Z	
L4273400	1/4	20	4.8	8	13.3	62	90°	3
L4273440	5/16	18	6.2	10	16.18	74	90°	3
L4273480	3/8	16	7.6	12	19.8	80	90°	4
L4273520	7/16	14	8.9	12	22.62	80	90°	4
L4273560	1/2	13	10.3	14	26.32	90	90°	4
L4273600	9/16	12	11.7	16	30.63	100	90°	4
L4273640	5/8	11	13.1	18	33.41	102	90°	4
L4273700	3/4	10	16.0	20	39.29	110	90°	5

* 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		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	35	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YMG THREAD MILLS

L4274 SERIES

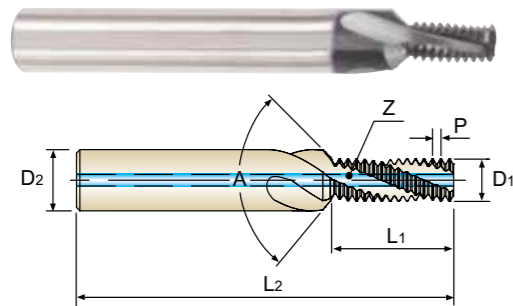
UNF

Solid Carbide Thread Mill with Coolant Hole & Chamfer for UNF Internal Thread - ANSI B 1.1

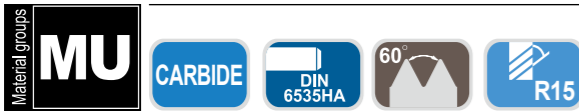
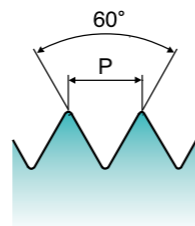
- VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL & FASE für UNF INNENGEWINDE - ANSI B 1.1
- FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL ET CHANFREIN POUR FILETAGE INTER UNC - ANSI B 1.1
- Con fori di lubrificazione e taglianti per smussi, filettature interne, unificato, passo fine - ANSI B 1.1

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Thread Depth
2×D



Recommended Cutting Page : P.60

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	Angle A	No. of Flute Z
L4274420	1/4	28	5.1	8	13.21	62	90°	3
L4274460	5/16	24	6.5	10	16.37	74	90°	3
L4274500	3/8	24	8.1	12	19.54	80	90°	4
L4274540	7/16	20	9.4	12	22.19	80	90°	4
L4274580	1/2	20	11.0	14	26	90	90°	4
L4274620	9/16	18	12.4	16	28.88	100	90°	4
L4274660	5/8	18	14.0	18	33.12	102	90°	5
L4274720	3/4	16	17.0	20	38.86	110	90°	5

* 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		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	35	38	40	42	45	48	50	52	54	56	58	60	62	64	66	68
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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YMG THREAD MILLS

L4276 SERIES

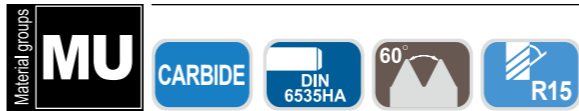
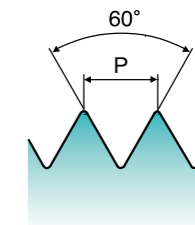
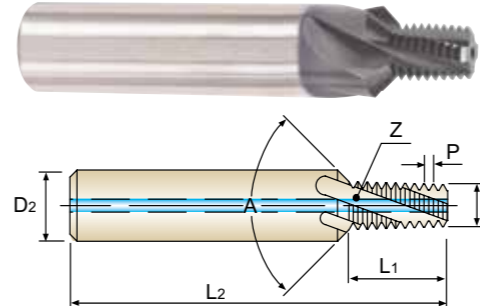
NPT

Solid Carbide Thread Mill with Coolant Hole & Chamfer for NPT Thread - ANSI B 1.20.1

- VOLLHARTMETALL GEWINDEFÄHRER mit KÜHLKANAL & FASE für NPT INNENGEWINDE - ANSI B 1.20.1
- FRAISES A FILETER CARBURE MONOBLOC AVEC ARROSAGE CENTRAL ET CHANFREIN POUR FILETAGE INTER NPT - ANSI B 1.20.1
- Con fori di lubrificazione e taglianti per smussi, filettature interne, unificato, passo fine - ANSI B 1.1

► Easy to cut threads even for exotic materials like Nickel, Titanium and their alloys.

► Problemloses Gewindeschneiden sogar in exotischen Werkstoffen, wie Nickel, Titan und ihre Legierungen.



Recommended Cutting Page : P.60

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter D1	Shank Diameter D2	Thread Length L1	Overall Length L2	Angle A	No. of Flute Z
L4276020	NPT1/16	27	5.9	10	8.9	64	90°	3
L4276200	NPT1/8	27	7.8	12	8.9	70	90°	4
L4276400	NPT1/4	18	10.05	16	13.4	81	90°	4
L4276480	NPT3/8	18	13.45	18	13.4	81	90°	4

* 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		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	35	38	40	42	45	48	50	52	54	56	58	60	62	64	66	68
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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

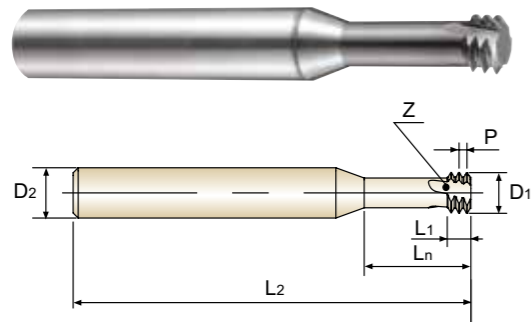
Y/G THREAD MILLS

L12D1 SERIES

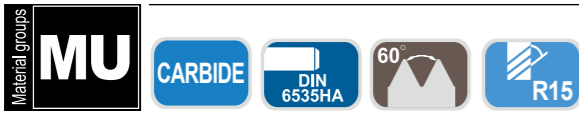
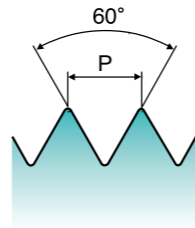
M Solid Carbide Miniature Thread Mill for ISO Metric Internal Thread - DIN13
 ● VOLLHARTMETALL MINI-GEWINDEFÄRER für ISO METRISCHE INNENGEWINDE - DIN13
 ● FRAISES A FILETER À TOURBILLONNER CARBURE MONOBLOC POUR FILETAGE ISO INTER MÉTRIQUE - DIN13
 ● Mini frese per filettature interne ISO metriche passo grosso - DIN 13

▶ Short thread length

▶ Kurze Gewindelänge



Thread Depth
2×D



Recommended Cutting Page : P.60

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
TiAlN	[D]	P	D1	D2	L1	Ln	L2	Z
L12D1010	M1	0.25	0.70	3	0.75	2.1	30	3
L12D1050	M1.2	0.25	0.90	3	0.75	2.5	30	3
L12D1070	M1.4	0.3	1.04	3	0.90	2.9	30	3
L12D1090	M1.6	0.35	1.18	3	1.05	3.4	30	3
L12D1130	M2	0.4	1.52	6	1.2	4.2	57	3
L12D1150	M2.2	0.45	1.66	6	1.35	4.6	57	3
L12D1170	M2.5	0.45	1.96	6	1.35	5.3	57	3
L12D1200	M3	0.5	2.4	6	1.5	6.3	57	3
L12D1240	M4	0.7	3.16	6	2.1	8.4	57	3
L12D1280	M5	0.8	4.04	6	2.4	10.5	57	3
L12D1310	M6	1.0	4.8	6	3.0	12.6	57	3
L12D1360	M8	1.25	6.5	8	3.75	16.8	63	3
L12D1420	M10	1.5	8.2	10	4.5	21.0	73	3
L12D1500	M12	1.75	9.9	10	5.25	25.2	73	3

* 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		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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

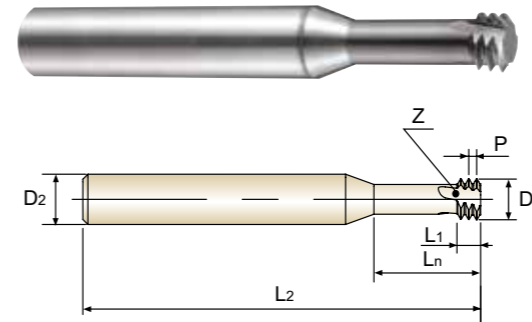
Y/G THREAD MILLS

L12D3 SERIES

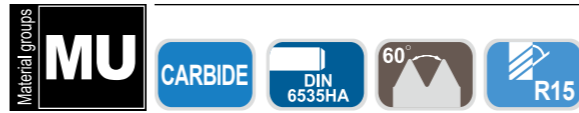
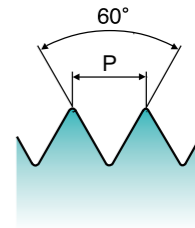
UNC Solid Carbide Miniature Thread Mill for UNC Internal Thread - ANSI B 1.1
 ● VOLLHARTMETALL MINI-GEWINDEFÄRER für UNC INNENGEWINDE - ANSI B 1.1
 ● FRAISES A FILETER À TOURBILLONNER CARBURE MONOBLOC POUR FILETAGE POUR FILETAGE INTER UNC- ANSI B 1.1
 ● Mini frese per filettature interne unificato passo grosso - ANSI B 1.1

▶ Short thread length

▶ Kurze Gewindelänge



Thread Depth
2×D



Recommended Cutting Page : P.61

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
TiAlN	[D]		D1	D2	L1	Ln	L2	Z
L12D3040	#1	64	1.38	6	1.19	3.9	57	3
L12D3080	#2	56	1.64	6	1.36	4.6	57	3
L12D3160	#4	40	2.08	6	1.91	6.0	57	3
L12D3240	#6	32	2.55	6	2.38	7.4	57	3
L12D3280	#8	32	3.21	6	2.38	8.7	57	3
L12D3320	#10	24	3.56	6	3.18	10.1	57	3
L12D3360	#12	24	4.22	6	3.18	11.5	57	3
L12D3400	1/4	20	4.83	6	3.81	13.3	57	3
L12D3440	5/16	18	6.24	8	4.23	16.7	63	3
L12D3480	3/8	16	7.62	8	4.76	20.0	63	3
L12D3520	7/16	14	8.94	10	5.44	23.3	73	3

* 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		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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

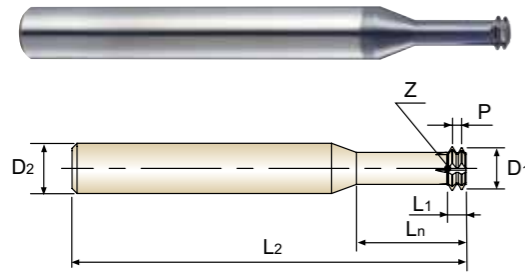
YG THREAD MILLS

L19E1 SERIES

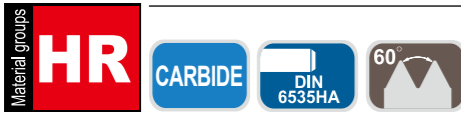
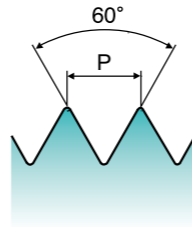
M Solid Carbide Miniature Thread Mill for Hard Materials, ISO Metric Internal Thread - DIN13
 VOLLHARTMETALL MINI-GEWINDEFÄHRER für GEHÄRTETE MATERIALIEN, ISO METRISCHE INNENGEWINDE - DIN13
 FRAISES À TOURBILLONNER CARBURE MONOBLOC POUR MATÉRIEAUX DURS, FILETAGE ISO INTER MÉTRIQUE - DIN13
 Mini frese per acciai temprati ISO metriche passo grosso - DIN 13

- ▶ Short thread length
- ▶ Straight Flute
- ▶ Left hand Cut (CNC code : M04)
- ▶ The work direction is from top to bottom (Climb Milling)
- ▶ For hard materials up to HRC62

- ▶ Kurze Gewindelänge
- ▶ Linksschneidend, geradegenutet
- ▶ Linksschneidend (CNC Befehl : M04)
- ▶ Die Fräsrichtung ist von oben nach unten (Gleichlauf)
- ▶ Für gehärtete Materialien bis zu HRC62



Thread Depth
2×D



Recommended Cutting Page : P.61

Unit : mm

EDP No.	Nominal Diameter [D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
AITiN	[D]	P	D1	D2	L1	Ln	L2	Z
L19E1130	M2	0.4	1.52	6	0.8	4.2	57	4
L19E1150	M2.2	0.45	1.66	6	0.9	4.6	57	4
L19E1170	M2.5	0.45	1.96	6	0.9	5.3	57	4
L19E1200	M3	0.5	2.4	6	1.0	6.3	57	4
L19E1240	M4	0.7	3.16	6	1.4	8.4	57	4
L19E1280	M5	0.8	4.04	6	1.6	10.5	57	4
L19E1310	M6	1.0	4.8	6	2.0	12.6	57	5
L19E1360	M8	1.25	6.5	8	2.5	16.8	63	5
L19E1420	M10	1.5	8.2	10	3.0	21.0	73	6
L19E1500	M12	1.75	9.9	10	3.5	25.2	73	6

* 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		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	23	24	25
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21	3	25	25	25	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230	160	250	130	230	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	42	43	44	45
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	550	400	550
Recommended											◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎

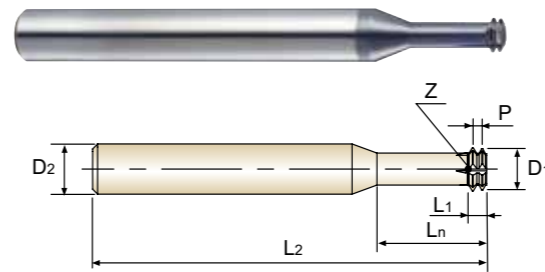
YG THREAD MILLS

L19E3 SERIES

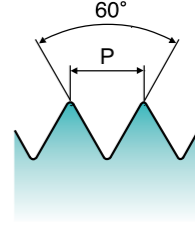
UNC Solid Carbide Miniature Thread Mill for Hard Materials, UNC Internal Thread - ANSI B 1.1
 VOLLHARTMETALL MINI-GEWINDEFÄHRER für GEHÄRTETE MATERIALIEN, UNC INNENGEWINDE - ANSI B 1.1
 FRAISES À TOURBILLONNER CARBURE MONOBLOC POUR MATÉRIEAUX DURS POUR FILETAGE INTER UNC - ANSI B 1.1
 Mini frese per acciai temprati unificato passo grosso - ANSI B 1.1

- ▶ Short thread length
- ▶ Straight Flute
- ▶ Left hand Cut (CNC code : M04)
- ▶ The work direction is from top to bottom (Climb Milling)
- ▶ For hard materials up to HRC62

- ▶ Kurze Gewindelänge
- ▶ Linksschneidend, geradegenutet
- ▶ Linksschneidend (CNC Befehl : M04)
- ▶ Die Fräsrichtung ist von oben nach unten (Gleichlauf)
- ▶ Für gehärtete Materialien bis zu HRC62



Thread Depth
2×D



Recommended Cutting Page : P.61

Unit : mm

EDP No.	Nominal Diameter [D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
AITiN	[D]	T.P.I	D1	D2	L1	Ln	L2	Z
L19E3080	#2	56	1.64	6	0.91	4.6	57	4
L19E3160	#4	40	2.08	6	1.27	6.0	57	4
L19E3240	#6	32	2.55	6	1.59	7.4	57	4
L19E3280	#8	32	3.21	6	1.59	8.7	57	4
L19E3320	#10	24	3.56	6	2.12	10.1	57	4
L19E3360	#12	24	4.22	6	2.12	11.5	57	4
L19E3400	1/4	20	4.83	6	2.54	13.3	57	5
L19E3440	5/16	18	6.24	8	2.82	16.7	63	5
L19E3480	3/8	16	7.62	8	3.18	20.0	63	6
L19E3520	7/16	14	8.94	10	3.63	23.3	73	6

* 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		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	23	24	25
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21	3	25	25	25	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230	160	250	130	230	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	42	43	44	45
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	550	400	550
Recommended											◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎

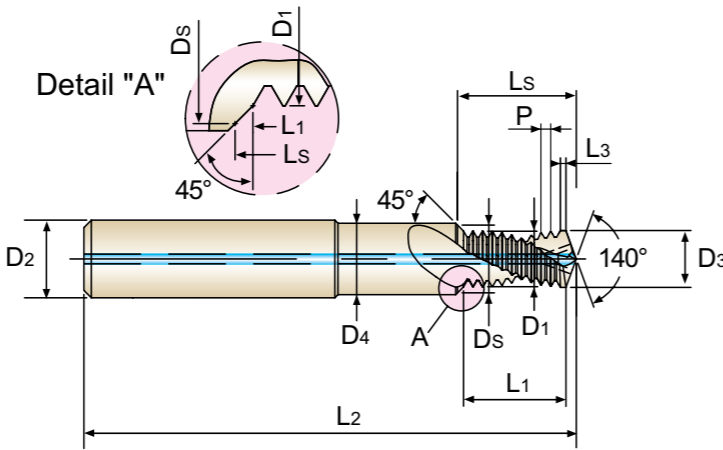
YG THREAD MILLS

UNCOATED **L41A1** SERIES
 TiAlN **L42A1** SERIES

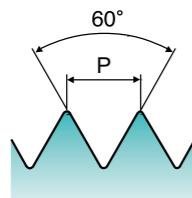
M Solid Carbide Drill and Thread Mill with Chamfer for ISO Metric Internal Thread - DIN 13
 VOLLHARTMETALL BOHRGEWINDEFÄRÄSER MIT SENKFÄSE für ISO METRISCHE INNENGEWINDE - DIN 13
 FRAISES À FILETER ET À PERCER CARBURE MONOBLOC AVEC CHANFREIN POUR FILETAGE INTER - DIN13
 Fresa fora, fileta e smussa , 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
2xD



Material groups **GG** **AI** CARBIDE **DIN 6535HA** 60°

Recommended Cutting Page : P.61

Unit : mm

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	TiAlN	[D]	P	D1	D2	Ds	D3	D4	L1	Ls	L3	L2
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

* Other coatings are available on your request

◎ : Excellent ○ : Good

ISO	P					M				K										
	Non-alloy steel					Low alloy steel				High alloy 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	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HRc																				
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																					
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG THREAD MILLS

**RECOMMENDED CUTTING CONDITIONS
 EMPFOHLENE SCHNEIDKONDITIONEN**

ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)							
					L1211	L1212	L1213	L1214	L4211	L4212	L6215	
P	1	Non-alloy steel	125		80-120	80-120	80-120	80-120	80-120	80-120	80-120	
	2		190	13	80-120	80-120	80-120	80-120	80-120	80-120	80-120	
	3		250	25	80-120	80-120	80-120	80-120	80-120	80-120	80-120	
	4		270	28	80-120	80-120	80-120	80-120	80-120	80-120	80-120	
	5	300	32	80-120	80-120	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	
M	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	
K	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	50-100	
	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	50-100	
	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	50-100
N	21	Aluminum-wrought alloy	60		100-300	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	100-300	
	23	Aluminum-cast, alloyed	75		100-300	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	100-300	
	25		130		100-300	100-300	100-300	100-300	100-300	100-300	100-300	
	26	Copper and Copper Alloys (Bronze / Brass)	110		100-300	100-300	100-300	100-300	100-300	100-300	100-300	
	27		90		100-300	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	100-300	
	29	Non Metallic Materials			100-300	100-300	100-300	100-300	100-300	100-300	100-300	
	30				100-300	100-300	100-300	100-300	100-300	100-300	100-300	
S	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	400 Rm		20-60	20-60	20-60	20-60	20-60	20-60	20-60	
	37		1050 Rm		20-60	20-60	20-60	20-60	20-60	20-60	20-60	
H	38	Hardened steel	550	55								
	39		630	60								
	40	Chilled Cast Iron	400	42								
	41	Hardened Cast Iron	550	55								



RECOMMENDED CUTTING CONDITIONS
EMPHOHLENE SCHNEIDKONDITIONEN



RECOMMENDED CUTTING CONDITIONS
EMPHOHLENE SCHNEIDKONDITIONEN

					L4271	L4272	L4273	L4274	L4276	L12D1
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)					
P	1	Non-alloy steel	125		80-120	80-120	80-120	80-120	80-120	80-120
	2		190	13	80-120	80-120	80-120	80-120	80-120	80-120
	3		250	25	80-120	80-120	80-120	80-120	80-120	80-120
	4		270	28	80-120	80-120	80-120	80-120	80-120	80-120
	5		300	32	80-120	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
	7		275	29	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
	9		350	38	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
	11	325		35	80-120	80-120	80-120	80-120	80-120	80-120
M	12	Stainless steel	200	15	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
	14		180	10	40-80	40-80	40-80	40-80	40-80	40-80
K	15	Grey cast iron	180	10	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
	17	Nodular cast iron	160	3	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
	19		Malleable cast iron	130		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
N	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	Copper and Copper Alloys (Bronze / Brass)	110		100-300	100-300	100-300	100-300	100-300	100-300
	27		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	100-300
	30				100-300	100-300	100-300	100-300	100-300	100-300
S	31	Heat Resistant Super Alloys	200	15	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
	33		250	25	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
	35		320	34	20-60	20-60	20-60	20-60	20-60	20-60
	36	Titanium Alloys	400 Rm		20-60	20-60	20-60	20-60	20-60	20-60
	37		1050 Rm		20-60	20-60	20-60	20-60	20-60	20-60
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41	Hardened Cast Iron	550	55						

					L12D3	L19E1	L19E3	L41A1 L42A1
VDI 3323	Vc (m/min)							
1	80-120							
2	80-120							
3	80-120							
4	80-120							
5	80-120							
6	80-120	80-120	80-120					
7	80-120	80-120	80-120					
8	80-120	80-120	80-120					
9	80-120	80-120	80-120					
10	80-120	80-120	80-120					
11	80-120	80-120	80-120					
12	40-80	40-80	40-80					
13	40-80	40-80	40-80					
14	40-80	40-80	40-80					
15	50-100	50-100	50-100	80-150				
16	50-100	50-100	50-100	80-150				
17	50-100	50-100	50-100	80-150				
18	50-100	50-100	50-100	80-150				
19	50-100	50-100	50-100	80-150				
20	50-100	50-100	50-100	80-150				
21	100-300			100-300				
22	100-300			100-300				
23	100-300			100-300				
24	100-300			100-300				
25	100-300			100-300				
26	100-300			100-300				
27	100-300			100-300				
28	100-300			100-300				
29	100-300			80-150				
30	100-300			80-150				
31	20-60	20-60	20-60					
32	20-60	20-60	20-60					
33	20-60	20-60	20-60					
34	20-60	20-60	20-60					
35	20-60	20-60	20-60					
36	20-60	20-60	20-60					
37	20-60	20-60	20-60					
38		25-60	25-60					
39		25-50	25-50					
40		25-70	25-70					
41		25-60	25-60					

TO CALCULATE SPEED & FEED RATES
SCHNITTGESCHWINDIGKEIT & VORSCHUB KALKULIEREN

Calculate R.P.M of Cutter

$$n = \frac{1000 \times V}{d \times \pi}$$

Calculate Feed per Revolution

$$F_1 = F_z \times Z \times N$$

Finally Calculate Feed at Tool Center Line

$$F_2 = \frac{F_1 \times (D - d)}{D}$$

- 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

For Thread Mills

unit : mm

Materials	Hardness (HB)	Strength (N/mm ²)	Feed per Tooth (fz)	
			Cutter Diameter ≤Ø8.0	Cutter Diameter >Ø8.0
Low Carbon Steels	≤ 200	≤ 700	0.02 - 0.04	0.04 - 0.10
Medium Carbon Steels High Carbon Steels	≤ 250	≤ 850	0.02 - 0.04	0.04 - 0.10
Alloy Steels	≤ 250	≤ 850	0.02 - 0.04	0.04 - 0.10
Heat Treated Steels	≤ 400	≤ 1400	0.02 - 0.04	0.04 - 0.10
Stainless Steels	≤ 300	≤ 1000	0.01 - 0.02	0.02 - 0.06
Cast Iron	≤ 300	≤ 1000	0.02 - 0.04	0.04 - 0.10
Chrome-Nickel Alloys Titanium Alloys	≤ 350	≤ 1200	0.01 - 0.02	0.02 - 0.06
Non Ferrous Materials	≤ 200	≤ 700	0.03 - 0.07	0.05 - 0.10

For Drill and Thread Mills

unit : mm

Material	Hardness (HB)	Strength (N/mm ²)	Fz(Thread Milling) - Feed per Tooth		Fdr(Drilling) - Feed per revolution	
			Cutter Diameter ≤Ø8.0	Cutter Diameter >Ø8.0	Cutter Diameter ≤Ø8.0	Cutter Diameter >Ø8.0
Cast Iron	≤ 200	≤ 700	0.03-0.08	0.08-0.12	0.10-0.20	0.20-0.25
Aluminium Aluminium-alloy Magnesium	≤ 180	≤ 600	0.05-0.10	0.10-0.15	0.10-0.20	0.20-0.30
Plastics	-	-	0.05-0.10	0.10-0.15	0.10-0.20	0.20-0.30

For Hard Material Miniature Thread Mills

unit : mm

Material	Hardness	Strength (N/mm ²)	Feed(mm/tooth)	
			Cutter Diameter ≤Ø6.0	Cutter Diameter >Ø6.0
Alloy Steel	295-415HB	1000-1400	0.02-0.04	0.04-0.06
Stainless Steel	280-415HB	950-1250	0.02-0.04	0.04-0.06
Cast Iron	≤ HB300	≤ 1000	0.03-0.05	0.05-0.07
Chrome-Nickel Alloys Titanium Alloys	≤ HB445	≤ 1500	0.02-0.03	0.03-0.05
Hardened Material	45-50HRc		0.03-0.05	0.05-0.07
	51-55HRc		0.02-0.04	0.04-0.06
	56-62HRc		0.01-0.03	0.03-0.05

HSS-PM

SYNCHRO TAPS

SYNCHRO TAPS

- For High Speed Tapping on Rigid CNC Machine

- Für Hochgeschwindigkeits-Gewindebohren auf starren CNC-Maschinen

SELECTION GUIDE



HSS-PM SYNCHRO TAPS

For High Speed Tapping on Rigid CNC Machine

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.69

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	TIN	TIN	TiCN	TIN
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	◎	◎	○	◎
	4		About 0.75% C Annealed	270	28	◎	◎	○	◎
	5	About 0.75% C Quenched & Tempered	300	32					
	6	Low alloy steel	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			◎	
	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	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		◎	◎		
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100		○	○		◎
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic 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	Hardened Cast Iron	Cast	400	42				
	41		Hardened	550	55				

SYNCHRO TAPS

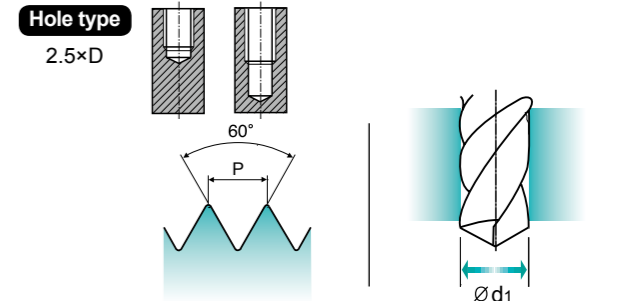
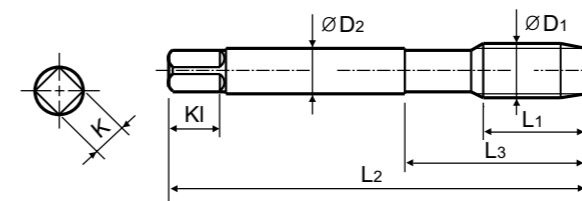
TTS31 SERIES

ISO metric coarse threads DIN 13

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

- Coated HSS-PM(Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
- Up to 3 times faster in tapping compared to conventional taps
- For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
- High precision threads

- Beschichtete HSS-PM-Gewindebohrer zum Hochgeschwindigkeitsgewindebohren auf starren CNC-Maschinen oder gleichwertige Maschinen
- Bis zu dreimal schnelleres Gewindeschneiden als bei herkömmlichen Gewindebohrern
- Beim Hochgeschwindigkeits-Gewindebohren wird die Verwendung eines Synchrofutters zur Erhöhung der Werkzeugstandzeit und der Gewindequalität empfohlen
- Hoch präzise Gewinde



Material groups: **GS** HSS-PM DIN 371/376 6H 60° C TiN R45 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.69

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	TiN	L1	L2	L3	ØD2	K	K1	Z	Ød1
M3 × 0.5		TTS31206	6	56	18	3.5	2.7	6	3	2.5
M4 × 0.7		TTS31246	7	63	21	4.5	3.4	6	3	3.3
M5 × 0.8		TTS31286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TTS31316	10	80	30	6	4.9	8	3	5
M8 × 1.25		TTS31366	13	90	35	8	6.2	9	3	6.8
M10 × 1.5		TTS31426	15	100	39	10	8	11	3	8.5
M12 × 1.75		TTS31506	18	110	44	9	7	10	3	10.2
M14 × 2		TTS31546	20	110	44	11	9	12	3	12
M16 × 2		TTS31606	20	110	44	12	9	12	3	14
M18 × 2.5		TTS31656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TTS31706	25	140	54	16	12	15	4	17.5

- DIN 371(M3~M10) and DIN 376(M11~M20)
- Coating(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	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
HB	125	190	250	270	300	180	290	320	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

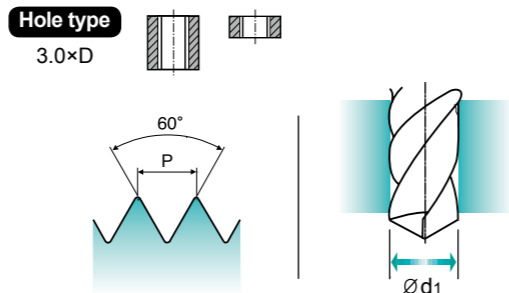
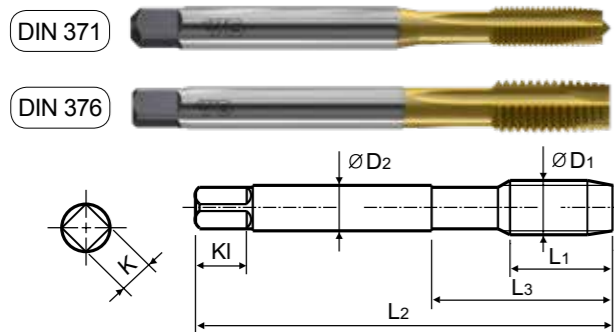
ISO	N									S					H						
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

- Coated HSS-PM(Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
- Up to 3 times faster in tapping compared to conventional taps
- For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
- High precision threads

- Beschichtete HSS-PM-Gewindebohrer zum Hochgeschwindigkeitsgewindebohren auf starren CNC-Maschinen oder gleichwertige Maschinen
- Bis zu dreimal schnelleres Gewindeschneiden als bei herkömmlichen Gewindebohrern
- Beim Hochgeschwindigkeits-Gewindebohren wird die Verwendung eines Synchrofutters zur Erhöhung der Werkzeugstandzeit und der Gewindequalität empfohlen
- Hoch präzise Gewinde



Material groups: **GS** HSS-PM DIN 371/376 6HX 60° B TiN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.69 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	TiN	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M3	× 0.5	TTS33206	5	56	18	3.5	2.7	6	3	2.5
M4	× 0.7	TTS33246	7	63	21	4.5	3.4	6	3	3.3
M5	× 0.8	TTS33286	8	70	25	6	4.9	8	3	4.2
M6	× 1	TTS33316	10	80	30	6	4.9	8	3	5
M8	× 1.25	TTS33366	13	90	35	8	6.2	9	3	6.8
M10	× 1.5	TTS33426	15	100	39	10	8	11	3	8.5
M12	× 1.75	TTS33506	18	110	44	9	7	10	4	10.2
M14	× 2	TTS33546	20	110	44	11	9	12	4	12
M16	× 2	TTS33606	20	110	44	12	9	12	4	14
M18	× 2.5	TTS33656	25	125	50	14	11	14	4	15.5
M20	× 2.5	TTS33706	25	140	54	16	12	15	4	17.5

- DIN 371(M3~M10) and DIN 376(M11~M20)
- Coating(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					
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	30	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

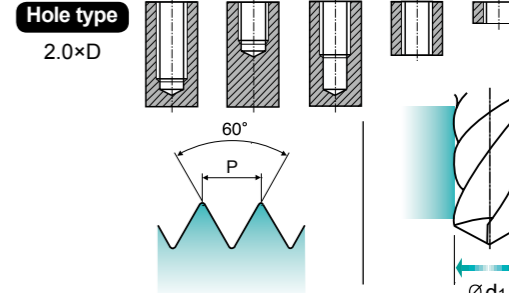
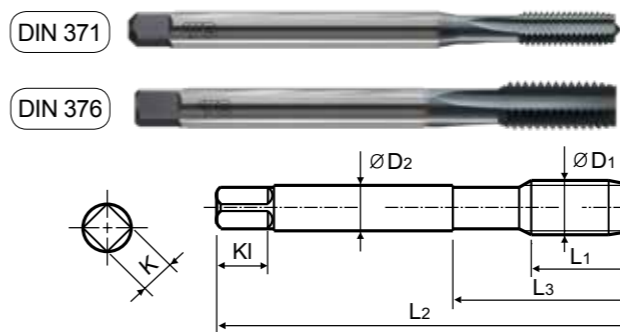
ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

- Coated HSS-PM(Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
- Up to 3 times faster in tapping compared to conventional taps
- For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
- High precision threads

- Beschichtete HSS-PM-Gewindebohrer zum Hochgeschwindigkeitsgewindebohren auf starren CNC-Maschinen oder gleichwertige Maschinen
- Bis zu dreimal schnelleres Gewindeschneiden als bei herkömmlichen Gewindebohrern
- Beim Hochgeschwindigkeits-Gewindebohren wird die Verwendung eines Synchrofutters zur Erhöhung der Werkzeugstandzeit und der Gewindequalität empfohlen
- Hoch präzise Gewinde



Material groups: **GS** HSS-PM DIN 371/376 6HX 60° C TiCN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.69 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	Kl	Z	Ød1
M3	× 0.5	TKS35206	5	56	18	3.5	2.7	6	3	2.5
M4	× 0.7	TKS35246	7	63	21	4.5	3.4	6	3	3.3
M5	× 0.8	TKS35286	8	70	25	6	4.9	8	3	4.2
M6	× 1	TKS35316	10	80	30	6	4.9	8	3	5
M8	× 1.25	TKS35366	13	90	35	8	6.2	9	3	6.8
M10	× 1.5	TKS35426	15	100	39	10	8	11	4	8.5
M12	× 1.75	TKS35506	18	110	44	9	7	10	4	10.2
M14	× 2	TKS35546	20	110	44	11	9	12	4	12
M16	× 2	TKS35606	20	110	44	12	9	12	4	14
M18	× 2.5	TKS35656	25	125	50	14	11	14	4	15.5
M20	× 2.5	TKS35706	25	140	54	16	12	15	4	17.5

- DIN 371(M3~M10) and DIN 376(M11~M20)
- Coating(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					
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	30	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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

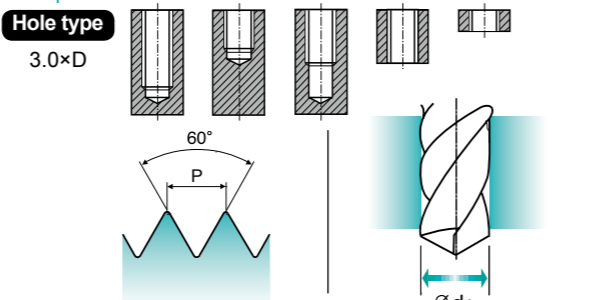
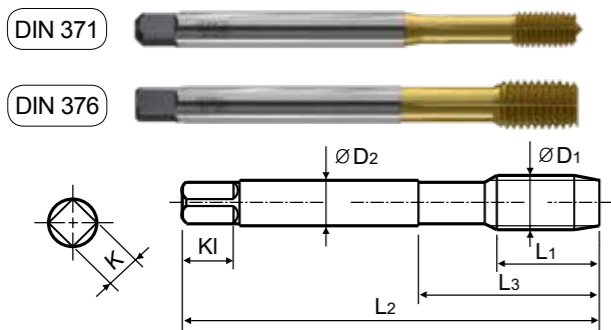
ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

- Coated HSS-PM(Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
- Up to 3 times faster in tapping compared to conventional taps
- For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
- High precision threads

- Beschichtete HSS-PM-Gewindebohrer zum Hochgeschwindigkeitsgewindebohren auf starren CNC-Maschinen oder gleichwertige Maschinen
- Bis zu dreimal schnelleres Gewindeschneiden als bei herkömmlichen Gewindebohrern
- Beim Hochgeschwindigkeits-Gewindebohren wird die Verwendung eines Synchrofutters zur Erhöhung der Werkzeugstandzeit und der Gewindequalität empfohlen
- Hoch präzise Gewinde



Material groups

GV HSS-PM DIN 371/376 6HX 60° C TiN

Cold forming taps Gewindeformer

Recommended cutting : P.69

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	TiN	L1	L2	L3	ØD2	K	Kl	Ød1
M3	× 0.5	TTS37206	5	56	18	3.5	2.7	6	2.8
M4	× 0.7	TTS37246	7	63	21	4.5	3.4	6	3.7
M5	× 0.8	TTS37286	8	70	25	6	4.9	8	4.65
M6	× 1	TTS37316	10	80	30	6	4.9	8	5.55
M8	× 1.25	TTS37366	13	90	35	8	6.2	9	7.4
M10	× 1.5	TTS37426	15	100	39	10	8	11	9.3
M12	× 1.75	TTS37506	18	110	44	9	7	10	11.2

►DIN 371(M3~M10) and DIN 376(M11~M12)

◎ : 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	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	240	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	42	43
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

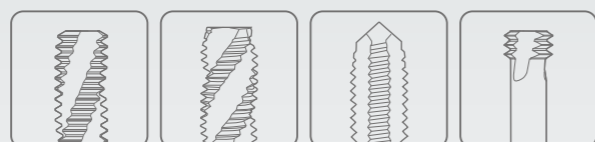
ISO	VDI 3323	Material Description	HB	HRc	TTS31	TTS33	TKS35	TTS37
					Vc (m/min)			
P	1	Non-alloy steel	125		41-46	41-46	41-46	41-46
	2		190	13	41-46	41-46	41-46	41-46
	3		250	25	35-40	35-40	35-40	35-40
	4		270	28	28-33	28-33	28-33	28-33
	5	300	32					
	6	Low alloy steel	180	10	28-33	28-33	28-33	28-33
	7		275	29	28-33	28-33	28-33	28-33
	8		300	32				
	9		350	38				
	10		High alloyed steel, and tool steel	200	15			
	11	325		35				
M	12	Stainless steel	200	15	18-23	18-23		18-23
	13		240	23	13-18	13-18		13-18
	14		180	10	10-14	10-14		10-14
K	15	Grey cast iron	180	10	28-33	28-33	28-33	
	16		260	26			13-18	
	17	Nodular cast iron	160	3	28-33	28-33	28-33	
	18		250	25			13-18	
	19	Malleable cast iron	130				28-33	
	20		230	21			13-18	
N	21	Aluminum-wrought alloy	60					28-33
	22		100					28-33
	23	Aluminum-cast, alloyed	75		41-46	41-46	41-46	41-46
	24		90		41-46	41-46	41-46	41-46
	25		130		30-35	30-35	30-35	30-35
	26		110		45-50	45-50		
	27	Copper and Copper Alloys (Bronze / Brass)	90					
	28		100		25-30	25-30		25-30
	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				
	39		630	60				
	40	Chilled Cast Iron	400	42				
	41	Hardened Cast Iron	550	55				



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



HSS-E & HSS-PM

THREADING

COMBO TAPS
COMBO GEWINDEBOHRER

- For Multi Purpose Tapping
YG-1's Patent
- Für Mehrbereichs-Gewindebohren
YG1's Patent



HSS-E & HSS-PM COMBO TAPS

For Multi Purpose Tapping YG-1's Patent

Please visit globaly1.com/mat for material search. Recommended cutting conditions : P.114

Table with columns: ISO, VDI 3323, Material Description, Composition / Structure / Heat Treatment, HB, HRC, and a grid of suitability symbols (circles) for various materials and hole types.

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, and a grid of model codes (TC, TD, TB, TCE, TDE, TBE) for different hole types.

Table with columns: SURFACE TREATMENT, MODEL, and a grid of model codes (TC, TD, TB, TCE, TDE, TBE) for different hole types.



Large table with columns: HSS-E, HSS-PM, and a grid of suitability symbols (circles) for various materials and hole types.



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

Table with columns: ISO, VDI 3323, Material Description, Composition / Structure / Heat Treatment, HB, HRC, and a grid of suitability symbols (circles) for various materials and hole types.

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, and a grid of model numbers (TC, TD, TB, TCJ, TDJ) for different hole types and materials.

Table with columns: SURFACE TREATMENT, MODEL, and images of various tap models with their respective surface treatments (Bright, TiN, VAP).

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

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, and a grid of model numbers for HSS-E and HSS-PM series.

Table with columns: SURFACE TREATMENT, MODEL, and images of various tap models with their respective surface treatments (Bright, TiN, VAP).

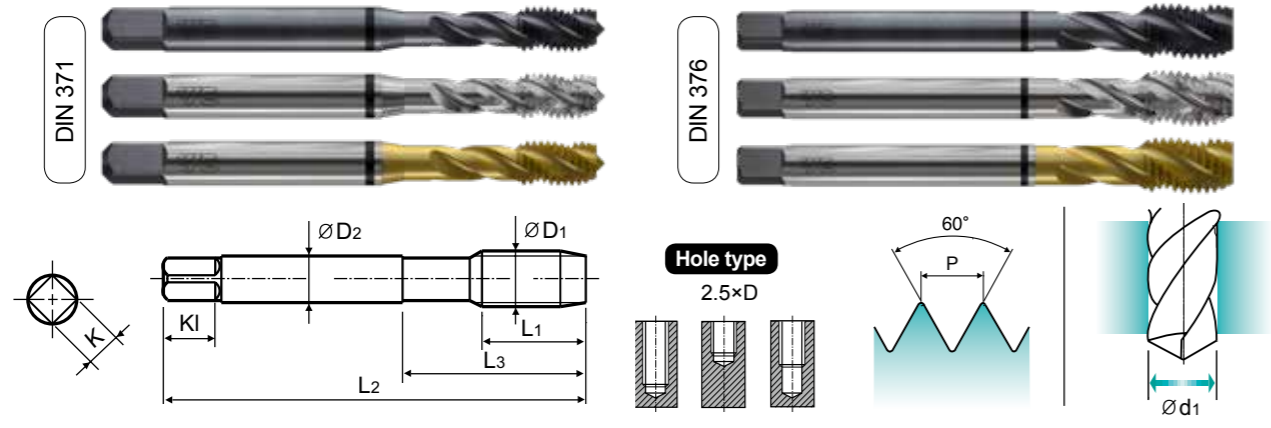
COMBO TAP SETS section featuring Combo Spiral Flute Taps (TB804SET5, TC804SET7) and Combo Spiral Flute Taps + Gold-P Drill (TD804SET7-GLP195).



Vap TBE06 SERIES
Bright TCE06 SERIES
TiN TDE06 SERIES

ISO Metric coarse threads DIN 13
Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN 13
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.



MU HSS-E DIN 371/376 6H+0.1 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114 Unit : mm

Table with 13 columns: SIZE, Pitch, EDP No. (Vap, Bright, TiN), Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute, Tapping Drill Diameter.

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

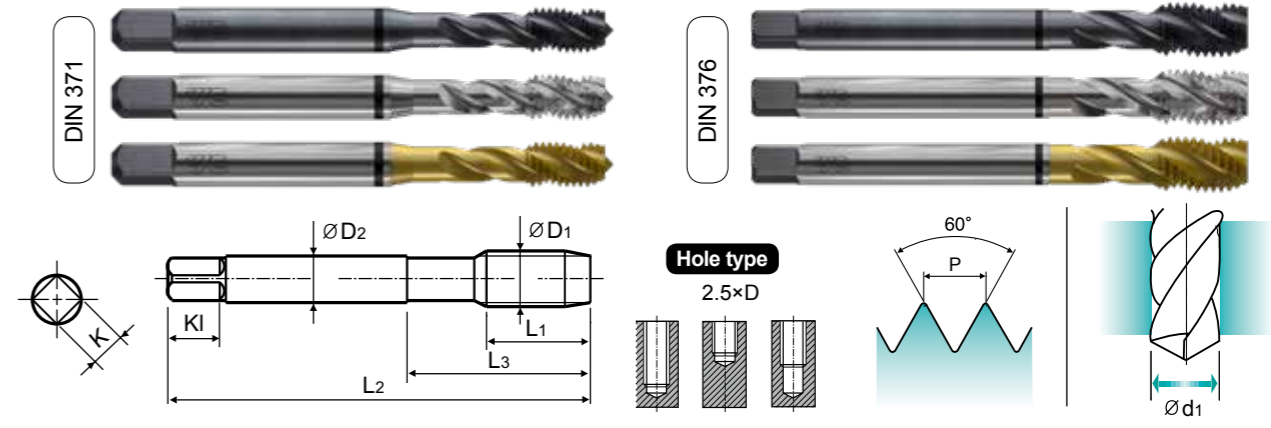
Material compatibility table with columns for ISO Material Description, P (Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron), M, K, S, H.



Vap TBE07 SERIES
Bright TCE07 SERIES
TiN TDE07 SERIES

ISO Metric coarse threads DIN 13
Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN 13
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.



MU HSS-E DIN 371/376 6G 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.115 Unit : mm

Table with 13 columns: SIZE, Pitch, EDP No. (Vap, Bright, TiN), Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute, Tapping Drill Diameter.

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

Material compatibility table with columns for ISO Material Description, P (Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron), M, K, S, H.



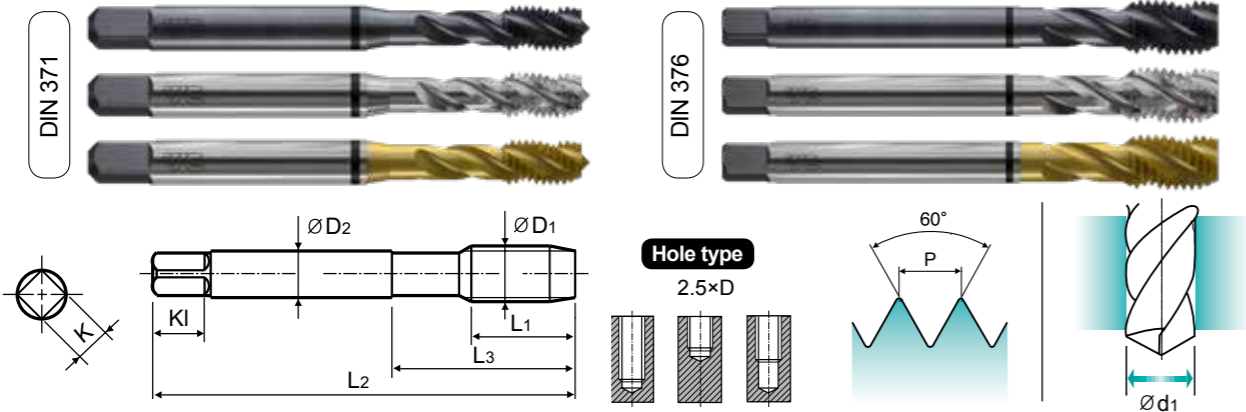
Vap **TBE08** SERIES
 Bright **TCE08** SERIES
 TiN **TDE08** SERIES

M 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 7G 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.115

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		TBE08136	TCE08136	TDE08136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TBE08156	TCE08156	TDE08156	8	45	13	2.8	2.1	5	3	1.75
M2.3 × 0.4		TBE08196	TCE08196	TDE08196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TBE08176	TCE08176	TDE08176	9	50	15	2.8	2.1	5	3	2.05
M2.6 × 0.45		TBE08496	TCE08496	TDE08496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TBE08206	TCE08206	TDE08206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TBE08226	TCE08226	TDE08226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TBE08246	TCE08246	TDE08246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TBE08266	TCE08266	TDE08266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TBE08286	TCE08286	TDE08286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TBE08316	TCE08316	TDE08316	10	80	30	6	4.9	8	3	5
M7 × 1		TBE08346	TCE08346	TDE08346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TBE08366	TCE08366	TDE08366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TBE08396	TCE08396	TDE08396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TBE08426	TCE08426	TDE08426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TBE08466	TCE08466	TDE08466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TBE08506	TCE08506	TDE08506	18	110	44	9	7	10	3	10.2
M14 × 2		TBE08546	TCE08546	TDE08546	20	110	44	11	9	12	3	12
M16 × 2		TBE08606	TCE08606	TDE08606	20	110	44	12	9	12	3	14
M18 × 2.5		TBE08656	TCE08656	TDE08656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TBE08706	TCE08706	TDE08706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TBE08746	TCE08746	TDE08746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TBE08786	TCE08786	TDE08786	30	160	60	18	14.5	17	4	21
M27 × 3		TBE08866	TCE08866	TDE08866	30	160	60	20	16	19	4	24
M30 × 3.5		TBE08946	TCE08946	TDE08946	35	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	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



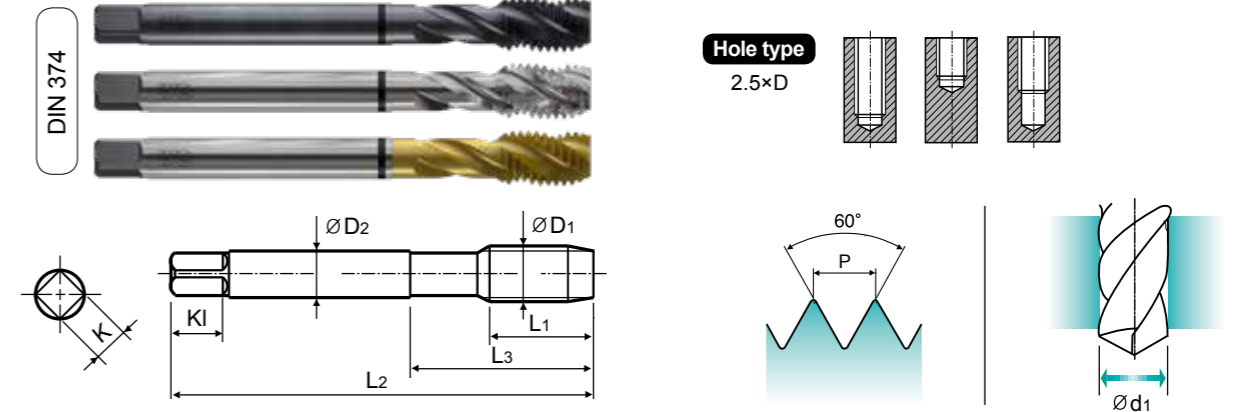
Vap **TB844** SERIES
 Bright **TC844** SERIES
 TiN **TD844** SERIES

MF ISO Metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine 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 374 6H 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114

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			
M4 × 0.5		TB844256	TC844256	TD844256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TB844296	TC844296	TD844296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TB844326	TC844326	TD844326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TB844336	TC844336	TD844336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TB844356	TC844356	TD844356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TB844376	TC844376	TD844376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TB844386	TC844386	TD844386	8	80	30	6	4.9	8	3	7.2
M10 × 1.25		TB844436	TC844436	TD844436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TB844446	TC844446	TD844446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TB844456	TC844456	TD844456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TB844516	TC844516	TD844516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TB844526	TC844526	TD844526	15	100	40	9	7	10	3	10.8
M12 × 1		TB844536	TC844536	TD844536	11	100	40	9	7	10	3	11
M14 × 1.5		TB844556	TC844556	TD844556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TB844566	TC844566	TD844566	15	100	40	11	9	12	3	12.8
M14 × 1		TB844576	TC844576	TD844576	11	100	40	11	9	12	3	13
M16 × 1.5		TB844616	TC844616	TD844616	15	100	40	12	9	12	3	14.5
M16 × 1		TB844626	TC844626	TD844626	12	100	40	12	9	12	3	15
M18 × 1.5		TB844676	TC844676	TD844676	17	110	44	14	11	14	4	16.5
M18 × 1		TB844686	TC844686	TD844686	13	110	44	14	11	14	4	17
M20 × 1.5		TB844726	TC844726	TD844726	17	125	50	16	12	15	4	18.5
M20 × 1		TB844736	TC844736	TD844736	14	125	50	16	12	15	4	19
M22 × 1.5		TB844766	TC844766	TD844766	17	125	50	18	14.5	17	4	20.5
M22 × 1		TB844776	TC844776	TD844776	14	125	50	18	14.5	17	4	21

* The other coating(TiCN or TiAlN) is available on your request.

► NEXT PAGE

◎ : 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	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

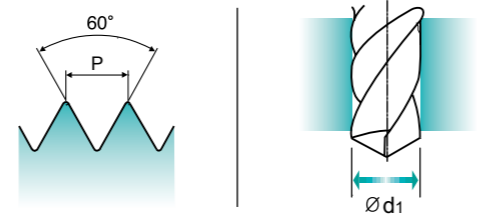
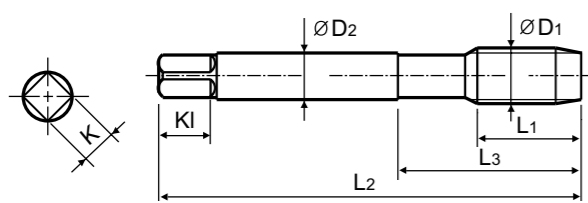
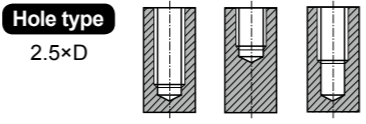


Vap **TB844** SERIES
Bright **TC844** SERIES
TiN **TD844** SERIES

MF ISO Metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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 374 6H 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114 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								
$\varnothing D_1$	P	L1	L2	L3	$\varnothing D_2$	K	KI	Z	$\varnothing d_1$			
M24 × 2		TB844796	TC844796	TD844796	20	140	54	18	14.5	17	4	22
M24 × 1.5		TB844806	TC844806	TD844806	20	140	54	18	14.5	17	4	22.5
M26 × 1.5		TB844856	TC844856	TD844856	20	140	54	18	14.5	17	4	24.5
M27 × 2		TB844876	TC844876	TD844876	20	140	54	20	16	19	4	25
M27 × 1.5		TB844886	TC844886	TD844886	20	140	54	20	16	19	4	25.5
M28 × 1.5		TB844916	TC844916	TD844916	20	140	54	20	16	19	4	26.5
M30 × 2		TB844966	TC844966	TD844966	22	150	57	22	18	21	4	28
M30 × 1.5		TB844976	TC844976	TD844976	22	150	57	22	18	21	4	28.5

* The other coating(TiCN or TiAlN) is 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		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	10	26	3	25	3	25		
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	260	160	250	130	230	210	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	15	30	25	38	34	200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommended		◎				◎	◎	◎													

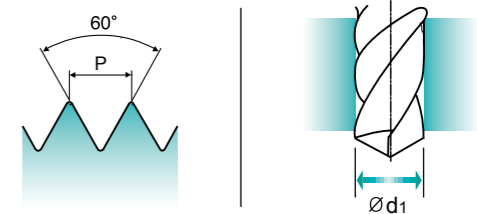
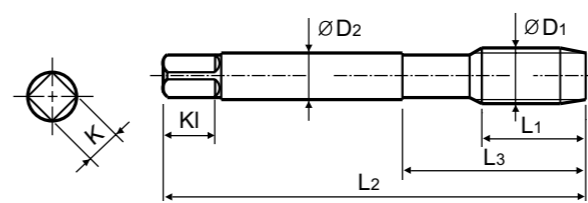
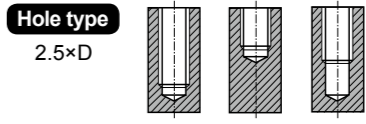


Bright **TCE09** SERIES
TiN **TDE09** SERIES

MF ISO Metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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 374 6G 60° C Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114 Unit : mm

SIZE	Pitch	EDP No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Bright	TiN								
$\varnothing D_1$	P	L1	L2	L3	$\varnothing D_2$	K	KI	Z	$\varnothing d_1$		
M4 × 0.5		TCE09256	TDE09256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TCE09296	TDE09296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TCE09326	TDE09326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TCE09336	TDE09336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TCE09356	TDE09356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TCE09376	TDE09376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TCE09386	TDE09386	8	80	30	6	4.9	8	3	7.2
M10 × 1.25		TCE09436	TDE09436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TCE09446	TDE09446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TCE09456	TDE09456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TCE09516	TDE09516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TCE09526	TDE09526	15	100	40	9	7	10	3	10.8
M12 × 1		TCE09536	TDE09536	11	100	40	9	7	10	3	11
M14 × 1.5		TCE09556	TDE09556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TCE09566	TDE09566	15	100	40	11	9	12	3	12.8
M14 × 1		TCE09576	TDE09576	11	100	40	11	9	12	3	13
M16 × 1.5		TCE09616	TDE09616	15	100	40	12	9	12	3	14.5
M16 × 1		TCE09626	TDE09626	12	100	40	12	9	12	3	15
M18 × 1.5		TCE09676	TDE09676	17	110	44	14	11	14	4	16.5
M18 × 1		TCE09686	TDE09686	13	110	44	14	11	14	4	17
M20 × 1.5		TCE09726	TDE09726	17	125	50	16	12	15	4	18.5
M20 × 1		TCE09736	TDE09736	14	125	50	16	12	15	4	19
M22 × 1.5		TCE09766	TDE09766	17	125	50	18	14.5	17	4	20.5
M22 × 1		TCE09776	TDE09776	14	125	50	18	14.5	17	4	21

* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) is available on your request. ► NEXT PAGE

◎ : 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		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	10	26	3	25	3	25		
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	260	160	250	130	230	210	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	15	30	25	38	34	200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommended		◎				◎	◎	◎													



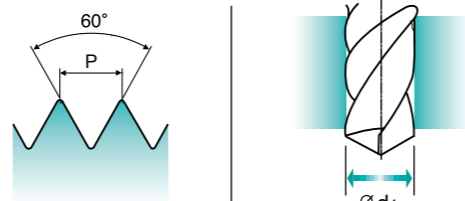
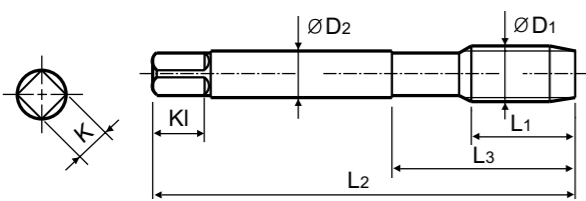
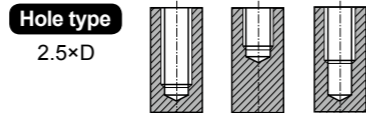
Bright **TCE09** SERIES
TIN **TDE09** SERIES

MF ISO Metric fine threads DIN 13

Metrisches ISO-Feingewinde DIN 13
ISO MÉTRIQUE PAS FINS DIN13
ISO Metrico passo fine 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.



MU HSS-E DIN 374 6G 60° C Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114

Unit : mm

SIZE	Pitch	EDP No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Bright	TiN								
ØD1	P	L1	L2	L3	ØD2	K	KI	Z	Ød1		
M24 × 2		TCE09796	TDE09796	20	140	54	18	14.5	17	4	22
M24 × 1.5		TCE09806	TDE09806	20	140	54	18	14.5	17	4	22.5
M26 × 1.5		TCE09856	TDE09856	20	140	54	18	14.5	17	4	24.5
M27 × 2		TCE09876	TDE09876	20	140	54	20	16	19	4	25
M27 × 1.5		TCE09886	TDE09886	20	140	54	20	16	19	4	25.5
M28 × 1.5		TCE09916	TDE09916	20	140	54	20	16	19	4	26.5
M30 × 2		TCE09966	TDE09966	22	150	57	22	18	21	4	28
M30 × 1.5		TCE09976	TDE09976	22	150	57	22	18	21	4	28.5

* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) 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	30	29	32	38	35	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	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	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



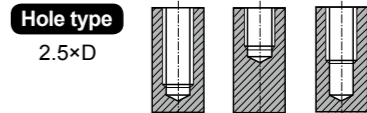
TC804-IC SERIES

M ISO Metric coarse threads DIN 13

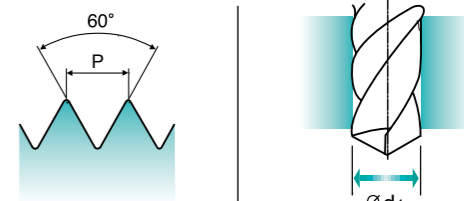
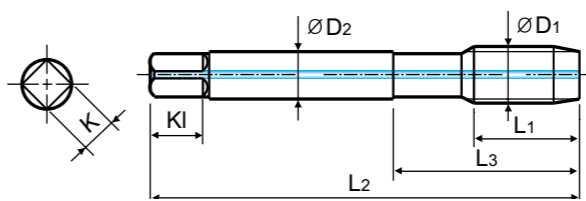
Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

► 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.



with Internal Coolant



MU HSS-E DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.115

Unit : mm

SIZE	Pitch	EDP No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Bright	IC								
ØD1	P	L1	L2	L3	ØD2	K	KI	Z	Ød1		
M6 × 1		TC804316IC		10	80	30	6	4.9	8	3	5
M8 × 1.25		TC804366IC		13	90	35	8	6.2	9	3	6.8
M10 × 1.5		TC804426IC		15	100	39	10	8	11	3	8.5
M12 × 1.75		TC804506IC		18	110	44	9	7	10	3	10.2
M14 × 2		TC804546IC		20	110	44	11	9	12	3	12
M16 × 2		TC804606IC		20	110	44	12	9	12	3	14
M18 × 2.5		TC804656IC		25	125	50	14	11	14	4	15.5
M20 × 2.5		TC804706IC		25	140	54	16	12	15	4	17.5

►DIN 371(M6~M10) and DIN 376(M12~M20)

* Coating(TiN, TiCN or TiAlN) or Surface Treatment(Steam Homo) 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	30	29	32	38	35	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	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

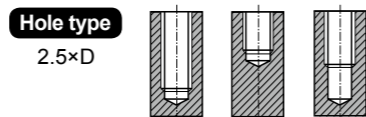
ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	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	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO Metric coarse threads DIN 13

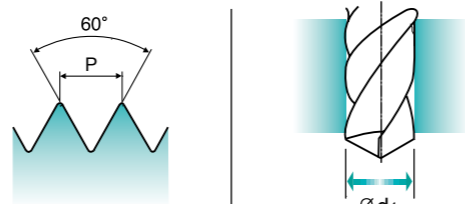
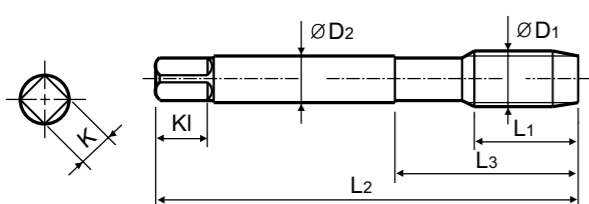
- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

► 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 Standzeit dank einer besonderen Schneidengeometrie. Von YG-1 patentiert.



Short Chamfer



Material groups: **MU** HSS-E DIN 371/376 6H 60° E Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.115

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	Kl	Z	Ød1
M2 × 0.4		TC807136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC807156	8	45	13	2.8	2.1	5	3	1.75
M2.3 × 0.4		TC807196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC807176	9	50	15	2.8	2.1	5	3	2.05
M2.6 × 0.45		TC807496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC807206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC807226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TC807246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC807266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC807286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TC807316	10	80	30	6	4.9	8	3	5
M7 × 1		TC807346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TC807366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC807396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TC807426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TC807466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC807506	18	110	44	9	7	10	3	10.2
M14 × 2		TC807546	20	110	44	11	9	12	3	12
M16 × 2		TC807606	20	110	44	12	9	12	3	14
M18 × 2.5		TC807656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TC807706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TC807746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TC807786	30	160	60	18	14.5	17	4	21
M27 × 3		TC807866	30	160	60	20	16	19	4	24
M30 × 3.5		TC807946	35	180	70	22	18	21	4	26.5

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

* Coating(TiN, TiCN or TiAlN) or Surface Treatment(Steam Homo) is 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	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	30	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	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

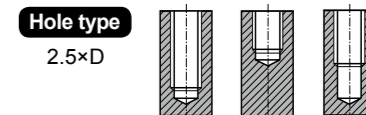
ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO Metric coarse threads DIN 13

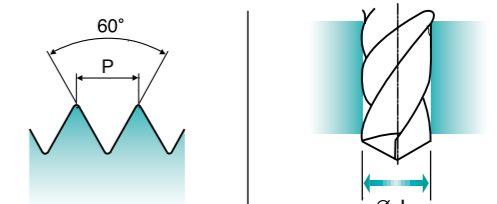
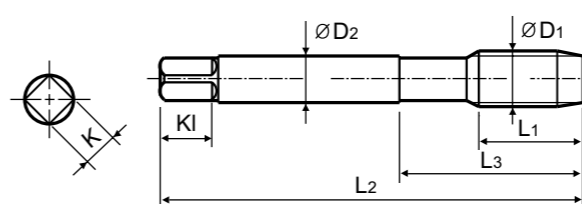
- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

► 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 Standzeit dank einer besonderen Schneidengeometrie. Von YG-1 patentiert.



Long Shank



Material groups: **MU** HSS-E LONG 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.115

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	Kl	Z	Ød1
M3 × 0.5		TC633206	11	100	18	3.5	2.7	6	3	2.5
M4 × 0.7		TC633246	13	125	21	4.5	3.4	6	3	3.3
M5 × 0.8		TC633286	15	140	25	6	4.9	8	3	4.2
M6 × 1		TC633316	17	160	30	6	4.9	8	3	5
M8 × 1.25		TC633366	20	180	35	6	4.9	8	3	6.8
M10 × 1.5		TC633426	22	200	39	7	5.5	8	3	8.5
M12 × 1.75		TC633506	24	220	44	9	7	10	3	10.2
M14 × 2		TC633546	26	220	44	11	9	12	3	12
M16 × 2		TC633606	27	220	44	12	9	12	3	14
M20 × 2.5		TC633706	32	280	54	16	12	15	4	17.5

* Coating(TiN, TiCN or TiAlN) or Surface Treatment(Steam Homo) is 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	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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



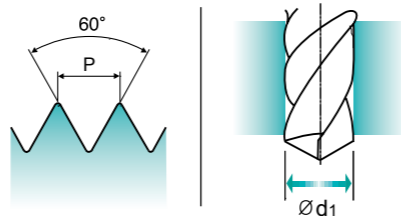
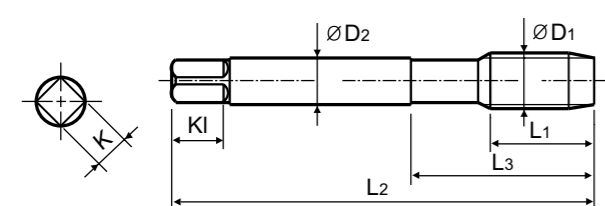
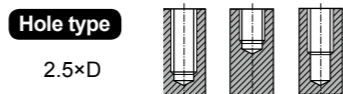
TQ744 SERIES
TB744 SERIES

M ISO Metric coarse threads DIN 13

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

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

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



Material groups: **VA** up to M12 over M12
 HSS-PM HSS-E DIN 371/376 6H 60° C Vap R45
 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
ØD1	P	Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TQ744136	8	45	13	2.8	2.1	5	2	1.6
M2.2 × 0.45		TQ744156	8	45	13	2.8	2.1	5	2	1.75
M2.3 × 0.4		TQ744196	8	45	13	2.8	2.1	5	2	1.9
M2.5 × 0.45		TQ744176	9	50	15	2.8	2.1	5	2	2.05
M2.6 × 0.45		TQ744496	9	50	15	2.8	2.1	5	2	2.1
M3 × 0.5		TQ744206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ744226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TQ744246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ744266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ744286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TQ744316	10	80	30	7	5.5	8	3	5
M7 × 1		TQ744346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TQ744366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TQ744396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TQ744426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TQ744466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TQ744506	18	110	44	9	7	10	3	10.2
M14 × 2		TB744546	20	110	44	11	9	12	3	12
M16 × 2		TB744606	20	110	44	12	9	12	3	14
M18 × 2.5		TB744656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TB744706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TB744746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TB744786	30	160	60	18	14.5	17	4	21
M27 × 3		TB744866	30	160	60	20	16	19	4	24
M30 × 3.5		TB744946	35	180	70	22	18	21	4	26.5

- DIN 371(M2~M10) and DIN 376(M11~M30)
- HSS-PM(M2~M12/TQ744) and HSS-E(M14~M30/TB744)
- * Coating(TiN, TiCN or TiAlN) is 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	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	30	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					○



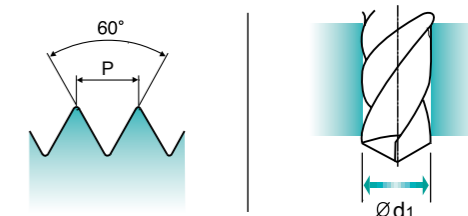
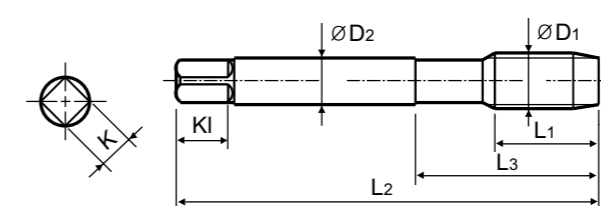
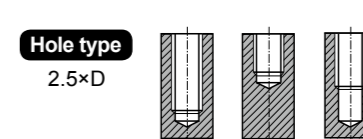
TQ754 SERIES

MF ISO Metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

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

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



Material groups: **VA** HSS-PM DIN 374 6H 60° C Vap R45
 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
ØD1	P	Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
M4 × 0.5		TQ754256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TQ754296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TQ754326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TQ754336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TQ754356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TQ754376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TQ754386	8	80	30	6	4.9	8	3	7.2
M10 × 1.25		TQ754436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TQ754446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TQ754456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TQ754516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TQ754526	15	100	40	9	7	10	3	10.8
M12 × 1		TQ754536	11	100	40	9	7	10	3	11

* Coating(TiN, TiCN or TiAlN) is 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	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	30	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	○		○		○	○				◎	◎	◎								

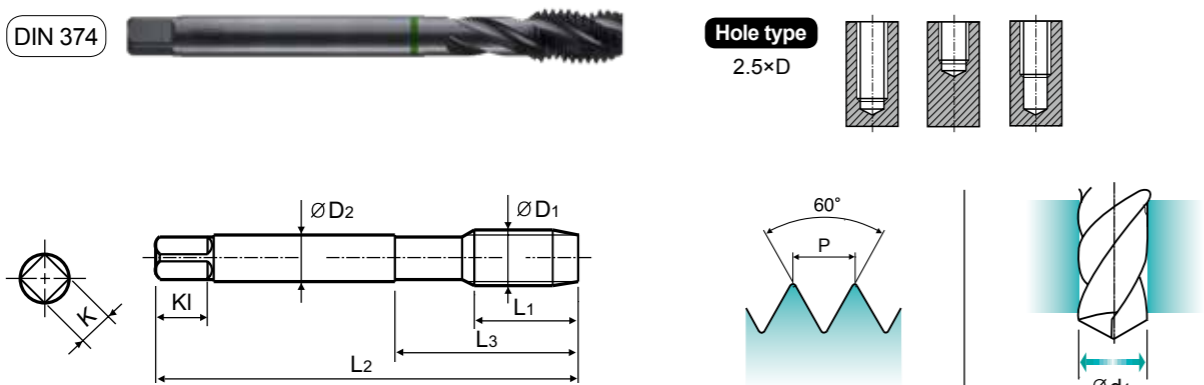
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					○

MF ISO Metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

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

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



Material groups: **VA** HSS-E DIN 374 6H 60° C Vap R45 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
ØD1	P	Vap	L1	L2	L3	ØD2	K	K1	Z	Ød1
M14 × 1.5		TB754556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TB754566	15	100	40	11	9	12	3	12.8
M14 × 1		TB754576	11	100	40	11	9	12	3	13
M16 × 1.5		TB754616	15	100	40	12	9	12	3	14.5
M16 × 1		TB754626	12	100	40	12	9	12	3	15
M18 × 1.5		TB754676	17	110	44	14	11	14	4	16.5
M18 × 1		TB754686	13	110	44	14	11	14	4	17
M20 × 1.5		TB754726	17	125	50	16	12	15	4	18.5
M20 × 1		TB754736	14	125	50	16	12	15	4	19
M22 × 1.5		TB754766	17	125	50	18	14.5	17	4	20.5
M22 × 1		TB754776	14	125	50	18	14.5	17	4	21
M24 × 2		TB754796	20	140	54	18	14.5	17	4	22
M24 × 1.5		TB754806	20	140	54	18	14.5	17	4	22.5
M26 × 1.5		TB754856	20	140	54	18	14.5	17	4	24.5
M27 × 2		TB754876	20	140	54	20	16	19	4	25
M27 × 1.5		TB754886	20	140	54	20	16	19	4	25.5
M28 × 1.5		TB754916	20	140	54	20	16	19	4	26.5
M30 × 2		TB754966	22	150	57	22	18	21	4	28
M30 × 1.5		TB754976	22	150	57	22	18	21	4	28.5

* Coating(TiN, TiCN or TiAlN) is 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

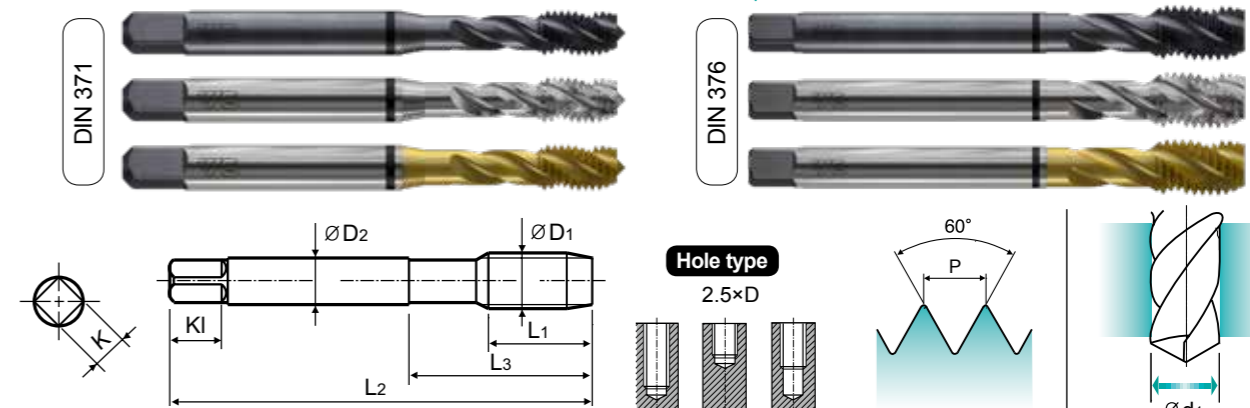
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo fine

► 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 2B 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114

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		Vap	Bright	TiN	L1	L2	L3	ØD2	K	K1	Z	Ød1
#4 - 40 UNC		TB824162	TC824162	TD824162	6	56	18	3.5	2.7	6	3	2.3
#5 - 40 UNC		TB824202	TC824202	TD824202	7	56	18	3.5	2.7	6	3	2.6
#6 - 32 UNC		TB824242	TC824242	TD824242	7	56	20	4	3	6	3	2.85
#8 - 32 UNC		TB824282	TC824282	TD824282	8	63	21	4.5	3.4	6	3	3.5
#10 - 24 UNC		TB824322	TC824322	TD824322	10	70	25	6	4.9	8	3	3.9
#12 - 24 UNC		TB824362	TC824362	TD824362	10	80	30	6	4.9	8	3	4.5
1/4 - 20 UNC		TB824402	TC824402	TD824402	13	80	30	7	5.5	8	3	5.2
5/16 - 18 UNC		TB824442	TC824442	TD824442	14	90	35	8	6.2	9	3	6.6
3/8 - 16 UNC		TB824482	TC824482	TD824482	16	100	39	9	7	10	3	8
7/16 - 14 UNC		TB824522	TC824522	TD824522	17	100	40	8	6.2	9	3	9.4
1/2 - 13 UNC		TB824562	TC824562	TD824562	20	110	44	9	7	10	3	10.75
9/16 - 12 UNC		TB824602	TC824602	TD824602	20	110	44	11	9	12	3	12.25
5/8 - 11 UNC		TB824642	TC824642	TD824642	22	110	44	12	9	12	3	13.5
3/4 - 10 UNC		TB824702	TC824702	TD824702	25	125	50	14	11	14	4	16.5
7/8 - 9 UNC		TB824742	TC824742	TD824742	27	140	54	18	14.5	17	4	19.5
1 - 8 UNC		TB824782	TC824782	TD824782	30	160	60	20	16	19	4	22.25

► DIN 371(#4~3/8) and DIN 376(7/16~1)

* The other coating(TiCN or TiAlN) is 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



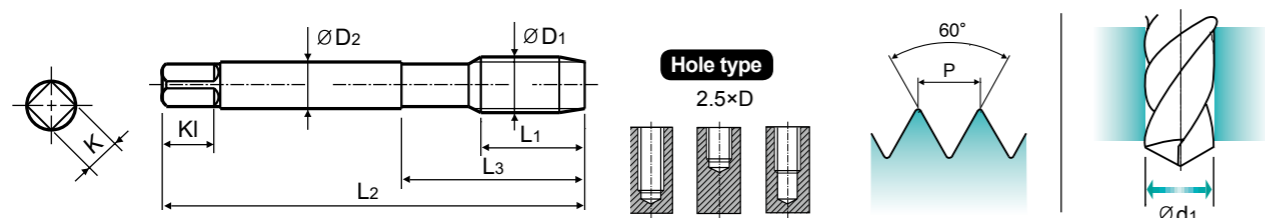
Bright **TCE01** SERIES
TIN **TDE01** SERIES

UNC Unified coarse threads

Unified Grobgewinde
 UNC
 Unificato passo fine

► 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 3B 60° C Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114

Unit : mm

SIZE	TPI	EDP No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Bright	TiN								
ØD1		L1	L2	L3	ØD2	K	KI	Z	Ød1		
#4 - 40 UNC	TCE01162	TDE01162	6	56	18	3.5	2.7	6	3	3	2.3
#5 - 40 UNC	TCE01202	TDE01202	7	56	18	3.5	2.7	6	3	3	2.6
#6 - 32 UNC	TCE01242	TDE01242	7	56	20	4	3	6	3	3	2.85
#8 - 32 UNC	TCE01282	TDE01282	8	63	21	4.5	3.4	6	3	3	3.5
#10 - 24 UNC	TCE01322	TDE01322	10	70	25	6	4.9	8	3	3	3.9
#12 - 24 UNC	TCE01362	TDE01362	10	80	30	6	4.9	8	3	3	4.5
1/4 - 20 UNC	TCE01402	TDE01402	13	80	30	7	5.5	8	3	3	5.2
5/16 - 18 UNC	TCE01442	TDE01442	14	90	35	8	6.2	9	3	3	6.6
3/8 - 16 UNC	TCE01482	TDE01482	16	100	39	9	7	10	3	3	8
7/16 - 14 UNC	TCE01522	TDE01522	17	100	40	8	6.2	9	3	3	9.4
1/2 - 13 UNC	TCE01562	TDE01562	20	110	44	9	7	10	3	3	10.75
9/16 - 12 UNC	TCE01602	TDE01602	20	110	44	11	9	12	3	3	12.25
5/8 - 11 UNC	TCE01642	TDE01642	22	110	44	12	9	12	3	3	13.5
3/4 - 10 UNC	TCE01702	TDE01702	25	125	50	14	11	14	4	4	16.5
7/8 - 9 UNC	TCE01742	TDE01742	27	140	54	18	14.5	17	4	4	19.5
1 - 8 UNC	TCE01782	TDE01782	30	160	60	20	16	19	4	4	22.25

►DIN 371(#4~3/8) and DIN 376(7/16~1)

* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) 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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended			◎			◎	◎	◎													



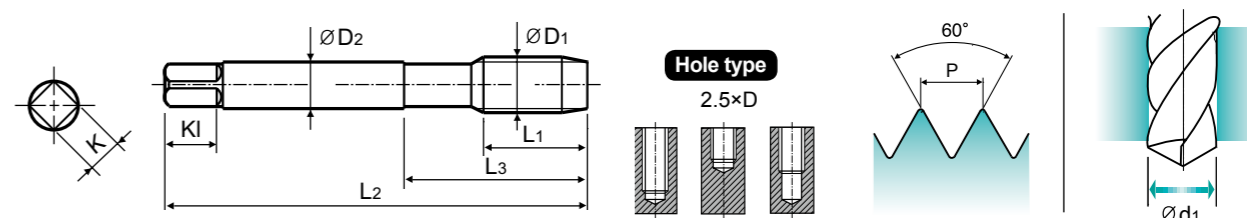
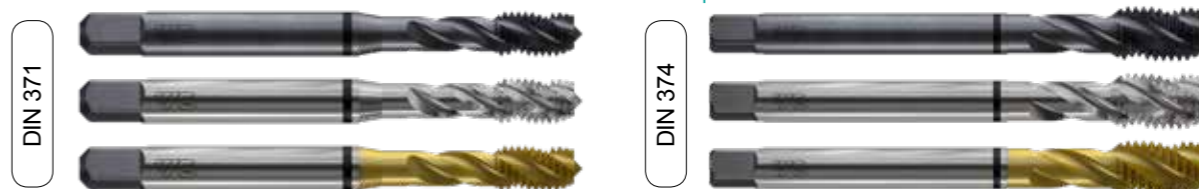
Vap **TB864** SERIES
Bright **TC864** SERIES
TiN **TD864** SERIES

UNF Unified fine threads

Unified Grobgewinde
 UNF
 Unificato passo fine

► 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 371/374 2B 60° C Vap Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114

Unit : mm

SIZE	TPI	EDP No.			Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Vap	Bright	TiN								
ØD1		L1	L2	L3	ØD2	K	KI	Z	Ød1			
#4 -48UNF	TB864182	TC864182	TD864182	6	56	18	3.5	2.7	6	3	2.4	
#5 -44UNF	TB864222	TC864222	TD864222	7	56	18	3.5	2.7	6	3	2.7	
#6 -40UNF	TB864262	TC864262	TD864262	7	56	20	4	3	6	3	3	
#8 -36UNF	TB864302	TC864302	TD864302	8	63	21	4.5	3.4	6	3	3.5	
#10 -32UNF	TB864342	TC864342	TD864342	10	70	25	6	4.9	8	3	4.1	
#12 -28UNF	TB864382	TC864382	TD864382	10	80	30	6	4.9	8	3	4.7	
1/4 -28UNF	TB864422	TC864422	TD864422	10	80	30	7	5.5	8	3	5.5	
5/16 -24UNF	TB864462	TC864462	TD864462	10	90	35	8	6.2	9	3	6.9	
3/8 -24UNF	TB864502	TC864502	TD864502	10	100	39	9	7	10	3	8.5	
7/16 -20UNF	TB864542	TC864542	TD864542	13	100	40	8	6.2	9	3	9.9	
1/2 -20UNF	TB864582	TC864582	TD864582	13	100	40	9	7	10	3	11.5	
9/16 -18UNF	TB864622	TC864622	TD864622	15	100	40	11	9	12	3	12.9	
5/8 -18UNF	TB864662	TC864662	TD864662	15	100	40	12	9	12	3	14.5	
3/4 -16UNF	TB864722	TC864722	TD864722	17	110	44	14	11	14	4	17.5	
7/8 -14UNF	TB864762	TC864762	TD864762	17	125	50	18	14.5	17	4	20.5	
1 -12UNF	TB864802	TC864802	TD864802	20	140	54	20	16	19	4	23.25	

►DIN 371(#4~3/8) and DIN 374(7/16~1)

* 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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended			◎			◎	◎	◎													

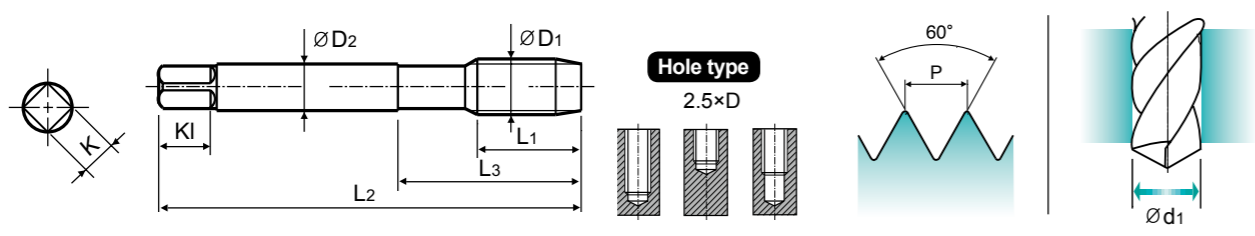


Bright TCE02 SERIES
TIN TDE02 SERIES

UNF Unified fine threads
Unified Grobgewinde
UNF
Unificato passo fine

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 371/374 3B 60° C Bright TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.114 Unit : mm

Table with columns: SIZE, TPI, EDP No., Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute, Tapping Drill Diameter. Lists various UNF tap specifications.

DIN 371(#4~3/8) and DIN 374(7/16~1)
* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) is available on your request.

ISO material compatibility chart for UNF taps. Columns include P (Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron), N (Aluminum-wrought alloy, Aluminum-cast, alloyed, Copper and Copper Alloys, Non Metallic Materials), S (Heat Resistant Super Alloys, Titanium Alloys), and H (Hardened steel, Chilled Cast Iron, Hardened Cast Iron).

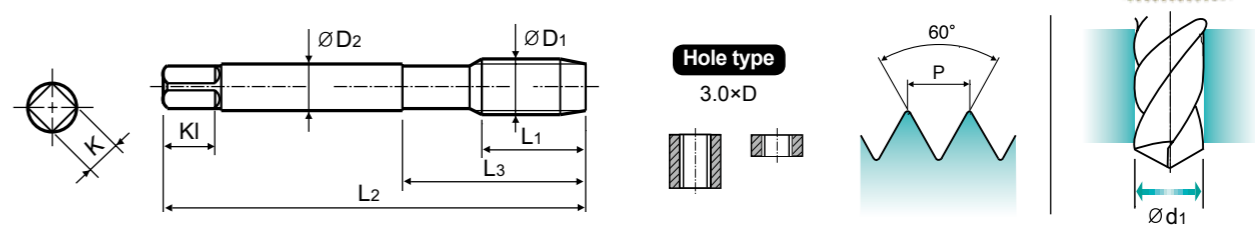


Vap TB814 SERIES
Bright TC814 SERIES
TIN TD814 SERIES

M 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

Table with columns: SIZE, Pitch, EDP No., Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute, Tapping Drill Diameter. Lists various ISO Metric coarse threads tap specifications.

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

ISO material compatibility chart for ISO Metric coarse threads taps. Columns include P (Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron), N (Aluminum-wrought alloy, Aluminum-cast, alloyed, Copper and Copper Alloys, Non Metallic Materials), S (Heat Resistant Super Alloys, Titanium Alloys), and H (Hardened steel, Chilled Cast Iron, Hardened Cast Iron).



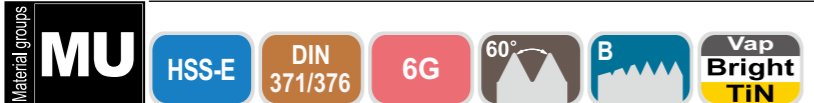
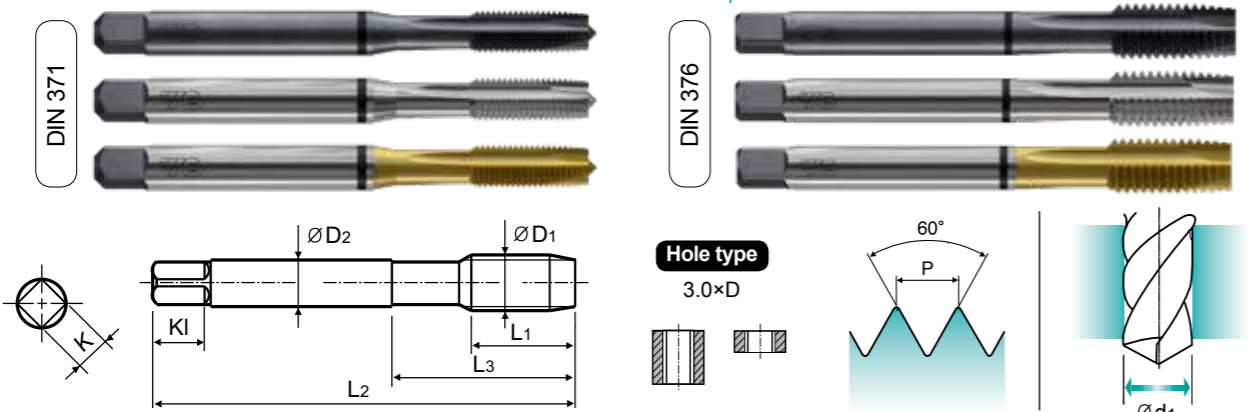
Vap TBJ07 SERIES
Bright TCJ07 SERIES
TiN TDJ07 SERIES

ISO Metric coarse threads DIN 13

M 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.



Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

Unit : mm

Table with 13 columns: SIZE, Pitch, EDP No. (Vap, Bright, TiN), Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute, Tapping Drill Diameter. Rows include sizes from M2 to M30.

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

◎ : Excellent ○ : Good

Material compatibility table for YG-1 taps, listing ISO standards and material groups like Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, etc.



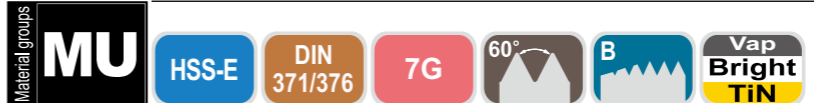
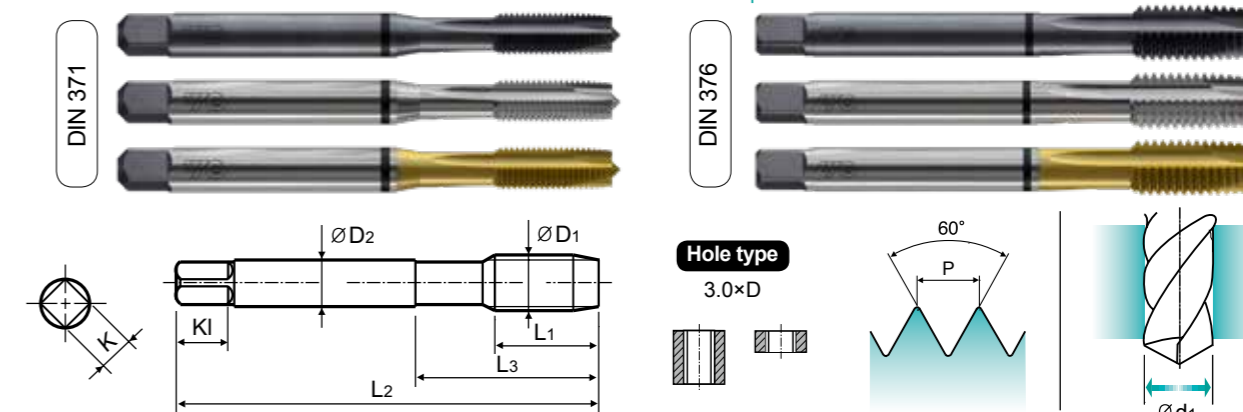
Vap TBJ08 SERIES
Bright TCJ08 SERIES
TiN TDJ08 SERIES

ISO Metric coarse threads DIN 13

M 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.



Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

Unit : mm

Table with 13 columns: SIZE, Pitch, EDP No. (Vap, Bright, TiN), Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute, Tapping Drill Diameter. Rows include sizes from M2 to M30.

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

◎ : Excellent ○ : Good

Material compatibility table for YG-1 taps, listing ISO standards and material groups like Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, etc.

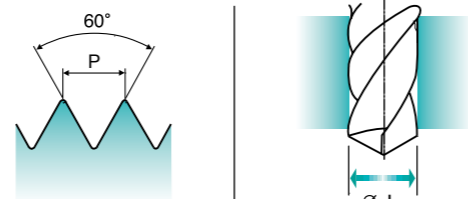
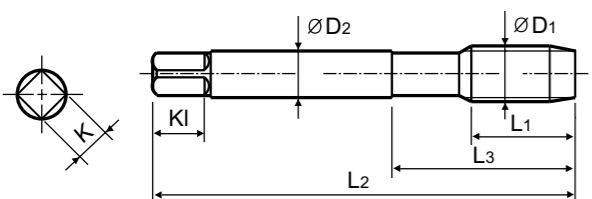


Vap **TB854** SERIES
Bright **TC854** SERIES
TiN **TD854** SERIES

MF ISO Metric fine threads DIN 13
Metrisches ISO-Feingewinde DIN 13
ISO MÉTRIQUE PAS FINS 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 374 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								
M4 × 0.5		TB854256	TC854256	TD854256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TB854296	TC854296	TD854296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TB854326	TC854326	TD854326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TB854336	TC854336	TD854336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TB854356	TC854356	TD854356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TB854376	TC854376	TD854376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TB854386	TC854386	TD854386	14	80	30	6	4.9	8	3	7.2
M10 × 1.25		TB854436	TC854436	TD854436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TB854446	TC854446	TD854446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TB854456	TC854456	TD854456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TB854516	TC854516	TD854516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TB854526	TC854526	TD854526	22	100	40	9	7	10	3	10.8
M12 × 1		TB854536	TC854536	TD854536	18	100	40	9	7	10	3	11
M14 × 1.5		TB854556	TC854556	TD854556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TB854566	TC854566	TD854566	22	100	40	11	9	12	3	12.8
M14 × 1.0		TB854576	TC854576	TD854576	22	100	40	11	9	12	3	13
M16 × 1.5		TB854616	TC854616	TD854616	22	100	40	12	9	12	3	14.5
M16 × 1		TB854626	TC854626	TD854626	18	100	40	12	9	12	3	15
M18 × 1.5		TB854676	TC854676	TD854676	25	110	44	14	11	14	4	16.5
M18 × 1		TB854686	TC854686	TD854686	20	110	44	14	11	14	4	17

* The other coating(TiCN or TiAlN) is available on your request.

► NEXT PAGE

◎ : 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	35	29	32	38	35	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

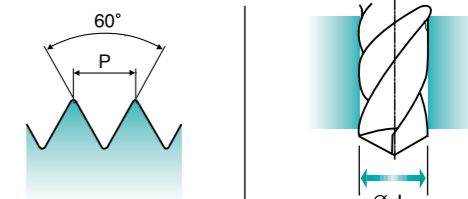
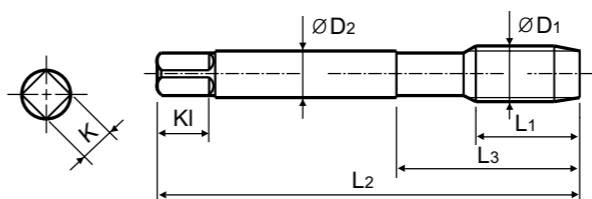


Vap **TB854** SERIES
Bright **TC854** SERIES
TiN **TD854** SERIES

MF ISO Metric fine threads DIN 13
Metrisches ISO-Feingewinde DIN 13
ISO MÉTRIQUE PAS FINS 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 374 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								
M20 × 1.5		TB854726	TC854726	TD854726	25	125	50	16	12	15	4	18.5
M20 × 1		TB854736	TC854736	TD854736	20	125	50	16	12	15	4	19
M22 × 1.5		TB854766	TC854766	TD854766	25	125	50	18	14.5	17	4	20.5
M22 × 1		TB854776	TC854776	TD854776	20	125	50	18	14.5	17	4	21
M24 × 2		TB854796	TC854796	TD854796	27	140	54	18	14.5	17	4	22
M24 × 1.5		TB854806	TC854806	TD854806	27	140	54	18	14.5	17	4	22.5
M26 × 1.5		TB854856	TC854856	TD854856	28	140	54	18	14.5	17	4	24.5
M27 × 2		TB854876	TC854876	TD854876	28	140	54	20	16	19	4	25
M27 × 1.5		TB854886	TC854886	TD854886	28	140	54	20	16	19	4	25.5
M28 × 1.5		TB854916	TC854916	TD854916	28	140	54	20	16	19	4	26.5
M30 × 2		TB854966	TC854966	TD854966	30	150	57	22	18	21	4	28
M30 × 1.5		TB854976	TC854976	TD854976	30	150	57	22	18	21	4	28.5

* 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	35	29	32	38	35	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

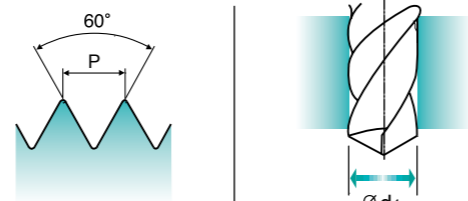
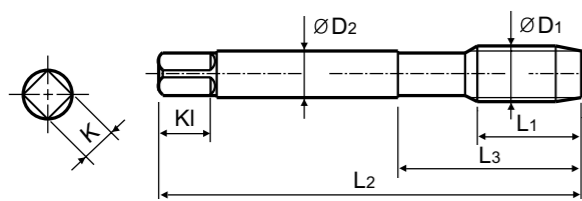


Bright **TCJ09** SERIES
TIN **TDJ09** SERIES

MF ISO Metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS 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 374** **6G** **60°** **B** **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
		Bright	TiN								
M4 × 0.5		TCJ09256	TDJ09256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TCJ09296	TDJ09296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TCJ09326	TDJ09326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TCJ09336	TDJ09336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TCJ09356	TDJ09356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TCJ09376	TDJ09376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TCJ09386	TDJ09386	14	80	30	6	4.9	8	3	7.2
M10 × 1.25		TCJ09436	TDJ09436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TCJ09446	TDJ09446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TCJ09456	TDJ09456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TCJ09516	TDJ09516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TCJ09526	TDJ09526	22	100	40	9	7	10	3	10.8
M12 × 1		TCJ09536	TDJ09536	18	100	40	9	7	10	3	11
M14 × 1.5		TCJ09556	TDJ09556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TCJ09566	TDJ09566	22	100	40	11	9	12	3	12.8
M14 × 1.0		TCJ09576	TDJ09576	22	100	40	11	9	12	3	13
M16 × 1.5		TCJ09616	TDJ09616	22	100	40	12	9	12	3	14.5
M16 × 1		TCJ09626	TDJ09626	18	100	40	12	9	12	3	15
M18 × 1.5		TCJ09676	TDJ09676	25	110	44	14	11	14	4	16.5
M18 × 1		TCJ09686	TDJ09686	20	110	44	14	11	14	4	17

* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) is available on your request. ► NEXT PAGE

◎ : 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	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

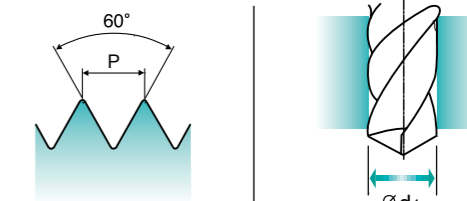
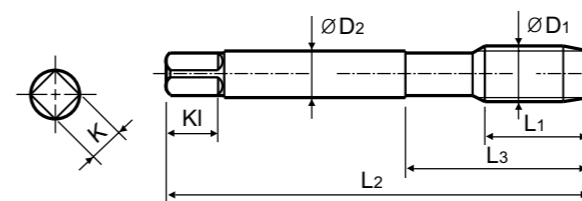


Bright **TCJ09** SERIES
TIN **TDJ09** SERIES

MF ISO Metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS 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 374** **6G** **60°** **B** **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
		Bright	TiN								
M20 × 1.5		TCJ09726	TDJ09726	25	125	50	16	12	15	4	18.5
M20 × 1		TCJ09736	TDJ09736	20	125	50	16	12	15	4	19
M22 × 1.5		TCJ09766	TDJ09766	25	125	50	18	14.5	17	4	20.5
M22 × 1		TCJ09776	TDJ09776	20	125	50	18	14.5	17	4	21
M24 × 2		TCJ09796	TDJ09796	27	140	54	18	14.5	17	4	22
M24 × 1.5		TCJ09806	TDJ09806	27	140	54	18	14.5	17	4	22.5
M26 × 1.5		TCJ09856	TDJ09856	28	140	54	18	14.5	17	4	24.5
M27 × 2		TCJ09876	TDJ09876	28	140	54	20	16	19	4	25
M27 × 1.5		TCJ09886	TDJ09886	28	140	54	20	16	19	4	25.5
M28 × 1.5		TCJ09916	TDJ09916	28	140	54	20	16	19	4	26.5
M30 × 2		TCJ09966	TDJ09966	30	150	57	22	18	21	4	28
M30 × 1.5		TCJ09976	TDJ09976	30	150	57	22	18	21	4	28.5

* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) 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	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



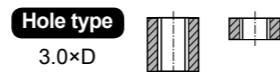
TC814-IC SERIES

M ISO Metric coarse threads DIN 13

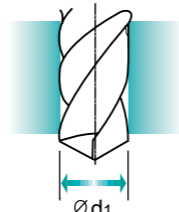
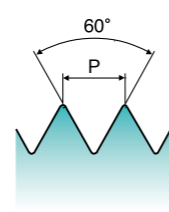
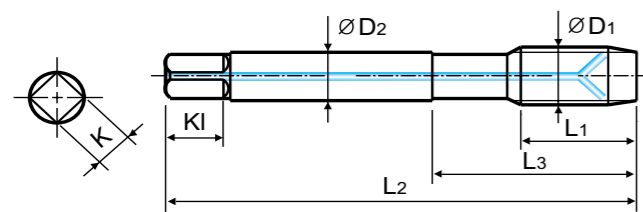
- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13, AVEC ARROSAGE CENTRAL
- ISO Metrico passo grosso DIN 13

► 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.



with Internal Coolant



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

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

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
M6 × 1		TC814316IC	17	80	30	6	4.9	8	3	5
M8 × 1.25		TC814366IC	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TC814426IC	22	100	39	10	8	11	3	8.5
M12 × 1.75		TC814506IC	24	110	44	9	7	10	3	10.2
M14 × 2		TC814546IC	26	110	44	11	9	12	3	12
M16 × 2		TC814606IC	27	110	44	12	9	12	3	14
M18 × 2.5		TC814656IC	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC814706IC	32	140	54	16	12	15	4	17.5

► DIN 371(M6~M10) and DIN 376(M12~M20)

* Coating(TiN, TiCN or TiAlN) or Surface Treatment(Steam Homo) is 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	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	30	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			◎			◎	◎	◎														



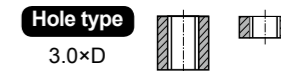
TC445 SERIES

M ISO Metric coarse threads DIN 13

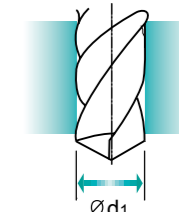
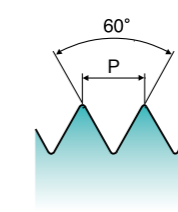
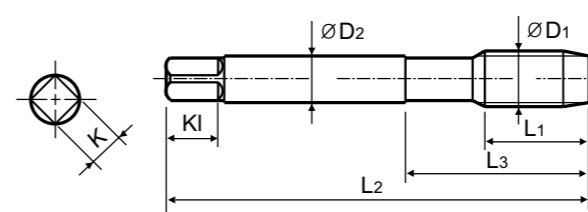
- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

► 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.



Long Shank



Material groups: **MU** HSS-E LONG 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

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		TC445206	11	100	18	3.5	2.7	6	3	2.5
M4 × 0.7		TC445246	13	125	21	4.5	3.4	6	3	3.3
M5 × 0.8		TC445286	15	140	25	6	4.9	8	3	4.2
M6 × 1		TC445316	17	160	30	6	4.9	8	3	5
M8 × 1.25		TC445366	20	180	35	6	4.9	8	3	6.8
M10 × 1.5		TC445426	22	200	39	7	5.5	8	3	8.5
M12 × 1.75		TC445506	24	220	44	9	7	10	3	10.2
M14 × 2		TC445546	26	220	44	11	9	12	3	12
M16 × 2		TC445606	27	220	44	12	9	12	3	14
M20 × 2.5		TC445706	32	280	54	16	12	15	4	17.5

* Coating(TiN, TiCN or TiAlN) or Surface Treatment(Steam Homo) is 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	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	30	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	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

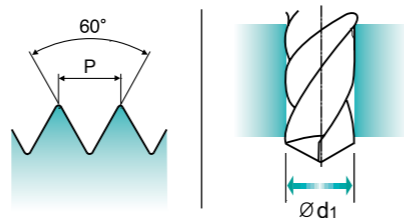
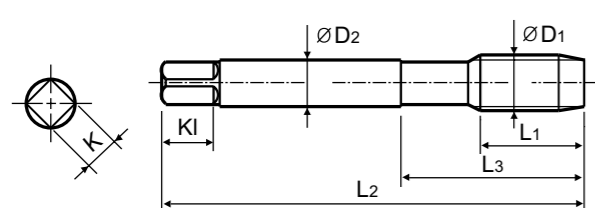
ISO Material Description	N				S					H												
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	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			◎			◎	◎	◎														

M ISO Metric coarse threads DIN 13

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

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

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



Material groups: **VA** up to M12 over M12
HSS-PM **HSS-E** **DIN 371/376** **6H** **60°** **B** **Vap**
 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

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	KI	Z	Ød1
M2 × 0.4		TQ428136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TQ428156	8	45	13	2.8	2.1	5	3	1.75
M2.3 × 0.4		TQ428196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TQ428176	9	50	15	2.8	2.1	5	3	2.05
M2.6 × 0.45		TQ428496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TQ428206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ428226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TQ428246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ428266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ428286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TQ428316	17	80	30	6	4.9	8	3	5
M7 × 1		TQ428346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TQ428366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TQ428396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TQ428426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TQ428466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TQ428506	24	110	44	9	7	10	3	10.2
M14 × 2		TB428546	26	110	44	11	9	12	3	12
M16 × 2		TB428606	27	110	44	12	9	12	3	14
M18 × 2.5		TB428656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TB428706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TB428746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TB428786	34	160	60	18	14.5	17	4	21
M27 × 3		TB428866	36	160	60	20	16	19	4	24
M30 × 3.5		TB428946	40	180	70	22	18	21	4	26.5

►DIN 371(M2~M10) and DIN 376(M11~M30) ►HSS-PM(M2~M12/TQ428) and HSS-E(M14~M30/TB428)
 * Coating(TiN, TiCN or TiAlN) is 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

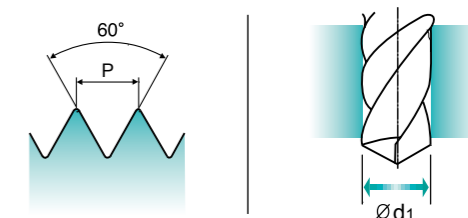
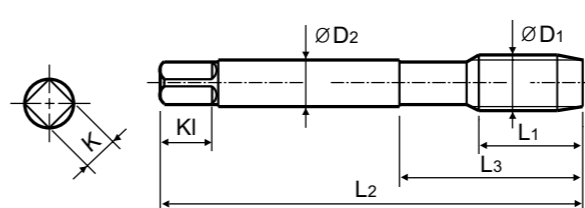
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO Metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo grosso DIN 13

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

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



Material groups: **VA** up to M12 over M12
HSS-PM **DIN 374** **6H** **60°** **B** **Vap**
 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

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	KI	Z	Ød1
M4 × 0.5		TQ438256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TQ438296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TQ438326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TQ438336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TQ438356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TQ438376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TQ438386	14	80	30	6	4.9	8	3	7.2
M10 × 1.25		TQ438436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TQ438446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TQ438456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TQ438516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TQ438526	22	100	40	9	7	10	3	10.8
M12 × 1		TQ438536	18	100	40	9	7	10	3	11

* Coating(TiN, TiCN or TiAlN) is 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



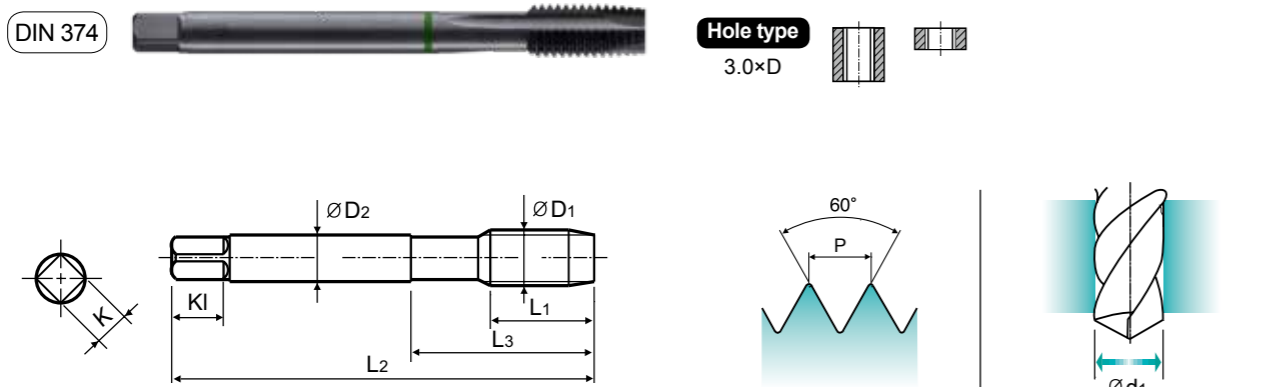
TB438 SERIES

MF ISO Metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo grosso DIN 13

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

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



Material groups: **VA** HSS-E DIN 374 6H 60° B Vap

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.117

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	KI	Z	Ød1
M14 × 1.5		TB438556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TB438566	22	100	40	11	9	12	3	12.8
M14 × 1.0		TB438576	22	100	40	11	9	12	3	13
M16 × 1.5		TB438616	22	100	40	12	9	12	3	14.5
M16 × 1		TB438626	18	100	40	12	9	12	3	15
M18 × 1.5		TB438676	25	110	44	14	11	14	4	16.5
M18 × 1		TB438686	20	110	44	14	11	14	4	17
M20 × 1.5		TB438726	25	125	50	16	12	15	4	18.5
M20 × 1		TB438736	20	125	50	16	12	15	4	19
M22 × 1.5		TB438766	25	125	50	18	14.5	17	4	20.5
M22 × 1		TB438776	20	125	50	18	14.5	17	4	21
M24 × 2		TB438796	27	140	54	18	14.5	17	4	22
M24 × 1.5		TB438806	27	140	54	18	14.5	17	4	22.5
M26 × 1.5		TB438856	28	140	54	18	14.5	17	4	24.5
M27 × 2		TB438876	28	140	54	20	16	19	4	25
M27 × 1.5		TB438886	28	140	54	20	16	19	4	25.5
M28 × 1.5		TB438916	28	140	54	20	16	19	4	26.5
M30 × 2		TB438966	30	150	57	22	18	21	4	28
M30 × 1.5		TB438976	30	150	57	22	18	21	4	28.5

* Coating(TiN, 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



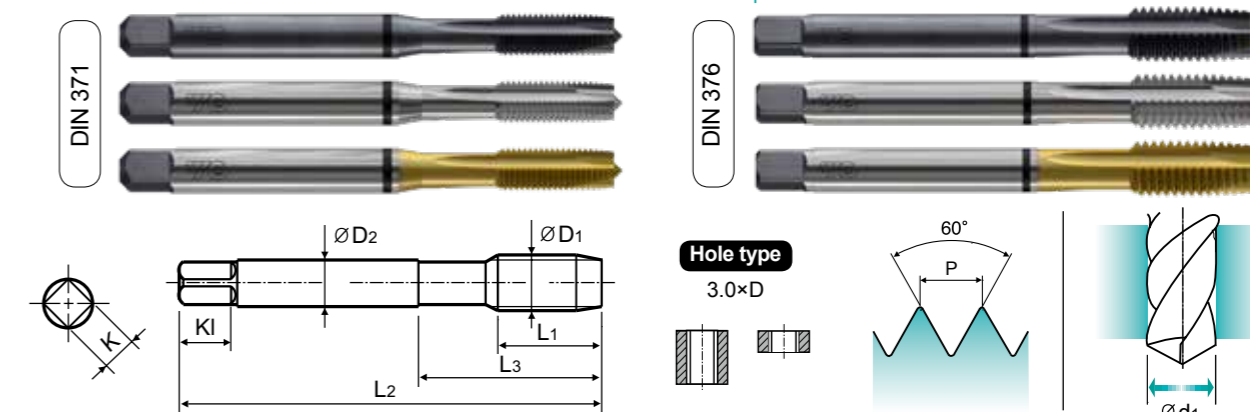
Vap **TB834** SERIES
Bright **TC834** SERIES
TiN **TD834** SERIES

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo grosso

► 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 2B 60° B Vap Bright TiN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.116

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		Vap	Bright	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 -40 UNC		TB834162	TC834162	TD834162	11	56	18	3.5	2.7	6	3	2.3
#5 -40 UNC		TB834202	TC834202	TD834202	11	56	18	3.5	2.7	6	3	2.6
#6 -32 UNC		TB834242	TC834242	TD834242	12	56	20	4	3	6	3	2.85
#8 -32 UNC		TB834282	TC834282	TD834282	13	63	21	4.5	3.4	6	3	3.5
#10 -24 UNC		TB834322	TC834322	TD834322	15	70	25	6	4.9	8	3	3.9
#12 -24 UNC		TB834362	TC834362	TD834362	16	80	30	6	4.9	8	3	4.5
1/4 -20 UNC		TB834402	TC834402	TD834402	17	80	30	7	5.5	8	3	5.2
5/16 -18 UNC		TB834442	TC834442	TD834442	20	90	35	8	6.2	9	3	6.6
3/8 -16 UNC		TB834482	TC834482	TD834482	22	100	39	9	7	10	3	8
7/16 -14 UNC		TB834522	TC834522	TD834522	22	100	40	8	6.2	9	3	9.4
1/2 -13 UNC		TB834562	TC834562	TD834562	25	110	44	9	7	10	3	10.75
9/16 -12 UNC		TB834602	TC834602	TD834602	26	110	44	11	9	12	3	12.25
5/8 -11 UNC		TB834642	TC834642	TD834642	27	110	44	12	9	12	3	13.5
3/4 -10 UNC		TB834702	TC834702	TD834702	30	125	50	14	11	14	4	16.5
7/8 -9 UNC		TB834742	TC834742	TD834742	32	140	54	18	14.5	17	4	19.5
1 -8 UNC		TB834782	TC834782	TD834782	36	160	60	20	16	19	4	22.25

►DIN 371(#4~3/8) and DIN 376(7/16~1)
* 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



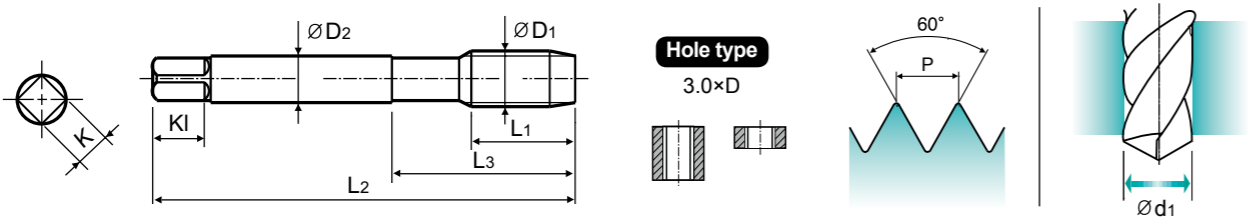
Bright **TCJ01** SERIES
TIN **TDJ01** SERIES

UNC Unified coarse threads

Unified Grobgewinde
 UNC
 Unificato passo grosso

► 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 Standzeit dank einer besonderen Schneidengeometrie. Von YG-1 patentiert.



Material groups **MU** **HSS-E** **DIN 371/376** **3B** **60°** **B** **Bright TiN** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.116

Unit : mm

SIZE	TPI	EDP No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Bright	TiN								
ØD1		L1	L2	L3	ØD2	K	KI	Z	Ød1		
#4 -40 UNC	TCJ01162	TDJ01162	11	56	18	3.5	2.7	6	3	2.3	
#5 -40 UNC	TCJ01202	TDJ01202	11	56	18	3.5	2.7	6	3	2.6	
#6 -32 UNC	TCJ01242	TDJ01242	12	56	20	4	3	6	3	2.85	
#8 -32 UNC	TCJ01282	TDJ01282	13	63	21	4.5	3.4	6	3	3.5	
#10 -24 UNC	TCJ01322	TDJ01322	15	70	25	6	4.9	8	3	3.9	
#12 -24 UNC	TCJ01362	TDJ01362	16	80	30	6	4.9	8	3	4.5	
1/4 -20 UNC	TCJ01402	TDJ01402	17	80	30	7	5.5	8	3	5.2	
5/16 -18 UNC	TCJ01442	TDJ01442	20	90	35	8	6.2	9	3	6.6	
3/8 -16 UNC	TCJ01482	TDJ01482	22	100	39	9	7	10	3	8	
7/16 -14 UNC	TCJ01522	TDJ01522	22	100	40	8	6.2	9	3	9.4	
1/2 -13 UNC	TCJ01562	TDJ01562	25	110	44	9	7	10	3	10.75	
9/16 -12 UNC	TCJ01602	TDJ01602	26	110	44	11	9	12	3	12.25	
5/8 -11 UNC	TCJ01642	TDJ01642	27	110	44	12	9	12	3	13.5	
3/4 -10 UNC	TCJ01702	TDJ01702	30	125	50	14	11	14	4	16.5	
7/8 -9 UNC	TCJ01742	TDJ01742	32	140	54	18	14.5	17	4	19.5	
1 -8 UNC	TCJ01782	TDJ01782	36	160	60	20	16	19	4	22.25	

►DIN 371(#4~3/8) and DIN 376(7/16~1)

* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) 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	30	29	32	38	35	35	23	10	26	10	26	3	25	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



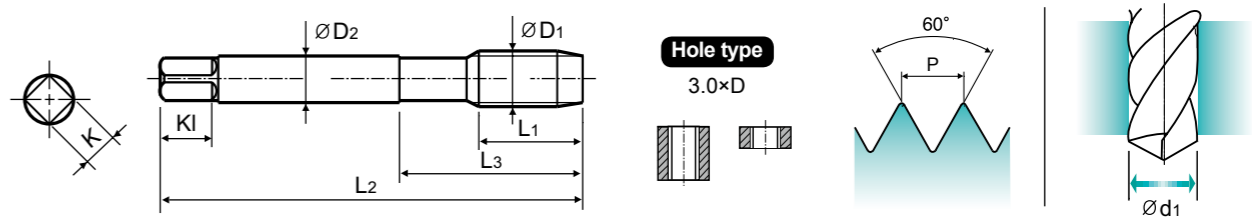
Vap **TB874** SERIES
Bright **TC874** SERIES
TiN **TD874** SERIES

UNF Unified fine threads

Unified Feingewinde
 UNF
 Unificato passo grosso

► 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 Standzeit dank einer besonderen Schneidengeometrie. Von YG-1 patentiert.



Material groups **MU** **HSS-E** **DIN 371/374** **2B** **60°** **B** **Vap Bright TiN** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.116

Unit : mm

SIZE	TPI	EDP No.			Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Vap	Bright	TiN								
ØD1		L1	L2	L3	ØD2	K	KI	Z	Ød1			
#4 -48 UNF	TB874182	TC874182	TD874182	11	56	18	3.5	2.7	6	3	2.4	
#5 -44 UNF	TB874222	TC874222	TD874222	11	56	18	3.5	2.7	6	3	2.7	
#6 -40 UNF	TB874262	TC874262	TD874262	12	56	20	4	3	6	3	3	
#8 -36 UNF	TB874302	TC874302	TD874302	13	63	21	4.5	3.4	6	3	3.5	
#10 -32 UNF	TB874342	TC874342	TD874342	15	70	25	6	4.9	8	3	4.1	
#12 -28 UNF	TB874382	TC874382	TD874382	16	80	30	6	4.9	8	3	4.7	
1/4 -28 UNF	TB874422	TC874422	TD874422	17	80	30	7	5.5	8	3	5.5	
5/16 -24 UNF	TB874462	TC874462	TD874462	17	90	35	8	6.2	9	3	6.9	
3/8 -24 UNF	TB874502	TC874502	TD874502	18	100	39	9	7	10	3	8.5	
7/16 -20 UNF	TB874542	TC874542	TD874542	22	100	40	8	6.2	9	3	9.9	
1/2 -20 UNF	TB874582	TC874582	TD874582	22	100	40	9	7	10	3	11.5	
9/16 -18 UNF	TB874622	TC874622	TD874622	22	100	40	11	9	12	3	12.9	
5/8 -18 UNF	TB874662	TC874662	TD874662	22	100	40	12	9	12	3	14.5	
3/4 -16 UNF	TB874722	TC874722	TD874722	25	110	44	14	11	14	4	17.5	
7/8 -14 UNF	TB874762	TC874762	TD874762	26	125	50	18	14.5	17	4	20.5	
1 -12 UNF	TB874802	TC874802	TD874802	28	140	54	20	16	19	4	23.25	

►DIN 371(#4~3/8) and DIN 374(7/16~1)

* 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	30	29	32	38	35	35	23	10	26	10	26	3	25	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



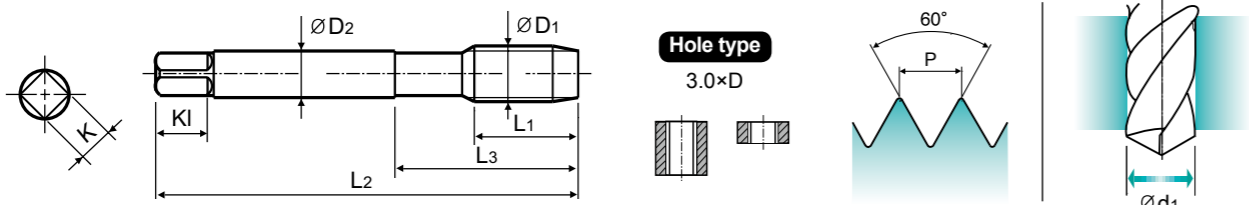
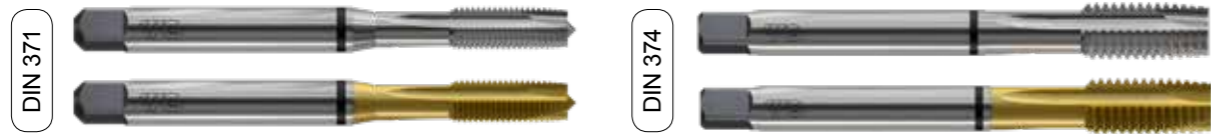
Bright **TCJ02** SERIES
TIN **TDJ02** SERIES

UNF Unified fine threads

Unified Grobgewinde
 UNF
 Unificato passo grosso

► 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 Standzeit dank einer besonderen Schneidengeometrie. Von YG-1 patentiert.



Material groups: **MU** HSS-E DIN 371/374 3B 60° B Bright TiN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.116

Unit : mm

SIZE	TPI	EDP No.		Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
		Bright	TiN								
ØD1				L1	L2	L3	ØD2	K	K1	Z	Ød1
#4 - 48 UNF	TCJ02182	TDJ02182		11	56	18	3.5	2.7	6	3	2.4
#5 - 44 UNF	TCJ02222	TDJ02222		11	56	18	3.5	2.7	6	3	2.7
#6 - 40 UNF	TCJ02262	TDJ02262		12	56	20	4	3	6	3	3
#8 - 36 UNF	TCJ02302	TDJ02302		13	63	21	4.5	3.4	6	3	3.5
#10 - 32 UNF	TCJ02342	TDJ02342		15	70	25	6	4.9	8	3	4.1
#12 - 28 UNF	TCJ02382	TDJ02382		16	80	30	6	4.9	8	3	4.7
1/4 - 28 UNF	TCJ02422	TDJ02422		17	80	30	7	5.5	8	3	5.5
5/16 - 24 UNF	TCJ02462	TDJ02462		17	90	35	8	6.2	9	3	6.9
3/8 - 24 UNF	TCJ02502	TDJ02502		18	100	39	9	7	10	3	8.5
7/16 - 20 UNF	TCJ02542	TDJ02542		22	100	40	8	6.2	9	3	9.9
1/2 - 20 UNF	TCJ02582	TDJ02582		22	100	40	9	7	10	3	11.5
9/16 - 18 UNF	TCJ02622	TDJ02622		22	100	40	11	9	12	3	12.9
5/8 - 18 UNF	TCJ02662	TDJ02662		22	100	40	12	9	12	3	14.5
3/4 - 16 UNF	TCJ02722	TDJ02722		25	110	44	14	11	14	4	17.5
7/8 - 14 UNF	TCJ02762	TDJ02762		26	125	50	18	14.5	17	4	20.5
1 - 12 UNF	TCJ02802	TDJ02802		28	140	54	20	16	19	4	23.25

► DIN 371(#4~3/8) and DIN 374(7/16~1)
* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) 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																				
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																						
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55			
Recommended		◎				◎	◎	◎														



Combo Spiral Flute Tap Set



Set No.	Series	Surface Treatment	Size	Quantity
TB804SET5	TB804	VAP	M5, M6, M8, M10, M12	5 pcs
TC804SET7	TC804	Bright	M3, M4, M5, M6, M8, M10, M12	7 pcs

Combo Spiral Flute Tap + Gold-P Drill (HSS-E, DIN 338, Straight Shank, 135° Split Point, Jobber Length) Set



TD804SET7-GLP195

Set No.	Series	Surface Treatment	Size							Quantity
TD804SET7-GLP195	TD804	TiN	M3	M4	M5	M6	M8	M10	M12	14pcs
	DLGP195	TiN	2.5	3.3	4.2	5	6.8	8.5	10.2	



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

ISO	VDI 3323	Material Description	HB	HRc	TC804	TD804	TB804	TCE05	TDE05	TBE05	TCE06	TDE06		
					TC844	TD844	TB844	TCE09	TDE09				TC824	TD824
					Vc (m/min)									
P	1	Non-alloy steel	125		15-20	20-25	15-20	15-20	20-25	15-20	15-20	20-25		
	2		190	13	15-20	20-25	15-20	15-20	20-25	15-20	15-20	20-25		
	3		250	25	12-18	18-24	12-18	12-18	18-24	12-18	12-18	18-24		
	4		270	28	10-15	15-20	10-15	10-15	15-20	10-15	10-15	15-20		
	5		300	32	6-10	10-14	6-10	6-10	10-14	6-10	6-10	10-14		
	6	Low alloy steel	180	10	10-15	15-20	10-15	10-15	15-20	10-15	10-15	15-20		
	7		275	29	10-15	15-20	10-15	10-15	15-20	10-15	10-15	15-20		
	8		300	32	6-10	10-14	6-10	6-10	10-14	6-10	6-10	10-14		
	9		350	38	3-5	5-7	3-5	3-5	5-7	3-5	3-5	5-7		
	10		High alloyed steel, and tool steel	200	15	3-5	5-7	3-5	3-5	5-7	3-5	3-5	5-7	
	11			325	35									
M	12	Stainless steel	200	15	7-10	10-15	7-10	7-10	10-15	7-10	7-10	10-15		
	13		240	23	5-8	8-11	5-8	5-8	8-11	5-8	5-8	8-11		
	14		180	10	4-6	6-8	4-6	4-6	6-8	4-6	4-6	6-8		
K	15	Grey cast iron	180	10	10-15	15-20	10-15	10-15	15-20	10-15	10-15	15-20		
	16		260	26	5-8	8-11	5-8	5-8	8-11	5-8	5-8	8-11		
	17	Nodular cast iron	160	3	10-15	15-20	10-15	10-15	15-20	10-15	10-15	15-20		
	18		250	25	5-8	8-11	5-8	5-8	8-11	5-8	5-8	8-11		
	19		Malleable cast iron	130										
20	230	21												
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	20-25		
	24		90											
	25		130											
	26		110		25-35	35-40	25-35	25-35	35-40	25-35	25-35	35-40		
	27	Copper and Copper Alloys (Bronze / Brass)	90		8-12	12-17	8-12	8-12	12-17	8-12	8-12	12-17		
	28		100		15-20	20-25	15-20	15-20	20-25	15-20	15-20	20-25		
	29													
	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										



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

VDI 3323	TBE06	TCE07	TDE07	TBE07	TCE08	TDE08	TBE08	TC804-IC	TC633	TC807
	Vc (m/min)									
1	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20	15-20
2	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20	15-20
3	12-18	12-18	18-24	12-18	12-18	18-24	12-18	12-18	12-18	12-18
4	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15
5	6-10	6-10	10-14	6-10	6-10	10-14	6-10	6-10	6-10	6-10
6	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15
7	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15
8	6-10	6-10	10-14	6-10	6-10	10-14	6-10	6-10	6-10	6-10
9	3-5	3-5	5-7	3-5	3-5	5-7	3-5	3-5	3-5	3-5
10	3-5	3-5	5-7	3-5	3-5	5-7	3-5	3-5	3-5	3-5
11										
12	7-10	7-10	10-15	7-10	7-10	10-15	7-10	7-10	7-10	7-10
13	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	5-8	5-8
14	4-6	4-6	6-8	4-6	4-6	6-8	4-6	4-6	4-6	4-6
15	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15
16	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	5-8	5-8
17	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15
18	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	5-8	5-8
19										
20										
21										
22										
23	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20	15-20
24										
25										
26	25-35	25-35	35-40	25-35	25-35	35-40	25-35	25-35	25-35	25-35
27	8-12	8-12	12-17	8-12	8-12	12-17	8-12	8-12	8-12	8-12
28	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20	15-20
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)								
					TB744 TB754 TQ744 TQ754	TC814 TC854 TC834 TC874	TD814 TD854 TD834 TD874	TB814 TB854 TB834 TB874	TCJ05 TCJ09 TCJ01 TCJ02	TDJ05 TDJ09 TDJ01 TDJ02	TBJ05	TCJ06	
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								
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	
K	15	Grey cast iron	180	10		10-15	15-20	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	Malleable cast iron	130										
20	230		21										
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													
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									



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

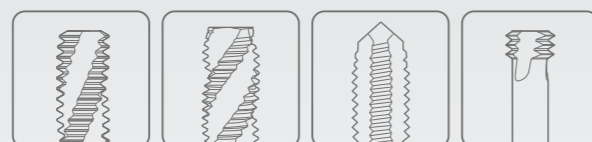
VDI 3323	Vc (m/min)											
	TDJ06	TBJ06	TCJ07	TDJ07	TBJ07	TCJ08	TDJ08	TBJ08	TC814-IC	TC445	TB428 TB438	TQ428 TQ438
1	20-25	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20		
2	20-25	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20	15-20	15-20
3	18-24	12-18	12-18	18-24	12-18	12-18	18-24	12-18	12-18	12-18		
4	15-20	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15	10-15
5	10-14	6-10	6-10	10-14	6-10	6-10	10-14	6-10	6-10	6-10		
6	15-20	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15	10-15
7	15-20	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15	10-15	10-15
8	10-14	6-10	6-10	10-14	6-10	6-10	10-14	6-10	6-10	6-10		
9	5-7	3-5	3-5	5-7	3-5	3-5	5-7	3-5	3-5	3-5		
10	5-7	3-5	3-5	5-7	3-5	3-5	5-7	3-5	3-5	3-5		
11												
12	10-15	7-10	7-10	10-15	7-10	7-10	10-15	7-10	7-10	7-10	7-10	7-10
13	8-11	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	5-8	5-8	5-8
14	6-8	4-6	4-6	6-8	4-6	4-6	6-8	4-6	4-6	4-6	4-6	4-6
15	15-20	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15		
16	8-11	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	5-8		
17	15-20	10-15	10-15	15-20	10-15	10-15	15-20	10-15	10-15	10-15		
18	8-11	5-8	5-8	8-11	5-8	5-8	8-11	5-8	5-8	5-8		
19												
20												
21												
22												
23	20-25	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20		
24												
25												
26	35-40	25-35	25-35	35-40	25-35	25-35	35-40	25-35	25-35	25-35		
27	12-17	8-12	8-12	12-17	8-12	8-12	12-17	8-12	8-12	8-12		
28	20-25	15-20	15-20	20-25	15-20	15-20	20-25	15-20	15-20	15-20	15-20	15-20
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
41												



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



THREADING



HSS & HSS-E

YG TAP GENERAL

YG TAP GENERAL

- Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation
- Geeignet für das Gewindeschneiden von Grund- und Durchgangsbohrungen aufgrund der Nutengeometrie und der hervorragenden Spanabfuhr



HSS & HSS-E YG TAP GENERAL

Suitable for Tapping Blind / Through Holes
due to Flute Geometry and Excellent Chip Evacuation

Please visit globalyg1.com/mat for material search
◎ : Excellent ○ : Good
Recommended cutting conditions : P.161

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	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	
	5	Low alloy steel	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	◎	◎	◎	
	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	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○	○	
	27		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			

HOLE TYPE		Max. 2.5xD Blind Hole			
TOOL MATERIAL		HSS-E			
CHAMFER LEAD ACC. TO DIN2197		C	C	C	
FLUTE TYPE		Spiral Flute	Spiral Flute	Spiral Flute	
SPIRAL FLUTE ANGLE		R40	R40	R20	
SERIES	M	DIN371/376	TC711 (P.124)	TD711 (P.125)	TC517 (P.133) TC612 (P.134)
		DIN352			
		DIN357/LONG			
	MF	DIN374	TC411 (P.126)	TD411 (P.128)	
		DIN2181			
	UNC	DIN371/376	TC144 (P.130)		
		DIN351			
	UNF	DIN371/374	TC124 (P.131)		
		DIN2181			
	BSW	DIN2182/2183	TC134 (P.132)		
DIN351					
G(BSP)	DIN5156/5157				
EG-M	DIN371/376				
EG-UNC	DIN371/376				
EG-UNF	DIN371/374				
SURFACE TREATMENT		Bright	TIN	Bright	
MODEL					

HOLE TYPE		Max. 3.0xD Through Hole				Max. 2.0xD Blind/Through Hole	
TOOL MATERIAL		HSS-E					
		B	B	B	B	C	C
		Spiral Point	Spiral Point	Spiral Point	Spiral Point	Spiral Flute	Straight Flute
		-	-	-	-	L20	-
SERIES	M	TC127 (P.135) TC122 (P.137)	TD127 (P.136)	TC227 (P.145)	TD227 (P.146)	TC211 (P.147)	TC463 (P.148)
		TC222 (P.138)	TD222 (P.140)			TC473 (P.149)	
		TC214 (P.142)				TC424 (P.150)	
	UNF	TC234 (P.143)					
		TC224 (P.144)					
	BSW						
	G(BSP)						
	EG-M						
	EG-UNC						
EG-UNF							
SURFACE TREATMENT		Bright	TIN	Bright	TIN	Bright	Bright
MODEL							



HSS & HSS-E YG TAP GENERAL

Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation

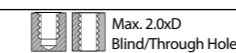


Please visit globallyg1.com/mat for material search

◎ : Excellent ○ : Good

Table with columns: ISO, VDI 3323, Material Description, Composition / Structure / Heat Treatment, HB, HRc, and performance indicators (Bright, ○, ◎) for various materials and tap types.

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, and MODEL.



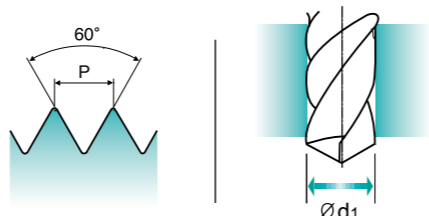
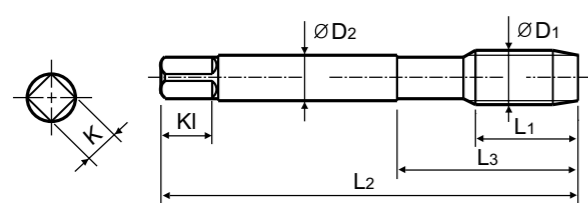
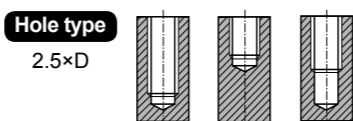
Large selection table for HSS and HSS-E taps, including columns for flute types, tap models (T7109, T7309, T7343, TB373, TC353, T7363, T7509, T7609), and performance indicators.

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.



GS HSS-E DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161 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
M2 × 0.4		TC711136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC711156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC711196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC711176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC711496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC711206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC711226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TC711246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC711266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC711286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TC711316	10	80	30	6	4.9	8	3	5
M7 × 1		TC711346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TC711366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC711396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TC711426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TC711466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC711506	18	110	44	9	7	10	3	10.2
M14 × 2		TC711546	20	110	44	11	9	12	3	12
M16 × 2		TC711606	20	110	44	12	9	12	3	14
M18 × 2.5		TC711656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TC711706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TC711746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TC711786	30	160	60	18	14.5	17	4	21
M27 × 3		TC711866	30	160	60	20	16	19	4	24
M30 × 3.5		TC711946	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					
	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○		

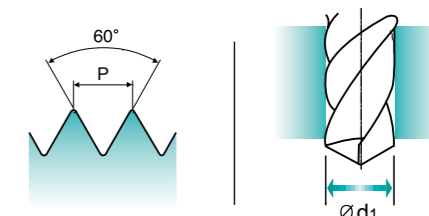
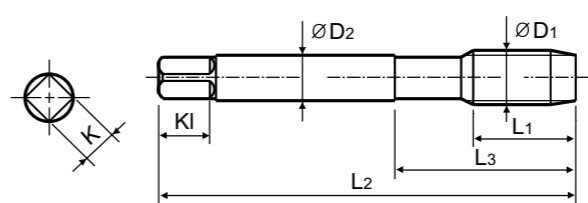
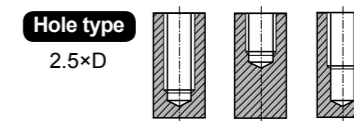
ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○	◎	◎	○	◎	◎			○	○	○	○	○	○	○	◎	◎	○	○		

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.



GS HSS-E DIN 371/376 6H 60° C TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161 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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TD711136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TD711156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TD711196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TD711176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TD711496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TD711206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TD711226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TD711246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TD711266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TD711286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TD711316	10	80	30	6	4.9	8	3	5
M7 × 1		TD711346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TD711366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TD711396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TD711426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TD711466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TD711506	18	110	44	9	7	10	3	10.2
M14 × 2		TD711546	20	110	44	11	9	12	3	12
M16 × 2		TD711606	20	110	44	12	9	12	3	14
M18 × 2.5		TD711656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TD711706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TD711746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TD711786	30	160	60	18	14.5	17	4	21
M27 × 3		TD711866	30	160	60	20	16	19	4	24
M30 × 3.5		TD711946	35	180	70	22	18	21	4	26.5

► DIN 371(M2~M10) and DIN 376(M11~M30)
► * DIN profile not ISO

◎ : Excellent ○ : Good

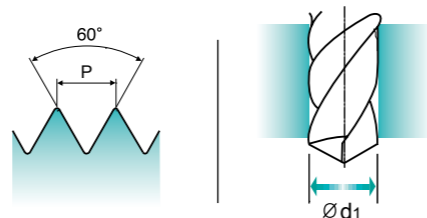
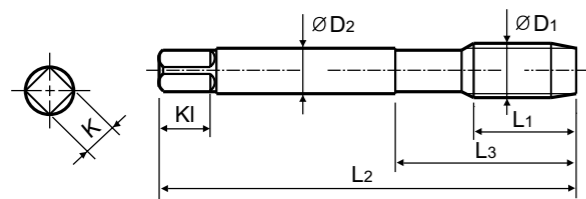
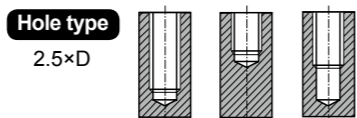
ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○	◎	◎	○	◎	◎			○	○	○	○	○	○	○	◎	◎	○	○		

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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.



GS HSS-E DIN 374 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M4 × 0.5		TC411256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TC411296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TC411326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TC411336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TC411356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TC411376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TC411386	8	80	30	6	4.9	8	3	7.2
M8 × 0.5		TC411936	5	80	30	6	4.9	8	3	7.5
M10 × 1.25		TC411436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TC411446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TC411456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TC411516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TC411526	15	100	40	9	7	10	3	10.8
M12 × 1		TC411536	11	100	40	9	7	10	3	11
M14 × 1.5		TC411556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TC411566	15	100	40	11	9	12	3	12.8
M14 × 1		TC411576	11	100	40	11	9	12	3	13
M16 × 1.5		TC411616	15	100	40	12	9	12	3	14.5
M16 × 1		TC411626	12	100	40	12	9	12	3	15
M18 × 1.5		TC411676	17	110	44	14	11	14	4	16.5
M18 × 1		TC411686	13	110	44	14	11	14	4	17

► NEXT PAGE

◎ : Excellent ○ : Good

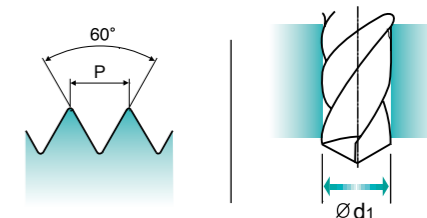
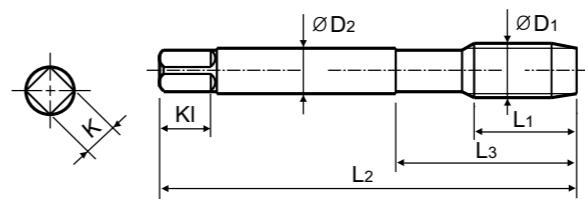
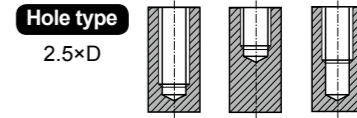
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	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		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	◎	◎													

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS 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.



GS HSS-E DIN 374 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M20 × 1.5		TC411726	17	125	50	16	12	15	4	18.5
M20 × 1		TC411736	14	125	50	16	12	15	4	19
M22 × 1.5		TC411766	17	125	50	18	14.5	17	4	20.5
M22 × 1		TC411776	14	125	50	18	14.5	17	4	21
M24 × 2		TC411796	20	140	54	18	14.5	17	4	22
M24 × 1.5		TC411806	20	140	54	18	14.5	17	4	22.5
M26 × 1.5		TC411856	20	140	54	18	14.5	17	4	24.5
M27 × 2		TC411876	20	140	54	20	16	19	4	25
M27 × 1.5		TC411886	20	140	54	20	16	19	4	25.5
M28 × 1.5		TC411916	20	140	54	20	16	19	4	26.5
M30 × 2		TC411966	22	150	57	22	18	21	4	28
M30 × 1.5		TC411976	22	150	57	22	18	21	4	28.5

◎ : 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		
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	◎	◎	◎	◎	○	○

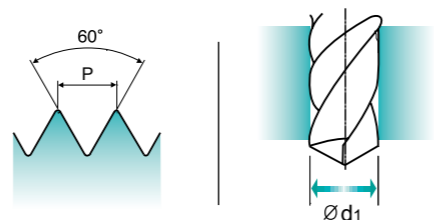
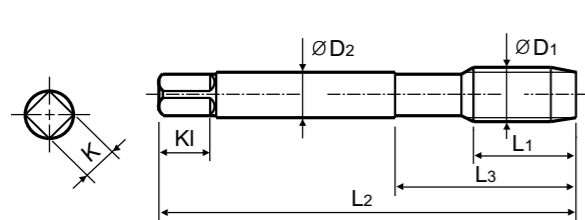
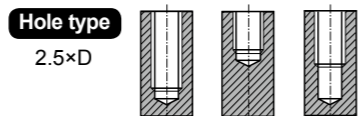
ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	◎	◎													

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS 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: **GS** HSS-E DIN 374 6H 60° C TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161 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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M4	× 0.5	TD411256	5	63	21	2.8	2.1	5	3	3.5
M5	× 0.5	TD411296	5	70	25	3.5	2.7	6	3	4.5
M6	× 0.75	TD411326	8	80	30	4.5	3.4	6	3	5.2
M6	× 0.5	TD411336	5	80	30	4.5	3.4	6	3	5.5
M7	× 0.75	TD411356	10	80	30	5.5	4.3	7	3	6.2
M8	× 1	TD411376	10	90	36	6	4.9	8	3	7
M8	× 0.75	TD411386	8	80	30	6	4.9	8	3	7.2
M8	× 0.5	TD411936	5	80	30	6	4.9	8	3	7.5
M10	× 1.25	TD411436	16	100	40	7	5.5	8	3	8.8
M10	× 1	TD411446	10	90	36	7	5.5	8	3	9
M10	× 0.75	TD411456	10	90	36	7	5.5	8	3	9.2
M12	× 1.5	TD411516	15	100	40	9	7	10	3	10.5
M12	× 1.25	TD411526	15	100	40	9	7	10	3	10.8
M12	× 1	TD411536	11	100	40	9	7	10	3	11
M14	× 1.5	TD411556	15	100	40	11	9	12	3	12.5
M14	× 1.25	TD411566	15	100	40	11	9	12	3	12.8
M14	× 1	TD411576	11	100	40	11	9	12	3	13
M16	× 1.5	TD411616	15	100	40	12	9	12	3	14.5

► NEXT PAGE

◎ : 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	
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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

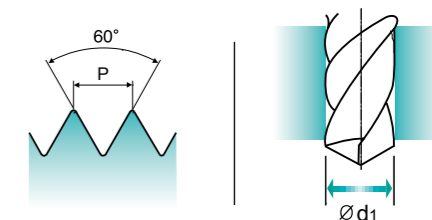
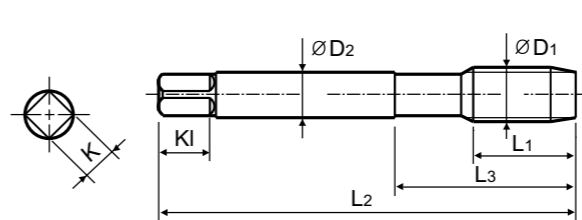
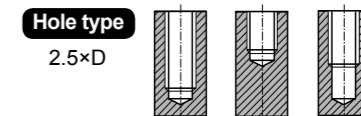
ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎													

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS 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: **GS** HSS-E DIN 374 6H 60° C TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161 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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M16	× 1	TD411626	12	100	40	12	9	12	3	15
M18	× 1.5	TD411676	17	110	44	14	11	14	4	16.5
M18	× 1	TD411686	13	110	44	14	11	14	4	17
M20	× 1.5	TD411726	17	125	50	16	12	15	4	18.5
M20	× 1	TD411736	14	125	50	16	12	15	4	19
M22	× 1.5	TD411766	17	125	50	18	14.5	17	4	20.5
M22	× 1	TD411776	14	125	50	18	14.5	17	4	21
M24	× 2	TD411796	20	140	54	18	14.5	17	4	22
M24	× 1.5	TD411806	20	140	54	18	14.5	17	4	22.5
M26	× 1.5	TD411856	20	140	54	18	14.5	17	4	24.5
M27	× 2	TD411876	20	140	54	20	16	19	4	25
M27	× 1.5	TD411886	20	140	54	20	16	19	4	25.5
M28	× 1.5	TD411916	20	140	54	20	16	19	4	26.5
M30	× 2	TD411966	22	150	57	22	18	21	4	28
M30	× 1.5	TD411976	22	150	57	22	18	21	4	28.5

◎ : 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	
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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

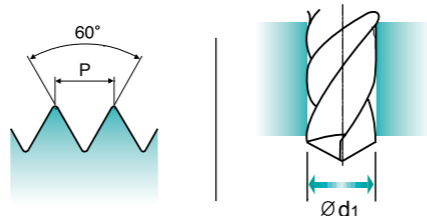
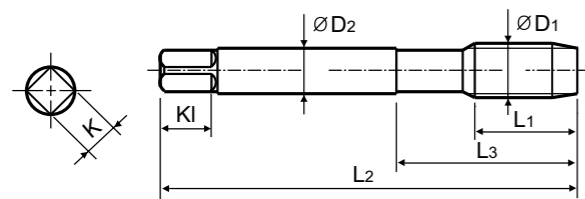
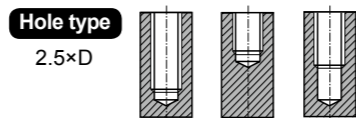
ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎													

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo grosso

► 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.



GS HSS-E DIN 371/376 2B 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161 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		Bright	L1	L2	L3	ØD2	K	K1	Z	Ød1
#4 - 40UNC		TC144162	6	56	18	3.5	2.7	6	3	2.3
#5 - 40UNC		TC144202	7	56	18	3.5	2.7	6	3	2.6
#6 - 32UNC		TC144242	7	56	20	4	3	6	3	2.85
#8 - 32UNC		TC144282	8	63	21	4.5	3.4	6	3	3.5
#10 - 24UNC		TC144322	10	70	25	6	4.9	8	3	3.9
#12 - 24UNC		TC144362	10	80	30	6	4.9	8	3	4.5
1/4 - 20UNC		TC144402	13	80	30	7	5.5	8	3	5.2
5/16 - 18UNC		TC144442	14	90	35	8	6.2	9	3	6.6
3/8 - 16UNC		TC144482	16	100	39	9	7	10	3	8
7/16 - 14UNC		TC144522	17	100	40	8	6.2	9	3	9.4
1/2 - 13UNC		TC144562	20	110	44	9	7	10	3	10.75
9/16 - 12UNC		TC144602	20	110	44	11	9	12	3	12.25
5/8 - 11UNC		TC144642	22	110	44	12	9	12	3	13.5
3/4 - 10UNC		TC144702	25	125	50	14	11	14	4	16.5
7/8 - 9UNC		TC144742	27	140	54	18	14.5	17	4	19.5
1 - 8UNC		TC144782	30	160	60	20	16	19	4	22.25
1-1/8 - 7UNC		TC144822	35	180	65	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : 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	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	30	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	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

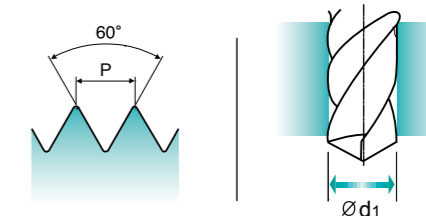
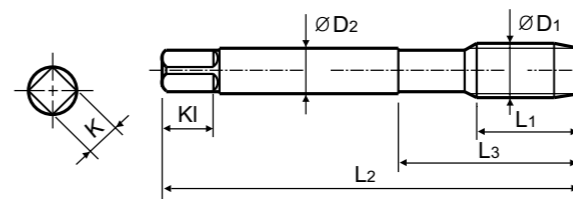
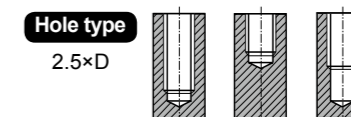
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	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	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

UNF Unified fine threads

- Unified Feingewinde
- UNF
- Unificato passo grosso

► 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.



GS HSS-E DIN 371/374 2B 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161 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		Bright	L1	L2	L3	ØD2	K	K1	Z	Ød1
#4 - 48UNF		TC124182	6	56	18	3.5	2.7	6	3	2.4
#5 - 44UNF		TC124222	7	56	18	3.5	2.7	6	3	2.7
#6 - 40UNF		TC124262	7	56	20	4	3	6	3	3
#8 - 36UNF		TC124302	8	63	21	4.5	3.4	6	3	3.5
#10 - 32UNF		TC124342	10	70	25	6	4.9	8	3	4.1
#12 - 28UNF		TC124382	10	80	30	6	4.9	8	3	4.7
1/4 - 28UNF		TC124422	10	80	30	7	5.5	8	3	5.5
5/16 - 24UNF		TC124462	10	90	35	8	6.2	9	3	6.9
3/8 - 24UNF		TC124502	10	100	39	9	7	10	3	8.5
7/16 - 20UNF		TC124542	13	100	40	8	6.2	9	3	9.9
1/2 - 20UNF		TC124582	13	100	40	9	7	10	3	11.5
9/16 - 18UNF		TC124622	15	100	40	11	9	12	3	12.9
5/8 - 18UNF		TC124662	15	100	40	12	9	12	3	14.5
3/4 - 16UNF		TC124722	17	110	44	14	11	14	4	17.5
7/8 - 14UNF		TC124762	17	125	50	18	14.5	17	4	20.5
1 - 12UNF		TC124802	20	140	54	18	14.5	17	4	23.25
1-1/8 - 12UNF		TC124842	22	150	60	22	18	21	4	26.5

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

◎ : Excellent ○ : Good

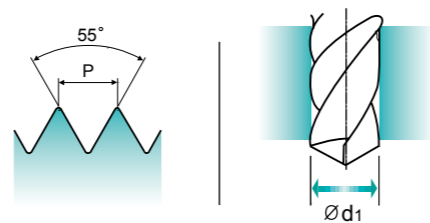
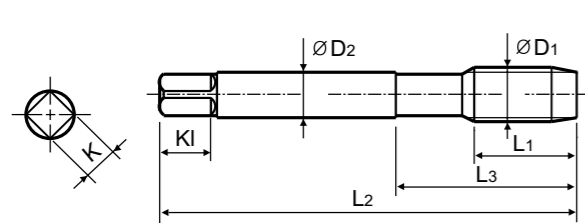
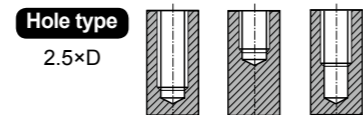
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	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	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

BSW Whitworth threads
 ● Whitworth Gewinde
 ○ BSW
 ○ Unificato passo grosso

► 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.



GS HSS-E DIN 2182/2183 55° C Bright R40

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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		Bright	L1	L2	L3	ØD2	K	K1	Z	Ød1
W1/8	-40	TC134200	7	56	18	3.5	2.7	6	3	2.5
W5/32	-32	TC134280	7	63	21	4.5	3.4	6	3	3.1
W3/16	-24	TC134320	10	70	25	6	4.9	8	3	3.6
W7/32	-24	TC134360	10	80	30	6	4.9	8	3	4.4
W1/4	-20	TC134400	13	80	30	7	5.5	8	3	5.1
W5/16	-18	TC134440	14	90	35	8	6.2	9	3	6.5
W3/8	-16	TC134480	16	100	39	9	7	10	3	7.9
W7/16	-14	TC134520	17	100	40	8	6.2	9	3	9.3
W1/2	-12	TC134560	20	110	44	9	7	10	3	10.5
W9/16	-12	TC134600	20	110	44	11	9	12	3	12
W5/8	-11	TC134640	22	110	40	12	9	12	3	13.5
W3/4	-10	TC134700	25	125	50	14	11	14	4	16.5
W7/8	-9	TC134740	27	140	54	18	14.5	17	4	19.25
W1	-8	TC134780	30	160	60	20	16	19	4	22
W1-1/8	-7	TC134820	35	180	65	22	18	21	4	24.75

►DIN 2182(W1/8~W3/8) and DIN 2183(W7/16~W1-1/8)

◎ : Excellent ○ : Good

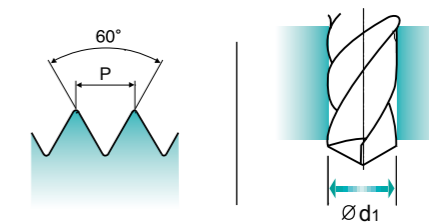
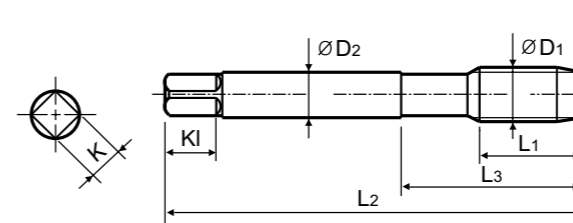
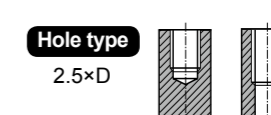
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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)	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

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.



GS HSS-E DIN 371/376 6H 60° C Bright R20

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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	K1	Z	Ød1
M2 × 0.4		TC517136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC517156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC517196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC517176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC517496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC517206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC517226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TC517246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC517266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC517286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TC517316	10	80	30	6	4.9	8	3	5
M7 × 1		TC517346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TC517366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC517396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TC517426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TC517466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC517506	18	110	44	9	7	10	3	10.2
M14 × 2		TC517546	20	110	44	11	9	12	3	12
M16 × 2		TC517606	20	110	44	12	9	12	3	14
M18 × 2.5		TC517656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TC517706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TC517746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TC517786	30	160	60	18	14.5	17	4	21
M27 × 3		TC517866	30	160	60	20	16	19	4	24
M30 × 3.5		TC517946	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 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		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	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎

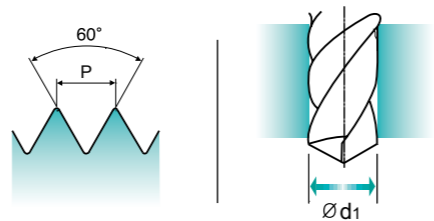
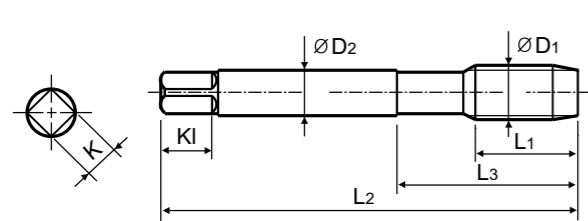
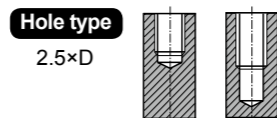
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

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.



GS HSS-E DIN 352 6H 60° C Bright R20 Short machine taps Maschinengewindebohrer kurz

Recommended Cutting Page : P.161

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	TC612206	11	40	18	3.5	2.7	6	3	2.5
M4	× 0.7	TC612246	13	45	21	4.5	3.4	6	3	3.3
M5	× 0.8	TC612286	16	52	26	6	4.9	8	3	4.2
M6	× 1	TC612316	18	56	27	6	4.9	8	3	5
M8	× 1.25	TC612366	20	63	34	6	4.9	8	3	6.8
M10	× 1.5	TC612426	22	70	38	7	5.5	8	3	8.5
M12	× 1.75	TC612506	24	80	45	9	7	10	3	10.2
M14	× 2	TC612546	26	80	45	11	9	12	3	12
M16	× 2	TC612606	27	80	45	12	9	12	3	14
M18	× 2.5	TC612656	30	95	58	14	11	14	4	15.5
M20	× 2.5	TC612706	32	95	58	16	12	15	4	17.5

◎ : 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	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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

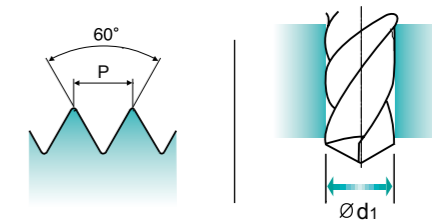
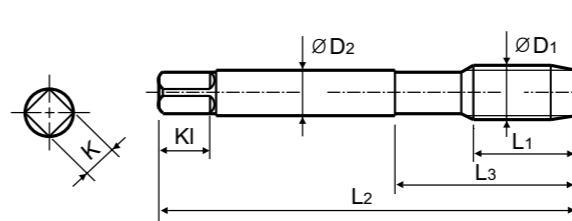
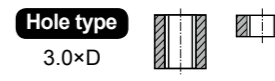
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						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	○	○	○	◎	◎	○	○	◎													

M ISO metric coarse threads DIN 13

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



GS HSS-E DIN 371 6H 60° B Bright Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M2	× 0.4	TC127136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TC127156	8	45	13	2.8	2.1	5	3	1.75
*M2.3	× 0.4	TC127196	8	45	13	2.8	2.1	5	3	1.9
M2.5	× 0.45	TC127176	9	50	15	2.8	2.1	5	3	2.05
*M2.6	× 0.45	TC127496	9	50	15	2.8	2.1	5	3	2.1
M3	× 0.5	TC127206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TC127226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TC127246	13	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TC127266	14	70	25	6	4.9	8	3	3.7
M5	× 0.8	TC127286	15	70	25	6	4.9	8	3	4.2
M6	× 1	TC127316	17	80	30	6	4.9	8	3	5
M7	× 1	TC127346	17	80	30	7	5.5	8	3	6
M8	× 1.25	TC127366	20	90	35	8	6.2	9	3	6.8
M9	× 1.25	TC127396	20	90	35	9	7	10	3	7.8
M10	× 1.5	TC127426	22	100	39	10	8	11	3	8.5
M11	× 1.5	TC127466	22	100	39	11	9	12	3	9.5
M12	× 1.75	TC127506	24	110	44	12	9	12	3	10.2

► * DIN profile not ISO

◎ : 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	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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

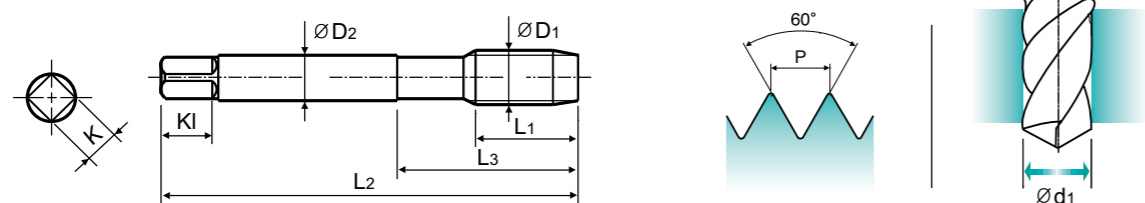
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						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	○	○	○	◎	◎	○	○	◎													

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso 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: **GS** **HSS-E** **DIN 371** **6H** **60°** **B** **TiN**

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TD127136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TD127156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TD127196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TD127176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TD127496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TD127206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TD127226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TD127246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TD127266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TD127286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TD127316	17	80	30	6	4.9	8	3	5
M7 × 1		TD127346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TD127366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TD127396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TD127426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TD127466	22	100	39	11	9	12	3	9.5
M12 × 1.75		TD127506	24	110	44	12	9	12	3	10.2

► *DIN profile not ISO

◎ : 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	30	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	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

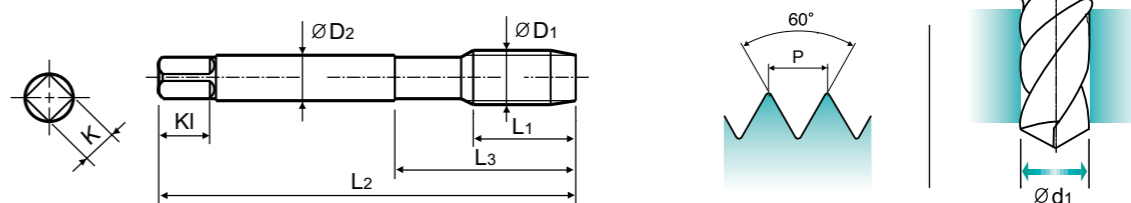
ISO	N				S						H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso 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: **GS** **HSS-E** **DIN 352** **6H** **60°** **B** **Bright**

Short machine taps
Maschinengewindebohrer kurz

Recommended Cutting Page : P.161

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
M2 × 0.4		TC122136	8	36	13	2.8	2.1	5	3	1.6
M2.5 × 0.45		TC122176	9	40	15	2.8	2.1	5	3	2.05
M3 × 0.5		TC122206	11	40	18	3.5	2.7	6	3	2.5
M4 × 0.7		TC122246	13	45	21	4.5	3.4	6	3	3.3
M5 × 0.8		TC122286	16	52	26	6	4.9	8	3	4.2
M6 × 1		TC122316	18	56	27	6	4.9	8	3	5
M8 × 1.25		TC122366	20	63	34	6	4.9	8	3	6.8
M10 × 1.5		TC122426	22	70	38	7	5.5	8	3	8.5
M12 × 1.75		TC122506	24	80	45	9	7	10	3	10.2
M14 × 2		TC122546	26	80	45	11	9	12	3	12
M16 × 2		TC122606	27	80	45	12	9	12	3	14

◎ : 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	30	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	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

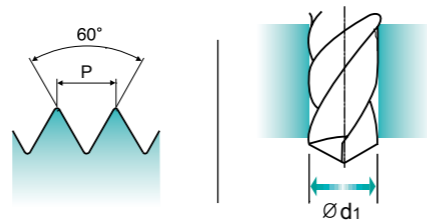
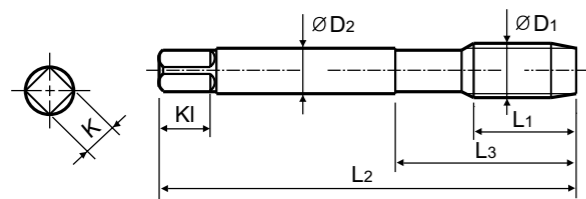
ISO	N				S						H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine 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.



GS HSS-E DIN 374 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M4 × 0.5		TC222256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TC222296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TC222326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TC222336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TC222356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TC222376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TC222386	14	80	30	6	4.9	8	3	7.2
M8 × 0.5		TC222936	14	80	30	6	4.9	8	3	7.5
M10 × 1.25		TC222436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TC222446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TC222456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TC222516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TC222526	22	100	40	9	7	10	3	10.8
M12 × 1		TC222536	18	100	40	9	7	10	3	11
M14 × 1.5		TC222556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TC222566	22	100	40	11	9	12	3	12.8
M14 × 1		TC222576	18	100	40	11	9	12	3	13

▶ NEXT PAGE

◎ : 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	30	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	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	◎	◎	○	○

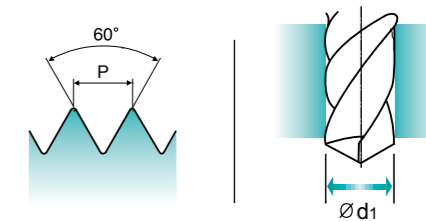
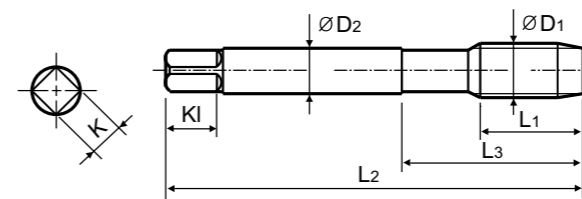
ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine 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.



GS HSS-E DIN 374 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M16 × 1.5		TC222616	22	100	40	12	9	12	3	14.5
M16 × 1		TC222626	18	100	40	12	9	12	3	15
M18 × 1.5		TC222676	25	110	44	14	11	14	4	16.5
M18 × 1		TC222686	20	110	44	14	11	14	4	17
M20 × 1.5		TC222726	25	125	50	16	12	15	4	18.5
M20 × 1		TC222736	20	125	50	16	12	15	4	19
M22 × 1.5		TC222766	25	125	50	18	14.5	17	4	20.5
M22 × 1		TC222776	20	125	50	18	14.5	17	4	21
M24 × 2		TC222796	27	140	54	18	14.5	17	4	22
M24 × 1.5		TC222806	27	140	54	18	14.5	17	4	22.5
M26 × 1.5		TC222856	28	140	54	18	14.5	17	4	24.5
M27 × 2		TC222876	28	140	54	20	16	19	4	25
M27 × 1.5		TC222886	28	140	54	20	16	19	4	25.5
M28 × 1.5		TC222916	28	140	54	20	16	19	4	26.5
M30 × 2		TC222966	30	150	57	22	18	21	4	28
M30 × 1.5		TC222976	30	150	57	22	18	21	4	28.5

◎ : Excellent ○ : Good

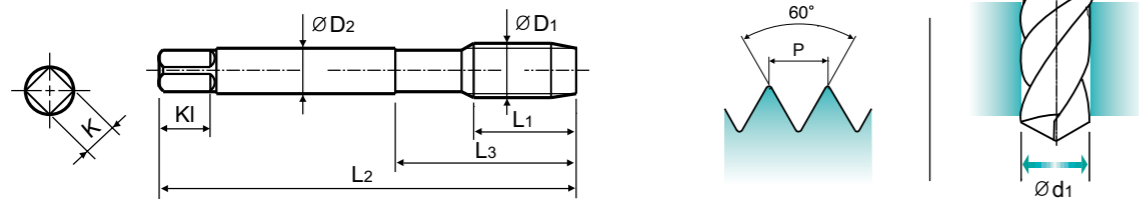
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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.



GS HSS-E DIN 374 6H 60° B TiN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M4 × 0.5		TD222256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TD222296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TD222326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TD222336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TD222356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TD222376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TD222386	14	80	30	6	4.9	8	3	7.2
M8 × 0.5		TD222936	14	80	30	6	4.9	8	3	7.5
M10 × 1.25		TD222436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TD222446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TD222456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TD222516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TD222526	22	100	40	9	7	10	3	10.8
M12 × 1		TD222536	18	100	40	9	7	10	3	11
M14 × 1.5		TD222556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TD222566	22	100	40	11	9	12	3	12.8
M14 × 1		TD222576	18	100	40	11	9	12	3	13
M16 × 1.5		TD222616	22	100	40	12	9	12	3	14.5

► NEXT PAGE

◎ : Excellent ○ : Good

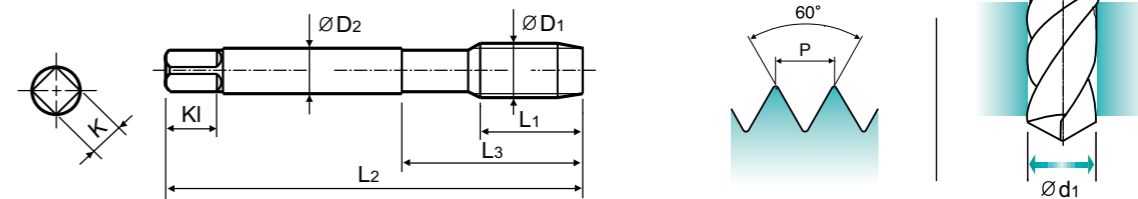
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	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			
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	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎													

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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.



GS HSS-E DIN 374 6H 60° B TiN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M16 × 1		TD222626	18	100	40	12	9	12	3	15
M18 × 1.5		TD222676	25	110	44	14	11	14	4	16.5
M18 × 1		TD222686	20	110	44	14	11	14	4	17
M20 × 1.5		TD222726	25	125	50	16	12	15	4	18.5
M20 × 1		TD222736	20	125	50	16	12	15	4	19
M22 × 1.5		TD222766	25	125	50	18	14.5	17	4	20.5
M22 × 1		TD222776	20	125	50	18	14.5	17	4	21
M24 × 2		TD222796	27	140	54	18	14.5	17	4	22
M24 × 1.5		TD222806	27	140	54	18	14.5	17	4	22.5
M26 × 1.5		TD222856	28	140	54	18	14.5	17	4	24.5
M27 × 2		TD222876	28	140	54	20	16	19	4	25
M27 × 1.5		TD222886	28	140	54	20	16	19	4	25.5
M28 × 1.5		TD222916	28	140	54	20	16	19	4	26.5
M30 × 2		TD222966	30	150	57	22	18	21	4	28
M30 × 1.5		TD222976	30	150	57	22	18	21	4	28.5

◎ : 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		
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	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	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			
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	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎													



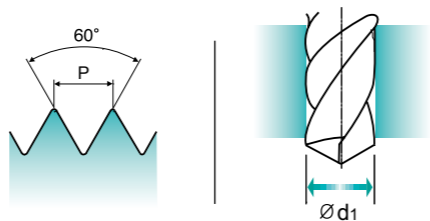
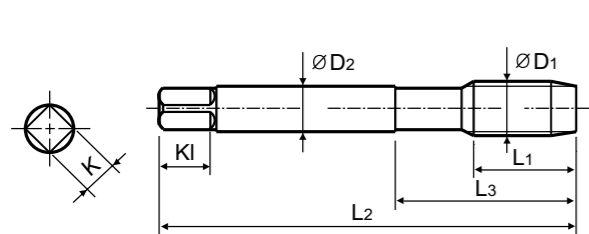
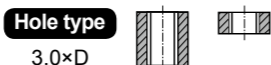
TC214 SERIES

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo grosso

► 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: **GS** HSS-E DIN 371/376 2B 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 40UNC		TC214162	11	56	18	3.5	2.7	6	3	2.3
#5 - 40UNC		TC214202	11	56	18	3.5	2.7	6	3	2.6
#6 - 32UNC		TC214242	12	56	20	4	3	6	3	2.85
#8 - 32UNC		TC214282	13	63	21	4.5	3.4	6	3	3.5
#10 - 24UNC		TC214322	15	70	25	6	4.9	8	3	3.9
#12 - 24UNC		TC214362	16	80	30	6	4.9	8	3	4.5
1/4 - 20UNC		TC214402	17	80	30	7	5.5	8	3	5.2
5/16 - 18UNC		TC214442	20	90	35	8	6.2	9	3	6.6
3/8 - 16UNC		TC214482	22	100	39	9	7	10	3	8
7/16 - 14UNC		TC214522	22	100	40	8	6.2	9	3	9.4
1/2 - 13UNC		TC214562	25	110	44	9	7	10	3	10.75
9/16 - 12UNC		TC214602	26	110	44	11	9	12	3	12.25
5/8 - 11UNC		TC214642	27	110	44	12	9	12	3	13.5
3/4 - 10UNC		TC214702	30	125	50	14	11	14	4	16.5
7/8 - 9UNC		TC214742	32	140	54	18	14.5	17	4	19.5
1 - 8UNC		TC214782	36	160	60	20	16	19	4	22.25
1-1/8 - 7UNC		TC214822	40	180	70	22	18	21	4	25

►DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : 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		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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○



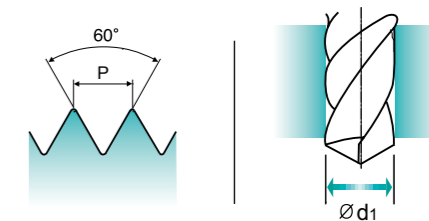
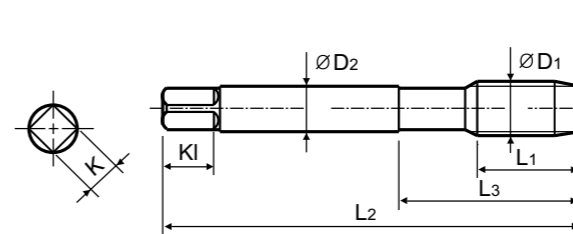
TC234 SERIES

UNF Unified fine threads

- Unified Feingewinde
- UNF
- Unificato passo fine

► 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: **GS** HSS-E DIN 371/374 2B 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 48UNF		TC234182	11	56	18	3.5	2.7	6	3	2.4
#5 - 44UNF		TC234222	11	56	18	3.5	2.7	6	3	2.7
#6 - 40UNF		TC234262	12	56	20	4	3	6	3	3
#8 - 36UNF		TC234302	13	63	21	4.5	3.4	6	3	3.5
#10 - 32UNF		TC234342	15	70	25	6	4.9	8	3	4.1
#12 - 28UNF		TC234382	16	80	30	6	4.9	8	3	4.7
1/4 - 28UNF		TC234422	17	80	30	7	5.5	8	3	5.5
5/16 - 24UNF		TC234462	17	90	35	8	6.2	9	3	6.9
3/8 - 24UNF		TC234502	18	100	39	9	7	10	3	8.5
7/16 - 20UNF		TC234542	22	100	40	8	6.2	9	3	9.9
1/2 - 20UNF		TC234582	22	100	40	9	7	10	3	11.5
9/16 - 18UNF		TC234622	22	100	40	11	9	12	3	12.9
5/8 - 18UNF		TC234662	22	100	40	12	9	12	3	14.5
3/4 - 16UNF		TC234722	25	110	44	14	11	14	4	17.5
7/8 - 14UNF		TC234762	26	125	50	18	14.5	17	4	20.5
1 - 12UNF		TC234802	28	140	54	18	14.5	17	4	23.25
1-1/8 - 12UNF		TC234842	30	150	60	22	18	21	4	26.5

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

◎ : Excellent ○ : Good

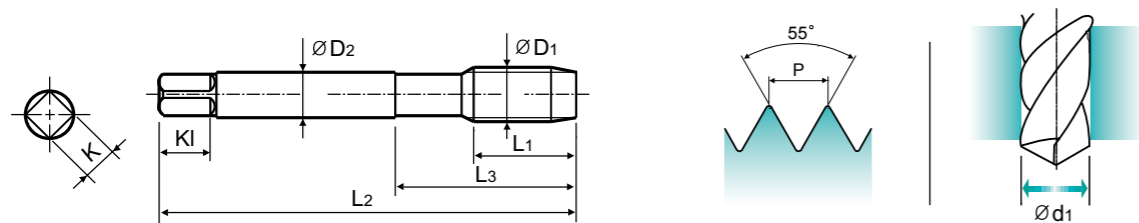
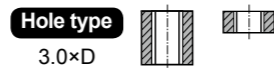
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

BSW Whitworth threads
 ● Whitworth Gewinde
 ○ BSW
 ○ Filettatura Whitworth

► 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.



GS HSS-E DIN 2182/2183 55° B Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
W1/8 - 40		TC224200	11	56	18	3.5	2.7	6	3	2.5
W5/32 - 32		TC224280	13	63	21	4.5	3.4	6	3	3.1
W3/16 - 24		TC224320	15	70	25	6	4.9	8	3	3.6
W7/32 - 24		TC224360	16	80	30	6	4.9	8	3	4.4
W1/4 - 20		TC224400	17	80	30	7	5.5	8	3	5.1
W5/16 - 18		TC224440	20	90	35	8	6.2	9	3	6.5
W3/8 - 16		TC224480	22	100	39	9	7	10	3	7.9
W7/16 - 14		TC224520	22	100	40	8	6.2	9	3	9.3
W1/2 - 12		TC224560	25	110	44	9	7	10	3	10.5
W9/16 - 12		TC224600	26	110	44	11	9	12	3	12
W5/8 - 11		TC224640	27	110	44	12	9	12	3	13.5
W3/4 - 10		TC224700	30	125	50	14	11	14	4	16.5
W7/8 - 9		TC224740	32	140	54	18	14.5	17	4	19.25
W1 - 8		TC224780	36	160	60	20	16	19	4	22
W1-1/8 - 7		TC224820	40	180	65	22	18	21	4	24.75

► DIN 2182(W1/8~W3/8) and DIN 2183(W7/16~W1-1/8)

◎ : Excellent ○ : Good

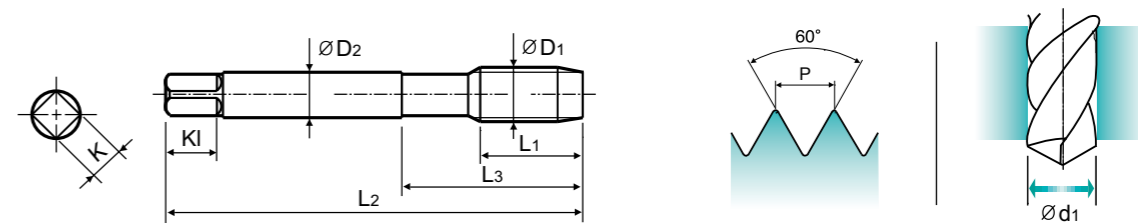
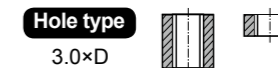
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	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		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

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



GS HSS-E DIN 376 6H 60° B Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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		TC227206	11	56	18	2.2	1.8	5	3	2.5
M3.5 × 0.6		TC227226	12	56	20	2.5	2.1	5	3	2.9
M4 × 0.7		TC227246	13	63	21	2.8	2.1	5	3	3.3
M4.5 × 0.75		TC227266	14	70	25	3.5	2.7	6	3	3.7
M5 × 0.8		TC227286	15	70	25	3.5	2.7	6	3	4.2
M6 × 1		TC227316	17	80	30	4.5	3.4	6	3	5
M7 × 1		TC227346	17	80	30	5.5	4.3	7	3	6
M8 × 1.25		TC227366	20	90	36	6	4.9	8	3	6.8
M9 × 1.25		TC227396	20	90	36	7	5.5	8	3	7.8
M10 × 1.5		TC227426	22	100	40	7	5.5	8	3	8.5
M11 × 1.5		TC227466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC227506	24	110	44	9	7	10	3	10.2
M14 × 2		TC227546	26	110	44	11	9	12	3	12
M16 × 2		TC227606	27	110	44	12	9	12	3	14
M18 × 2.5		TC227656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC227706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TC227746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TC227786	34	160	60	18	14.5	17	4	21
M27 × 3		TC227866	36	160	60	20	16	19	4	24
M30 × 3.5		TC227946	40	180	70	22	18	21	4	26.5

◎ : 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	
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	○	○

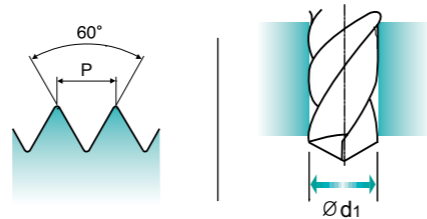
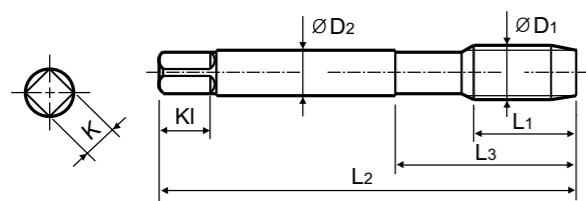
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎			○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso 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: **GS** HSS-E DIN 376 6H 60° B TiN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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	TiN	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M3 × 0.5		TD227206	11	56	18	2.2	1.8	5	3	2.5
M3.5 × 0.6		TD227226	12	56	20	2.5	2.1	5	3	2.9
M4 × 0.7		TD227246	13	63	21	2.8	2.1	5	3	3.3
M4.5 × 0.75		TD227266	14	70	25	3.5	2.7	6	3	3.7
M5 × 0.8		TD227286	15	70	25	3.5	2.7	6	3	4.2
M6 × 1		TD227316	17	80	30	4.5	3.4	6	3	5
M7 × 1		TD227346	17	80	30	5.5	4.3	7	3	6
M8 × 1.25		TD227366	20	90	36	6	4.9	8	3	6.8
M9 × 1.25		TD227396	20	90	36	7	5.5	8	3	7.8
M10 × 1.5		TD227426	22	100	40	7	5.5	8	3	8.5
M11 × 1.5		TD227466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TD227506	24	110	44	9	7	10	3	10.2
M14 × 2		TD227546	26	110	44	11	9	12	3	12
M16 × 2		TD227606	27	110	44	12	9	12	3	14
M18 × 2.5		TD227656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TD227706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TD227746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TD227786	34	160	60	18	14.5	17	4	21
M27 × 3		TD227866	36	160	60	20	16	19	4	24
M30 × 3.5		TD227946	40	180	70	22	18	21	4	26.5

◎ : 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	○	○	

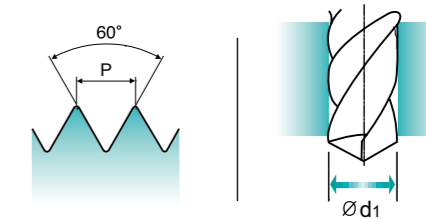
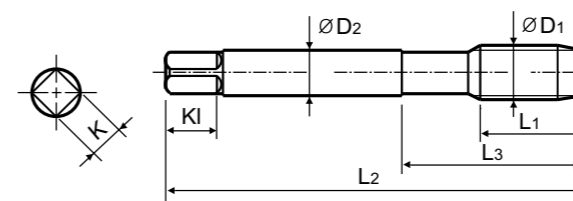
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎													

M ISO metric coarse threads DIN 13

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

► Left spiral flute and right hand thread tap to push chips ahead in powerful than spiral point taps.

► Rechtsschneidender Gewindebohrer mit Linksdrall um kraftvoller nach vorne zu entspannen als mit Gewindebohrern mit Rechtsdrall.



Material groups: **GS** HSS-E DIN 371/376 6H 60° C Bright L20

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.161

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	Kl	Z	Ød1
M2 × 0.4		TC211136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC211156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC211196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC211176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC211496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC211206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC211226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TC211246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC211266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC211286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TC211316	17	80	30	6	4.9	8	3	5
M7 × 1		TC211346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TC211366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC211396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TC211426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TC211466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC211506	24	110	44	9	7	10	3	10.2
M14 × 2		TC211546	26	110	44	11	9	12	3	12
M16 × 2		TC211606	27	110	44	12	9	12	3	14
M18 × 2.5		TC211656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC211706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TC211746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TC211786	34	160	60	18	14.5	17	4	21
M27 × 3		TC211866	36	160	60	20	16	19	4	24
M30 × 3.5		TC211946	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 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	
Recommended	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	○	○	

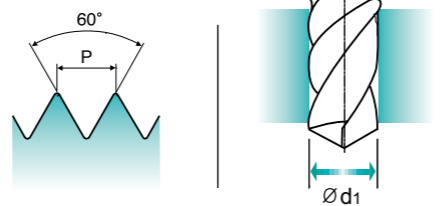
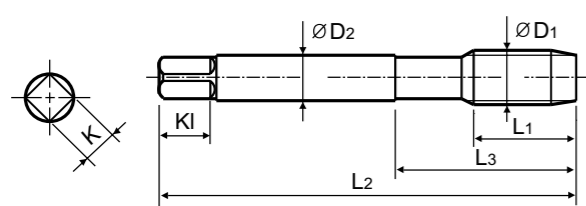
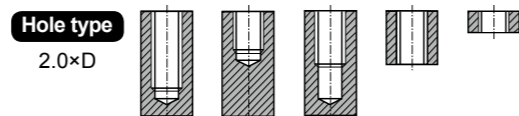
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	◎	◎	○	○	◎													

M ISO metric coarse threads DIN 13

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

► Suitable for tapping shallow holes and the blind holes having enough chip space at the bottom of holes.

► Geeignet zum Schneiden von kurzem Durchgangsgewinde und in Sacklöchern mit ausreichendem Raum für Späne am Bohrungsgrund.



GS HSS-E DIN 371/376 6H 60° C Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M2 × 0.4		TC463136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC463156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC463196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC463176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC463496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC463206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC463226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TC463246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC463266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC463286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TC463316	17	80	30	6	4.9	8	3	5
M7 × 1		TC463346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TC463366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC463396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TC463426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TC463466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC463506	24	110	44	9	7	10	3	10.2
M14 × 2		TC463546	26	110	44	11	9	12	3	12
M16 × 2		TC463606	27	110	44	12	9	12	3	14
M18 × 2.5		TC463656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC463706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TC463746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TC463786	34	160	60	18	14.5	17	4	21
M27 × 3		TC463866	36	160	60	20	16	19	4	24
M30 × 3.5		TC463946	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 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	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	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

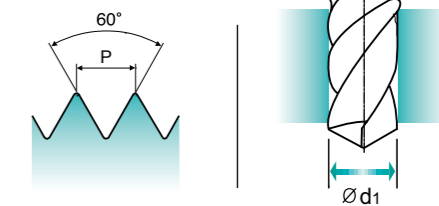
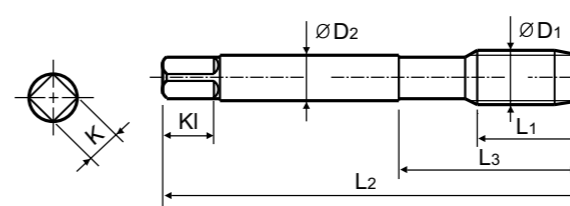
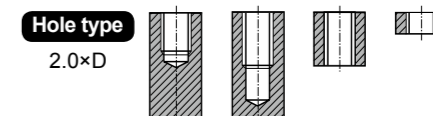
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

► Suitable for tapping shallow holes.

► Geeignet zum Gewindeschneiden flacher Sacklöcher.



GS HSS-E DIN 374 6H 60° C Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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
M4 × 0.5		TC473256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TC473296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TC473326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TC473336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TC473356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TC473376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TC473386	14	80	30	6	4.9	8	3	7.2
M8 × 0.5		TC473936	14	80	30	6	4.9	8	3	7.5
M10 × 1.25		TC473436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TC473446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TC473456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TC473516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TC473526	22	100	40	9	7	10	3	10.8
M12 × 1		TC473536	18	100	40	9	7	10	3	11
M14 × 1.5		TC473556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TC473566	22	100	40	11	9	12	3	12.8
M14 × 1		TC473576	18	100	40	11	9	12	3	13
M16 × 1.5		TC473616	22	100	40	12	9	12	3	14.5
M18 × 1.5		TC473676	25	110	44	14	11	14	4	16.5
M20 × 1.5		TC473726	25	125	50	16	12	15	4	18.5
M22 × 1.5		TC473766	25	125	50	18	14.5	17	4	20.5
M24 × 1.5		TC473806	27	140	54	18	14.5	17	4	22.5

◎ : Excellent ○ : Good

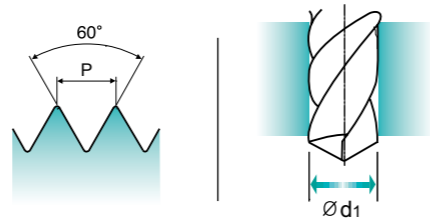
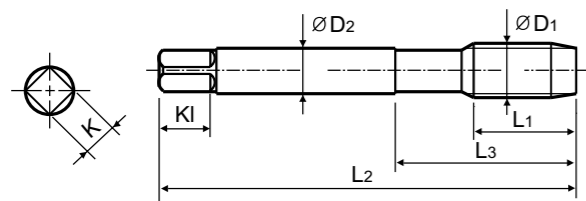
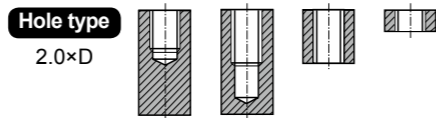
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC Unified coarse threads
 Unified Grobgewinde
 UNC
 Unificato passo grosso

Suitable for tapping shallow holes.

Geeignet zum Gewindeschneiden flacher Sacklöcher.



GS HSS-E DIN 371/376 2B 60° C Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.161

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		Bright	L1	L2	L3	ØD2	K	K1	Z	Ød1
#4 - 40UNC		TC424162	11	56	18	3.5	2.7	6	3	2.3
#5 - 40UNC		TC424202	11	56	18	3.5	2.7	6	3	2.6
#6 - 32UNC		TC424242	12	56	20	4	3	6	3	2.85
#8 - 32UNC		TC424282	13	63	21	4.5	3.4	6	3	3.5
#10 - 24UNC		TC424322	15	70	25	6	4.9	8	3	3.9
#12 - 24UNC		TC424362	16	80	30	6	4.9	8	3	4.5
1/4 - 20UNC		TC424402	17	80	30	7	5.5	8	3	5.2
5/16 - 18UNC		TC424442	20	90	35	8	6.2	9	3	6.6
3/8 - 16UNC		TC424482	22	100	39	9	7	10	3	8
7/16 - 14UNC		TC424522	22	100	40	8	6.2	9	3	9.4
1/2 - 13UNC		TC424562	25	110	44	9	7	10	3	10.75
9/16 - 12UNC		TC424602	26	110	44	11	9	12	3	12.25
5/8 - 11UNC		TC424642	27	110	44	12	9	12	3	13.5
3/4 - 10UNC		TC424702	30	125	50	14	11	14	4	16.5
7/8 - 9UNC		TC424742	32	140	54	18	14.5	17	4	19.5
1 - 8UNC		TC424782	36	160	60	20	16	19	4	22.25
1-1/8 - 7UNC		TC424822	40	180	70	22	18	21	4	25

DIN 371(#4~3/8) and DIN 376(7/16~1- 1/8)

© : Excellent ○ : Good

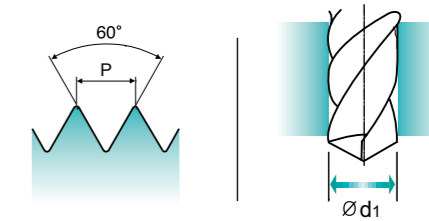
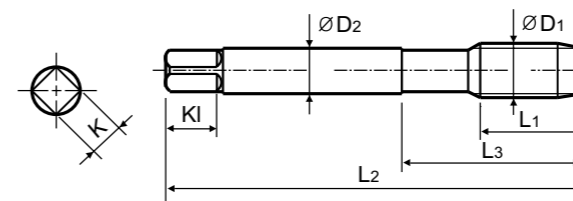
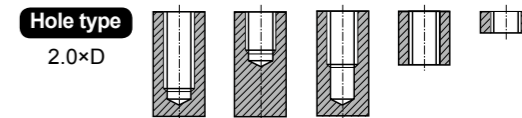
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10		10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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

This tap is a serial hand tap in set, First, Second and Bottoming.
 Bottoming tap of set has final internal thread dimensions only.

Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
 Nur der Fertigschneider kann das gewünschte Gewinde schneiden



GS HSS DIN 352 6H 60° C Bright

Sets of taps
Gewindebohrer -Satz

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	K1	Z	Ød1
M2 × 0.4		T7109139	8	36	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		T7109159	9	36	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		T7109199	9	36	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		T7109179	9	40	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		T7109499	9	40	15	2.8	2.1	5	3	2.1
M3 × 0.5		T7109209	11	40	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		T7109229	13	45	21	4	3	6	3	2.9
M4 × 0.7		T7109249	13	45	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		T7109269	16	50	25	6	4.9	8	3	3.7
M5 × 0.8		T7109289	16	52	26	6	4.9	8	3	4.2
M5.5 × 0.9		T7109N69	18	56	27	6	4.9	8	3	4.6
M6 × 1		T7109319	18	56	27	6	4.9	8	3	5
M7 × 1		T7109349	18	56	28.5	6	4.9	8	3	6
M8 × 1.25		T7109369	20	63	34	6	4.9	8	3	6.8
M9 × 1.25		T7109399	20	63	34	7	5.5	8	4	7.8
M10 × 1.5		T7109429	22	70	38	7	5.5	8	4	8.5
M11 × 1.5		T7109469	22	70	38	8	6.2	9	4	9.5
M12 × 1.75		T7109509	24	80	45	9	7	10	4	10.2
M14 × 2		T7109549	26	80	45	11	9	12	4	12
M16 × 2		T7109609	27	80	45	12	9	12	4	14
M18 × 2.5		T7109659	30	95	58	14	11	14	4	15.5
M20 × 2.5		T7109709	32	95	58	16	12	15	4	17.5

*DIN profile not ISO

NEXT PAGE

© : 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	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	30	29	32	38	15	35	15	23	10		10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180		180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

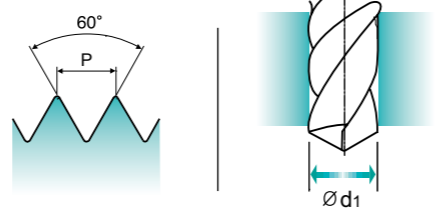
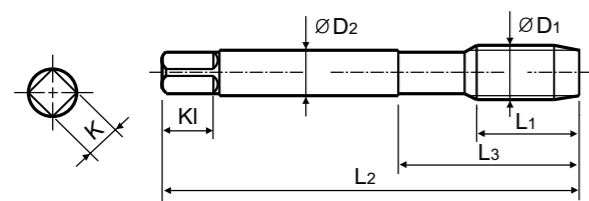
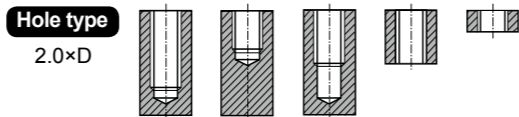
ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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

▶ This tap is a serial hand tap in set, First, Second and Bottoming.
▶ Bottoming tap of set has final internal thread dimensions only.

▶ Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups **GS** **HSS** **DIN 352** **6H** **60°** **Bright**

Sets of taps Gewindebohrer-Satz

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
M22 × 2.5		T7109749	32	100	62	18	14.5	17	4	19.5
M24 × 3		T7109789	34	110	69	18	14.5	17	4	21
M27 × 3		T7109869	36	110	69	20	16	19	4	24
M30 × 3.5		T7109949	40	125	77	22	18	21	4	26.5
M33 × 3.5		T7109A49	40	125	77	25	20	23	4	29.5
M36 × 4		T7109B39	50	150	88	28	22	25	4	32
M39 × 4		T7109C09	50	150	88	32	24	27	4	35
M42 × 4.5		T7109C89	56	150	88	32	24	27	4	37.5
M45 × 4.5		T7109D59	58	160	93	36	29	32	4	40.5
M48 × 5		T7109E29	65	180	102	36	29	32	4	43
M52 × 5		T7109F39	65	180	102	40	32	35	4	47

▶*DIN profile not ISO

◎ : 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

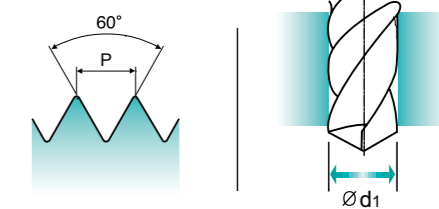
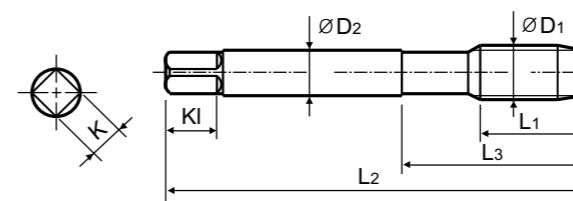
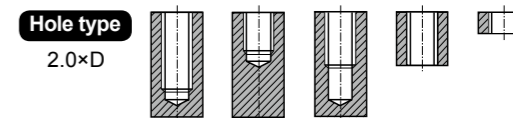
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

▶ This tap is a serial hand tap in set, First and Bottoming.
▶ Bottoming tap of set has final internal thread dimensions only.

▶ Handgewindebohrersatz mit Vor- und Fertigschneider.
▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups **GS** **HSS** **DIN 2181** **6H** **60°** **Bright**

Sets of taps Gewindebohrer-Satz

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 × 0.35		T7309219	9	40	18	3.5	2.7	6	3	2.65
M4 × 0.5		T7309259	10	45	18	4.5	3.4	6	3	3.5
M5 × 0.5		T7309299	13	52	22	6	4.9	8	3	4.5
M6 × 0.75		T7309329	14	56	24	6	4.9	8	3	5.2
M6 × 0.5		T7309339	13	56	24	6	4.9	8	3	5.5
M7 × 0.75		T7309359	14	56	27	6	4.9	8	3	6.2
M8 × 1		T7309379	17	63	27	6	4.9	8	3	7
M8 × 0.75		T7309389	14	63	27	6	4.9	8	3	7.2
M8 × 0.5		T7309939	14	63	27	6	4.9	8	3	7.5
M9 × 1		T7309409	17	63	27	7	5.5	8	4	8
M10 × 1.25		T7309439	22	70	32	7	5.5	8	4	8.8
M10 × 1		T7309449	18	63	27	7	5.5	8	4	9
M10 × 0.75		T7309459	18	63	27	7	5.5	8	4	9.2
M11 × 1		T7309479	18	63	27	8	6.2	9	4	10
M12 × 1.5		T7309519	20	70	32	9	7	10	4	10.5
M12 × 1.25		T7309529	20	70	32	9	7	10	4	10.8
M12 × 1		T7309539	18	70	32	9	7	10	4	11
M13 × 1.5		T7309N19	20	70	32	11	9	12	4	11.5
M13 × 1		T7309N29	18	70	32	11	9	12	4	12
M14 × 1.5		T7309559	20	70	32	11	9	12	4	12.5
M14 × 1.25		T7309569	20	70	32	11	9	12	4	12.8
M14 × 1		T7309579	18	70	32	11	9	12	4	13
M15 × 1.5		T7309589	20	70	32	12	9	12	4	13.5
M15 × 1		T7309599	18	70	32	12	9	12	4	14
M16 × 1.5		T7309619	20	70	32	12	9	12	4	14.5

▶ NEXT PAGE

◎ : Excellent ○ : Good

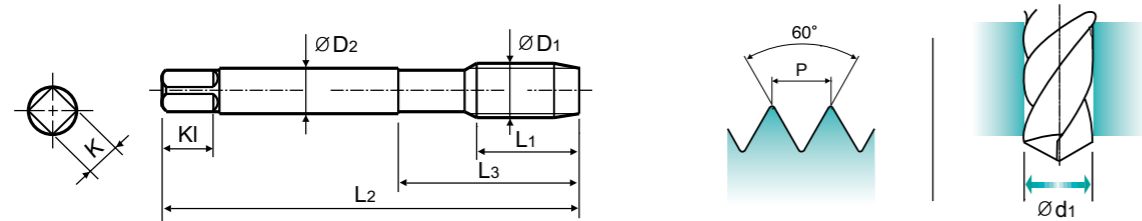
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel	Grey cast iron	Nodular cast iron	Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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)	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																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13
 Metrisches ISO-Feingewinde DIN 13
 ISO MÉTRIQUE PAS FINS DIN 13
 ISO Metrico passo fine DIN 13

▶ This tap is a serial hand tap in set, First and Bottoming.
 ▶ Bottoming tap of set has final internal thread dimensions only.

▶ Handgewindebohrersatz mit Vor- und Fertigschneider.
 ▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS DIN 2181 6H 60° **Bright**

Sets of taps Gewindebohrer-Satz

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
M16 × 1		T7309629	18	70	32	12	9	12	4	15
M18 × 2		T7309669	22	80	35	14	11	14	4	16
M18 × 1.5		T7309679	22	80	35	14	11	14	4	16.5
M18 × 1		T7309689	18	80	35	14	11	14	4	17
M20 × 2		T7309719	22	80	35	16	12	15	4	18
M20 × 1.5		T7309729	22	80	35	16	12	15	4	18.5
M20 × 1		T7309739	18	80	35	16	12	15	4	19
M22 × 2		T7309759	22	80	35	18	14.5	17	4	20
M22 × 1.5		T7309769	22	80	35	18	14.5	17	4	20.5
M22 × 1		T7309779	18	80	35	18	14.5	17	4	21
M24 × 2		T7309799	22	90	40	18	14.5	17	4	22
M24 × 1.5		T7309809	22	90	40	18	14.5	17	4	22.5
M24 × 1		T7309819	18	90	40	18	14.5	17	4	23
M25 × 1.5		T7309839	22	90	40	18	14.5	17	4	23.5
M25 × 1		T7309849	18	90	40	18	14.5	17	4	24
M26 × 1.5		T7309859	22	90	40	18	14.5	17	4	24.5
M26 × 1		T7309869	18	90	40	18	14.5	17	4	25
M27 × 2		T7309879	22	90	40	20	16	19	4	25
M27 × 1.5		T7309889	22	90	40	20	16	19	4	25.5
M27 × 1		T7309899	18	90	40	20	16	19	4	26
M28 × 2		T7309909	22	90	40	20	16	19	4	26
M28 × 1.5		T7309919	22	90	40	20	16	19	4	26.5
M30 × 2		T7309969	22	90	40	22	18	21	4	28
M30 × 1.5		T7309979	22	90	40	22	18	21	4	28.5
M30 × 1		T7309989	18	90	40	22	18	21	4	29

◎ : Excellent ○ : Good

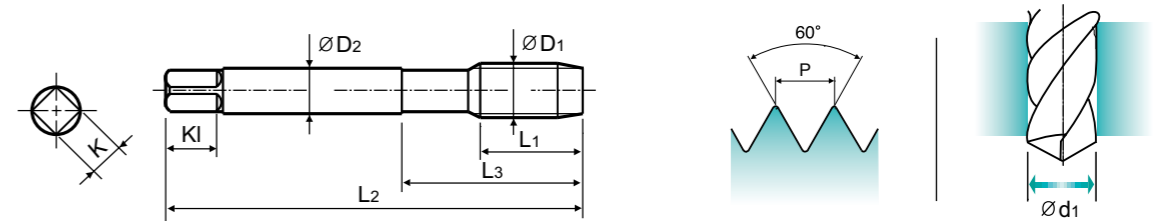
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel	Grey cast iron	Nodular cast iron	Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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						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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC Unified coarse threads
 Unified Grobgewinde
 UNC
 Unificato passo grosso

▶ This tap is a serial hand tap in set, First, Second and Bottoming.
 ▶ Bottoming tap of set has final internal thread dimensions only.

▶ Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
 ▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS DIN 351 2B 60° **Bright**

Sets of taps Gewindebohrer-Satz

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#2 - 56UNC		T7363089	9	36	13	2.8	2.1	5	3	1.8
#3 - 48UNC		T7363129	10	40	15	2.8	2.1	5	3	2.1
#4 - 40UNC		T7363169	10	42	18	3.5	2.7	6	3	2.3
#5 - 40UNC		T7363209	10	42	18	3.5	2.7	6	3	2.6
#6 - 32UNC		T7363249	11	45	18	4	3	6	3	2.85
#8 - 32UNC		T7363289	12	48	23	4.5	3.4	6	3	3.5
#10 - 24UNC		T7363329	14	52	26	6	4.9	6	3	3.9
#12 - 24UNC		T7363369	16	56	27	6	4.9	8	3	4.5
1/4 - 20UNC		T7363409	16	56	27	6	4.9	8	3	5.2
5/16 - 18UNC		T7363449	20	63	34	6	4.9	8	3	6.6
3/8 - 16UNC		T7363489	22	70	38	7	5.5	8	4	8
7/16 - 14UNC		T7363529	22	70	38	8	6.2	9	4	9.4
1/2 - 13UNC		T7363569	25	80	45	9	7	10	4	10.75
9/16 - 12UNC		T7363609	26	80	45	11	9	12	4	12.25
5/8 - 11UNC		T7363649	27	90	55	12	9	12	4	13.5
3/4 - 10UNC		T7363709	32	105	65	14	11	14	4	16.5
7/8 - 9UNC		T7363749	32	110	69	18	14.5	17	4	19.5
1 - 8UNC		T7363789	36	110	69	20	16	19	4	22.25
1-1/8 - 7UNC		T7363829	40	125	77	22	18	21	4	25
1-1/4 - 7UNC		T7363869	40	125	77	25	20	23	4	28.25
1-1/8 - 6UNC		T7363909	50	150	88	28	22	25	4	30.75
1-1/2 - 6UNC		T7363949	50	150	88	32	24	27	4	34
1-3/4 - 5UNC		T7363989	58	160	93	36	29	32	4	39.5
2 - 4½UNC		T7363D29	65	180	102	40	32	35	4	45.25

◎ : Excellent ○ : Good

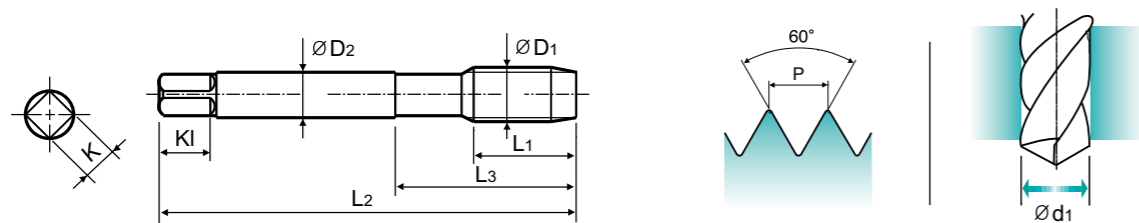
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel	Grey cast iron	Nodular cast iron	Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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						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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNF Unified fine threads
 Unified Feingewinde
 UNF
 Unificato passo fine

▶ This tap is a serial hand tap in set, First and Bottoming.
 ▶ Bottoming tap of set has final internal thread dimensions only.

▶ Handgewindebohrersatz mit Vor- und Fertigschneider.
 ▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS DIN 2181 2B 60° **Bright**

Sets of taps
Gewindebohrer-Satz

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 48 UNF		T7509189	10	42	18	3.5	2.7	6	3	2.4
#5 - 44 UNF		T7509229	10	42	18	3.5	2.7	6	3	2.7
#6 - 40 UNF		T7509269	11	45	18	4	3	6	3	3
#8 - 36 UNF		T7509309	12	48	23	4.5	3.4	6	3	3.5
#10 - 32 UNF		T7509349	14	52	22	6	4.9	8	3	4.1
#12 - 28 UNF		T7509389	16	56	24	6	4.9	8	3	4.7
1/4 - 28 UNF		T7509429	16	56	24	6	4.9	8	3	5.5
5/16 - 24 UNF		T7509469	17	63	27	6	4.9	8	3	6.9
3/8 - 24 UNF		T7509509	18	63	27	7	5.5	8	4	8.5
7/16 - 20 UNF		T7509549	20	70	32	8	6.2	9	4	9.9
1/2 - 20 UNF		T7509589	20	70	32	9	7	10	4	11.5
9/16 - 18 UNF		T7509629	20	70	32	11	9	12	4	12.9
5/8 - 18 UNF		T7509669	20	70	32	12	9	12	4	14.5
3/4 - 16 UNF		T7509729	22	80	38	14	11	14	4	17.5
7/8 - 14 UNF		T7509769	22	80	38	18	14.5	17	4	20.5
1 - 12 UNF		T7509809	22	90	40	18	14.5	17	4	23.25
1-1/8 - 12 UNF		T7509849	22	90	40	22	18	21	4	26.5

◎ : Excellent ○ : Good

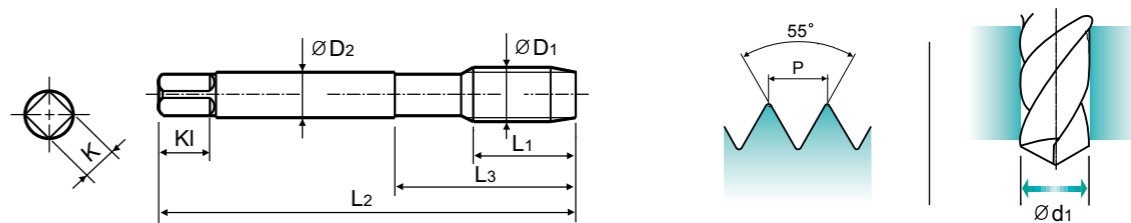
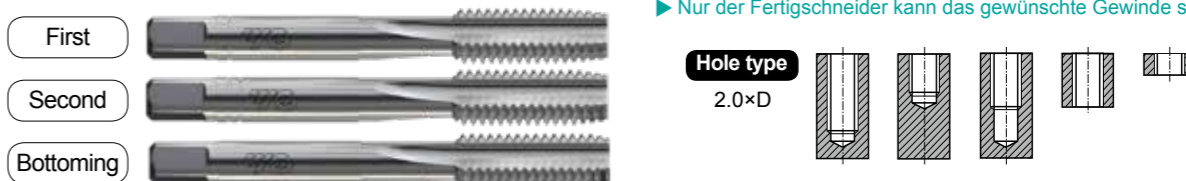
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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)	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

BSW Whitworth threads
 Whitworth Gewinde
 BSW
 Filettatura Whitworth

▶ This tap is a serial hand tap in set, First, Second and Bottoming.
 ▶ Bottoming tap of set has final internal thread dimensions only.

▶ Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
 ▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS DIN 351 55° **Bright**

Sets of taps
Gewindebohrer-Satz

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
W3/32 - 48		T7609129	10	40	15	2.8	2.1	5	3	1.8
W1/8 - 40		T7609209	10	42	18	3.5	2.7	6	3	2.5
W5/32 - 32		T7609289	12	48	23	4.5	3.4	6	3	3.1
W3/16 - 24		T7609329	14	52	26	6	4.9	8	3	3.6
W7/32 - 24		T7609369	16	56	27	6	4.9	8	3	4.4
W1/4 - 20		T7609409	16	56	27	6	4.9	8	3	5.1
W5/16 - 18		T7609449	20	63	34	6	4.9	8	3	6.5
W3/8 - 16		T7609489	22	70	38	7	5.5	8	4	7.9
W7/16 - 14		T7609529	22	70	38	8	6.2	9	4	9.3
W1/2 - 12		T7609569	25	80	45	9	7	10	4	10.5
W9/16 - 12		T7609609	26	80	45	11	9	12	4	12
W5/8 - 11		T7609649	27	90	55	12	9	12	4	13.5
W3/4 - 10		T7609709	32	105	65	14	11	14	4	16.5
W7/8 - 9		T7609749	32	110	69	18	14.5	17	4	19.25
W1 - 8		T7609789	36	110	69	20	16	19	4	22
W1-1/8 - 7		T7609829	40	125	77	22	18	21	4	24.75
W1-1/4 - 7		T7609869	40	125	77	25	20	23	4	27.75
W1-3/8 - 6		T7609909	50	150	88	28	22	25	4	30.5
W1-1/2 - 6		T7609949	50	150	88	32	24	27	4	33.5
W1-5/8 - 5		T7609989	56	150	88	32	24	27	4	35.5
W1-3/4 - 5		T7609889	58	160	93	36	29	32	4	39
W1-7/8 - 4½		T7609C69	65	180	102	36	29	32	4	41.5
W2 - 4½		T7609D29	65	180	102	40	32	35	4	44.5

◎ : 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

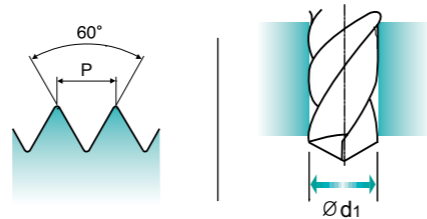
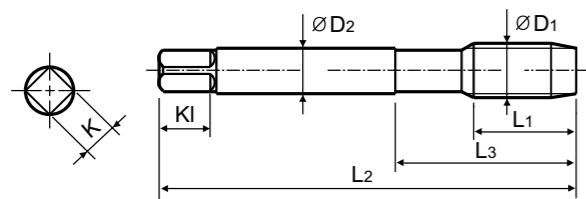
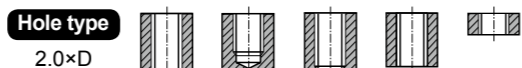
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M-LH ISO metric coarse threads DIN 13

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

► This tap is a serial hand tap in set, First, Second and Bottoming.
 ► Bottoming tap of set has final internal thread dimensions only.

► Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
 ► Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS DIN 352 6H 60° **Bright**

Sets of taps Gewindebohrer-Satz

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		T7343209	11	40	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		T7343229	13	45	21	4	3	6	3	2.9
M4 × 0.7		T7343249	13	45	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		T7343269	16	50	25	6	4.9	8	3	3.7
M5 × 0.8		T7343289	16	52	26	6	4.9	8	3	4.2
M6 × 1		T7343319	18	56	27	6	4.9	8	3	5
M8 × 1.25		T7343369	20	63	34	6	4.9	8	3	6.8
M10 × 1.5		T7343429	22	70	38	7	5.5	8	4	8.5
M12 × 1.75		T7343509	24	80	45	9	7	10	4	10.2
M14 × 2		T7343549	26	80	45	11	9	12	4	12
M16 × 2		T7343609	27	80	45	12	9	12	4	14
M18 × 2.5		T7343659	30	95	58	14	11	14	4	15.5
M20 × 2.5		T7343709	32	95	58	16	12	15	4	17.5
M22 × 2.5		T7343749	32	100	62	18	14.5	17	4	19.5
M24 × 3		T7343789	34	110	69	18	14.5	17	4	21
M27 × 3		T7343869	36	110	69	20	16	19	4	24
M30 × 3.5		T7343949	40	125	77	22	18	21	4	26.5

► LH=Left hand thread

© : 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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

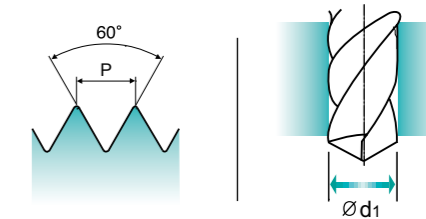
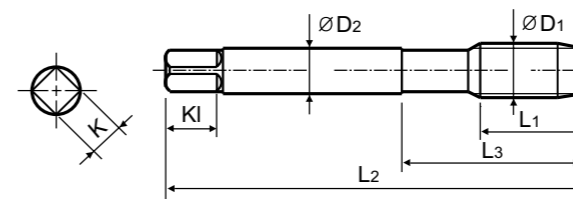
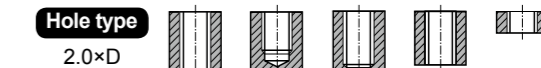
ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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

► This tap is a serial hand tap in set, First, Second and Bottoming.
 ► Bottoming tap of set has final internal thread dimensions only.

► Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
 ► Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS-E DIN 352 6HX 60° **Vap**

Sets of taps Gewindebohrer-Satz

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	KI	Z	Ød1
M3 × 0.5		TB373209	11	40	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB373229	13	45	21	4	3	6	3	2.9
M4 × 0.7		TB373249	13	45	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB373269	16	50	25	6	4.9	8	3	3.7
M5 × 0.8		TB373289	16	52	26	6	4.9	8	3	4.2
M6 × 1		TB373319	18	56	27	6	4.9	8	3	5
M8 × 1.25		TB373369	20	63	34	6	4.9	8	3	6.8
M10 × 1.5		TB373429	22	70	38	7	5.5	8	4	8.5
M12 × 1.75		TB373509	24	80	45	9	7	10	4	10.2
M14 × 2		TB373549	26	80	45	11	9	12	4	12
M16 × 2		TB373609	27	80	45	12	9	12	4	14
M18 × 2.5		TB373659	30	95	58	14	11	14	4	15.5
M20 × 2.5		TB373709	32	95	58	16	12	15	4	17.5

► First with pilot guide

© : 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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

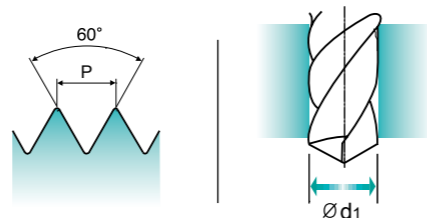
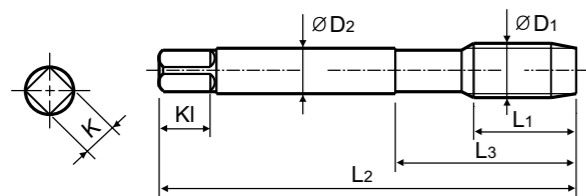
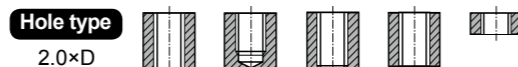
ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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

▶ This tap is a serial hand tap in set, First, Second and Bottoming.
▶ Bottoming tap of set has final internal thread dimensions only..

▶ Dies ist ein Handgewindebohrer im Satz mit Vor-, Mittel- und Fertigschneider.
▶ Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



VG HSS-E DIN 352 6H 60° **Bright**

Sets of taps
Gewindebohrer-Satz

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	K1	Z	Ød1
M3	× 0.5	TC353209	11	40	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TC353229	13	45	21	4	3	6	3	2.9
M4	× 0.7	TC353249	13	45	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TC353269	16	50	25	6	4.9	8	3	3.7
M5	× 0.8	TC353289	16	52	26	6	4.9	8	3	4.2
M6	× 1	TC353319	18	56	27	6	4.9	8	3	5
M8	× 1.25	TC353369	20	63	34	6	4.9	8	3	6.8
M10	× 1.5	TC353429	22	70	38	7	5.5	8	4	8.5
M12	× 1.75	TC353509	24	80	45	9	7	10	4	10.2
M14	× 2	TC353549	26	80	45	11	9	12	4	12
M16	× 2	TC353609	27	80	45	12	9	12	4	14
M18	× 2.5	TC353659	30	95	58	14	11	14	4	15.5
M20	× 2.5	TC353709	32	95	58	16	12	15	4	17.5

▶ First with pilot guide

◎ : 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	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

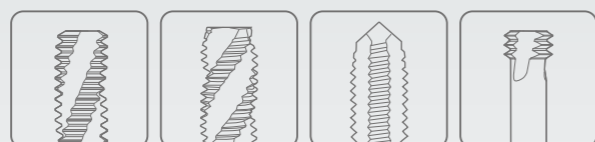
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)											
					TC711 TC411 TC144 TC124 TC134	TD711 TD411	TC517 TC612	TC127 TC122 TC222 TC214 TC234 TC224	TD127 TD222	TC227	TD227	TC211	TC463 TC473 TC424			
P	1	Non-alloy steel	125		15-20	20-25	15-20	15-20	20-25	15-20	20-25	15-20	15-20			
	2		190	13	15-20	20-25	15-20	15-20	20-25	15-20	20-25	15-20	15-20			
	3		250	25	12-18	18-24	12-18	12-18	18-24	12-18	18-24	12-18	12-18			
	4		270	28	10-15	15-20	10-15	10-15	15-20	10-15	15-20	10-15	10-15			
	5	300	32	6-10	10-14	6-10	6-10	10-14	6-10	10-14	6-10	6-10				
	6	Low alloy steel	180	10	10-15	15-20	10-15	10-15	15-20	10-15	15-20	10-15	10-15			
	7		275	29	10-15	15-20	10-15	10-15	15-20	10-15	15-20	10-15	10-15			
	8		300	32	6-10	10-14	6-10	6-10	10-14	6-10	10-14	6-10	6-10			
	9		350	38												
	10		High alloyed steel, and tool steel	200	15											
	11	325		35												
M	12		200	15	7-10	10-13	7-10	7-10	10-13	7-10	10-13	7-10	7-10			
	13	Stainless steel	240	23	5-8	8-11	5-8	5-8	8-11	5-8	8-11	5-8	5-8			
	14		180	10												
K	15	Grey cast iron	180	10									10-15			
	16		260	26									5-8			
	17	Nodular cast iron	160	3	10-15	15-20	10-15	10-15	15-20	10-15	15-20	10-15	10-15			
	18		250	25	5-8	8-11	5-8	5-8	8-11	5-8	8-11	5-8	5-8			
	19		Malleable cast iron	130												
	20	230		21												
N	21	Aluminum-wrought alloy	60		10-15	15-20	10-15	10-15	15-20	10-15	15-20	10-15				
	22		100													
	23	Aluminum-cast, alloyed	75		15-20	20-25	15-20	15-20	20-25	15-20	20-25	15-20				
	24		90		15-20	20-25	15-20	15-20	20-25	15-20	20-25	15-20				
	25		130		10-15	15-20	10-15	10-15	15-20	10-15	15-20	10-15	10-15			
	26		110		25-35	35-40	25-35	25-35	35-40	25-35	35-40	25-35	25-35			
	27	Copper and Copper Alloys (Bronze / Brass)	90										8-12			
	28		100		15-20	20-25	15-20	15-20	20-25	15-20	20-25	15-20				
	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												
	39		630	60												
	40		400	42												
	41		550	55												



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



HSS-E & HSS-PM

THREADING

YG TAP STEEL
YG TAP STEEL

- For Steel Materials but also other Long Chip Forming Materials
- Für Stahlwerkstoffe, aber auch andere langspanende Werkstoffe



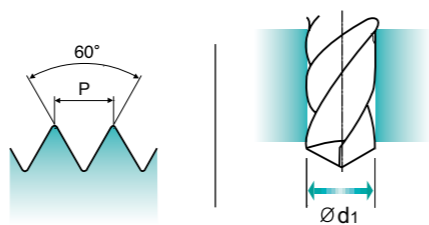
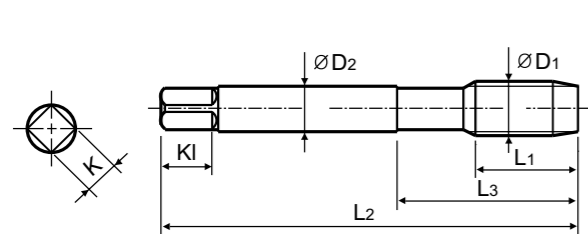
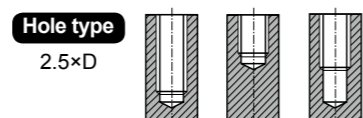
TQ823 SERIES

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: **VG** HSS-PM DIN 371/376 6H 60° C Vap R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	TQ823136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TQ823156	8	45	13	2.8	2.1	5	3	1.75
M2.5	× 0.45	TQ823176	9	50	15	2.8	2.1	5	3	2.05
M3	× 0.5	TQ823206	6	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TQ823226	7	56	20	4	3	6	3	2.9
M4	× 0.7	TQ823246	7	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TQ823266	8	70	25	6	4.9	8	3	3.7
M5	× 0.8	TQ823286	8	70	25	6	4.9	8	3	4.2
M6	× 1	TQ823316	10	80	30	6	4.9	8	3	5
M7	× 1	TQ823346	10	80	30	7	5.5	8	3	6
M8	× 1.25	TQ823366	13	90	35	8	6.2	9	3	6.8
M10	× 1.5	TQ823426	15	100	39	10	8	11	3	8.5
M12	× 1.75	TQ823506	18	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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	38	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
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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended											○											



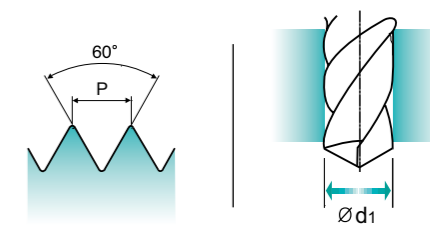
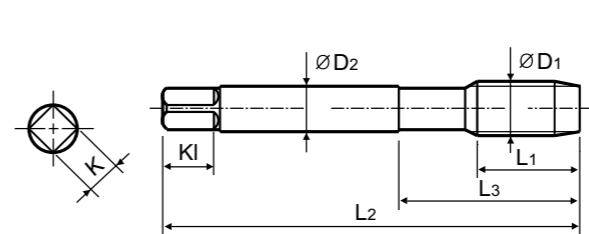
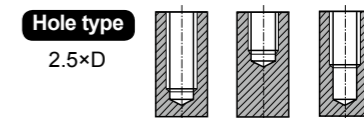
TR823 SERIES

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: **VG** HSS-PM DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	K1	Z	Ød1
M2	× 0.4	TR823136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TR823156	8	45	13	2.8	2.1	5	3	1.75
M2.5	× 0.45	TR823176	9	50	15	2.8	2.1	5	3	2.05
M3	× 0.5	TR823206	6	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TR823226	7	56	20	4	3	6	3	2.9
M4	× 0.7	TR823246	7	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TR823266	8	70	25	6	4.9	8	3	3.7
M5	× 0.8	TR823286	8	70	25	6	4.9	8	3	4.2
M6	× 1	TR823316	10	80	30	6	4.9	8	3	5
M7	× 1	TR823346	10	80	30	7	5.5	8	3	6
M8	× 1.25	TR823366	13	90	35	8	6.2	9	3	6.8
M10	× 1.5	TR823426	15	100	39	10	8	11	3	8.5
M12	× 1.75	TR823506	18	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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	38	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	○	○	○	◎	○	○	◎	◎	○											

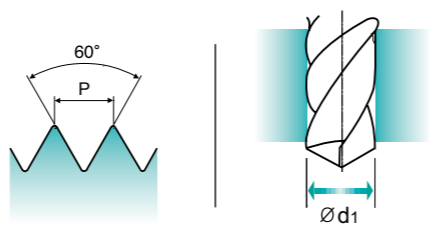
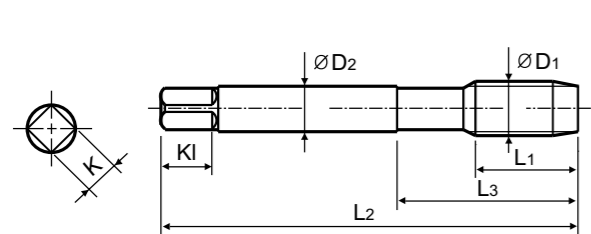
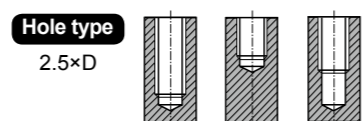
ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended											○											

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.



VG HSS-E DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	K1	Z	Ød1
M2 × 0.4		TC312136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC312156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC312196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC312176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC312496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC312206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC312226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TC312246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC312266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC312286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TC312316	10	80	30	6	4.9	8	3	5
M7 × 1		TC312346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TC312366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC312396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TC312426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TC312466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC312506	18	110	44	9	7	10	3	10.2
M14 × 2		TC312546	20	110	44	11	9	12	3	12
M16 × 2		TC312606	20	110	44	12	9	12	3	14
M18 × 2.5		TC312656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TC312706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TC312746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TC312786	30	160	60	18	14.5	17	4	21
M27 × 3		TC312866	30	160	60	20	16	19	4	24
M30 × 3.5		TC312946	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 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		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	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230		
Recommended	○	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○		

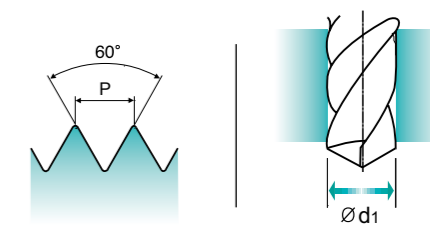
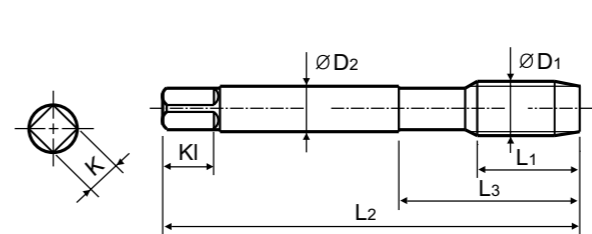
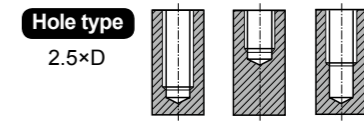
ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

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.



VG HSS-E DIN 371/376 6H 60° C TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	TiN	L1	L2	L3	ØD2	K	K1	Z	Ød1
M2 × 0.4		TD312136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TD312156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TD312196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TD312176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TD312496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TD312206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TD312226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TD312246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TD312266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TD312286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TD312316	10	80	30	6	4.9	8	3	5
M7 × 1		TD312346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TD312366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TD312396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TD312426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TD312466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TD312506	18	110	44	9	7	10	3	10.2
M14 × 2		TD312546	20	110	44	11	9	12	3	12
M16 × 2		TD312606	20	110	44	12	9	12	3	14
M18 × 2.5		TD312656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TD312706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TD312746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TD312786	30	160	60	18	14.5	17	4	21
M27 × 3		TD312866	30	160	60	20	16	19	4	24
M30 × 3.5		TD312946	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 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		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	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		



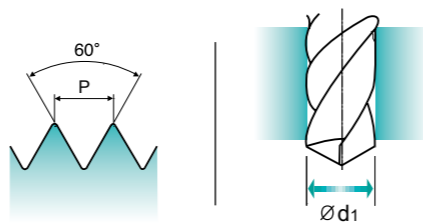
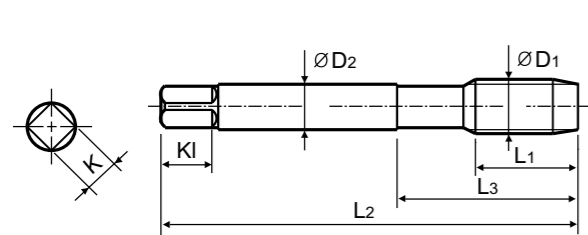
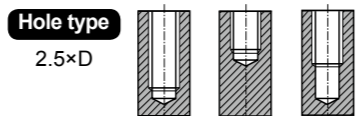
TB312 SERIES

M ISO metric coarse threads DIN 13

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

► Suitable for threading blind holes due to excellent chip evacuation of tempered steels or similar work materials.

► Geeignet zum Gewinden von Sacklöchern dank ausgezeichneter Spanabfuhr von angelassenen Stählen oder ähnlichen Werkstoffen.



Material groups: **VG** HSS-E DIN 371/376 6H 60° C Vap R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	KI	Z	Ød1
M2 × 0.4		TB312136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB312156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TB312196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB312176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TB312496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB312206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB312226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TB312246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB312266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB312286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TB312316	10	80	30	6	4.9	8	3	5
M7 × 1		TB312346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TB312366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB312396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TB312426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TB312466	17	100	40	8	6.2	12	3	9.5
M12 × 1.75		TB312506	18	110	44	9	7	10	3	10.2
M14 × 2		TB312546	20	110	44	11	9	12	3	12
M16 × 2		TB312606	20	110	44	12	9	12	3	14
M18 × 2.5		TB312656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TB312706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TB312746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TB312786	30	160	60	18	14.5	17	4	21
M27 × 3		TB312866	30	160	60	20	16	19	4	24
M30 × 3.5		TB312946	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 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



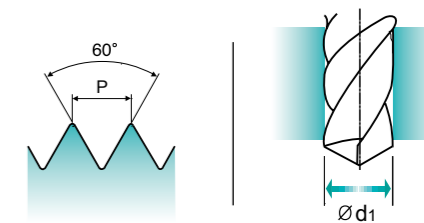
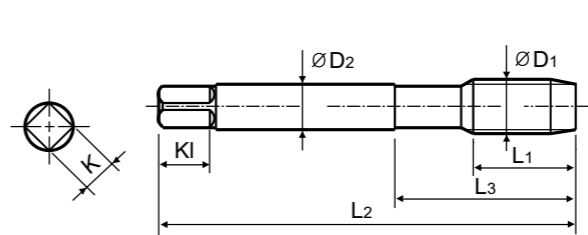
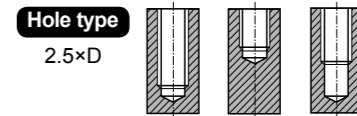
TY312 SERIES

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: **VG** HSS-E DIN 371/376 6H 60° C TiAlN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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		TY312136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TY312156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TY312196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TY312176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TY312496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TY312206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TY312226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TY312246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TY312266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TY312286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TY312316	10	80	30	6	4.9	8	3	5
M7 × 1		TY312346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TY312366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TY312396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TY312426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TY312466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TY312506	18	110	44	9	7	10	3	10.2
M14 × 2		TY312546	20	110	44	11	9	12	3	12
M16 × 2		TY312606	20	110	44	12	9	12	3	14
M18 × 2.5		TY312656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TY312706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TY312746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TY312786	30	160	60	18	14.5	17	4	21
M27 × 3		TY312866	30	160	60	20	16	19	4	24
M30 × 3.5		TY312946	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 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○

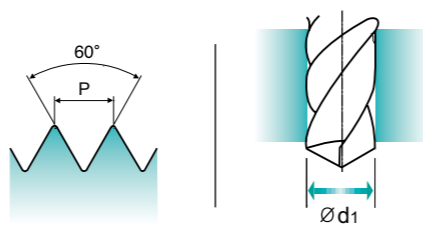
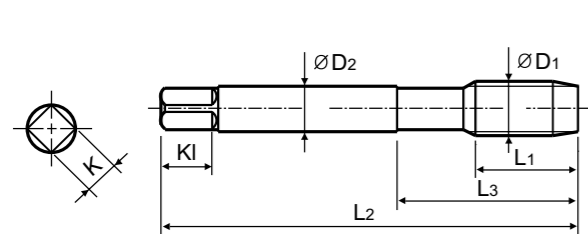
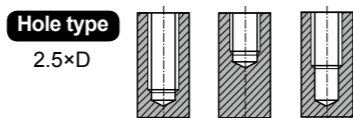
ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS 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.



VG HSS-E DIN 374 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	K1	Z	Ød1
M4 × 0.5		TC413256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TC413296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TC413326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TC413336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TC413356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TC413376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TC413386	8	80	30	6	4.9	8	3	7.2
M10 × 1.25		TC413436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TC413446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TC413456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TC413516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TC413526	15	100	40	9	7	10	3	10.8
M12 × 1		TC413536	11	100	40	9	7	10	3	11
M14 × 1.5		TC413556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TC413566	15	100	40	11	9	12	3	12.8
M16 × 1.5		TC413616	15	100	40	12	9	12	3	14.5
M18 × 1.5		TC413676	17	110	44	14	11	14	4	16.5
M20 × 1.5		TC413726	17	125	50	16	12	15	4	18.5
M22 × 1.5		TC413766	17	125	50	18	14.5	17	4	20.5
M24 × 1.5		TC413806	20	140	54	18	14.5	17	4	22.5

◎ : 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	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	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	◎	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○

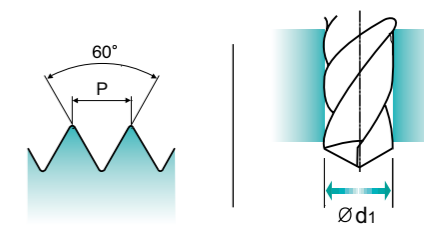
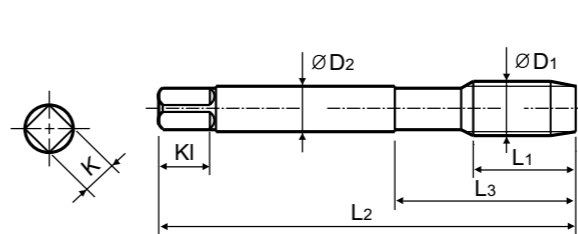
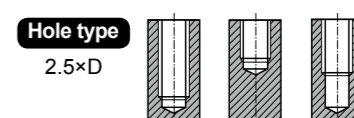
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS 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.



VG HSS-E DIN 374 6H 60° C TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	TiN	L1	L2	L3	ØD2	K	K1	Z	Ød1
M4 × 0.5		TD413256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TD413296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TD413326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TD413336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TD413356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TD413376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TD413386	8	80	30	6	4.9	8	3	7.2
M10 × 1.25		TD413436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TD413446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TD413456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TD413516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TD413526	15	100	40	9	7	10	3	10.8
M12 × 1		TD413536	11	100	40	9	7	10	3	11
M14 × 1.5		TD413556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TD413566	15	100	40	11	9	12	3	12.8
M16 × 1.5		TD413616	15	100	40	12	9	12	3	14.5
M18 × 1.5		TD413676	17	110	44	14	11	14	4	16.5
M20 × 1.5		TD413726	17	125	50	16	12	15	4	18.5
M22 × 1.5		TD413766	17	125	50	18	14.5	17	4	20.5
M24 × 1.5		TD413806	20	140	54	18	14.5	17	4	22.5

◎ : Excellent ○ : Good

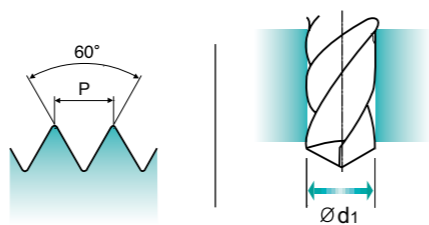
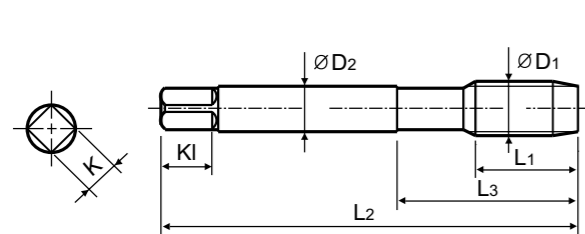
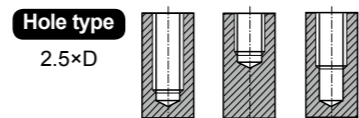
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	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)	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	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC Unified coarse threads
 Unified Grobgewinde
 UNC
 Unificato passo grosso

► 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.



VG HSS-E DIN 371/376 2B 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 40UNC		TC174162	6	56	18	3.5	2.7	6	3	2.3
#5 - 40UNC		TC174202	7	56	18	3.5	2.7	6	3	2.6
#6 - 32UNC		TC174242	7	56	20	4	3	6	3	2.85
#8 - 32UNC		TC174282	8	63	21	4.5	3.4	6	3	3.5
#10 - 24UNC		TC174322	10	70	25	6	4.9	8	3	3.9
#12 - 24UNC		TC174362	10	80	30	6	4.9	8	3	4.5
1/4 - 20UNC		TC174402	13	80	30	7	5.5	8	3	5.2
5/16 - 18UNC		TC174442	14	90	35	8	6.2	9	3	6.6
3/8 - 16UNC		TC174482	16	100	39	9	7	10	3	8
7/16 - 14UNC		TC174522	17	100	40	8	6.2	9	3	9.4
1/2 - 13UNC		TC174562	20	110	44	9	7	10	3	10.75
9/16 - 12UNC		TC174602	20	110	44	11	9	12	3	12.25
5/8 - 11UNC		TC174642	22	110	44	12	9	12	3	13.5
3/4 - 10UNC		TC174702	25	125	50	14	11	14	4	16.5
7/8 - 9UNC		TC174742	27	140	54	18	14.5	17	4	19.5
1 - 8UNC		TC174782	30	160	60	20	16	19	4	22.25
1-1/8 - 7UNC		TC174822	35	180	65	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : Excellent ○ : Good

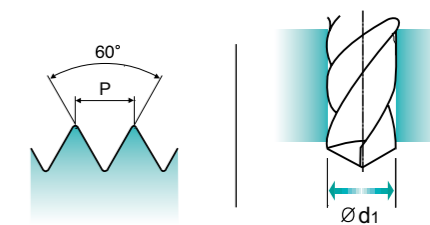
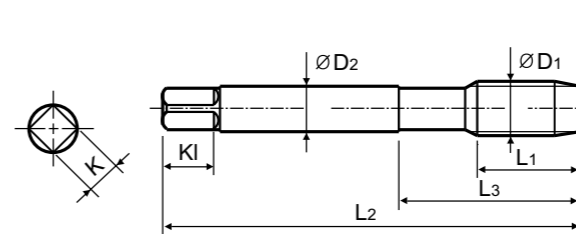
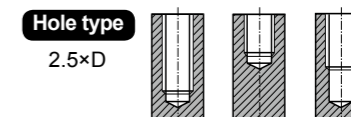
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC Unified coarse threads
 Unified Grobgewinde
 UNC
 Unificato passo grosso

► 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.



VG HSS-E DIN 371/376 2B 60° C TiN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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		TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 40UNC		TD174162	6	56	18	3.5	2.7	6	3	2.3
#5 - 40UNC		TD174202	7	56	18	3.5	2.7	6	3	2.6
#6 - 32UNC		TD174242	7	56	20	4	3	6	3	2.85
#8 - 32UNC		TD174282	8	63	21	4.5	3.4	6	3	3.5
#10 - 24UNC		TD174322	10	70	25	6	4.9	8	3	3.9
#12 - 24UNC		TD174362	10	80	30	6	4.9	8	3	4.5
1/4 - 20UNC		TD174402	13	80	30	7	5.5	8	3	5.2
5/16 - 18UNC		TD174442	14	90	35	8	6.2	9	3	6.6
3/8 - 16UNC		TD174482	16	100	39	9	7	10	3	8
7/16 - 14UNC		TD174522	17	100	40	8	6.2	9	3	9.4
1/2 - 13UNC		TD174562	20	110	44	9	7	10	3	10.75
9/16 - 12UNC		TD174602	20	110	44	11	9	12	3	12.25
5/8 - 11UNC		TD174642	22	110	44	12	9	12	3	13.5
3/4 - 10UNC		TD174702	25	125	50	14	11	14	4	16.5
7/8 - 9UNC		TD174742	27	140	54	18	14.5	17	4	19.5
1 - 8UNC		TD174782	30	160	60	20	16	19	4	22.25
1-1/8 - 7UNC		TD174822	35	180	65	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : 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	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	30	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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



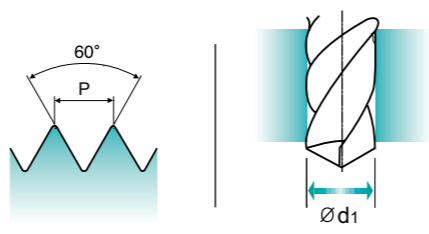
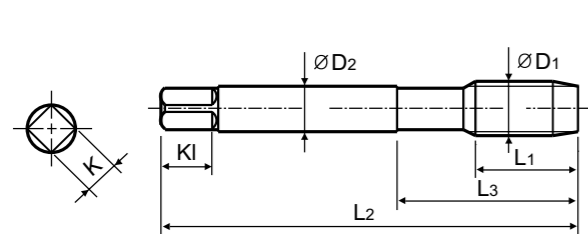
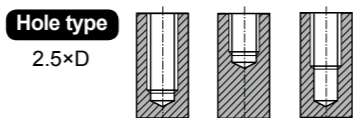
TC184 SERIES

UNF Unified fine threads

- Unified Feingewinde
- UNF
- Unificato passo grosso

► 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: **VG** HSS-E DIN 371/374 2B 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 48UNF	TC184182	6	56	18	3.5	2.7	6	3	2.4
#5	- 44UNF	TC184222	7	56	18	3.5	2.7	6	3	2.7
#6	- 40UNF	TC184262	7	56	20	4	3	6	3	3
#8	- 36UNF	TC184302	8	63	21	4.5	3.4	6	3	3.5
#10	- 32UNF	TC184342	10	70	25	6	4.9	8	3	4.1
#12	- 28UNF	TC184382	10	80	30	6	4.9	8	3	4.7
1/4	- 28UNF	TC184422	10	80	30	7	5.5	8	3	5.5
5/16	- 24UNF	TC184462	10	90	35	8	6.2	9	3	6.9
3/8	- 24UNF	TC184502	10	100	39	9	7	10	3	8.5
7/16	- 20UNF	TC184542	13	100	40	8	6.2	9	3	9.9
1/2	- 20UNF	TC184582	13	100	40	9	7	10	3	11.5
9/16	- 18UNF	TC184622	15	100	40	11	9	12	3	12.9
5/8	- 18UNF	TC184662	15	100	40	12	9	12	3	14.5
3/4	- 16UNF	TC184722	17	110	44	14	11	14	4	17.5
7/8	- 14UNF	TC184762	17	125	50	18	14.5	17	4	20.5
1	- 12UNF	TC184802	20	140	54	18	14.5	17	4	23.25
1-1/8	- 12UNF	TC184842	22	150	60	22	18	21	4	26.5

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

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	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	30	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



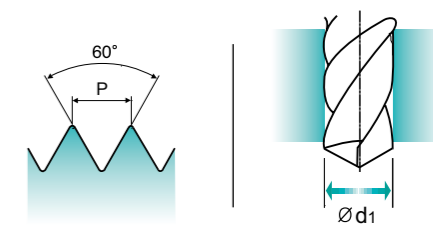
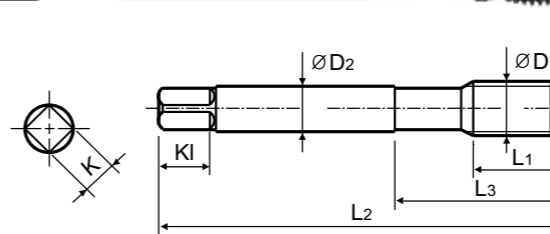
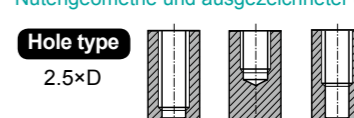
TB913 SERIES

M ISO metric coarse threads DIN 13

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

► With recessed threads for machine tapping of deep blind holes.
► Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

► Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
► Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VG** HSS-E DIN 371/376 6H 60° C Vap R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189 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	KI	Z	Ød1
M2 × 0.4		TB913136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB913156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TB913196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB913176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TB913496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB913206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB913226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TB913246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB913266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB913286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TB913316	10	80	30	6	4.9	8	3	5
M7 × 1		TB913346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TB913366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB913396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TB913426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TB913466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TB913506	18	110	44	9	7	10	3	10.2
M14 × 2		TB913546	20	110	44	11	9	12	3	12
M16 × 2		TB913606	20	110	44	12	9	12	3	14
M18 × 2.5		TB913656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TB913706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TB913746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TB913786	30	160	60	18	14.5	17	4	21
M27 × 3		TB913866	30	160	60	20	16	19	4	24
M30 × 3.5		TB913946	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 Material Description	P										M				K					
	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	30	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



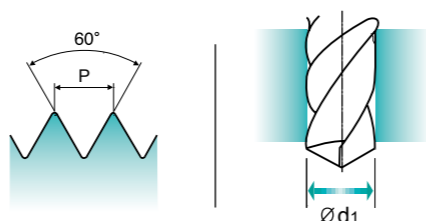
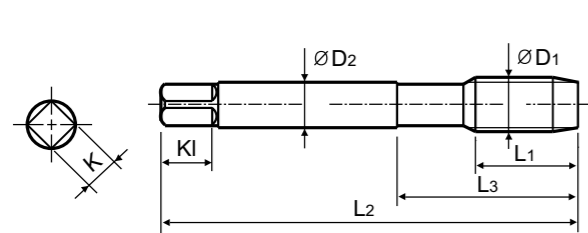
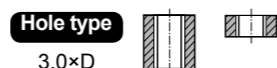
TQ863 SERIES

M ISO metric coarse threads DIN 13

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

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

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



Material groups: **VG** HSS-PM DIN 371/376 6H 60° B Vap

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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		TQ863136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TQ863156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TQ863176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TQ863206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ863226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TQ863246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ863266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ863286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TQ863316	17	80	30	6	4.9	8	3	5
M7 × 1		TQ863346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TQ863366	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TQ863426	22	100	39	10	8	11	3	8.5
M12 × 1.75		TQ863506	24	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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	30	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)	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



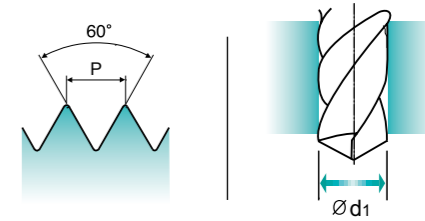
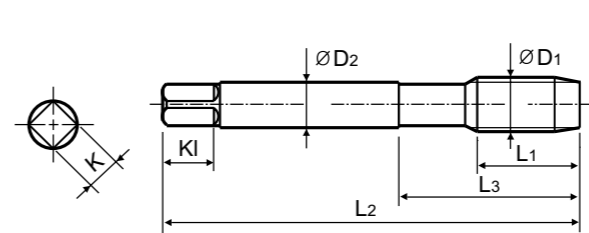
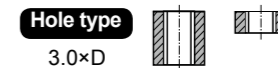
TR863 SERIES

M ISO metric coarse threads DIN 13

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

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

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



Material groups: **VG** HSS-PM DIN 371/376 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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	K1	Z	Ød1
M2 × 0.4		TR863136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TR863156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TR863176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TR863206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TR863226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TR863246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TR863266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TR863286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TR863316	17	80	30	6	4.9	8	3	5
M7 × 1		TR863346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TR863366	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TR863426	22	100	39	10	8	11	3	8.5
M12 × 1.75		TR863506	24	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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	30	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	○	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	◎	○	○

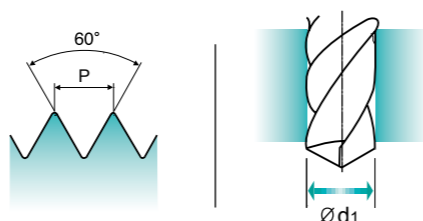
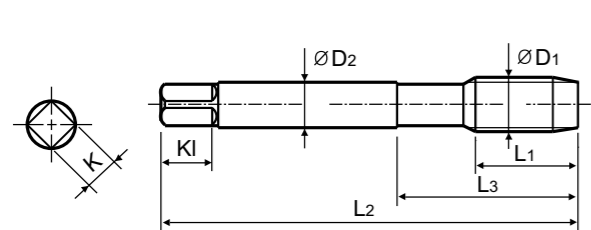
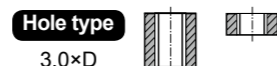
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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



VG HSS-E DIN 371/376 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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	K1	Z	Ød1
M2 × 0.4		TC422136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC422156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC422196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC422176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC422496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC422206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC422226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TC422246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC422266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC422286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TC422316	17	80	30	6	4.9	8	3	5
M7 × 1		TC422346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TC422366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC422396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TC422426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TC422466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC422506	24	110	44	9	7	10	3	10.2
M14 × 2		TC422546	26	110	44	11	9	12	3	12
M16 × 2		TC422606	27	110	44	12	9	12	3	14
M18 × 2.5		TC422656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC422706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TC422746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TC422786	34	160	60	18	14.5	17	4	21
M27 × 3		TC422866	36	160	60	20	16	19	4	24
M30 × 3.5		TC422946	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 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○

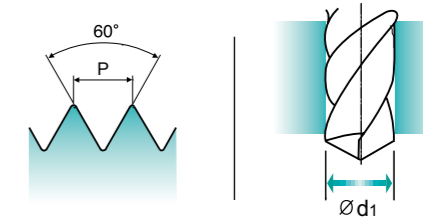
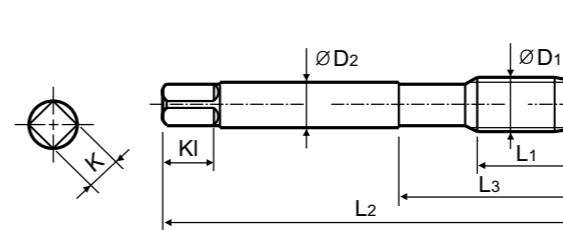
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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



VG HSS-E DIN 371/376 6H 60° B TiN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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	TiN	L1	L2	L3	ØD2	K	K1	Z	Ød1
M2 × 0.4		TD422136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TD422156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TD422196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TD422176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TD422496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TD422206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TD422226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TD422246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TD422266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TD422286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TD422316	17	80	30	6	4.9	8	3	5
M7 × 1		TD422346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TD422366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TD422396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TD422426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TD422466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TD422506	24	110	44	9	7	10	3	10.2
M14 × 2		TD422546	26	110	44	11	9	12	3	12
M16 × 2		TD422606	27	110	44	12	9	12	3	14
M18 × 2.5		TD422656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TD422706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TD422746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TD422786	34	160	60	18	14.5	17	4	21
M27 × 3		TD422866	36	160	60	20	16	19	4	24
M30 × 3.5		TD422946	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 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○

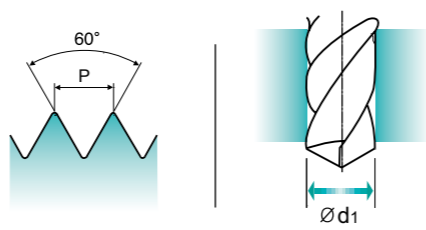
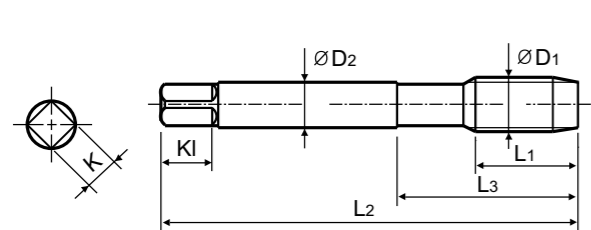
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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

► Recommended for tapping abrasive materials due to nitriding, not suitable for tapping tough or high strength materials.

► Empfohlen für das Gewindeschneiden verschleißfördernder Werkstoffe wegen der Nitrierung; nicht geeignet für das Gewinden zäher oder hochfester Werkstoffe.



VG HSS-E DIN 371/376 6H 60° B NI

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.189

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	Ni	L1	L2	L3	ØD2	K	K1	Z	Ød1
M2 × 0.4		TE422136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TE422156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TE422196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TE422176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TE422496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TE422206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TE422226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TE422246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TE422266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TE422286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TE422316	17	80	30	6	4.9	8	3	5
M7 × 1		TE422346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TE422366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TE422396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TE422426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TE422466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TE422506	24	110	44	9	7	10	3	10.2
M14 × 2		TE422546	26	110	44	11	9	12	3	12
M16 × 2		TE422606	27	110	44	12	9	12	3	14
M18 × 2.5		TE422656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TE422706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TE422746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TE422786	34	160	60	18	14.5	17	4	21
M27 × 3		TE422866	36	160	60	20	16	19	4	24
M30 × 3.5		TE422946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	◎	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○

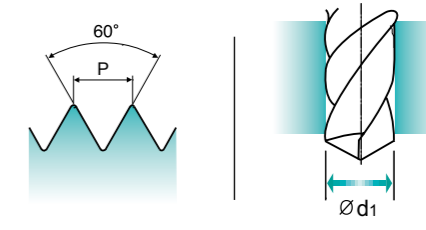
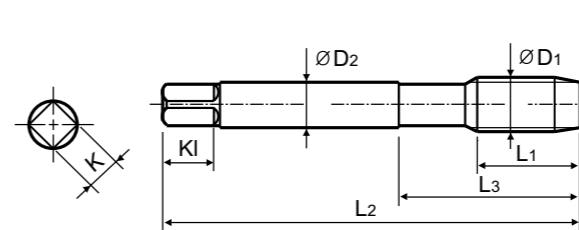
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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



VG HSS-E DIN 371/376 6H 60° B TiAIN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.189

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	TiAIN	L1	L2	L3	ØD2	K	K1	Z	Ød1
M2 × 0.4		TY422136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TY422156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TY422196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TY422176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TY422496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TY422206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TY422226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TY422246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TY422266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TY422286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TY422316	17	80	30	6	4.9	8	3	5
M7 × 1		TY422346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TY422366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TY422396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TY422426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TY422466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TY422506	24	110	44	9	7	10	3	10.2
M14 × 2		TY422546	26	110	44	11	9	12	3	12
M16 × 2		TY422606	27	110	44	12	9	12	3	14
M18 × 2.5		TY422656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TY422706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TY422746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TY422786	34	160	60	18	14.5	17	4	21
M27 × 3		TY422866	36	160	60	20	16	19	4	24
M30 × 3.5		TY422946	40	180	70	22	18	21	4	26.5

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

►* DIN profile not ISO

◎ : Excellent ○ : Good

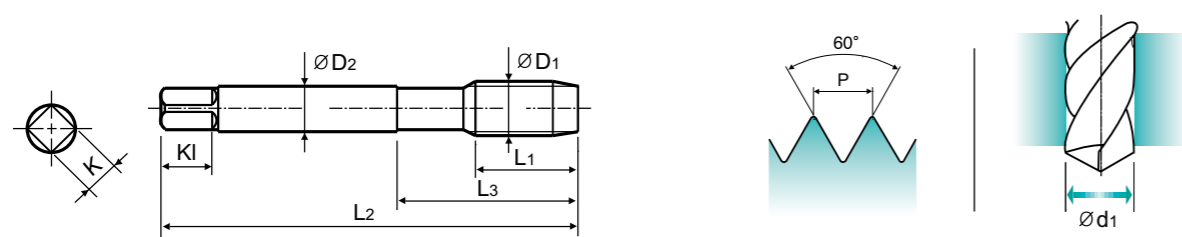
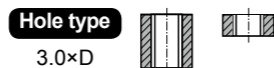
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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.



VG HSS-E DIN 374 6H 60° B Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.189

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
M4 × 0.5		TC263256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TC263296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TC263326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TC263336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TC263356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TC263376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TC263386	14	80	30	6	4.9	8	3	7.2
M10 × 1.25		TC263436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TC263446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TC263456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TC263516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TC263526	22	100	40	9	7	10	3	10.8
M12 × 1		TC263536	18	100	40	9	7	10	3	11
M14 × 1.5		TC263556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TC263566	22	100	40	11	9	12	3	12.8
M16 × 1.5		TC263616	22	100	40	12	9	12	3	14.5
M18 × 1.5		TC263676	25	110	44	14	11	14	4	16.5
M20 × 1.5		TC263726	25	125	50	16	12	15	4	18.5
M22 × 1.5		TC263766	25	125	50	18	14.5	17	4	20.5
M24 × 1.5		TC263806	27	140	54	18	14.5	17	4	22.5

◎ : Excellent ○ : Good

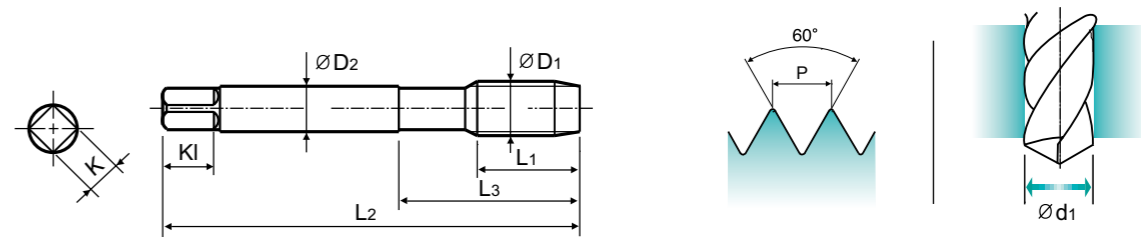
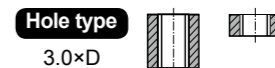
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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.



VG HSS-E DIN 374 6H 60° B TiN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.189

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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M4 × 0.5		TD263256	10	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TD263296	11	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TD263326	13	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TD263336	13	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TD263356	14	80	30	5.5	4.3	7	3	6.2
M8 × 1		TD263376	17	90	36	6	4.9	8	3	7
M8 × 0.75		TD263386	14	80	30	6	4.9	8	3	7.2
M10 × 1.25		TD263436	22	100	40	7	5.5	8	3	8.8
M10 × 1		TD263446	18	90	36	7	5.5	8	3	9
M10 × 0.75		TD263456	18	90	36	7	5.5	8	3	9.2
M12 × 1.5		TD263516	22	100	40	9	7	10	3	10.5
M12 × 1.25		TD263526	22	100	40	9	7	10	3	10.8
M12 × 1		TD263536	18	100	40	9	7	10	3	11
M14 × 1.5		TD263556	22	100	40	11	9	12	3	12.5
M14 × 1.25		TD263566	22	100	40	11	9	12	3	12.8
M16 × 1.5		TD263616	22	100	40	12	9	12	3	14.5
M18 × 1.5		TD263676	25	110	44	14	11	14	4	16.5
M20 × 1.5		TD263726	25	125	50	16	12	15	4	18.5
M22 × 1.5		TD263766	25	125	50	18	14.5	17	4	20.5
M24 × 1.5		TD263806	27	140	54	18	14.5	17	4	22.5

◎ : 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	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	30	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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



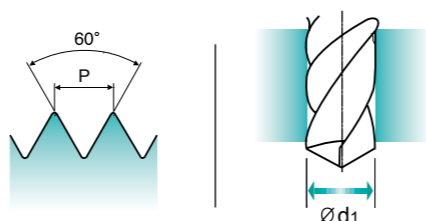
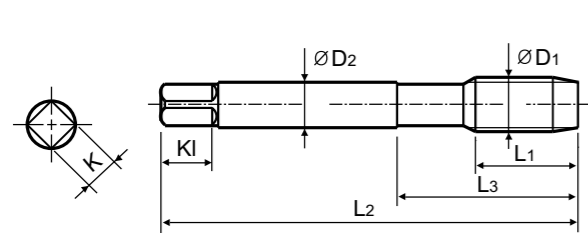
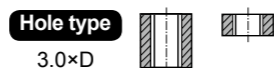
TC244 SERIES

UNC Unified coarse threads

● Unified Grobgewinde
○ UNC
○ Unificato passo grosso

► 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: **VG** HSS-E DIN 371/376 2B 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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		Bright	L1	L2	L3	ØD2	K	K1	Z	Ød1
#4	- 40UNC	TC244162	11	56	18	3.5	2.7	6	3	2.3
#5	- 40UNC	TC244202	11	56	18	3.5	2.7	6	3	2.6
#6	- 32UNC	TC244242	12	56	20	4	3	6	3	2.85
#8	- 32UNC	TC244282	13	63	21	4.5	3.4	6	3	3.5
#10	- 24UNC	TC244322	15	70	25	6	4.9	8	3	3.9
#12	- 24UNC	TC244362	16	80	30	6	4.9	8	3	4.5
1/4	- 20UNC	TC244402	17	80	30	7	5.5	8	3	5.2
5/16	- 18UNC	TC244442	20	90	35	8	6.2	9	3	6.6
3/8	- 16UNC	TC244482	22	100	39	9	7	10	3	8
7/16	- 14UNC	TC244522	22	100	40	8	6.2	9	3	9.4
1/2	- 13UNC	TC244562	25	110	44	9	7	10	3	10.75
9/16	- 12UNC	TC244602	26	110	44	11	9	12	3	12.25
5/8	- 11UNC	TC244642	27	110	44	12	9	12	3	13.5
3/4	- 10UNC	TC244702	30	125	50	14	11	14	4	16.5
7/8	- 9UNC	TC244742	32	140	54	18	14.5	17	4	19.5
1	- 8UNC	TC244782	36	160	60	20	16	19	4	22.25
1-1/8	- 7UNC	TC244822	40	180	70	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : 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		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	30	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
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											○						○					



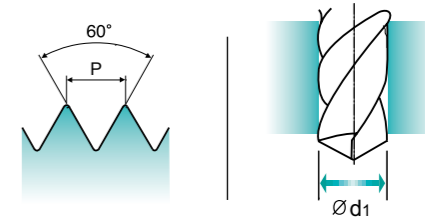
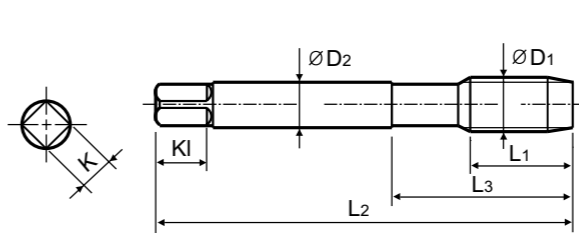
TD244 SERIES

UNC Unified coarse threads

● Unified Grobgewinde
○ UNC
○ Unificato passo grosso

► 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: **VG** HSS-E DIN 371/376 2B 60° B TiN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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		TiN	L1	L2	L3	ØD2	K	K1	Z	Ød1
#4	- 40UNC	TD244162	11	56	18	3.5	2.7	6	3	2.3
#5	- 40UNC	TD244202	11	56	18	3.5	2.7	6	3	2.6
#6	- 32UNC	TD244242	12	56	20	4	3	6	3	2.85
#8	- 32UNC	TD244282	13	63	21	4.5	3.4	6	3	3.5
#10	- 24UNC	TD244322	15	70	25	6	4.9	8	3	3.9
#12	- 24UNC	TD244362	16	80	30	6	4.9	8	3	4.5
1/4	- 20UNC	TD244402	17	80	30	7	5.5	8	3	5.2
5/16	- 18UNC	TD244442	20	90	35	8	6.2	9	3	6.6
3/8	- 16UNC	TD244482	22	100	39	9	7	10	3	8
7/16	- 14UNC	TD244522	22	100	40	8	6.2	9	3	9.4
1/2	- 13UNC	TD244562	25	110	44	9	7	10	3	10.75
9/16	- 12UNC	TD244602	26	110	44	11	9	12	3	12.25
5/8	- 11UNC	TD244642	27	110	44	12	9	12	3	13.5
3/4	- 10UNC	TD244702	30	125	50	14	11	14	4	16.5
7/8	- 9UNC	TD244742	32	140	54	18	14.5	17	4	19.5
1	- 8UNC	TD244782	36	160	60	20	16	19	4	22.25
1-1/8	- 7UNC	TD244822	40	180	70	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : Excellent ○ : Good

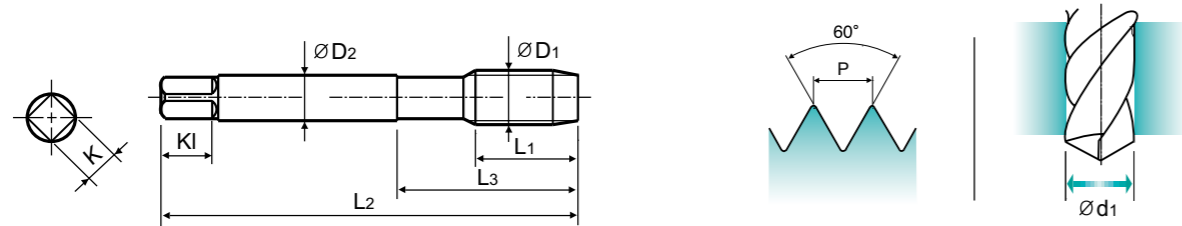
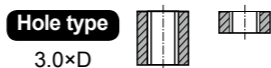
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	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
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											○						○					

UNF Unified fine threads
 Unified Feingewinde
 UNF
 Unificato passo fine

► 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: **VG** HSS-E DIN 371/374 2B 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.189

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 48UNF	TC254182	11	56	18	3.5	2.7	6	3	2.4
#5	- 44UNF	TC254222	11	56	18	3.5	2.7	6	3	2.7
#6	- 40UNF	TC254262	12	56	20	4	3	6	3	3
#8	- 36UNF	TC254302	13	63	21	4.5	3.4	6	3	3.5
#10	- 32UNF	TC254342	15	70	25	6	4.9	8	3	4.1
#12	- 28UNF	TC254382	16	80	30	6	4.9	8	3	4.7
1/4	- 28UNF	TC254422	17	80	30	7	5.5	8	3	5.5
5/16	- 24UNF	TC254462	17	90	35	8	6.2	9	3	6.9
3/8	- 24UNF	TC254502	18	100	39	9	7	10	3	8.5
7/16	- 20UNF	TC254542	22	100	40	8	6.2	9	3	9.9
1/2	- 20UNF	TC254582	22	100	40	9	7	10	3	11.5
9/16	- 18UNF	TC254622	22	100	40	11	9	12	3	12.9
5/8	- 18UNF	TC254662	22	100	40	12	9	12	3	14.5
3/4	- 16UNF	TC254722	25	110	44	14	11	14	4	17.5
7/8	- 14UNF	TC254762	26	125	50	18	14.5	17	4	20.5
1	- 12UNF	TC254802	28	140	54	18	14.5	17	4	23.25
1-1/8	- 12UNF	TC254842	30	150	60	22	18	21	4	26.5

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

◎ : 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	30	29	32	38	35	35	15	23	10	10	26	3	25	21	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	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

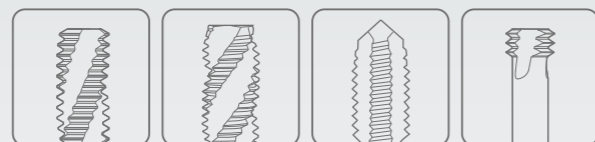
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)																		
					TQ823	TR823	TC312 TC413 TC174 TC184	TD312 TD413 TD174	TB312	TY312	TB913	TQ863	TR863	TC422 TC263 TC244 TC254	TD422 TD263 TD244	TE422	TY422						
P	1	Non-alloy steel	125																				
	2		190	13	15-20	15-20	15-20	20-25	15-20	20-25	15-20	15-20	15-20	15-20	15-20	20-25	20-25						
	3		250	25	12-18	12-18	12-18	18-24	12-18	18-24	12-18	12-18	12-18	12-18	12-18	18-24	18-24						
	4		270	28	10-15	10-15	10-15	15-20	10-15	15-20	10-15	10-15	10-15	10-15	10-15	15-20	15-20						
	5	300	32	6-10	6-10	6-10	10-14	6-10	10-14	6-10	6-10	6-10	6-10	6-10	10-14	10-14							
	6	Low alloy steel	180	10	10-15	10-15	10-15	15-20	10-15	15-20	10-15	10-15	10-15	10-15	10-15	15-20	15-20						
	7		275	29	10-15	10-15	10-15	15-20	10-15	15-20	10-15	10-15	10-15	10-15	10-15	15-20	15-20						
	8		300	32	6-10	6-10	6-10	10-14	6-10	10-14	6-10	6-10	6-10	6-10	6-10	10-14	10-14						
	9		350	38	3-5	3-5	3-5	5-7	3-5	5-7	3-5	3-5	3-5	3-5	3-5	5-7	5-7						
	10		High alloyed steel, and tool steel	200	15	3-5	3-5	3-5	5-7	3-5	5-7	3-5	3-5	3-5	3-5	3-5	5-7	5-7					
	11	325		35																			
M	12	Stainless steel	200	15																			
	13		240	23																			
	14		180	10	4-6	4-6	4-6	6-8	4-6	6-8	4-6	4-6	4-6	4-6	4-6	6-8	6-8						
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		110																				
	27	Copper and Copper Alloys (Bronze / Brass)	90																				
	28		100																				
	29		Non Metallic Materials																				
	30																						
S	31	Heat Resistant Super Alloys	200	15	10-15	10-15	10-15	15-20	10-15	15-20	10-15	10-15	10-15	10-15	10-15	15-20	15-20						
	32		280	30																			
	33		250	25																			
	34		350	38																			
	35		320	34																			
	36		Titanium Alloys	400Rm		10-15	10-15	10-15	15-20	10-15	15-20	10-15	10-15	10-15	10-15	10-15	15-20	15-20					
	37			1050Rm																			
H	38	Hardened steel	550	55																			
	39		630	60																			
	40	Hardened Cast Iron	400	42																			
	41		550	55																			



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



SOLID CARBIDE & HSS-E

THREADING

YG TAP HARDENED
YG HAHN GEHÄRTET

- For Hardened Steels Applications to Control the Continuous and Red-glowing Chips
- Für gehärtete Stähle zur Kontrolle der kontinuierlichen und rotglühenden Späne








SOLID CARBIDE & HSS-E YG TAP HARDENED

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

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
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	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
	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		Pearlitic	230	21
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23		≤ 12% Si, Not Curable	75	
	24	Aluminum-cast, alloyed	≤ 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)	110
	27	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100	
	28		Duroplastic, Fiber Reinforced Plastic		
	29		Rubber, Wood, etc.		
	S	31	Heat Resistant Super Alloys	Fe Based Annealed	200
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		Cast	400	42
	41		Hardened Cast Iron	Hardened	550

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	-	-		
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	TiCN	
MODEL				

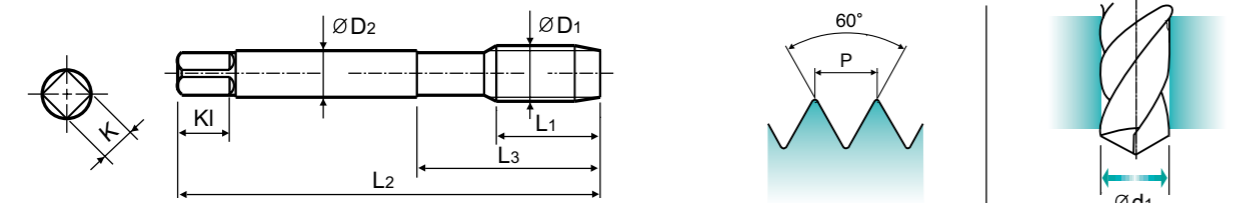
HOLE TYPE		Max. 2.5xD Blind Hole		Max. 3.0xD Through Hole		
TOOL MATERIAL		HSS-E		HSS-E		
CHAMFER LEAD ACC. TO DIN2197	C	C	C	B	B	
FLUTE TYPE	Spiral Flute	Spiral Flute	Spiral Flute	Spiral Point	Spiral Point	
SPIRAL FLUTE ANGLE	-	-	-	-	-	
M	DIN371/376	R40 TC313 (P.196)	R40 TB313 (P.197)	R40 TY313 (P.198)	B TC283 (P.199)	
	DIN352				B TY283 (P.200)	
	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		Bright	VAP	TiAIN	Bright	
MODEL						

M ISO metric coarse threads DIN 13

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

▶ Carbide tap can increase tool life longer than HSS taps due to higher hardness. Suitable for hardened steels (HRc50~60)

▶ VHM-Gewindebohrer ermöglichen aufgrund ihrer höheren Härte bessere Standzeiten als HSS-Gewindebohrer. Geeignet für gehärtete Stähle (HRc50~60)



Material groups: **HR** CARBIDE DIN 371/376 6HX 60° C TICN

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	TiCN	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M3 × 0.5		T0997206TIC	11	56	18	3.5	2.7	6	4	2.55
M4 × 0.7		T0997246TIC	13	63	21	4.5	3.4	6	4	3.4
M5 × 0.8		T0997286TIC	15	70	25	6	4.9	8	4	4.3
M6 × 1		T0997316TIC	17	80	30	6	4.9	8	5	5.1
M8 × 1.25		T0997366TIC	20	90	35	8	6.2	9	5	6.9
M10 × 1.5		T0997426TIC	22	100	39	10	8	11	5	8.6
M12 × 1.75		T0997506TIC	24	110	-	9	7	12	5	10.4
M14 × 2		T0997546TIC	26	110	-	11	9	12	6	12.2
M16 × 2		T0997606TIC	27	110	-	12	9	12	6	14.2
M18 × 2.5		T0997656TIC	30	125	-	14	11	14	6	15.7
M20 × 2.5		T0997706TIC	32	140	-	16	12	15	6	17.7

▶DIN 371(M3~M10) and DIN 376(M12~M20)

◎ : 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		
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	38	10	29	32	38	45	15	35	15	23	10	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230	
Recommended																				

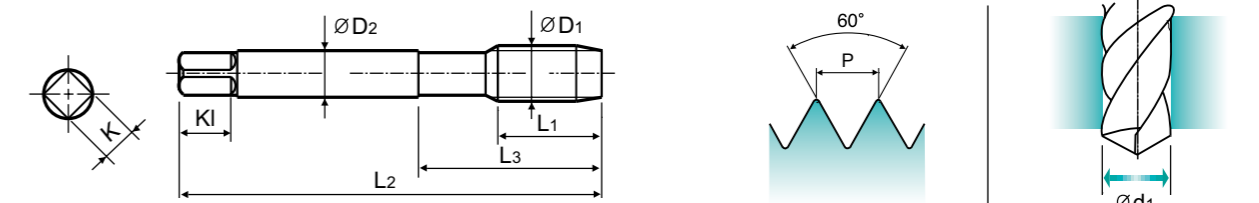
ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

▶ Carbide tap can increase tool life longer than HSS taps due to higher hardness. Suitable for hardened steels (HRc50~60)

▶ VHM-Gewindebohrer ermöglichen aufgrund ihrer höheren Härte bessere Standzeiten als HSS-Gewindebohrer. Geeignet für gehärtete Stähle (HRc50~60)



Material groups: **HR** CARBIDE DIN 371/376 6HX 60° D TICN

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	TiCN	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M3 × 0.5		T0999206TIC	11	56	18	3.5	2.7	6	4	2.55
M4 × 0.7		T0999246TIC	13	63	21	4.5	3.4	6	4	3.4
M5 × 0.8		T0999286TIC	15	70	25	6	4.9	8	4	4.3
M6 × 1		T0999316TIC	17	80	30	6	4.9	8	5	5.1
M8 × 1.25		T0999366TIC	20	90	35	8	6.2	9	5	6.9
M10 × 1.5		T0999426TIC	22	100	39	10	8	11	5	8.6
M12 × 1.75		T0999506TIC	24	110	-	9	7	12	5	10.4
M14 × 2		T0999546TIC	26	110	-	11	9	12	6	12.2
M16 × 2		T0999606TIC	27	110	-	12	9	12	6	14.2
M18 × 2.5		T0999656TIC	30	125	-	14	11	14	6	15.7
M20 × 2.5		T0999706TIC	32	140	-	16	12	15	6	17.7

▶DIN 371(M3~M10) and DIN 376(M12~M20)

◎ : 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		
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	38	10	29	32	38	45	15	35	15	23	10	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230	
Recommended																				

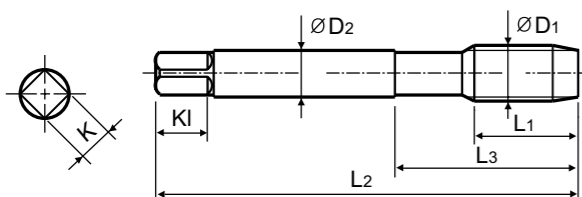
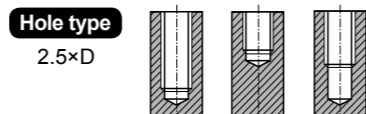
ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

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 Bright 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	Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TC313136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC313156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC313196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC313176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC313496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC313206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC313226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TC313246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC313266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC313286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TC313316	10	80	30	6	4.9	8	3	5
M7 × 1		TC313346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TC313366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC313396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TC313426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TC313466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC313506	18	110	44	9	7	10	3	10.2
M14 × 2		TC313546	20	110	44	11	9	12	3	12
M16 × 2		TC313606	20	110	44	12	9	12	3	14
M18 × 2.5		TC313656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TC313706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TC313746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TC313786	30	160	60	18	14.5	17	4	21
M27 × 3		TC313866	30	160	60	20	16	19	4	24
M30 × 3.5		TC313946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended							○	○	◎					○						

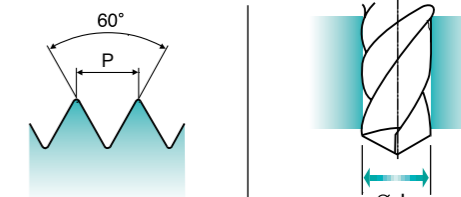
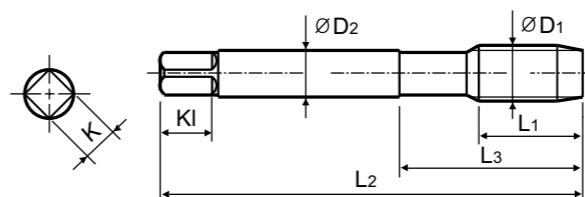
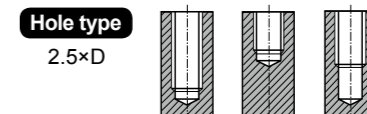
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						○															

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	KI	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended							○	○	◎					○						

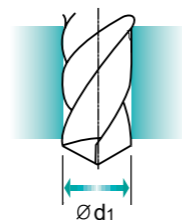
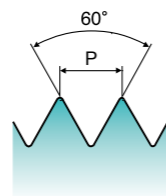
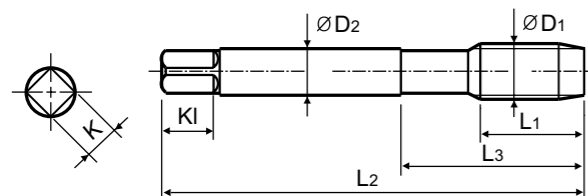
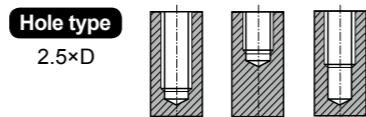
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						○															

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.



HR HSS-E DIN 371/376 6H 60° C TiAlN 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	TiAlN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TY313136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TY313156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TY313196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TY313176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TY313496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TY313206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TY313226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TY313246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TY313266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TY313286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TY313316	10	80	30	6	4.9	8	3	5
M7 × 1		TY313346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TY313366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TY313396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TY313426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TY313466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TY313506	18	110	44	9	7	10	3	10.2
M14 × 2		TY313546	20	110	44	11	9	12	3	12
M16 × 2		TY313606	20	110	44	12	9	12	3	14
M18 × 2.5		TY313656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TY313706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TY313746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TY313786	30	160	60	18	14.5	17	4	21
M27 × 3		TY313866	30	160	60	20	16	19	4	24
M30 × 3.5		TY313946	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 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		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	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	325	200	240	180	180	180	260	160	250	130	230
Recommended						○	○		◎					○						

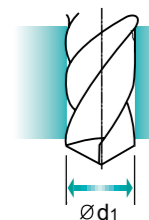
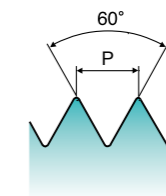
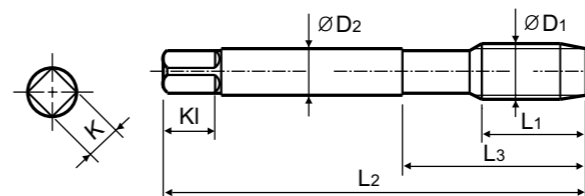
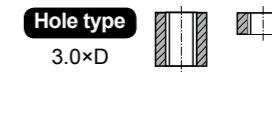
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						○															

M ISO metric coarse threads DIN 13

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



HR HSS-E DIN 371/376 6H 60° B Bright 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	Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TC283136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC283156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC283196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC283176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC283496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC283206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC283226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TC283246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC283266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC283286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TC283316	17	80	30	6	4.9	8	3	5
M7 × 1		TC283346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TC283366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC283396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TC283426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TC283466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC283506	24	110	44	9	7	10	3	10.2
M14 × 2		TC283546	26	110	44	11	9	12	3	12
M16 × 2		TC283606	27	110	44	12	9	12	3	14
M18 × 2.5		TC283656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC283706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TC283746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TC283786	34	160	60	18	14.5	17	4	21
M27 × 3		TC283866	36	160	60	20	16	19	4	24
M30 × 3.5		TC283946	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 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		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	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	325	200	240	180	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						○															



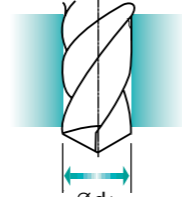
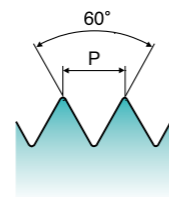
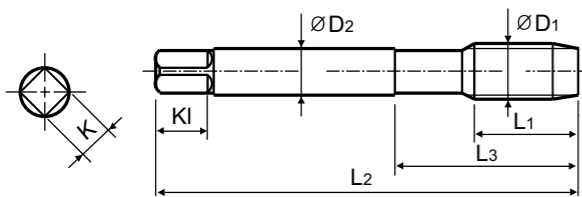
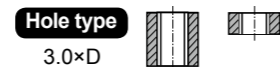
TY283 SERIES

M ISO metric coarse threads DIN 13

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

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	TiAlN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TY283136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TY283156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TY283196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TY283176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TY283496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TY283206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TY283226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TY283246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TY283266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TY283286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TY283316	17	80	30	6	4.9	8	3	5
M7 × 1		TY283346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TY283366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TY283396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TY283426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TY283466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TY283506	24	110	44	9	7	10	3	10.2
M14 × 2		TY283546	26	110	44	11	9	12	3	12
M16 × 2		TY283606	27	110	44	12	9	12	3	14
M18 × 2.5		TY283656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TY283706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TY283746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TY283786	34	160	60	18	14.5	17	4	21
M27 × 3		TY283866	36	160	60	20	16	19	4	24
M30 × 3.5		TY283946	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					
	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	30	29	32	38	35	35	15	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	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
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	15	25	25	38	38	38	38	38	38	38	38	38	38	38	55	60	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

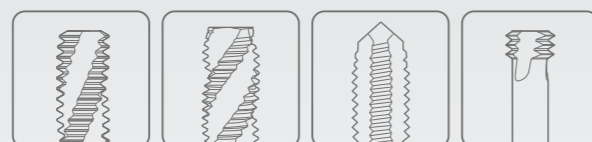
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)			
					T0997-TIC	T0999-TIC	TC313 TB313 TY313	TC283 TY283
P	1	Non-alloy steel	125					
	2		190	13				
	3		250	25				
	4		270	28				
	5		300	32				
	6	180	10					
	7	Low alloy steel	275	29			10-15	10-15
	8		300	32			6-10	6-10
	9		350	38	5-8	5-8	3-5	3-5
	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	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		



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



THREADING



HSS-E & HSS-PM

YG TAP INOX

YG TAP INOX

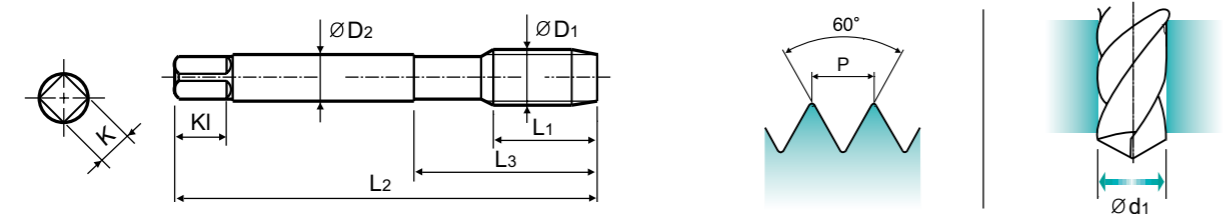
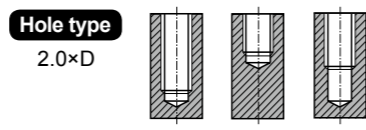
- For Stainless Steels with Lamellar, Irregular Chip Formation where the Cutting Forces are Higher
- Für nichtrostende Stähle mit lamellarer, unregelmäßiger Spänebildung, bei denen die Schnittkräfte größer sind.

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: **NW** HSS-E DIN 371/376 6H 60° C Vap R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TB711136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB711156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TB711196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB711176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TB711496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB711206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB711226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TB711246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB711266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB711286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TB711316	10	80	30	6	4.9	8	3	5
M7 × 1		TB711346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TB711366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB711396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TB711426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TB711466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TB711506	18	110	44	9	7	10	3	10.2
M14 × 2		TB711546	20	110	44	11	9	12	3	12
M16 × 2		TB711606	20	110	44	12	9	12	3	14
M18 × 2.5		TB711656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TB711706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TB711746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TB711786	30	160	60	18	14.5	17	4	21
M27 × 3		TB711866	30	160	60	20	16	19	4	24
M30 × 3.5		TB711946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	180	260	160	250	130	230
Recommended	◎	◎								○	○	○								

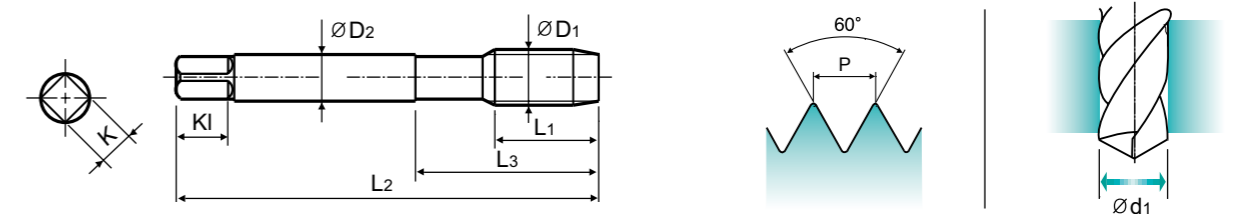
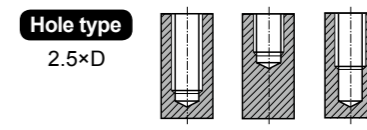
ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○																				

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: **VA** HSS-PM DIN 371/376 6H 60° C Vap R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TQ813136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TQ813156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TQ813176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TQ813206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ813226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TQ813246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ813266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ813286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TQ813316	10	80	30	6	4.9	8	3	5
M7 × 1		TQ813346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TQ813366	13	90	35	8	6.2	9	3	6.8
M10 × 1.5		TQ813426	15	100	39	10	8	11	3	8.5
M12 × 1.75		TQ813506	18	110	44	9	7	10	3	10.2

► DIN 371(M2~M10) and DIN 376(M12)

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	180	260	160	250	130	230
Recommended	○	◎	○	○						○		◎	◎							

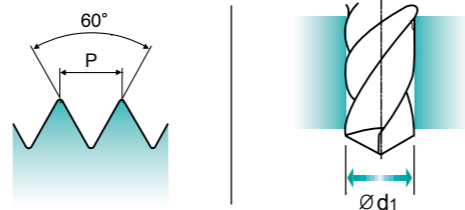
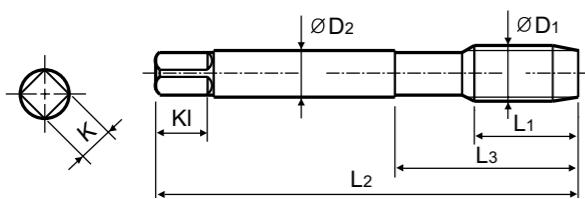
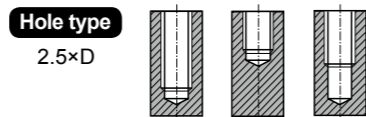
ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○																				

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: **VA** HSS-PM DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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
M2 × 0.4		TR813136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TR813156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TR813176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TR813206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TR813226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TR813246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TR813266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TR813286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TR813316	10	80	30	6	4.9	8	3	5
M7 × 1		TR813346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TR813366	13	90	35	8	6.2	9	3	6.8
M10 × 1.5		TR813426	15	100	39	10	8	11	3	8.5
M12 × 1.75		TR813506	18	110	44	9	7	10	3	10.2

► DIN 371(M2~M10) and DIN 376(M12)

◎ : 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		
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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

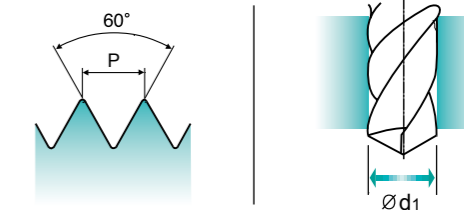
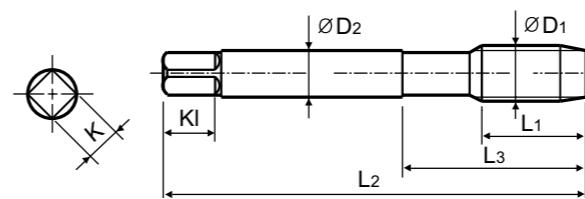
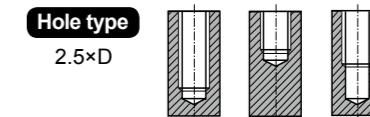
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

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

► With recessed threads for machine tapping of deep blind holes.
► Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

► Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
► Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VA NW** HSS-E DIN 371/376 6H 60° C Vap TiCN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	TiCN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TB914136	TI914136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB914156	TI914156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TB914196	TI914196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB914176	TI914176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TB914496	TI914496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB914206	TI914206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB914226	TI914226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TB914246	TI914246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB914266	TI914266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB914286	TI914286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TB914316	TI914316	10	80	30	6	4.9	8	3	5
M7 × 1		TB914346	TI914346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TB914366	TI914366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB914396	TI914396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TB914426	TI914426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TB914466	TI914466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TB914506	TI914506	18	110	44	9	7	10	3	10.2
M12 × 1.75		TB914506F4	TI914506F4	18	110	44	9	7	10	4	10.2
M14 × 2		TB914546	TI914546	20	110	44	11	9	12	3	12
M14 × 2		TB914546F4	TI914546F4	20	110	44	11	9	12	4	12
M16 × 2		TB914606	TI914606	20	110	44	12	9	12	3	14
M16 × 2		TB914606F4	TI914606F4	20	110	44	12	9	12	4	14
M18 × 2.5		TB914656	TI914656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TB914706	TI914706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TB914746	TI914746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TB914786	TI914786	30	160	60	18	14.5	17	4	21
M27 × 3		TB914866	TI914866	30	160	60	20	16	19	4	24
M30 × 3.5		TB914946	TI914946	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					
	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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						
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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



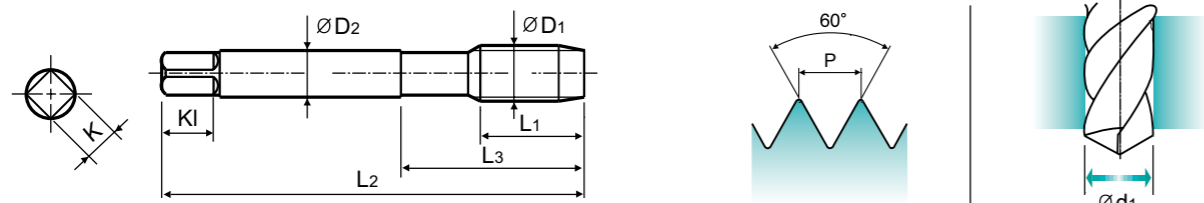
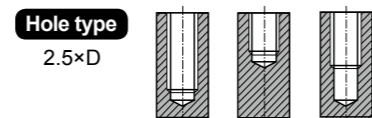
TBE15 SERIES

M ISO metric coarse threads DIN 13

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

▶ With recessed threads for machine tapping of deep blind holes.
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

▶ Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VA** **NW** **HSS-E** **DIN 371/376** **4H** **60°** **C** **Vap** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TBE15136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TBE15156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TBE15196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TBE15176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TBE15496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TBE15206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TBE15226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TBE15246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TBE15266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TBE15286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TBE15316	10	80	30	6	4.9	8	3	5
M7 × 1		TBE15346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TBE15366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TBE15396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TBE15426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TBE15466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TBE15506	18	110	44	9	7	10	3	10.2
M14 × 2		TBE15546	20	110	44	11	9	12	3	12
M16 × 2		TBE15606	20	110	44	12	9	12	3	14
M18 × 2.5		TBE15656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TBE15706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TBE15746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TBE15786	30	160	60	18	14.5	17	4	21
M27 × 3		TBE15866	30	160	60	20	16	19	4	24
M30 × 3.5		TBE15946	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 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	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	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



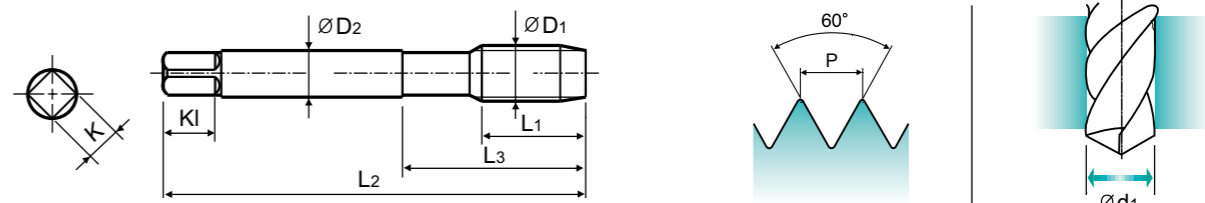
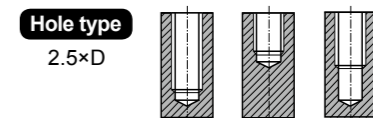
TBE16 SERIES

M ISO metric coarse threads DIN 13

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

▶ With recessed threads for machine tapping of deep blind holes.
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

▶ Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VA** **NW** **HSS-E** **DIN 371/376** **6H+0.1** **60°** **C** **Vap** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TBE16136	8	45	13	2.8	2.1	5	3	1.7
M2.2 × 0.45		TBE16156	8	45	13	2.8	2.1	5	3	1.85
*M2.3 × 0.4		TBE16196	8	45	13	2.8	2.1	5	3	2
M2.5 × 0.45		TBE16176	9	50	15	2.8	2.1	5	3	2.15
*M2.6 × 0.45		TBE16496	9	50	15	2.8	2.1	5	3	2.2
M3 × 0.5		TBE16206	6	56	18	3.5	2.7	6	3	2.6
M3.5 × 0.6		TBE16226	7	56	20	4	3	6	3	3
M4 × 0.7		TBE16246	7	63	21	4.5	3.4	6	3	3.4
M4.5 × 0.75		TBE16266	8	70	25	6	4.9	8	3	3.8
M5 × 0.8		TBE16286	8	70	25	6	4.9	8	3	4.3
M6 × 1		TBE16316	10	80	30	6	4.9	8	3	5.1
M7 × 1		TBE16346	10	80	30	7	5.5	8	3	6.1
M8 × 1.25		TBE16366	13	90	35	8	6.2	9	3	6.9
M9 × 1.25		TBE16396	13	90	35	9	7	10	3	7.9
M10 × 1.5		TBE16426	15	100	39	10	8	11	3	8.6
M11 × 1.5		TBE16466	17	100	40	8	6.2	9	3	9.6
M12 × 1.75		TBE16506	18	110	44	9	7	10	3	10.3
M14 × 2		TBE16546	20	110	44	11	9	12	3	12.1
M16 × 2		TBE16606	20	110	44	12	9	12	3	14.1
M18 × 2.5		TBE16656	25	125	50	14	11	14	4	15.6
M20 × 2.5		TBE16706	25	140	54	16	12	15	4	17.6
M22 × 2.5		TBE16746	25	140	54	18	14.5	17	4	19.6
M24 × 3		TBE16786	30	160	60	18	14.5	17	4	21.1
M27 × 3		TBE16866	30	160	60	20	16	19	4	24.1
M30 × 3.5		TBE16946	35	180	70	22	18	21	4	26.6

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	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	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



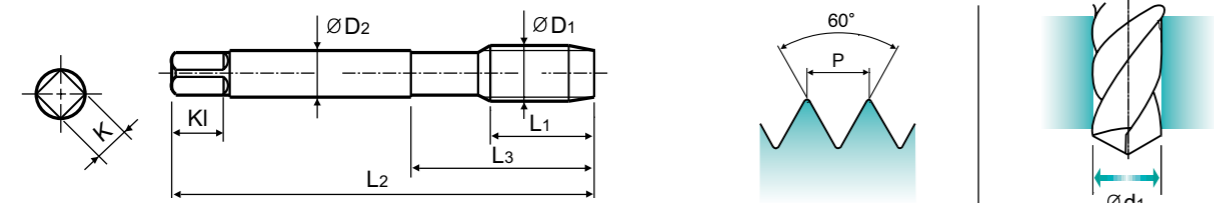
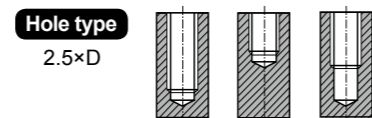
TBE17 SERIES

M ISO metric coarse threads DIN 13

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

▶ With recessed threads for machine tapping of deep blind holes.
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

▶ Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VA** **NW** **HSS-E** **DIN 371/376** **6G** **60°** **C** **Vap** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TBE17136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TBE17156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TBE17196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TBE17176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TBE17496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TBE17206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TBE17226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TBE17246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TBE17266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TBE17286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TBE17316	10	80	30	6	4.9	8	3	5
M7 × 1		TBE17346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TBE17366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TBE17396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TBE17426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TBE17466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TBE17506	18	110	44	9	7	10	3	10.2
M14 × 2		TBE17546	20	110	44	11	9	12	3	12
M16 × 2		TBE17606	20	110	44	12	9	12	3	14
M18 × 2.5		TBE17656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TBE17706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TBE17746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TBE17786	30	160	60	18	14.5	17	4	21
M27 × 3		TBE17866	30	160	60	20	16	19	4	24
M30 × 3.5		TBE17946	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 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		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	30	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						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											○										



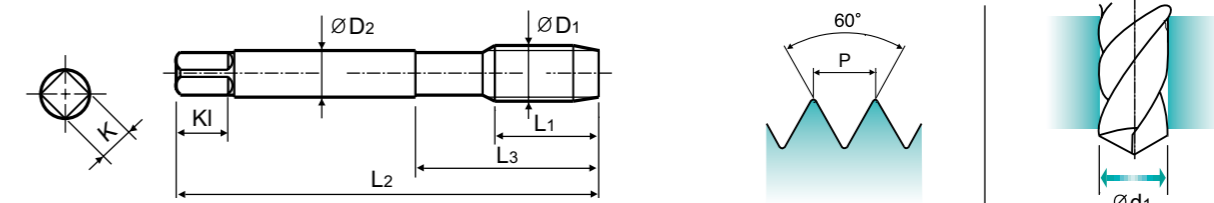
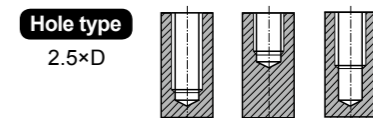
TBE18 SERIES

M ISO metric coarse threads DIN 13

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

▶ With recessed threads for machine tapping of deep blind holes.
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

▶ Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VA** **NW** **HSS-E** **DIN 371/376** **7G** **60°** **C** **Vap** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TBE18136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TBE18156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TBE18196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TBE18176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TBE18496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TBE18206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TBE18226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TBE18246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TBE18266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TBE18286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TBE18316	10	80	30	6	4.9	8	3	5
M7 × 1		TBE18346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TBE18366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TBE18396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TBE18426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TBE18466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TBE18506	18	110	44	9	7	10	3	10.2
M14 × 2		TBE18546	20	110	44	11	9	12	3	12
M16 × 2		TBE18606	20	110	44	12	9	12	3	14
M18 × 2.5		TBE18656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TBE18706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TBE18746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TBE18786	30	160	60	18	14.5	17	4	21
M27 × 3		TBE18866	30	160	60	20	16	19	4	24
M30 × 3.5		TBE18946	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 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		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	30	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	◎	◎	○	○	○	○				◎	◎	◎	◎							

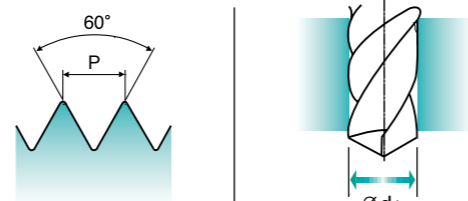
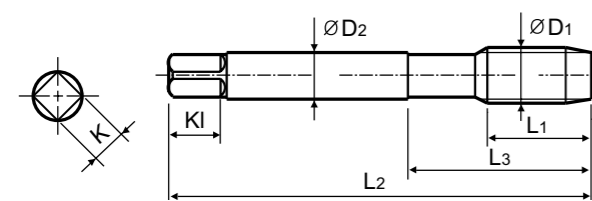
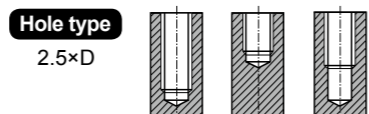
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						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											○										

M ISO metric coarse threads DIN 13

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

▶ With recessed threads for machine tapping of deep blind holes.
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

▶ Mit abgesetztem Gewinde zum Schneiden von tiefen Sacklochgewinden.
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: **VA** **NW** **HSS-E** **DIN 371/376** **6H** **60°** **C** **Hardslick** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	Hardslick	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TCH14136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TCH14156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TCH14196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TCH14176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TCH14496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TCH14206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TCH14226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TCH14246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TCH14266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TCH14286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TCH14316	10	80	30	6	4.9	8	3	5
M7 × 1		TCH14346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TCH14366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TCH14396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TCH14426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TCH14466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TCH14506	18	110	44	9	7	10	3	10.2
M14 × 2		TCH14546	20	110	44	11	9	12	3	12
M16 × 2		TCH14606	20	110	44	12	9	12	3	14
M18 × 2.5		TCH14656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TCH14706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TCH14746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TCH14786	30	160	60	18	14.5	17	4	21
M27 × 3		TCH14866	30	160	60	20	16	19	4	24
M30 × 3.5		TCH14946	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					
	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	30	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	◎	◎	○	○	○	○				◎	◎	◎	◎							

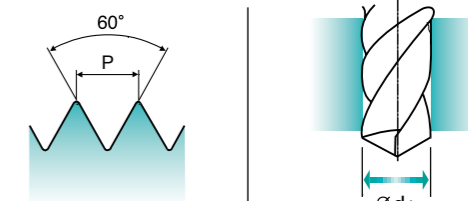
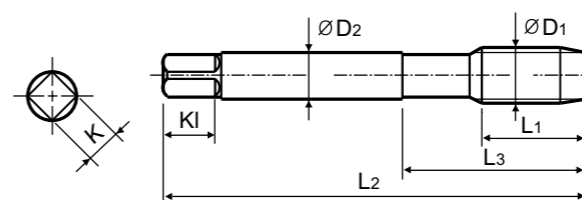
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

▶ Suitable for through hole in more cutting speed than other taps due to thick web and the best substrate.

▶ Geeignet für Durchgangslöcher in höherer Schnittgeschwindigkeit als bei anderen Gewindebohrern dank größerer Kerndicke und bestem Werkstoff.



Material groups: **VA** **HSS-PM** **DIN 371/376** **6H** **60°** **B** **Vap** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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	KI	Z	Ød1
M2 × 0.4		TQ853136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TQ853156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TQ853176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TQ853206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ853226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TQ853246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ853266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ853286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TQ853316	17	80	30	6	4.9	8	3	5
M7 × 1		TQ853346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TQ853366	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TQ853426	22	100	39	10	8	11	3	8.5
M12 × 1.75		TQ853506	24	110	44	9	7	10	3	10.2

▶ DIN 371(M2~M10) and DIN 376(M12)

◎ : 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	30	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



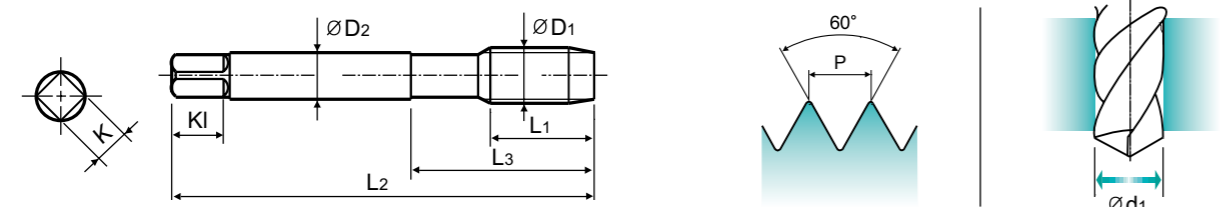
TR853 SERIES

M ISO metric coarse threads DIN 13

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

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

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



Material groups: **VA** HSS-PM DIN 371/376 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225

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	Kl	Z	Ød1
M2 × 0.4		TR853136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TR853156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TR853176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TR853206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TR853226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TR853246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TR853266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TR853286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TR853316	17	80	30	6	4.9	8	3	5
M7 × 1		TR853346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TR853366	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TR853426	22	100	39	10	8	11	3	8.5
M12 × 1.75		TR853506	24	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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
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						200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



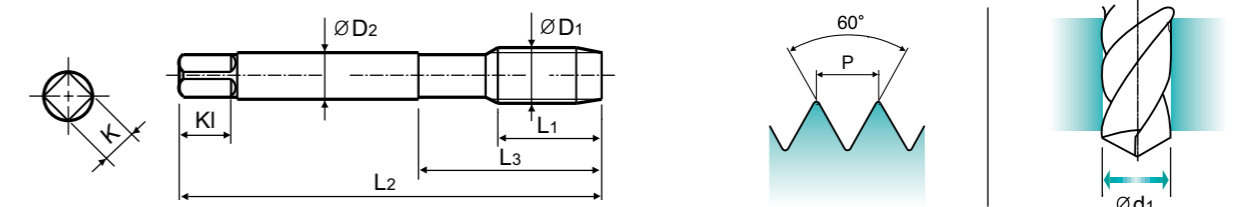
TB623 SERIES

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso 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: **VA NW** HSS-E DIN 371/376 6HX 60° B Vap

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225

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	Kl	Z	Ød1
M2 × 0.4		TB623136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TB623156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TB623196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TB623176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TB623496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TB623206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TB623226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TB623246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TB623266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TB623286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TB623316	17	80	30	6	4.9	8	3	5
M7 × 1		TB623346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TB623366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TB623396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TB623426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TB623466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TB623506	24	110	44	9	7	10	4	10.2
M14 × 2		TB623546	26	110	44	11	9	12	4	12
M16 × 2		TB623606	27	110	44	12	9	12	4	14
M18 × 2.5		TB623656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TB623706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TB623746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TB623786	34	160	60	18	14.5	17	4	21
M27 × 3		TB623866	36	160	60	20	16	19	4	24
M30 × 3.5		TB623946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	○	○	○	○	○

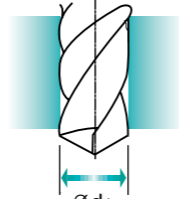
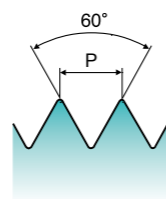
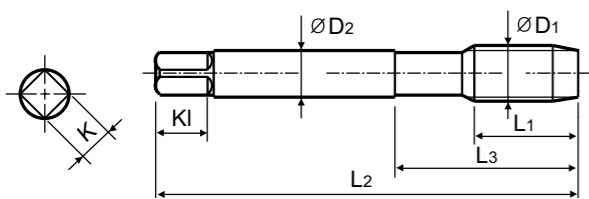
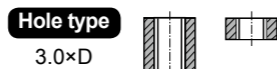
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso 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: **VA** **NW** **HSS-E** **DIN 371/376** **6HX** **60°** **B** **Hardslick**

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225

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	Hardslick	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TCH23136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TCH23156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TCH23196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TCH23176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TCH23496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TCH23206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TCH23226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TCH23246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TCH23266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TCH23286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TCH23316	17	80	30	6	4.9	8	3	5
M7 × 1		TCH23346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TCH23366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TCH23396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TCH23426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TCH23466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TCH23506	24	110	44	9	7	10	4	10.2
M14 × 2		TCH23546	26	110	44	11	9	12	4	12
M16 × 2		TCH23606	27	110	44	12	9	12	4	14
M18 × 2.5		TCH23656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TCH23706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TCH23746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TCH23786	34	160	60	18	14.5	17	4	21
M27 × 3		TCH23866	36	160	60	20	16	19	4	24
M30 × 3.5		TCH23946	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					
	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

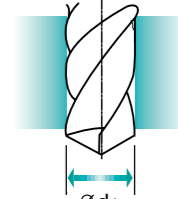
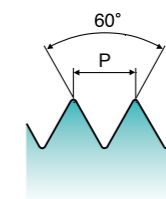
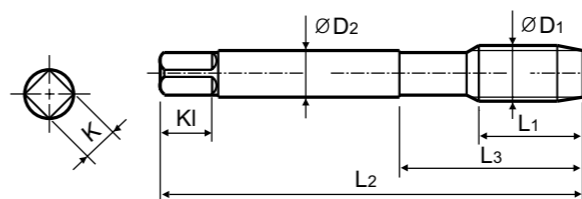
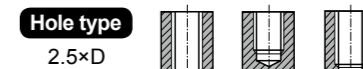
ISO	N					S					H												
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron											
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS 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: **VA** **NW** **HSS-E** **DIN 374** **6H** **60°** **C** **Vap** **R40**

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225

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	KI	Z	Ød1
M4 × 0.5		TB183256	5	63	21	2.8	2.1	5	3	3.5
M5 × 0.5		TB183296	5	70	25	3.5	2.7	6	3	4.5
M6 × 0.75		TB183326	8	80	30	4.5	3.4	6	3	5.2
M6 × 0.5		TB183336	5	80	30	4.5	3.4	6	3	5.5
M7 × 0.75		TB183356	10	80	30	5.5	4.3	7	3	6.2
M8 × 1		TB183376	10	90	36	6	4.9	8	3	7
M8 × 0.75		TB183386	8	80	30	6	4.9	8	3	7.2
M10 × 1.25		TB183436	16	100	40	7	5.5	8	3	8.8
M10 × 1		TB183446	10	90	36	7	5.5	8	3	9
M10 × 0.75		TB183456	10	90	36	7	5.5	8	3	9.2
M12 × 1.5		TB183516	15	100	40	9	7	10	3	10.5
M12 × 1.25		TB183526	15	100	40	9	7	10	3	10.8
M12 × 1		TB183536	11	100	40	9	7	10	3	11
M14 × 1.5		TB183556	15	100	40	11	9	12	3	12.5
M14 × 1.25		TB183566	15	100	40	11	9	12	3	12.8
M16 × 1.5		TB183616	15	100	40	12	9	12	3	14.5
M18 × 1.5		TB183676	17	110	44	14	11	14	4	16.5
M20 × 1.5		TB183726	17	125	50	16	12	15	4	18.5
M22 × 1.5		TB183766	17	125	50	18	14.5	17	4	20.5
M24 × 1.5		TB183806	20	140	54	18	14.5	17	4	22.5

◎ : Excellent ○ : Good

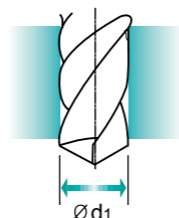
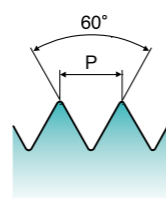
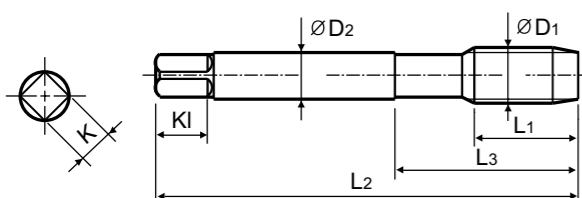
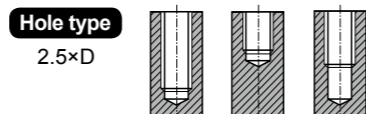
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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)	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	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNC Unified coarse threads
 Unified Grobgewinde
 UNC
 Unificato passo grosso

► 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: **VA** **NW** **HSS-E** **DIN 371/376** **2B** **60°** **C** **Vap** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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		Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 40UNC	TB904162	6	56	18	3.5	2.7	6	3	2.3
#5	- 40UNC	TB904202	7	56	18	3.5	2.7	6	3	2.6
#6	- 32UNC	TB904242	7	56	20	4	3	6	3	2.85
#8	- 32UNC	TB904282	8	63	21	4.5	3.4	6	3	3.5
#10	- 24UNC	TB904322	10	70	25	6	4.9	8	3	3.9
#12	- 24UNC	TB904362	10	80	30	6	4.9	8	3	4.5
1/4	- 20UNC	TB904402	13	80	30	7	5.5	8	3	5.2
5/16	- 18UNC	TB904442	14	90	35	8	6.2	9	3	6.6
3/8	- 16UNC	TB904482	16	100	39	9	7	10	3	8
7/16	- 14UNC	TB904522	17	100	40	8	6.2	9	3	9.4
1/2	- 13UNC	TB904562	20	110	44	9	7	10	3	10.75
9/16	- 12UNC	TB904602	20	110	44	11	9	12	3	12.25
5/8	- 11UNC	TB904642	22	110	44	12	9	12	3	13.5
3/4	- 10UNC	TB904702	25	125	50	14	11	14	4	16.5
7/8	- 9UNC	TB904742	27	140	54	18	14.5	17	4	19.5
1	- 8UNC	TB904782	30	160	60	20	16	19	4	22.25
1-1/8	- 7UNC	TB904822	35	180	65	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : Excellent ○ : Good

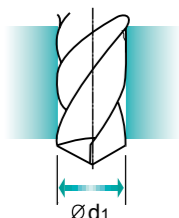
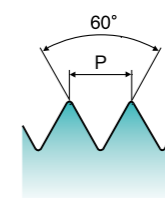
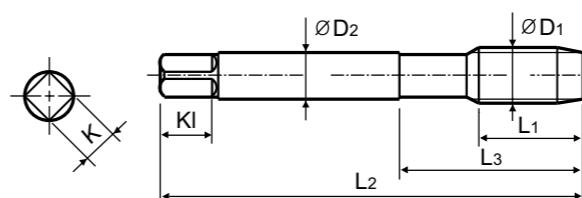
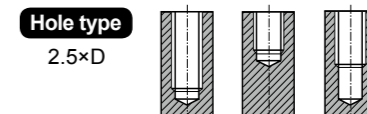
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNF Unified fine threads
 Unified Feingewinde
 UNF
 Unificato passo grosso

► 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: **VA** **NW** **HSS-E** **DIN 371/374** **2B** **60°** **C** **Vap** **R40** Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.225 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		Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 48UNF	TB924182	6	56	18	3.5	2.7	6	3	2.4
#5	- 44UNF	TB924222	7	56	18	3.5	2.7	6	3	2.7
#6	- 40UNF	TB924262	7	56	20	4	3	6	3	3
#8	- 36UNF	TB924302	8	63	21	4.5	3.4	6	3	3.5
#10	- 32UNF	TB924342	10	70	25	6	4.9	8	3	4.1
#12	- 28UNF	TB924382	10	80	30	6	4.9	8	3	4.7
1/4	- 28UNF	TB924422	10	80	30	7	5.5	8	3	5.5
5/16	- 24UNF	TB924462	10	90	35	8	6.2	9	3	6.9
3/8	- 24UNF	TB924502	10	100	39	9	7	10	3	8.5
7/16	- 20UNF	TB924542	13	100	40	8	6.2	9	3	9.9
1/2	- 20UNF	TB924582	13	100	40	9	7	10	3	11.5
9/16	- 18UNF	TB924622	15	100	40	11	9	12	3	12.9
5/8	- 18UNF	TB924662	15	100	40	12	9	12	3	14.5
3/4	- 16UNF	TB924722	17	110	44	14	11	14	4	17.5
7/8	- 14UNF	TB924762	17	125	50	18	14.5	17	4	20.5
1	- 12UNF	TB924802	20	140	54	18	14.5	17	4	23.25
1-1/8	- 12UNF	TB924842	22	150	60	22	18	21	4	26.5

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

◎ : Excellent ○ : Good

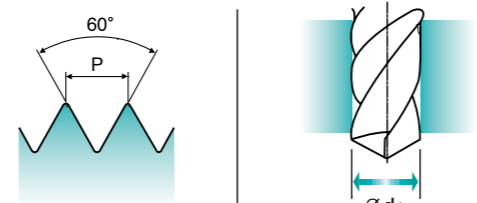
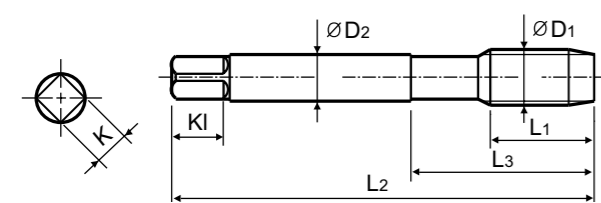
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

MF ISO metric fine threads DIN 13
 ● Metrisches ISO-Feingewinde DIN 13
 ○ ISO MÉTRIQUE PAS FINS DIN13
 ○ ISO Metrico passo fine 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: **VA** **NW** **HSS-E** **DIN 374** **6HX** **60°** **B** **Vap**

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.225

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	KI	Z	Ød1
M4	× 0.5	TB123256	10	63	21	2.8	2.1	5	3	3.5
M5	× 0.5	TB123296	11	70	25	3.5	2.7	6	3	4.5
M6	× 0.75	TB123326	13	80	30	4.5	3.4	6	3	5.2
M6	× 0.5	TB123336	13	80	30	4.5	3.4	6	3	5.5
M7	× 0.75	TB123356	14	80	30	5.5	4.3	7	3	6.2
M8	× 1	TB123376	17	90	36	6	4.9	8	3	7
M8	× 0.75	TB123386	14	80	30	6	4.9	8	3	7.2
M10	× 1.25	TB123436	22	100	40	7	5.5	8	3	8.8
M10	× 1	TB123446	18	90	36	7	5.5	8	3	9
M10	× 0.75	TB123456	18	90	36	7	5.5	8	3	9.2
M12	× 1.5	TB123516	22	100	40	9	7	10	4	10.5
M12	× 1.25	TB123526	22	100	40	9	7	10	3	10.8
M12	× 1	TB123536	18	100	40	9	7	10	3	11
M14	× 1.5	TB123556	22	100	40	11	9	12	3	12.5
M14	× 1.25	TB123566	22	100	40	11	9	12	3	12.8
M16	× 1.5	TB123616	22	100	40	12	9	12	3	14.5
M18	× 1.5	TB123676	25	110	44	14	11	14	4	16.5
M20	× 1.5	TB123726	25	125	50	16	12	15	4	18.5
M22	× 1.5	TB123766	25	125	50	18	14.5	17	4	20.5
M24	× 1.5	TB123806	27	140	54	18	14.5	17	4	22.5

◎ : Excellent ○ : Good

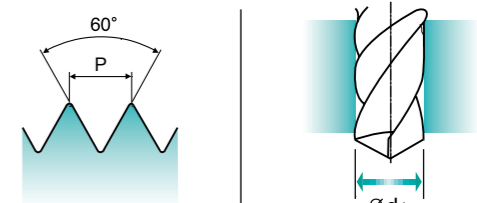
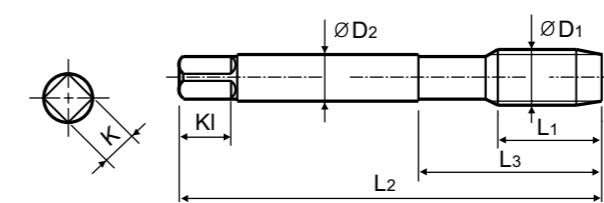
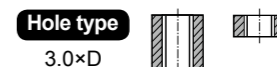
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10	10	26	3	25	21	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
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNC Unified coarse threads
 ● Unified Grobgewinde
 ○ UNC
 ○ Unificato passo grosso

► 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: **VA** **NW** **HSS-E** **DIN 371/376** **2B** **60°** **B** **Vap**

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.225

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		Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 40UNC	TB264162	11	56	18	3.5	2.7	6	3	2.3
#5	- 40UNC	TB264202	11	56	18	3.5	2.7	6	3	2.6
#6	- 32UNC	TB264242	12	56	20	4	3	6	3	2.85
#8	- 32UNC	TB264282	13	63	21	4.5	3.4	6	3	3.5
#10	- 24UNC	TB264322	15	70	25	6	4.9	8	3	3.9
#12	- 24UNC	TB264362	16	80	30	6	4.9	8	3	4.5
1/4	- 20UNC	TB264402	17	80	30	7	5.5	8	3	5.2
5/16	- 18UNC	TB264442	20	90	35	8	6.2	9	3	6.6
3/8	- 16UNC	TB264482	22	100	39	9	7	10	3	8
7/16	- 14UNC	TB264522	22	100	44	8	6.2	9	3	9.4
1/2	- 13UNC	TB264562	25	110	44	9	7	10	3	10.75
9/16	- 12UNC	TB264602	26	110	44	11	9	12	3	12.25
5/8	- 11UNC	TB264642	27	110	44	12	9	12	3	13.5
3/4	- 10UNC	TB264702	30	125	50	14	11	14	4	16.5
7/8	- 9UNC	TB264742	32	140	54	18	14.5	17	4	19.5
1	- 8UNC	TB264782	36	160	60	20	16	17	4	22.25
1-1/8	- 7UNC	TB264822	40	180	70	22	18	21	4	25

►DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	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
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



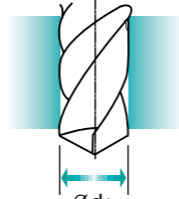
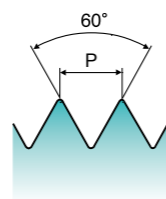
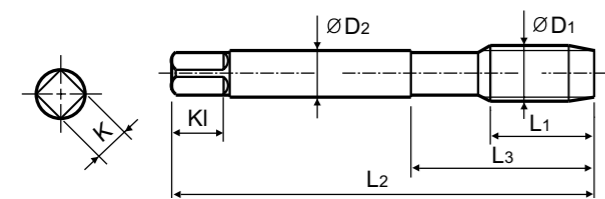
TB274 SERIES

UNF Unified fine threads

Unified Feingewinde
 UNF
 Unificato passo fine

► 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: **VANW** HSS-E DIN 371/374 2B 60° B Vap

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.225

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		Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 48UNF	TB274182	11	56	18	3.5	2.7	6	3	2.4
#5	- 44UNF	TB274222	11	56	18	3.5	2.7	6	3	2.7
#6	- 40UNF	TB274262	12	56	20	4	3	6	3	3
#8	- 36UNF	TB274302	13	63	21	4.5	3.4	6	3	3.5
#10	- 32UNF	TB274342	15	70	25	6	4.9	8	3	4.1
#12	- 28UNF	TB274382	16	80	30	6	4.9	8	3	4.7
1/4	- 28UNF	TB274422	17	80	30	7	5.5	8	3	5.5
5/16	- 24UNF	TB274462	17	90	35	8	6.2	9	3	6.9
3/8	- 24UNF	TB274502	18	100	39	9	7	10	3	8.5
7/16	- 20UNF	TB274542	22	100	40	8	6.2	9	3	9.9
1/2	- 20UNF	TB274582	22	100	40	9	7	10	3	11.5
9/16	- 18UNF	TB274622	22	100	40	11	9	12	3	12.9
5/8	- 18UNF	TB274662	22	100	40	12	9	12	3	14.5
3/4	- 16UNF	TB274722	25	110	44	14	11	14	4	17.5
7/8	- 14UNF	TB274762	26	125	50	18	14.5	17	4	20.5
1	- 12UNF	TB274802	28	140	54	18	14.5	17	4	23.25
1-1/8	- 12UNF	TB274842	30	150	60	22	18	21	4	26.5

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

◎ : 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	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HRc	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	15	30	25	38	34	15	30	25	38	34	55	60	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
EMFOHLENE SCHNEIDKONDITIONEN

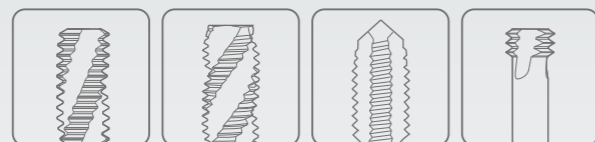
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)																
					TB711	TQ813	TR813	TB914	TB183	TB904	TB924	TI914	TBE15	TBE16	TBE17	TBE18	TCH14	TQ853	TR853	TB623	TB123
P	1	Non-alloy steel	125		15-20	15-20	15-20	15-20	20-25	15-20	15-20	15-20	15-20	20-25	15-20	15-20	15-20	15-20	15-20	15-20	15-20
	2		190	13	15-20	15-20	15-20	15-20	20-25	15-20	15-20	15-20	15-20	20-25	15-20	15-20	15-20	15-20	15-20	15-20	15-20
	3		250	25	12-18	12-18	12-18	18-24	12-18	12-18	12-18	12-18	18-24	12-18	12-18	12-18	12-18	12-18	12-18	12-18	18-24
	4		270	28	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	10-15	10-15	10-15	15-20
	5		300	32																	
	6	Low alloy steel	180	10	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	10-15	10-15	15-20	
	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	7-10	7-10	7-10	7-10	10-13	7-10	7-10	7-10	7-10	10-13	7-10	7-10	7-10	7-10	10-13		
	13		240	23	5-8	5-8	5-8	5-8	8-11	5-8	5-8	5-8	5-8	8-11	5-8	5-8	5-8	5-8	8-11		
	14		180	10	4-6	4-6	4-6	4-6	6-8	4-6	4-6	4-6	4-6	6-8	4-6	4-6	4-6	4-6	6-8		
K	15	Grey cast iron	180	10																	
	16		260	26																	
	17		160	3																	
	18		250	25																	
	19		130																		
20	230	21																			
N	21	Aluminum-wrought alloy	60		10-15																
	22		100																		
	23	Aluminum-cast, alloyed	75																		
	24		90																		
	25		130																		
	26		110																		
	27	Copper and Copper Alloys (Bronze / Brass)	90																		
	28		100		15-20																
	29																				
	30	Non Metallic Materials																			
S	31	Heat Resistant Super Alloys	200	15	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	15-20			
	32		280	30																	
	33		250	25																	
	34		350	38																	
	35		320	34																	
	36	Titanium Alloys	400Rm		10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	15-20	10-15	10-15	10-15	10-15	15-20			
	37		1050Rm																		
H	38	Hardened steel	550	55																	
	39		630	60																	
	40	Hardened Cast Iron	400	42																	
	41		550	55																	



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



SOLID CARBIDE & HSS-E

THREADING

YG TAP CAST IRON
YG TAP CAST IRON

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



SOLID CARBIDE & HSS-E YG TAP CAST IRON

For Cast Iron or Similar Work Materials

HOLE TYPE		Max. 2.0xD Blind / Through Hole					
TOOL MATERIAL		CARBIDE		HSS-E			
CHAMFER LEAD ACC. TO DIN2197		C	C	C	C	C	
FLUTE TYPE		Straight Flute	Straight Flute	Straight Flute	Straight Flute	Straight Flute	
SPIRAL FLUTE ANGLE		-	-	-	-	-	
SERIES	M	DIN371/376	T0993 (P.229)	TE821 (P.230)	TD821 (P.231)	TI821 (P.232)	TY821 (P.233)
		DIN352					
		DIN357/LONG					
	MF	DIN374		TE403 (P.234)			
		DIN2181					
	UNC	DIN371/376		TE434 (P.235)			
		DIN351					
	UNF	DIN371/374		TE454 (P.236)			
		DIN2181					
	BSW	DIN2182/2183					
DIN351							
G(BSP)	DIN5156/5157						
EG-M	DIN371/376						
EG-UNC	DIN371/376						
EG-UNF	DIN371/374						

SURFACE TREATMENT		Bright	NI	TIN	TICN	TiAIN
MODEL						

Please visit globalyg1.com/mat for material search
 ◎ : Excellent ○ : Good
 Recommended cutting conditions : P.237

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	Bright	NI	TIN	TICN	TiAIN	
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						
	4		About 0.75% C Annealed	270	28						
	5	About 0.75% C Quenched & Tempered	300	32							
	6	Low alloy steel	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	◎	◎	◎	◎	◎	
	19		Ferritic	130	25	○	○	○	○	○	
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	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110							
	27		CuZn, CuSnZn (Brass)	90							
	28		CuSn, lead-free copper and electrolytic copper	100				○	◎	◎	◎
	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						

YG TAP CAST IRON

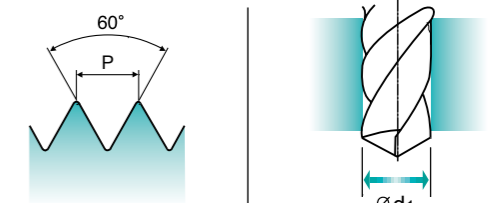
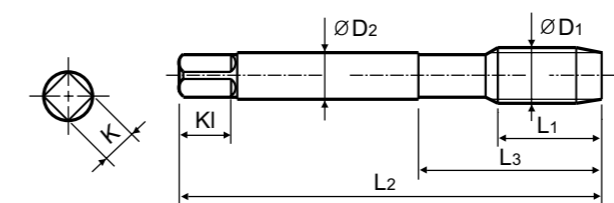
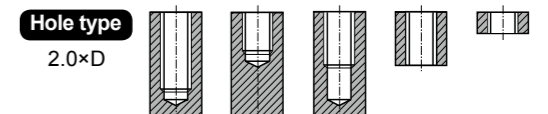
T0993 SERIES

ISO metric coarse threads DIN 13

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

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



Material groups: **GG** CARBIDE DIN 371/376 6HX 60° C Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.237 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		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		T0993546	26	110	44	11	9	12	4	12
M16 × 2		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

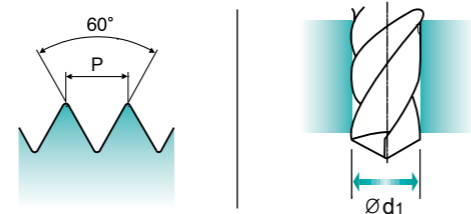
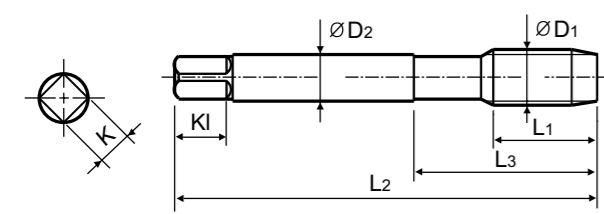
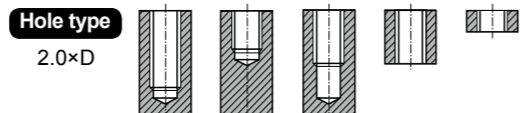
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	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					
	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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB																					
Recommended			◎		◎																◎

M ISO metric coarse threads DIN 13

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

► Suitable for tapping cast iron or similar work materials.

► Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen



Material groups
GG HSS-E DIN 371/376 6HX 60° C NI

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.237 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	Ni	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TE821136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TE821156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TE821196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TE821176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TE821496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TE821206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TE821226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TE821246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TE821266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TE821286	15	70	25	6	4.9	8	4	4.2
M6 × 1		TE821316	17	80	30	6	4.9	8	4	5
M7 × 1		TE821346	17	80	30	7	5.5	8	4	6
M8 × 1.25		TE821366	20	90	35	8	6.2	9	4	6.8
M9 × 1.25		TE821396	20	90	35	9	7	10	4	7.8
M10 × 1.5		TE821426	22	100	39	10	8	11	4	8.5
M11 × 1.5		TE821466	22	100	40	8	6.2	9	4	9.5
M12 × 1.75		TE821506	24	110	44	9	7	10	4	10.2
M14 × 2		TE821546	26	110	44	11	9	12	4	12
M16 × 2		TE821606	27	110	44	12	9	12	4	14
M18 × 2.5		TE821656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TE821706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TE821746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TE821786	34	160	60	18	14.5	17	4	21
M27 × 3		TE821866	36	160	60	20	16	19	4	24
M30 × 3.5		TE821946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

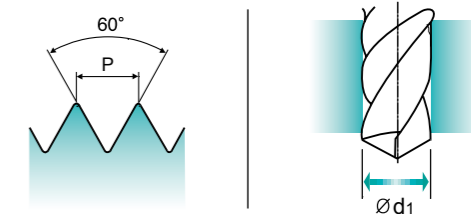
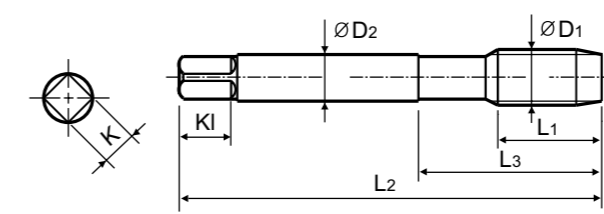
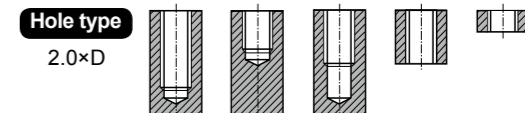
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	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																		◎			

M ISO metric coarse threads DIN 13

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

► Suitable for tapping cast iron or similar work materials.

► Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen



Material groups
GG HSS-E DIN 371/376 6HX 60° C TiN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.237 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	TiN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TD821136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TD821156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TD821196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TD821176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TD821496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TD821206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TD821226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TD821246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TD821266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TD821286	15	70	25	6	4.9	8	4	4.2
M6 × 1		TD821316	17	80	30	6	4.9	8	4	5
M7 × 1		TD821346	17	80	30	7	5.5	8	4	6
M8 × 1.25		TD821366	20	90	35	8	6.2	9	4	6.8
M9 × 1.25		TD821396	20	90	35	9	7	10	4	7.8
M10 × 1.5		TD821426	22	100	39	10	8	11	4	8.5
M11 × 1.5		TD821466	22	100	40	8	6.2	9	4	9.5
M12 × 1.75		TD821506	24	110	44	9	7	10	4	10.2
M14 × 2		TD821546	26	110	44	11	9	12	4	12
M16 × 2		TD821606	27	110	44	12	9	12	4	14
M18 × 2.5		TD821656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TD821706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TD821746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TD821786	34	160	60	18	14.5	17	4	21
M27 × 3		TD821866	36	160	60	20	16	19	4	24
M30 × 3.5		TD821946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

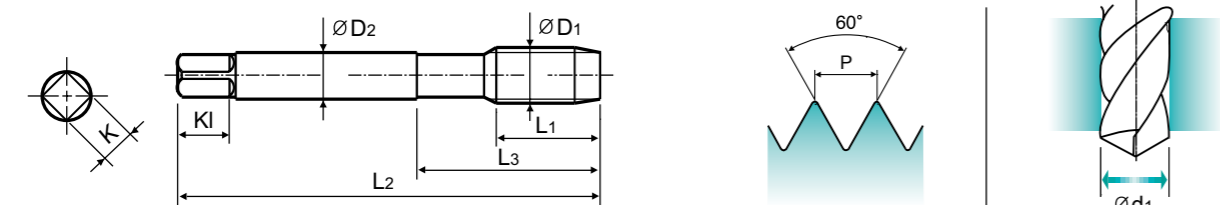
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	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																		◎			

M ISO metric coarse threads DIN 13

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

► Suitable for tapping cast iron or similar work materials.

► Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen



GG HSS-E DIN 371/376 6HX 60° C TICN Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.237 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
M2.2 × 0.45		TI821156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TI821196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TI821176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TI821496	9	50	15	2.8	2.1	5	3	2.1
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
M4.5 × 0.75		TI821266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TI821286	15	70	25	6	4.9	8	4	4.2
M6 × 1		TI821316	17	80	30	6	4.9	8	4	5
M7 × 1		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		TI821546	26	110	44	11	9	12	4	12
M16 × 2		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		TI821786	34	160	60	18	14.5	17	4	21
M27 × 3		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 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		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	30	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															◎	◎	◎	◎	○	○

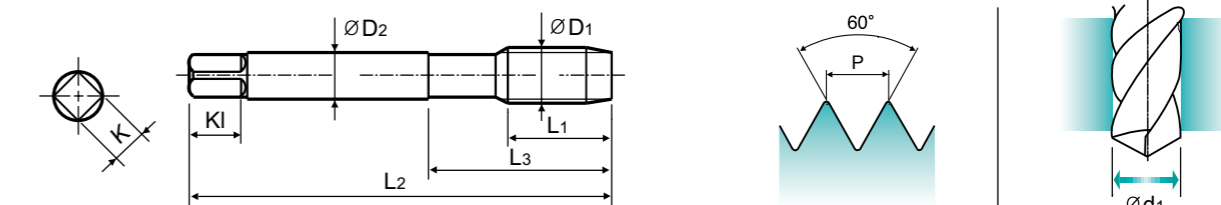
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	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																					◎

M ISO metric coarse threads DIN 13

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

► Suitable for tapping cast iron or similar work materials.

► Geeignet zum Gewindeschneiden von Guss oder ähnlichen Werkstoffen



GG HSS-E DIN 371/376 6HX 60° C TiAlN Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.237 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
*M2.3 × 0.4		TY821196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TY821176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TY821496	9	50	15	2.8	2.1	5	3	2.1
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
M4.5 × 0.75		TY821266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TY821286	15	70	25	6	4.9	8	4	4.2
M6 × 1		TY821316	17	80	30	6	4.9	8	4	5
M7 × 1		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
M11 × 1.5		TY821466	22	100	40	8	6.2	9	4	9.5
M12 × 1.75		TY821506	24	110	44	9	7	10	4	10.2
M14 × 2		TY821546	26	110	44	11	9	12	4	12
M16 × 2		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
M22 × 2.5		TY821746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TY821786	34	160	60	18	14.5	17	4	21
M27 × 3		TY821866	36	160	60	20	16	19	4	24
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 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		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	30	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																					◎

YG TAP CAST IRON

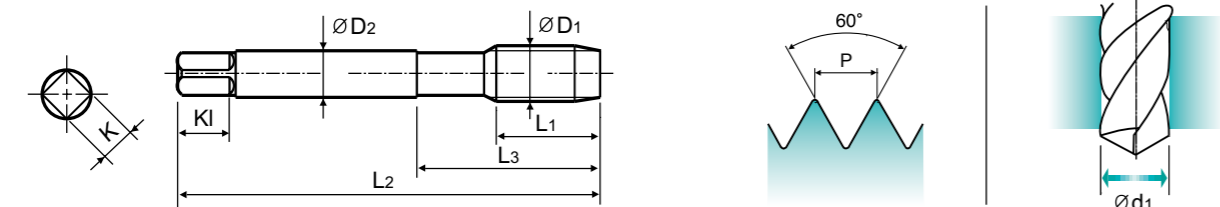
TE403 SERIES

MF ISO metric fine threads DIN 13

● Metrisches ISO-Feingewinde DIN 13
● ISO MÉTRIQUE PAS FINS DIN13
● ISO Metrico passo fine DIN 13

► 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 374 6HX 60° C NI

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.237 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	Ni	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M4	× 0.5	TE403256	10	63	21	2.8	2.1	5	3	3.5
M5	× 0.5	TE403296	11	70	25	3.5	2.7	6	4	4.5
M6	× 0.75	TE403326	13	80	30	4.5	3.4	6	4	5.2
M6	× 0.5	TE403336	13	80	30	4.5	3.4	6	4	5.5
M7	× 0.75	TE403356	14	80	30	5.5	4.3	7	4	6.2
M8	× 1	TE403376	17	90	36	6	4.9	8	4	7
M8	× 0.75	TE403386	14	80	30	6	4.9	8	4	7.2
M10	× 1.25	TE403436	22	100	40	7	5.5	8	4	8.8
M10	× 1	TE403446	18	90	36	7	5.5	8	4	9
M10	× 0.75	TE403456	18	90	36	7	5.5	8	4	9.2
M12	× 1.5	TE403516	22	100	40	9	7	10	4	10.5
M12	× 1.25	TE403526	22	100	40	9	7	10	4	10.8
M12	× 1	TE403536	18	100	40	9	7	10	4	11
M14	× 1.5	TE403556	22	100	40	11	9	12	4	12.5
M14	× 1.25	TE403566	22	100	40	11	9	12	4	12.8
M16	× 1.5	TE403616	22	100	40	12	9	12	4	14.5
M18	× 1.5	TE403676	25	110	44	14	11	14	4	16.5
M20	× 1.5	TE403726	25	125	50	16	12	15	4	18.5
M22	× 1.5	TE403766	25	125	50	18	14.5	17	4	20.5
M24	× 1.5	TE403806	27	140	54	18	14.5	17	4	22.5

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended																						○

YG TAP CAST IRON

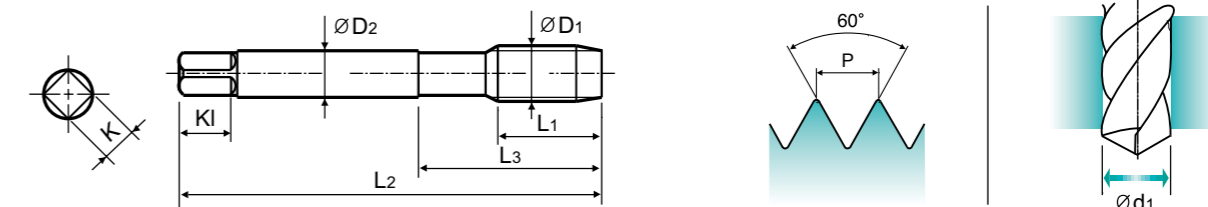
TE434 SERIES

UNC Unified coarse threads

● Unified Grobgewinde
● UNC
● Unificato passo grosso

► 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 371/376 2BX 60° C NI

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.237 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	Kl	Z	Ød1
#4	- 40UNC	TE434162	11	56	18	3.5	2.7	6	3	2.3
#5	- 40UNC	TE434202	11	56	18	3.5	2.7	6	3	2.6
#6	- 32UNC	TE434242	12	56	20	4	3	6	3	2.85
#8	- 32UNC	TE434282	13	63	21	4.5	3.4	6	3	3.5
#10	- 24UNC	TE434322	15	70	25	6	4.9	8	3	3.9
#12	- 24UNC	TE434362	16	80	30	6	4.9	8	3	4.5
1/4	- 20UNC	TE434402	17	80	30	7	5.5	8	4	5.2
5/16	- 18UNC	TE434442	20	90	35	8	6.2	9	4	6.6
3/8	- 16UNC	TE434482	22	100	39	9	7	10	4	8
7/16	- 14UNC	TE434522	22	100	40	8	6.2	9	4	9.4
1/2	- 13UNC	TE434562	25	110	44	9	7	10	4	10.75
9/16	- 12UNC	TE434602	26	110	44	11	9	12	4	12.25
5/8	- 11UNC	TE434642	27	110	44	12	9	12	4	13.5
3/4	- 10UNC	TE434702	30	125	50	14	11	14	4	16.5
7/8	- 9UNC	TE434742	32	140	54	18	14.5	17	4	19.5
1	- 8UNC	TE434782	36	160	60	20	16	17	4	22.25
1-1/8	- 7UNC	TE434822	40	180	70	22	18	21	4	25

► DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : Excellent ○ : Good

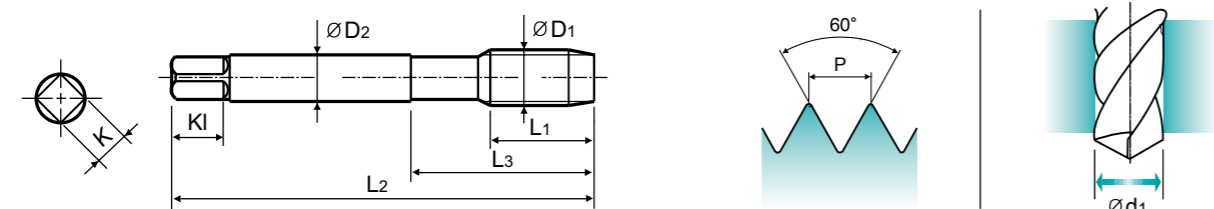
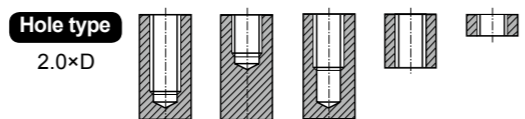
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended																						○

UNF Unified fine threads
 Unified Feingewinde
 UNF
 Unificato passo fine

► 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 NI

Machine taps
 Maschinengewindebohrer

Recommended Cutting Page : P.237 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
#4 - 48UNF		TE454182	11	56	18	3.5	2.7	6	3	2.4
#5 - 44UNF		TE454222	11	56	18	3.5	2.7	6	3	2.7
#6 - 40UNF		TE454262	12	56	20	4	3	6	3	3
#8 - 36UNF		TE454302	13	63	21	4.5	3.4	6	3	3.5
#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
1/4 - 28UNF		TE454422	17	80	30	7	5.5	8	4	5.5
5/16 - 24UNF		TE454462	17	90	35	8	6.2	9	4	6.9
3/8 - 24UNF		TE454502	18	100	39	9	7	10	4	8.5
7/16 - 20UNF		TE454542	22	100	40	8	6.2	9	4	9.9
1/2 - 20UNF		TE454582	22	100	40	9	7	10	4	11.5
9/16 - 18UNF		TE454622	22	100	40	11	9	12	4	12.9
5/8 - 18UNF		TE454662	22	100	40	12	9	12	4	14.5
3/4 - 16UNF		TE454722	25	110	44	14	11	14	4	17.5
7/8 - 14UNF		TE454762	26	125	50	18	14.5	17	4	20.5
1 - 12UNF		TE454802	28	140	54	18	14.5	17	4	23.25
1-1/8 - 12UNF		TE454842	30	150	60	22	18	21	4	26.5

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

◎ : 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	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HRc	125	190	250	270	300	180	275	300	350	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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

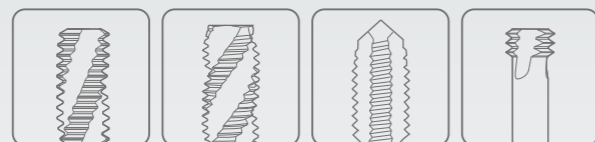
ISO	VDI 3323	Material Description	HB	HRc	T0993	TE821 TE403 TE434 TE454	TD821	TI821	TY821
					Vc (m/min)				
P	1	Non-alloy steel	125						
	2		190	13					
	3		250	25					
	4		270	28					
	5		300	32					
	6	Low alloy steel	180	10					
	7		275	29					
	8		300	32					
	9		350	38					
	10		High alloyed steel, 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	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
20	230	21		5-8	5-8	8-11	8-11	8-11	
N	21	Aluminum-wrought alloy	60						
	22		100						
	23	Aluminum-cast, alloyed	75		15-20				
	24		90						
	25		130		10-15				
	26		110						
	27	Copper and Copper Alloys (Bronze / Brass)	90			8-12	12-16	12-16	12-16
	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					
	39		630	60					
	40	Chilled Cast Iron	400	42	3-5				
	41	Hardened Cast Iron	550	55					



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



THREADING



HSS-E



YG TAP ALU

YG TAP ALU

- For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations
- Für langspannende Aluminium-Knetlegierungen mit großen Spanabständen zur Vermeidung von Verstopfungen beim Gewindeschneiden.



HSS-E YG TAP ALU

For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations

Please visit globalyg1.com/mat for material search
 ◎ : Excellent ○ : Good
 Recommended cutting conditions : P252

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	○	○
	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		
	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		
	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		Duroplastic, Fiber Reinforced Plastic				
	30	Materials	Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Cured	350	38		
	35	Ni or Co Based 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	Hardened Cast Iron	Cast	400	42		
	41		Hardened	550	55		

HOLE TYPE	Max. 2.5xD Blind Hole		
TOOL MATERIAL	HSS-E		
CHAMFER LEAD ACC. TO DIN2197	C	C	
FLUTE TYPE	Spiral Flute	Spiral Flute	
SPIRAL FLUTE ANGLE	R45	R40	
M	DIN371/376	TC163 (P242)	TE953 (P243)
	DIN352		
MF	DIN357/LONG		
	DIN374	TC963 (P244)	
UNC	DIN2181		
	DIN371/376	TC169 (P245)	
UNF	DIN351		
	DIN371/374	TC170 (P246)	
BSW	DIN2182/2183		
	DIN351		
G(BSP)	DIN5156/5157		
EG-M	DIN371/376		
EG-UNC	DIN371/376		
EG-UNF	DIN371/374		
SURFACE TREATMENT	Bright	NI	
MODEL			

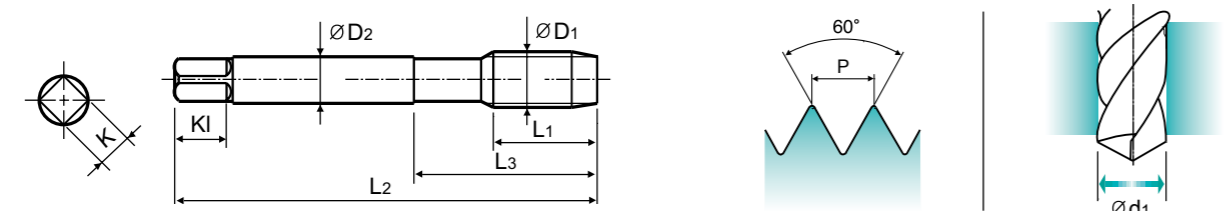
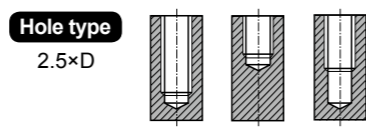
Max. 3.0xD Through Hole		Max. 2.0xD Blind/Through Hole		
HSS-E				
B	B	C	C	C
Spiral Point	Spiral Point	Straight Flute	Straight Flute	Straight Flute
-	-	-	-	-
TC622 (P247)	TE943 (P248)	TC433 (P249)	TE443 (P250)	TY433 (P251)
				M
				MF
				UNC
				UNF
				BSW
				G(BSP)
				EG-M
				EG-UNC
				EG-UNF
SURFACE TREATMENT	Bright	NI	NI	TiAlN
○				1
○				2
○	○			3
				4
				5
				6 P
				7
				8
				9
				10
				11
				12
				13 M
				14
				15
				16
				17 K
				18
				19
				20
◎	○			21
◎	○			22
◎	○			23
◎	○			24
	◎			25
		◎	◎	26 N
○		○	○	27
		○	○	28
				29
				30
				31
				32
				33
				34 S
				35
				36
				37
				38
				39
				40 H
				41

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: **AI** HSS-E DIN 371/376 6H 60° C Bright R45 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252 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
M2 × 0.4		TC163136	8	45	13	2.8	2.1	5	2	1.6
M2.2 × 0.45		TC163156	8	45	13	2.8	2.1	5	2	1.75
*M2.3 × 0.4		TC163196	8	45	13	2.8	2.1	5	2	1.9
M2.5 × 0.45		TC163176	9	50	15	2.8	2.1	5	2	2.05
*M2.6 × 0.45		TC163496	9	50	15	2.8	2.1	5	2	2.1
M3 × 0.5		TC163206	6	56	18	3.5	2.7	6	2	2.5
M3.5 × 0.6		TC163226	7	56	20	4	3	6	2	2.9
M4 × 0.7		TC163246	7	63	21	4.5	3.4	6	2	3.3
M4.5 × 0.75		TC163266	8	70	25	6	4.9	8	2	3.7
M5 × 0.8		TC163286	8	70	25	6	4.9	8	2	4.2
M6 × 1		TC163316	10	80	30	6	4.9	8	2	5
M7 × 1		TC163346	10	80	30	7	5.5	8	2	6
M8 × 1.25		TC163366	13	90	35	8	6.2	9	2	6.8
M9 × 1.25		TC163396	13	90	35	9	7	10	2	7.8
M10 × 1.5		TC163426	15	100	39	10	8	11	2	8.5
M11 × 1.5		TC163466	17	100	40	8	6.2	9	2	9.5
M12 × 1.75		TC163506	18	110	44	9	7	10	2	10.2
M14 × 2		TC163546	20	110	44	11	9	12	3	12
M16 × 2		TC163606	20	110	44	12	9	12	3	14
M18 × 2.5		TC163656	25	125	50	14	11	14	3	15.5
M20 × 2.5		TC163706	25	140	54	16	12	15	3	17.5
M22 × 2.5		TC163746	25	140	54	18	14.5	17	3	19.5
M24 × 3		TC163786	30	160	60	18	14.5	17	3	21
M27 × 3		TC163866	30	160	60	20	16	19	3	24
M30 × 3.5		TC163946	35	180	70	22	18	21	3	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

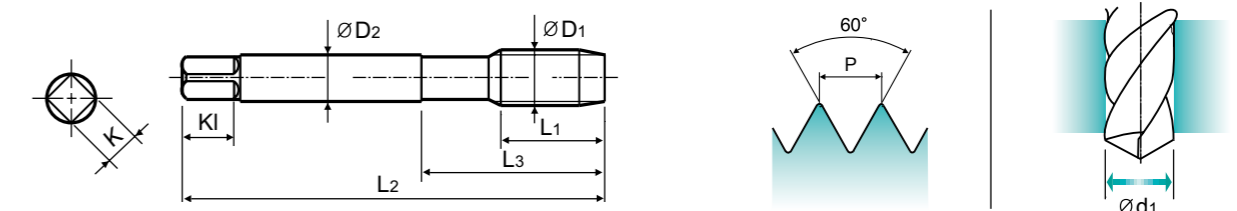
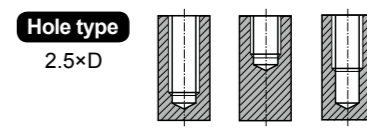
ISO	N					S					H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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: **AI** HSS-E DIN 371/376 6H 60° C NI R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252 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	Ni	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TE953136	8	45	13	2.8	2.1	5	2	1.6
M2.2 × 0.45		TE953156	8	45	13	2.8	2.1	5	2	1.75
*M2.3 × 0.4		TE953196	8	45	13	2.8	2.1	5	2	1.9
M2.5 × 0.45		TE953176	9	50	15	2.8	2.1	5	2	2.05
*M2.6 × 0.45		TE953496	9	50	15	2.8	2.1	5	2	2.1
M3 × 0.5		TE953206	6	56	18	3.5	2.7	6	2	2.5
M3.5 × 0.6		TE953226	7	56	20	4	3	6	2	2.9
M4 × 0.7		TE953246	7	63	21	4.5	3.4	6	2	3.3
M4.5 × 0.75		TE953266	8	70	25	6	4.9	8	2	3.7
M5 × 0.8		TE953286	8	70	25	6	4.9	8	2	4.2
M6 × 1		TE953316	10	80	30	6	4.9	8	2	5
M7 × 1		TE953346	10	80	30	7	5.5	8	2	6
M8 × 1.25		TE953366	13	90	35	8	6.2	9	2	6.8
M9 × 1.25		TE953396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TE953426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TE953466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TE953506	18	110	44	9	7	10	3	10.2
M14 × 2		TE953546	20	110	44	11	9	12	3	12
M16 × 2		TE953606	20	110	44	12	9	12	3	14
M18 × 2.5		TE953656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TE953706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TE953746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TE953786	30	160	60	18	14.5	17	4	21
M27 × 3		TE953866	30	160	60	20	16	19	4	24
M30 × 3.5		TE953946	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

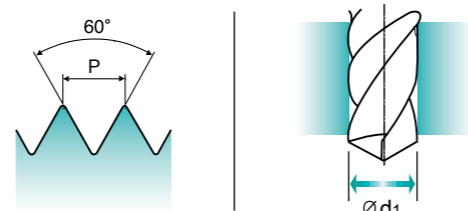
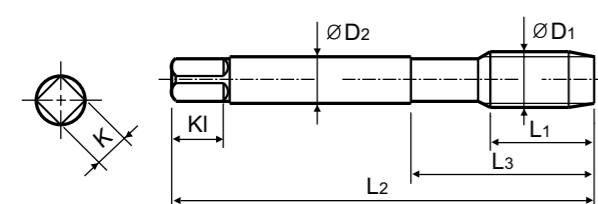
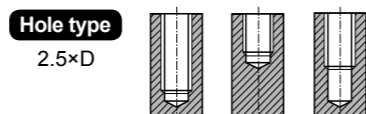
ISO	N					S					H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS 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: **AI** HSS-E DIN 374 6H 60° C Bright R45 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252 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
M4	× 0.5	TC963256	5	63	21	2.8	2.1	5	2	3.5
M5	× 0.5	TC963296	5	70	25	3.5	2.7	6	2	4.5
M6	× 0.75	TC963326	8	80	30	4.5	3.4	6	2	5.2
M6	× 0.5	TC963336	5	80	30	4.5	3.4	6	2	5.5
M7	× 0.75	TC963356	10	80	30	5.5	4.3	7	2	6.2
M8	× 1	TC963376	10	90	36	6	4.9	8	2	7
M8	× 0.75	TC963386	8	80	30	6	4.9	8	2	7.2
M10	× 1.25	TC963436	16	100	40	7	5.5	8	2	8.8
M10	× 1	TC963446	10	90	36	7	5.5	8	2	9
M10	× 0.75	TC963456	10	90	36	7	5.5	8	2	9.2
M12	× 1.5	TC963516	15	100	40	9	7	10	2	10.5
M12	× 1.25	TC963526	15	100	40	9	7	10	2	10.8
M12	× 1	TC963536	11	100	40	9	7	10	2	11
M14	× 1.5	TC963556	15	100	40	11	9	12	3	12.5
M14	× 1.25	TC963566	15	100	40	11	9	12	3	12.8
M16	× 1.5	TC963616	15	100	40	12	9	12	3	14.5
M18	× 1.5	TC963676	17	110	44	14	11	14	3	16.5
M20	× 1.5	TC963726	17	125	50	16	12	15	3	18.5
M22	× 1.5	TC963766	17	125	50	18	14.5	17	3	20.5
M24	× 1.5	TC963806	20	140	54	18	14.5	17	3	22.5

◎ : 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

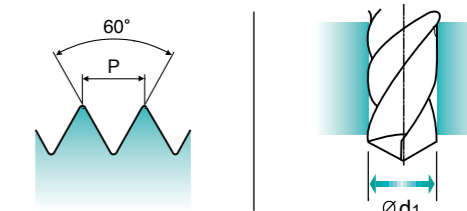
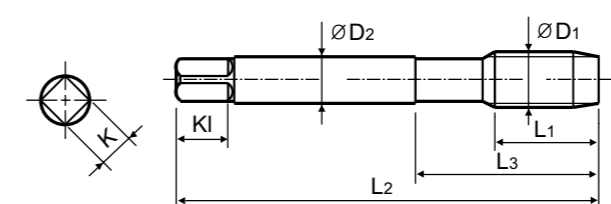
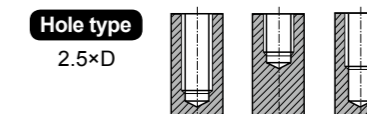
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo grosso

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: **AI** HSS-E DIN 371/376 2B 60° C Bright R45 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252 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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4	- 40UNC	TC169162	6	56	18	3.5	2.7	6	2	2.3
#5	- 40UNC	TC169202	7	56	18	3.5	2.7	6	2	2.6
#6	- 32UNC	TC169242	7	56	20	4	3	6	2	2.85
#8	- 24UNC	TC169282	8	63	21	4.5	3.4	6	2	3.5
#10	- 24UNC	TC169322	10	70	25	6	4.9	8	2	3.9
#12	- 24UNC	TC169362	10	80	30	6	4.9	8	2	4.5
1/4	- 20UNC	TC169402	13	80	30	7	5.5	8	2	5.2
5/16	- 18UNC	TC169442	14	90	35	8	6.2	9	2	6.6
3/8	- 16UNC	TC169482	16	100	39	9	7	10	2	8
7/16	- 14UNC	TC169522	17	100	40	8	6.2	9	2	9.4
1/2	- 13UNC	TC169562	20	110	44	9	7	10	2	10.75
9/16	- 12UNC	TC169602	20	110	44	11	9	12	3	12.25
5/8	- 11UNC	TC169642	22	110	44	12	9	12	3	13.5
3/4	- 10UNC	TC169702	25	125	50	14	11	14	3	16.5
7/8	- 9UNC	TC169742	27	140	54	18	14.5	17	3	19.5
1	- 8UNC	TC169782	30	160	60	20	16	19	3	22.25
1-1/8	- 7UNC	TC169822	35	180	65	22	18	21	3	25

►DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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)	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



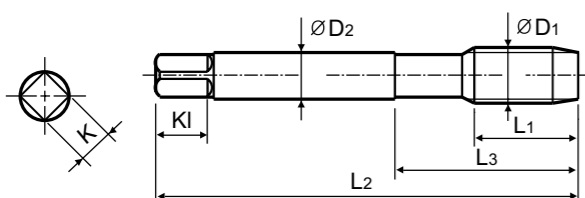
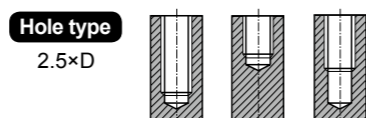
TC170 SERIES

UNF Unified fine threads

- Unified Feingewinde
- UNF
- Unificato passo grosso

► 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: AI, HSS-E, DIN 371/374, 2B, 60°, C, Bright, R45. Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252 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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 48UNF		TC170182	6	56	18	3.5	2.7	6	2	2.4
#5 - 44UNF		TC170222	7	56	18	3.5	2.7	6	2	2.7
#6 - 40UNF		TC170262	7	56	20	4	3	6	2	3
#8 - 36UNF		TC170302	8	63	21	4.5	3.4	6	2	3.5
#10 - 32UNF		TC170342	10	70	25	6	4.9	8	2	4.1
#12 - 28UNF		TC170382	10	80	30	6	4.9	8	2	4.7
1/4 - 28UNF		TC170422	10	80	30	7	5.5	8	2	5.5
5/16 - 24UNF		TC170462	10	90	35	8	6.2	9	2	6.9
3/8 - 24UNF		TC170502	10	100	39	9	7	10	2	8.5
7/16 - 20UNF		TC170542	13	100	40	8	6.2	9	2	9.9
1/2 - 20UNF		TC170582	13	100	40	9	7	10	2	11.5
9/16 - 18UNF		TC170622	15	100	40	11	9	12	3	12.9
5/8 - 18UNF		TC170662	15	100	40	12	9	12	3	14.5
3/4 - 16UNF		TC170722	17	110	44	14	11	14	3	17.5
7/8 - 14UNF		TC170762	17	125	50	18	14.5	17	3	20.5
1 - 12UNF		TC170802	20	140	54	18	14.5	17	3	23.25
1-1/8 - 12UNF		TC170842	22	150	60	22	18	21	3	26.5

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

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	42	43	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



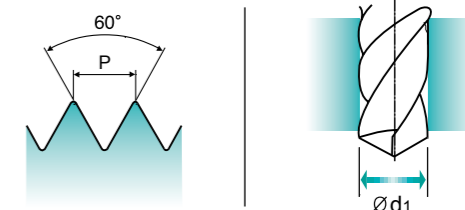
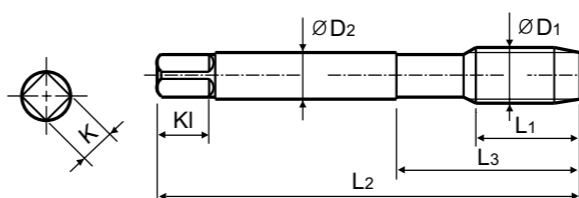
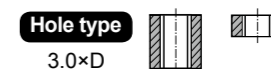
TC622 SERIES

M-Az ISO metric coarse threads DIN 13

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

► Interrupted tap to reduce contact area and tapping torque, and to give more chip space.

► Gewindebohrer mit ausgesetzten Zähnen um die Kontaktzone mit dem Werkstück und das Drehmoment zu minimieren und dem Span mehr Raum zu geben.



Material groups: AI, HSS-E, DIN 371/376, 6H, 60°, B, Bright. Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252 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
M2 × 0.4		TC622136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC622156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC622196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC622176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC622496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC622206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC622226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TC622246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC622266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC622286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TC622316	17	80	30	6	4.9	8	3	5
M7 × 1		TC622346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TC622366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC622396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TC622426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TC622466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC622506	24	110	44	9	7	10	3	10.2
M14 × 2		TC622546	26	110	44	11	9	12	3	12
M16 × 2		TC622606	27	110	44	12	9	12	3	14
M18 × 2.5		TC622656	30	125	50	14	11	14	3	15.5
M20 × 2.5		TC622706	32	140	54	16	12	15	3	17.5
M22 × 2.5		TC622746	32	140	54	18	14.5	17	3	19.5
M24 × 3		TC622786	34	160	60	18	14.5	17	3	21
M27 × 3		TC622866	36	160	60	20	16	19	3	24
M30 × 3.5		TC622946	40	180	70	22	18	21	3	26.5

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

► * DIN profile not ISO

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

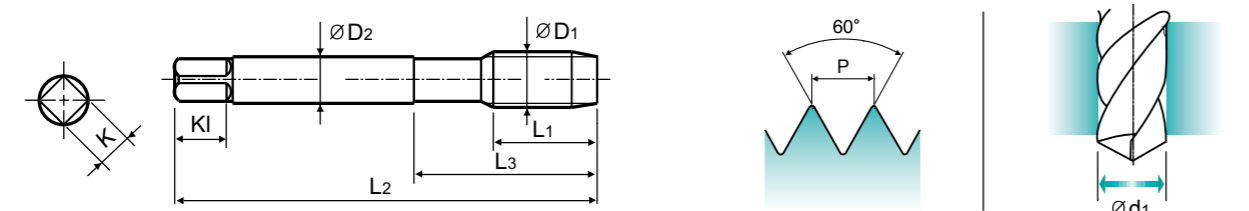
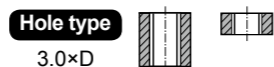
ISO Material Description	N					S					H													
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel			Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso 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: **AI** HSS-E DIN 371/376 6H 60° B NI

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252

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	Ni	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TE943136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TE943156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TE943196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TE943176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TE943496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TE943206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TE943226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TE943246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TE943266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TE943286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TE943316	17	80	30	6	4.9	8	3	5
M7 × 1		TE943346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TE943366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TE943396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TE943426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TE943466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TE943506	24	110	44	9	7	10	3	10.2
M14 × 2		TE943546	26	110	44	11	9	12	3	12
M16 × 2		TE943606	27	110	44	12	9	12	3	14
M18 × 2.5		TE943656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TE943706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TE943746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TE943786	34	160	60	18	14.5	17	4	21
M27 × 3		TE943866	36	160	60	20	16	19	4	24
M30 × 3.5		TE943946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

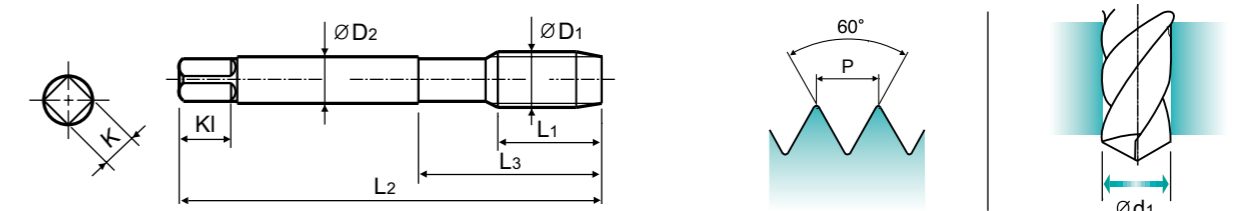
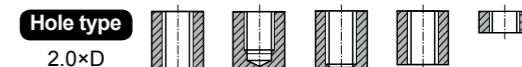
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

M ISO metric coarse threads DIN 13

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

► Suitable for brass and short chip work materials.

► Geeignet zum Gewindeschneiden von Messing und anderen kurzspanenden Werkstoffen



Material groups: **Ms** HSS-E DIN 371/376 6H 60° C Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252

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
M2 × 0.4		TC433136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TC433156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TC433196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TC433176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TC433496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TC433206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TC433226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TC433246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TC433266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TC433286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TC433316	17	80	30	6	4.9	8	3	5
M7 × 1		TC433346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TC433366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TC433396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TC433426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TC433466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TC433506	24	110	44	9	7	10	3	10.2
M14 × 2		TC433546	26	110	44	11	9	12	3	12
M16 × 2		TC433606	27	110	44	12	9	12	3	14
M18 × 2.5		TC433656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TC433706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TC433746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TC433786	34	160	60	18	14.5	17	4	21
M27 × 3		TC433866	36	160	60	20	16	19	4	24
M30 × 3.5		TC433946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					



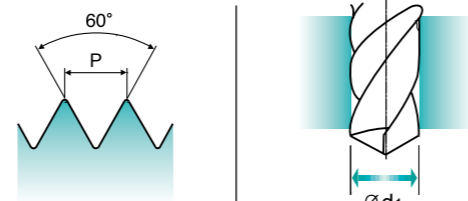
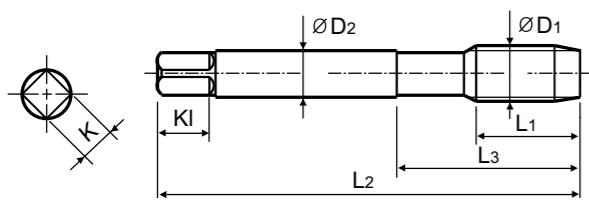
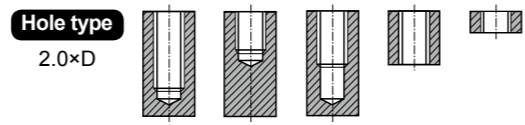
TE443 SERIES

M ISO metric coarse threads DIN 13

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

► Suitable for brass and short chip work materials.

► Geeignet zum Gewindeschneiden von Messing und anderen kurzspanenden Werkstoffen



Material groups: **Ms** HSS-E DIN 371/376 6HX 60° C NI

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252

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	Ni	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TE443136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TE443156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TE443196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TE443176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TE443496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TE443206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TE443226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TE443246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TE443266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TE443286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TE443316	17	80	30	6	4.9	8	3	5
M7 × 1		TE443346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TE443366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TE443396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TE443426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TE443466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TE443506	24	110	44	9	7	10	3	10.2
M14 × 2		TE443546	26	110	44	11	9	12	3	12
M16 × 2		TE443606	27	110	44	12	9	12	3	14
M18 × 2.5		TE443656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TE443706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TE443746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TE443786	34	160	60	18	14.5	17	4	21
M27 × 3		TE443866	36	160	60	20	16	19	4	24
M30 × 3.5		TE443946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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						◎	○														



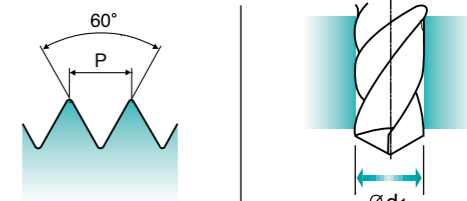
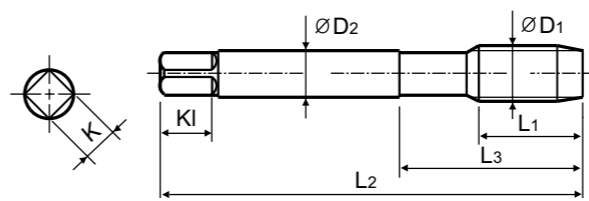
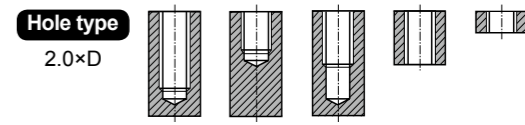
TY433 SERIES

M ISO metric coarse threads DIN 13

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

► Suitable for brass and short chip work materials.

► Geeignet zum Gewindeschneiden von Messing und anderen kurzspanenden Werkstoffen



Material groups: **Ms** HSS-E DIN 371/376 6H 60° C TiAIN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.252

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	TiAIN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TY433136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TY433156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TY433196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TY433176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TY433496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TY433206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TY433226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TY433246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TY433266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TY433286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TY433316	17	80	30	6	4.9	8	3	5
M7 × 1		TY433346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TY433366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TY433396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TY433426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TY433466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TY433506	24	110	44	9	7	10	3	10.2
M14 × 2		TY433546	26	110	44	11	9	12	3	12
M16 × 2		TY433606	27	110	44	12	9	12	3	14
M18 × 2.5		TY433656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TY433706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TY433746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TY433786	34	160	60	18	14.5	17	4	21
M27 × 3		TY433866	36	160	60	20	16	19	4	24
M30 × 3.5		TY433946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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						◎	○														



**RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN**

ISO	VDI 3323	Material Description	HB	HRc	TC163	TC963	TC169	TC170	TE953	TC622	TE943	TC433	TE443	TY433	
					Vc (m/min)										
P	1	Non-alloy steel	125		15-20					15-20					
	2		190	13	15-20				15-20						
	3		250	25	12-18	12-18	12-18	12-18							
	4		270	28											
	5	300	32												
	6	180	10												
	7	275	29												
	8	300	32												
	9	350	38												
	10	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		130												
20	Malleable cast iron	230	21												
N	21	Aluminum-wrought alloy	60		10-15	10-15	10-15	10-15							
	22		100		10-15	10-15	10-15	10-15							
	23	Aluminum-cast, alloyed	75		15-20	15-20	15-20	15-20							
	24		90		15-20	15-20	15-20	15-20							
	25		130			10-15		10-15							
	26	Copper and Copper Alloys (Bronze / Brass)	110						25-35	25-35	35-40				
	27		90		8-12		8-12		8-12	8-12	12-16				
	28		100						15-20		20-25				
	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											
	39		630	60											
	40	Chilled Cast Iron	400	42											
41	Hardened Cast Iron	550	55												



Leading Through Innovation



HSS-PM

YG TAP Ti Ni

YG TAP Ti Ni

- For Heat Resistant Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief
- Für hitzebeständige Superlegierungen und Titanlegierungen, mit Schneidkanten-Spanwinkeln und Gewindehinterschliff



HSS-PM YG TAP Ti Ni

For Heat Resistant Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief

Please visit globallyg1.com/mat for material search. Recommended cutting conditions : P.268

Table with columns: ISO, VDI 3323, Material Description, Composition / Structure / Heat Treatment, HB, HRc, and four columns for hole types (Max. 2.5xD Blind Hole, Max. 3.0xD Through Hole) with surface treatments (Bright, TiAlN).

Table with 4 columns for hole types: Max. 2.5xD Blind Hole, Max. 3.0xD Through Hole, Max. 2.5xD Blind Hole, Max. 3.0xD Through Hole.

HSS-PM

Large table with columns for hole types and rows for various tap series (C, B, R40, TM933, TZ933, TM923, TZ923, TQ833, TR833, TQ873, TR873) and surface treatments (Bright, TiAlN, VAP).



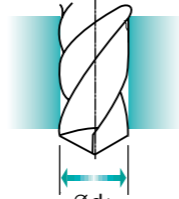
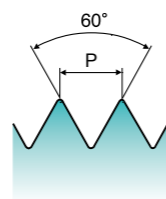
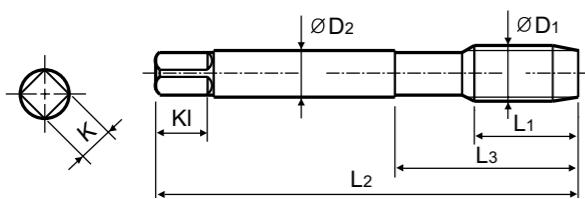
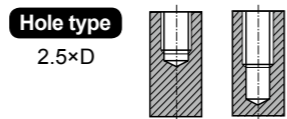
TM903 SERIES

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: **Ti** HSS-PM DIN 371/376 6H 60° C Bright R25 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268 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
M2 × 0.4		TM903136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TM903156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TM903196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TM903176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TM903496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TM903206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TM903226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TM903246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TM903266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TM903286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TM903316	10	80	30	6	4.9	8	3	5
M7 × 1		TM903346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TM903366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TM903396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TM903426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TM903466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TM903506	18	110	44	9	7	10	3	10.2
M14 × 2		TM903546	20	110	44	11	9	12	3	12
M16 × 2		TM903606	20	110	44	12	9	12	3	14
M18 × 2.5		TM903656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TM903706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TM903746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TM903786	30	160	60	18	14.5	17	4	21
M27 × 3		TM903866	30	160	60	20	16	19	4	24
M30 × 3.5		TM903946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											○						◎				



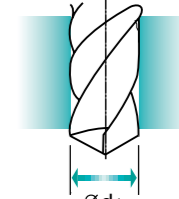
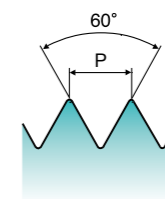
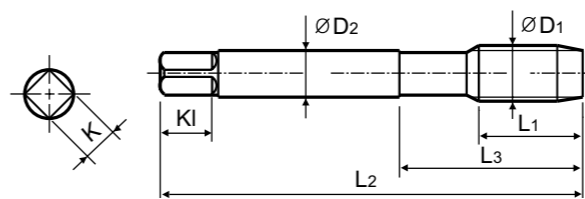
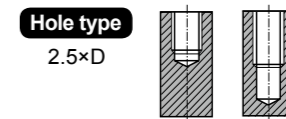
TZ903 SERIES

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: **Ti** HSS-PM DIN 371/376 6H 60° C TiAlN R25 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268 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		TZ903136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TZ903156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TZ903196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TZ903176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TZ903496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TZ903206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TZ903226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TZ903246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TZ903266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TZ903286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TZ903316	10	80	30	6	4.9	8	3	5
M7 × 1		TZ903346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TZ903366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TZ903396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TZ903426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TZ903466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TZ903506	18	110	44	9	7	10	3	10.2
M14 × 2		TZ903546	20	110	44	11	9	12	3	12
M16 × 2		TZ903606	20	110	44	12	9	12	3	14
M18 × 2.5		TZ903656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TZ903706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TZ903746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TZ903786	30	160	60	18	14.5	17	4	21
M27 × 3		TZ903866	30	160	60	20	16	19	4	24
M30 × 3.5		TZ903946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											○						◎				

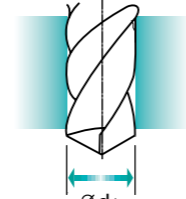
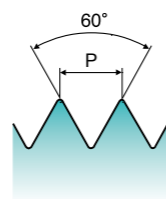
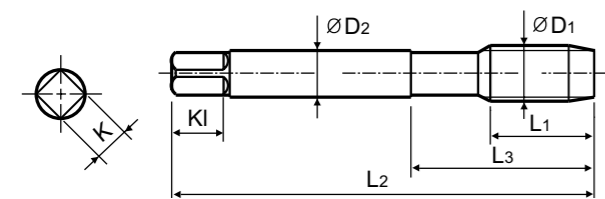


TM293 SERIES

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

▶ Interrupted tap to reduce contact area and tapping torque, and to give more chip space.

▶ Gewindebohrer mit ausgesetzten Zähnen um die Kontaktzone mit dem Werkstück und das Drehmoment zu minimieren und dem Span mehr Raum zu geben.



Ti HSS-PM DIN 371/376 6H 60° B Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.268

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
M2 × 0.4		TM293136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TM293156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TM293196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TM293176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TM293496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TM293206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TM293226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TM293246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TM293266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TM293286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TM293316	17	80	30	6	4.9	8	3	5
M7 × 1		TM293346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TM293366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TM293396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TM293426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TM293466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TM293506	24	110	44	9	7	10	3	10.2
M14 × 2		TM293546	26	110	44	11	9	12	3	12
M16 × 2		TM293606	27	110	44	12	9	12	3	14
M18 × 2.5		TM293656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TM293706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TM293746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TM293786	34	160	60	18	14.5	17	4	21
M27 × 3		TM293866	36	160	60	20	16	19	4	24
M30 × 3.5		TM293946	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 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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											○	○	○	○	○	○	◎				○

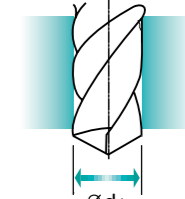
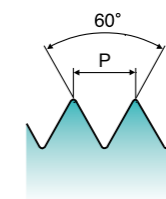
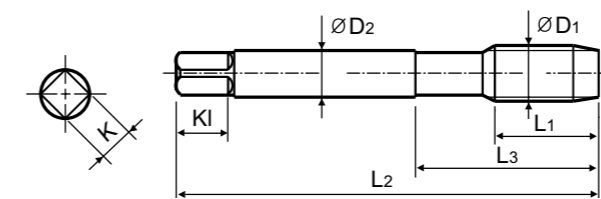
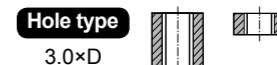


TZ293 SERIES

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

▶ Interrupted tap to reduce contact area and tapping torque, and to give more chip space.

▶ Gewindebohrer mit ausgesetzten Zähnen um die Kontaktzone mit dem Werkstück und das Drehmoment zu minimieren und dem Span mehr Raum zu geben.



Ti HSS-PM DIN 371/376 6H 60° B TiAIN

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.268

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	TiAIN	L1	L2	L3	ØD2	K	KI	Z	Ød1
M2 × 0.4		TZ293136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TZ293156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TZ293196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TZ293176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TZ293496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TZ293206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TZ293226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TZ293246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TZ293266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TZ293286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TZ293316	17	80	30	6	4.9	8	3	5
M7 × 1		TZ293346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TZ293366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TZ293396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TZ293426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TZ293466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TZ293506	24	110	44	9	7	10	3	10.2
M14 × 2		TZ293546	26	110	44	11	9	12	3	12
M16 × 2		TZ293606	27	110	44	12	9	12	3	14
M18 × 2.5		TZ293656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TZ293706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TZ293746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TZ293786	34	160	60	18	14.5	17	4	21
M27 × 3		TZ293866	36	160	60	20	16	19	4	24
M30 × 3.5		TZ293946	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 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	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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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											○	○	○	○	○	○	◎				○



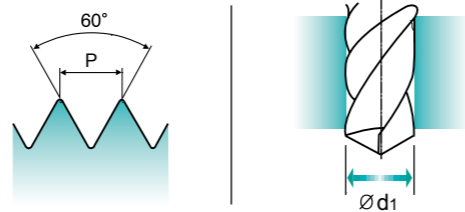
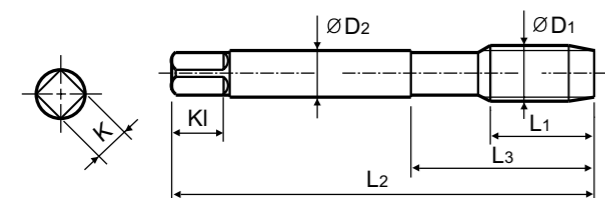
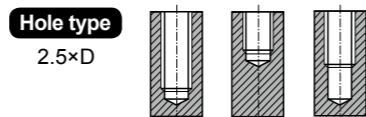
TM933 SERIES

M ISO metric coarse threads DIN 13

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

► For tapping Nickel alloys and heat resistant alloy steels which are used in aerospace and chemical industries.

► Zum Gewindeschneiden von Nickellegierungen und hitzefesten Legierungsstählen, die in der Luftfahrtindustrie und chemischen Industrie verwendet werden.



Material groups: **Ni** HSS-PM DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268 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
M2 × 0.4		TM933136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TM933156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TM933196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TM933176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TM933496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TM933206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TM933226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TM933246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TM933266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TM933286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TM933316	10	80	30	6	4.9	8	3	5
M7 × 1		TM933346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TM933366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TM933396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TM933426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TM933466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TM933506	18	110	44	9	7	10	3	10.2
M14 × 2		TM933546	20	110	44	11	9	12	3	12
M16 × 2		TM933606	20	110	44	12	9	12	3	14
M18 × 2.5		TM933656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TM933706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TM933746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TM933786	30	160	60	18	14.5	17	4	21
M27 × 3		TM933866	30	160	60	20	16	19	4	24
M30 × 3.5		TM933946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended											◎	◎	◎	◎	◎							



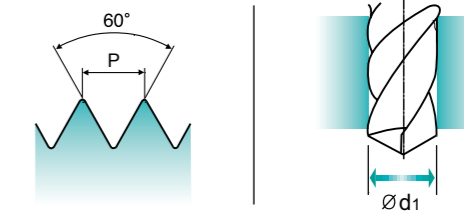
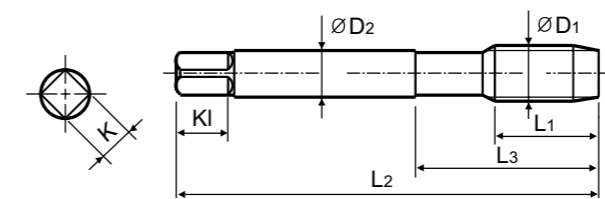
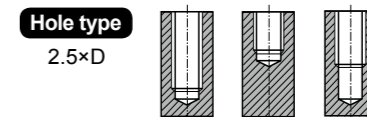
TZ933 SERIES

M ISO metric coarse threads DIN 13

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

► For tapping Nickel alloys and heat resistant alloy steels which are used in aerospace and chemical industries.

► Zum Gewindeschneiden von Nickellegierungen und hitzefesten Legierungsstählen, die in der Luftfahrtindustrie und chemischen Industrie verwendet werden.



Material groups: **Ni** HSS-PM DIN 371/376 6H 60° C TiAlN R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268 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		TZ933136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TZ933156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TZ933196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TZ933176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TZ933496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TZ933206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TZ933226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TZ933246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TZ933266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TZ933286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TZ933316	10	80	30	6	4.9	8	3	5
M7 × 1		TZ933346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TZ933366	13	90	35	8	6.2	9	3	6.8
M9 × 1.25		TZ933396	13	90	35	9	7	10	3	7.8
M10 × 1.5		TZ933426	15	100	39	10	8	11	3	8.5
M11 × 1.5		TZ933466	17	100	40	8	6.2	9	3	9.5
M12 × 1.75		TZ933506	18	110	44	9	7	10	3	10.2
M14 × 2		TZ933546	20	110	44	11	9	12	3	12
M16 × 2		TZ933606	20	110	44	12	9	12	3	14
M18 × 2.5		TZ933656	25	125	50	14	11	14	4	15.5
M20 × 2.5		TZ933706	25	140	54	16	12	15	4	17.5
M22 × 2.5		TZ933746	25	140	54	18	14.5	17	4	19.5
M24 × 3		TZ933786	30	160	60	18	14.5	17	4	21
M27 × 3		TZ933866	30	160	60	20	16	19	4	24
M30 × 3.5		TZ933946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended											◎	◎	◎	◎	◎							



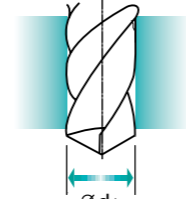
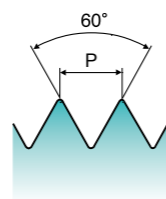
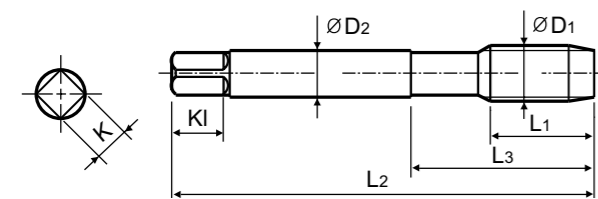
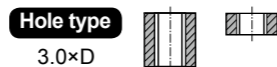
TM923 SERIES

M ISO metric coarse threads DIN 13

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

► For tapping Nickel alloys and heat resistant alloy steels which are used in aero space and chemical industries.

► Zum Gewindeschneiden von Nickellegierungen und hitzefesten Legierungsstählen, die in der Luftfahrtindustrie und chemischen Industrie verwendet werden.



Ni HSS-PM DIN 371/376 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268

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	Kl	Z	Ød1
M2 × 0.4		TM923136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TM923156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TM923196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TM923176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TM923496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TM923206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TM923226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TM923246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TM923266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TM923286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TM923316	17	80	30	6	4.9	8	3	5
M7 × 1		TM923346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TM923366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TM923396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TM923426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TM923466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TM923506	24	110	44	9	7	10	3	10.2
M14 × 2		TM923546	26	110	44	11	9	12	3	12
M16 × 2		TM923606	27	110	44	12	9	12	3	14
M18 × 2.5		TM923656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TM923706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TM923746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TM923786	34	160	60	18	14.5	17	4	21
M27 × 3		TM923866	36	160	60	20	16	19	4	24
M30 × 3.5		TM923946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											◎	◎	◎	◎	◎						



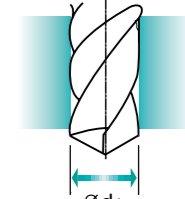
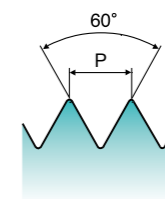
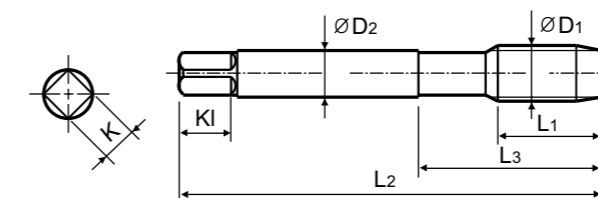
TZ923 SERIES

M ISO metric coarse threads DIN 13

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

► For tapping Nickel alloys and heat resistant alloy steels which are used in aero space and chemical industries.

► Zum Gewindeschneiden von Nickellegierungen und hitzefesten Legierungsstählen, die in der Luftfahrtindustrie und chemischen Industrie verwendet werden.



Ni HSS-PM DIN 371/376 6H 60° B TiAIN

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268

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	TiAIN	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2 × 0.4		TZ923136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TZ923156	8	45	13	2.8	2.1	5	3	1.75
*M2.3 × 0.4		TZ923196	8	45	13	2.8	2.1	5	3	1.9
M2.5 × 0.45		TZ923176	9	50	15	2.8	2.1	5	3	2.05
*M2.6 × 0.45		TZ923496	9	50	15	2.8	2.1	5	3	2.1
M3 × 0.5		TZ923206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TZ923226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TZ923246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TZ923266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TZ923286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TZ923316	17	80	30	6	4.9	8	3	5
M7 × 1		TZ923346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TZ923366	20	90	35	8	6.2	9	3	6.8
M9 × 1.25		TZ923396	20	90	35	9	7	10	3	7.8
M10 × 1.5		TZ923426	22	100	39	10	8	11	3	8.5
M11 × 1.5		TZ923466	22	100	40	8	6.2	9	3	9.5
M12 × 1.75		TZ923506	24	110	44	9	7	10	3	10.2
M14 × 2		TZ923546	26	110	44	11	9	12	3	12
M16 × 2		TZ923606	27	110	44	12	9	12	3	14
M18 × 2.5		TZ923656	30	125	50	14	11	14	4	15.5
M20 × 2.5		TZ923706	32	140	54	16	12	15	4	17.5
M22 × 2.5		TZ923746	32	140	54	18	14.5	17	4	19.5
M24 × 3		TZ923786	34	160	60	18	14.5	17	4	21
M27 × 3		TZ923866	36	160	60	20	16	19	4	24
M30 × 3.5		TZ923946	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 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended						◎	◎	◎	◎											

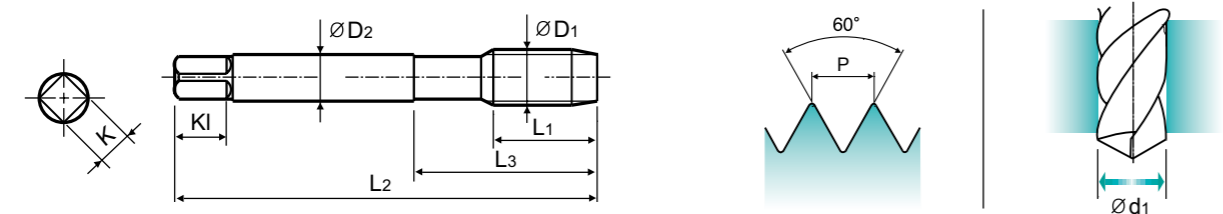
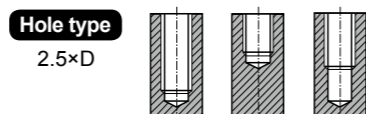
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											◎	◎	◎	◎	◎						

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.



Ti Ni HSS-PM DIN 371/376 6H 60° C Vap R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268 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	KI	Z	Ød1
M2 × 0.4		TQ833136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TQ833156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TQ833176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TQ833206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ833226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TQ833246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ833266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ833286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TQ833316	10	80	30	6	4.9	8	3	5
M7 × 1		TQ833346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TQ833366	13	90	35	8	6.2	9	3	6.8
M10 × 1.5		TQ833426	15	100	39	10	8	11	3	8.5
M12 × 1.75		TQ833506	18	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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		
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	30	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						◎	◎	◎	◎											

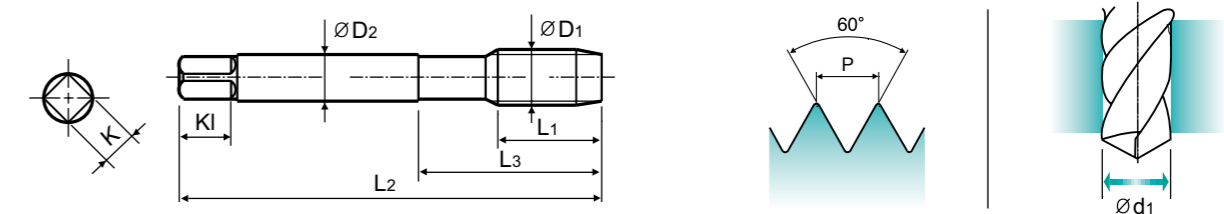
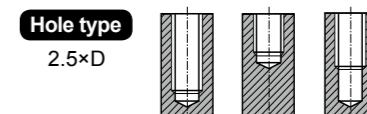
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											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											◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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.



Ti Ni HSS-PM DIN 371/376 6H 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268 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
M2 × 0.4		TR833136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TR833156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TR833176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TR833206	6	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TR833226	7	56	20	4	3	6	3	2.9
M4 × 0.7		TR833246	7	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TR833266	8	70	25	6	4.9	8	3	3.7
M5 × 0.8		TR833286	8	70	25	6	4.9	8	3	4.2
M6 × 1		TR833316	10	80	30	6	4.9	8	3	5
M7 × 1		TR833346	10	80	30	7	5.5	8	3	6
M8 × 1.25		TR833366	13	90	35	8	6.2	9	3	6.8
M10 × 1.5		TR833426	15	100	39	10	8	11	3	8.5
M12 × 1.75		TR833506	18	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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		
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	30	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						◎	◎	◎	◎											

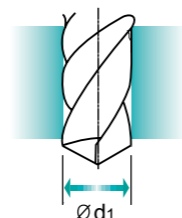
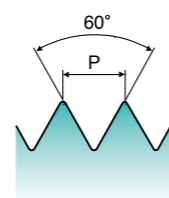
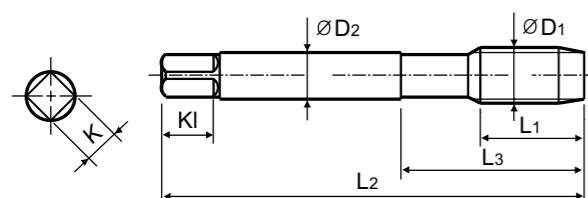
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											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											◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

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

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



Ti Ni HSS-PM DIN 371/376 6H 60° B Vap

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268

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	KI	Z	Ød1
M2 × 0.4		TQ873136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TQ873156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TQ873176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TQ873206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TQ873226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TQ873246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TQ873266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TQ873286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TQ873316	17	80	30	6	4.9	8	3	5
M7 × 1		TQ873346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TQ873366	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TQ873426	22	100	39	10	8	11	3	8.5
M12 × 1.75		TQ873506	24	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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			
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	30	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						◎	◎	◎	◎											

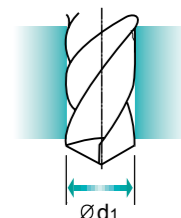
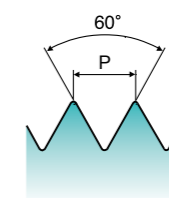
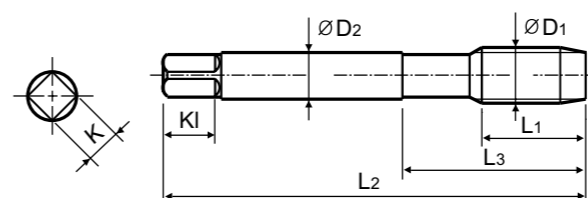
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											◎	◎	◎	◎	◎			○			

M ISO metric coarse threads DIN 13

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

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

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



Ti Ni HSS-PM DIN 371/376 6H 60° B Bright

Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.268

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
M2 × 0.4		TR873136	8	45	13	2.8	2.1	5	3	1.6
M2.2 × 0.45		TR873156	8	45	13	2.8	2.1	5	3	1.75
M2.5 × 0.45		TR873176	9	50	15	2.8	2.1	5	3	2.05
M3 × 0.5		TR873206	11	56	18	3.5	2.7	6	3	2.5
M3.5 × 0.6		TR873226	12	56	20	4	3	6	3	2.9
M4 × 0.7		TR873246	13	63	21	4.5	3.4	6	3	3.3
M4.5 × 0.75		TR873266	14	70	25	6	4.9	8	3	3.7
M5 × 0.8		TR873286	15	70	25	6	4.9	8	3	4.2
M6 × 1		TR873316	17	80	30	6	4.9	8	3	5
M7 × 1		TR873346	17	80	30	7	5.5	8	3	6
M8 × 1.25		TR873366	20	90	35	8	6.2	9	3	6.8
M10 × 1.5		TR873426	22	100	39	10	8	11	3	8.5
M12 × 1.75		TR873506	24	110	44	9	7	10	3	10.2

►DIN 371(M2~M10) and DIN 376(M12)

◎ : 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			
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	30	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)	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																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											◎	◎	◎	◎	◎			○			

		Vc (m/min)														
		TM903	TZ903	TM293	TZ293	TM933	TZ933	TM923	TZ923	TQ833	TR833	TQ873	TR873			
ISO	VDI 3323	Material Description	HB	HRc												
P	1	Non-alloy steel	125													
	2		190	13												
	3		250	25												
	4		270	28												
	5		300	32												
	6	Low alloy steel	180	10					10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15
	7		275	29	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15
	8		300	32	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10
	9		350	38	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	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												
K	15	Grey cast iron	180	10												
	16		260	26												
	17	Nodular cast iron	160	3												
	18		250	25												
	19		130													
20	Malleable cast iron	230	21													
N	21	Aluminum-wrought alloy	60													
	22		100													
	23	Aluminum-cast, alloyed	75													
	24		90													
	25		130													
	26		110													
	27	Copper and Copper Alloys (Bronze / Brass)	90													
	28		100													
	29	Non Metallic Materials														
	30															
S	31	Heat Resistant Super Alloys	200	15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15		
	32		280	30			10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15		
	33		250	25			2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4		
	34		350	38			2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4		
	35		320	34			2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4		
	36	Titanium Alloys	400Rm		10-15	10-15	10-15	10-15				10-15	10-15	10-15		
	37		1050Rm		4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6			
H	38	Hardened steel	550	55							3-5					
	39		630	60												
	40	Chilled Cast Iron	400	42			3-5	3-5				3-5	3-5			
	41	Hardened Cast Iron	550	55												

HSS-E & HSS-PM

YG TAP FORMING

YG TAP FORMING

- Tapping by Forming Soft Materials
- Gewindeherstellung durch Formen von weichen Materialien



HSS-E & HSS-PM YG TAP FORMING

Tapping by Forming Soft Materials

Please visit globalyg1.com/mat for material search

© : Excellent ○ : Good

Recommended cutting conditions : P.285

Table with columns: ISO, VDI 3323, Material Description, Composition / Structure / Heat Treatment, HB, HRc, and MODEL. It lists various materials like Non-alloy steel, Low alloy steel, Stainless steel, Cast iron, Aluminum-wrought alloy, Heat Resistant Super Alloys, Titanium Alloys, Hardened steel, and Hardened Cast Iron.

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, SERIES, SURFACE TREATMENT / COATING, and MODEL. It details specifications for HSS-E and HSS-PM tools, including models like TD703, TE703, TD733, TE733, TD704, and TE704.

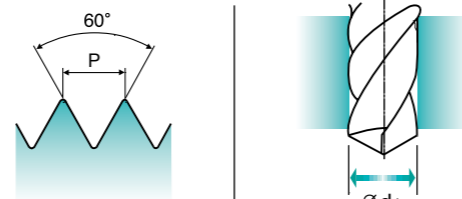
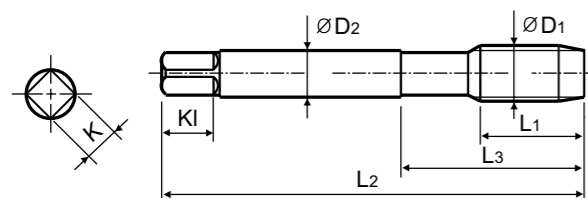
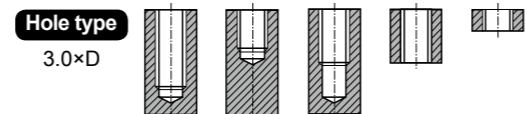
Table with columns: HSS-E, HSS-PM, HSS-E, HSS-PM, HSS-E, HSS-PM, HSS-E, HSS-PM. It lists various HSS-E and HSS-PM models like TY703, TQ703, TD713, TE713, TQ723, TE723, and TD723, along with their surface treatments (TiAIN, VAP, TIN, NI).

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C TIN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	TIN	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TD703136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TD703156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TD703196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TD703176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TD703496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TD703206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TD703226	12	56	20	4	3	6	3.25
M4 × 0.7		TD703246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TD703266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TD703286	15	70	25	6	4.9	8	4.65
M6 × 1		TD703316	17	80	30	6	4.9	8	5.55
M7 × 1		TD703346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TD703366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TD703396	20	90	35	9	7	10	8.4
M10 × 1.5		TD703426	22	100	39	10	8	11	9.3
M11 × 1.5		TD703466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TD703506	24	110	44	9	7	10	11.2
M14 × 2		TD703546	26	110	44	11	9	12	13
M16 × 2		TD703606	27	110	44	12	9	12	15
M18 × 2.5		TD703656	30	125	50	14	11	14	16.8
M20 × 2.5		TD703706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	
Recommended	◎	◎	◎		◎					○	○	○								

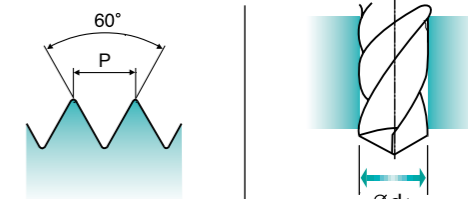
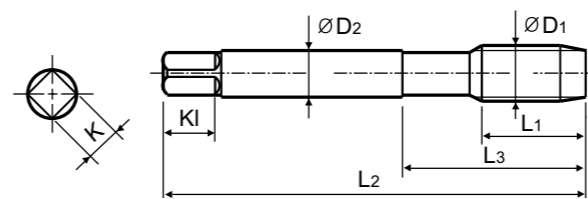
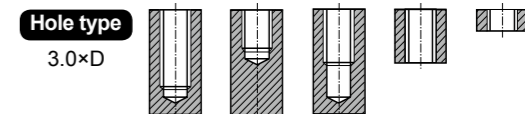
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○		○															

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	Ni	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TE703136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TE703156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TE703196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TE703176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TE703496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TE703206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TE703226	12	56	20	4	3	6	3.25
M4 × 0.7		TE703246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TE703266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TE703286	15	70	25	6	4.9	8	4.65
M6 × 1		TE703316	17	80	30	6	4.9	8	5.55
M7 × 1		TE703346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TE703366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TE703396	20	90	35	9	7	10	8.4
M10 × 1.5		TE703426	22	100	39	10	8	11	9.3
M11 × 1.5		TE703466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TE703506	24	110	44	9	7	10	11.2
M14 × 2		TE703546	26	110	44	11	9	12	13
M16 × 2		TE703606	27	110	44	12	9	12	15
M18 × 2.5		TE703656	30	125	50	14	11	14	16.8
M20 × 2.5		TE703706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	
Recommended	◎	◎	◎		◎					○	○	○								

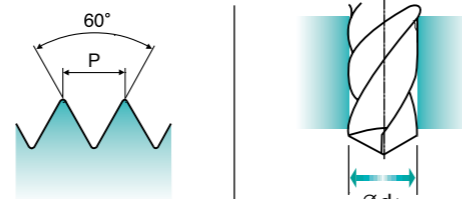
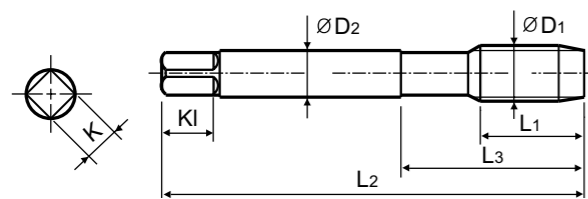
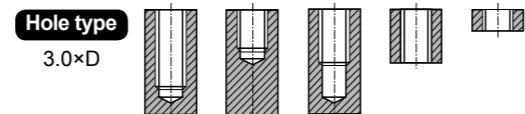
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○		○															

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C TiAlN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	TiAlN	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TY703136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TY703156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TY703196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TY703176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TY703496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TY703206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TY703226	12	56	20	4	3	6	3.25
M4 × 0.7		TY703246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TY703266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TY703286	15	70	25	6	4.9	8	4.65
M6 × 1		TY703316	17	80	30	6	4.9	8	5.55
M7 × 1		TY703346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TY703366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TY703396	20	90	35	9	7	10	8.4
M10 × 1.5		TY703426	22	100	39	10	8	11	9.3
M11 × 1.5		TY703466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TY703506	24	110	44	9	7	10	11.2
M14 × 2		TY703546	26	110	44	11	9	12	13
M16 × 2		TY703606	27	110	44	12	9	12	15
M18 × 2.5		TY703656	30	125	50	14	11	14	16.8
M20 × 2.5		TY703706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎		◎					○	○	○								

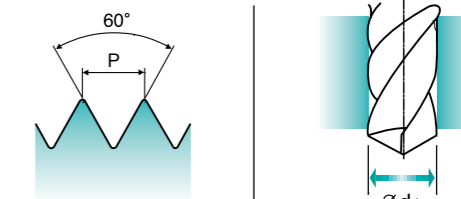
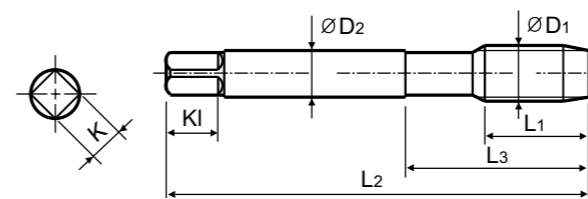
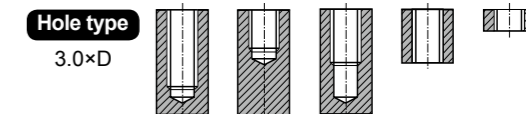
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○		○		◎													

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation in the best substrate.
- The pre-drilling holes are bigger than normal sized holes.

- Aus bestem Werkstoff geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-PM DIN 371/376 6HX 60° C Vap

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	Vap	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TQ703136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TQ703156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TQ703196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TQ703176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TQ703496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TQ703206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TQ703226	12	56	20	4	3	6	3.25
M4 × 0.7		TQ703246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TQ703266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TQ703286	15	70	25	6	4.9	8	4.65
M6 × 1		TQ703316	17	80	30	6	4.9	8	5.55
M7 × 1		TQ703346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TQ703366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TQ703396	20	90	35	9	7	10	8.4
M10 × 1.5		TQ703426	22	100	39	10	8	11	9.3
M11 × 1.5		TQ703466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TQ703506	24	110	44	9	7	10	11.2
M14 × 2		TQ703546	26	110	44	11	9	12	13
M16 × 2		TQ703606	27	110	44	12	9	12	15
M18 × 2.5		TQ703656	30	125	50	14	11	14	16.8
M20 × 2.5		TQ703706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎		◎					○	○	○								

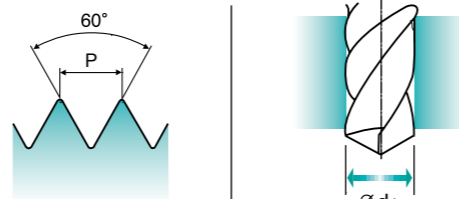
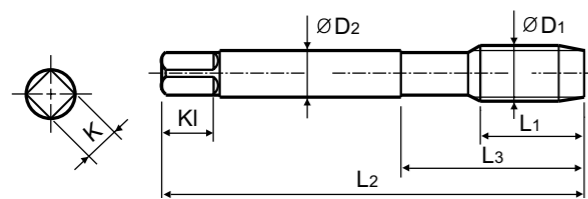
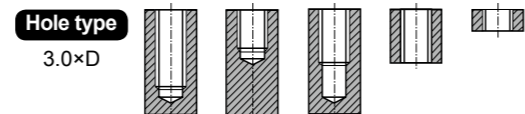
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○		○		◎													

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6GX 60° C TIN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	TiN	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TD713136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TD713156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TD713196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TD713176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TD713496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TD713206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TD713226	12	56	20	4	3	6	3.25
M4 × 0.7		TD713246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TD713266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TD713286	15	70	25	6	4.9	8	4.65
M6 × 1		TD713316	17	80	30	6	4.9	8	5.55
M7 × 1		TD713346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TD713366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TD713396	20	90	35	9	7	10	8.4
M10 × 1.5		TD713426	22	100	39	10	8	11	9.3
M11 × 1.5		TD713466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TD713506	24	110	44	9	7	10	11.2
M14 × 2		TD713546	26	110	44	11	9	12	13
M16 × 2		TD713606	27	110	44	12	9	12	15
M18 × 2.5		TD713656	30	125	50	14	11	14	16.8
M20 × 2.5		TD713706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	◎		◎					○	○	○										

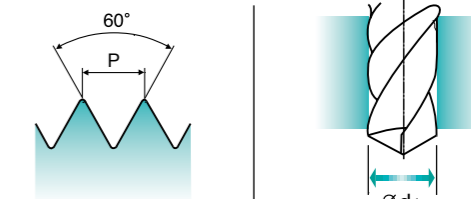
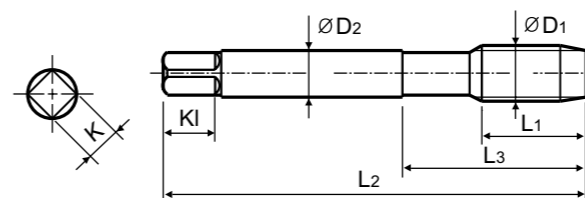
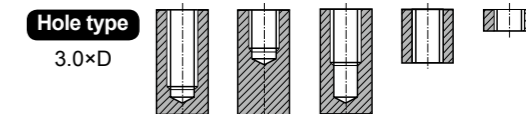
ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	○	○		○		◎															

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Aus bestem Werkstoff geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6GX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	Ni	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TE713136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TE713156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TE713196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TE713176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TE713496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TE713206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TE713226	12	56	20	4	3	6	3.25
M4 × 0.7		TE713246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TE713266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TE713286	15	70	25	6	4.9	8	4.65
M6 × 1		TE713316	17	80	30	6	4.9	8	5.55
M7 × 1		TE713346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TE713366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TE713396	20	90	35	9	7	10	8.4
M10 × 1.5		TE713426	22	100	39	10	8	11	9.3
M11 × 1.5		TE713466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TE713506	24	110	44	9	7	10	11.2
M14 × 2		TE713546	26	110	44	11	9	12	13
M16 × 2		TE713606	27	110	44	12	9	12	15
M18 × 2.5		TE713656	30	125	50	14	11	14	16.8
M20 × 2.5		TE713706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	◎		◎					○	○	○										

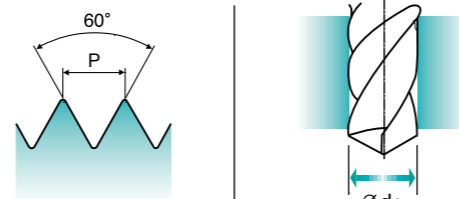
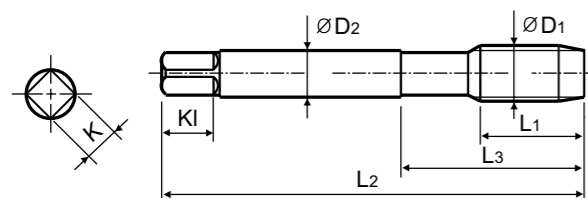
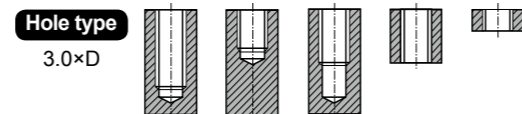
ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	○	○		○		◎															

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation in the best substrate.
- The pre-drilling holes are bigger than normal sized holes.

- Aus bestem Werkstoff geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-PM DIN 371/376 6HX 60° C Vap

Cold forming taps Gewindeformer

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	Vap	L1	L2	L3	ØD2	K	Kl	Ød1
M2 × 0.4		TQ723136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TQ723156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TQ723196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TQ723176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TQ723496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TQ723206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TQ723226	12	56	20	4	3	6	3.25
M4 × 0.7		TQ723246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TQ723266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TQ723286	15	70	25	6	4.9	8	4.65
M6 × 1		TQ723316	17	80	30	6	4.9	8	5.55
M7 × 1		TQ723346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TQ723366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TQ723396	20	90	35	9	7	10	8.4
M10 × 1.5		TQ723426	22	100	39	10	8	11	9.3
M11 × 1.5		TQ723466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TQ723506	24	110	44	9	7	10	11.2
M14 × 2		TQ723546	26	110	44	11	9	12	13
M16 × 2		TQ723606	27	110	44	12	9	12	15
M18 × 2.5		TQ723656	30	125	50	14	11	14	16.8
M20 × 2.5		TQ723706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

© : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

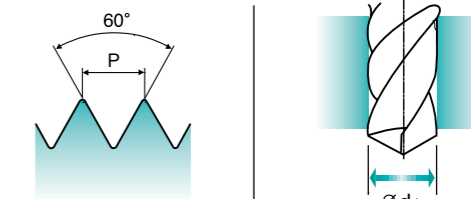
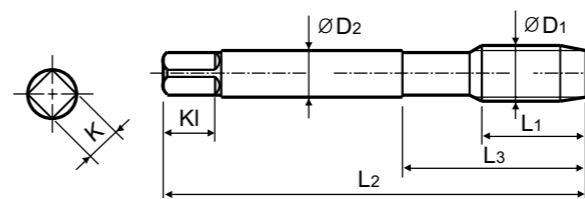
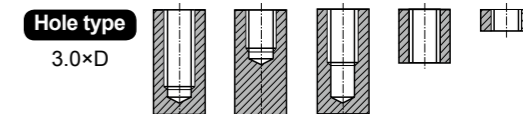
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C NI

Cold forming taps Gewindeformer

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	Ni	L1	L2	L3	ØD2	K	Kl	Ød1
M2 × 0.4		TE723136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TE723156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TE723196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TE723176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TE723496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TE723206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TE723226	12	56	20	4	3	6	3.25
M4 × 0.7		TE723246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TE723266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TE723286	15	70	25	6	4.9	8	4.65
M6 × 1		TE723316	17	80	30	6	4.9	8	5.55
M7 × 1		TE723346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TE723366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TE723396	20	90	35	9	7	10	8.4
M10 × 1.5		TE723426	22	100	39	10	8	11	9.3
M11 × 1.5		TE723466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TE723506	24	110	44	9	7	10	11.2
M14 × 2		TE723546	26	110	44	11	9	12	13
M16 × 2		TE723606	27	110	44	12	9	12	15
M18 × 2.5		TE723656	30	125	50	14	11	14	16.8
M20 × 2.5		TE723706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

© : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

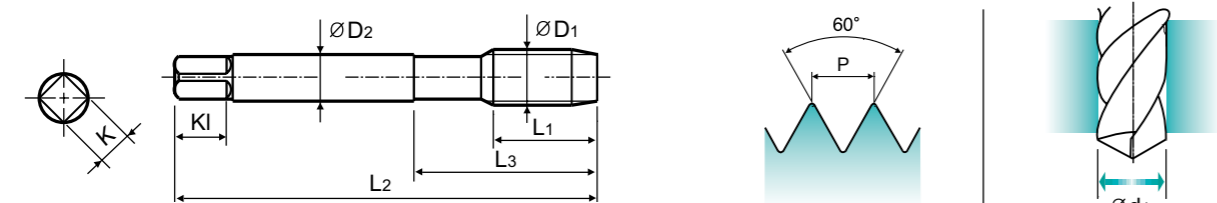
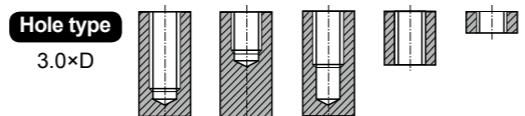
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M ISO metric coarse threads DIN 13

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

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** **HSS-E** **DIN 371/376** **6HX** **60°** **C** **TiN**

Cold forming taps
Gewindeformer

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	TiN	L1	L2	L3	ØD2	K	KI	Ød1
M2 × 0.4		TD723136	8	45	13	2.8	2.1	5	1.83
M2.2 × 0.45		TD723156	8	45	13	2.8	2.1	5	2
*M2.3 × 0.4		TD723196	8	45	13	2.8	2.1	5	2.1
M2.5 × 0.45		TD723176	9	50	15	2.8	2.1	5	2.3
*M2.6 × 0.45		TD723496	9	50	15	2.8	2.1	5	2.4
M3 × 0.5		TD723206	11	56	18	3.5	2.7	6	2.8
M3.5 × 0.6		TD723226	12	56	20	4	3	6	3.25
M4 × 0.7		TD723246	13	63	21	4.5	3.4	6	3.7
M4.5 × 0.75		TD723266	14	70	25	6	4.9	8	4.15
M5 × 0.8		TD723286	15	70	25	6	4.9	8	4.65
M6 × 1		TD723316	17	80	30	6	4.9	8	5.55
M7 × 1		TD723346	17	80	30	7	5.5	8	6.55
M8 × 1.25		TD723366	20	90	35	8	6.2	9	7.4
M9 × 1.25		TD723396	20	90	35	9	7	10	8.4
M10 × 1.5		TD723426	22	100	39	10	8	11	9.3
M11 × 1.5		TD723466	22	100	40	8	6.2	9	10.3
M12 × 1.75		TD723506	24	110	44	9	7	10	11.2
M14 × 2		TD723546	26	110	44	11	9	12	13
M16 × 2		TD723606	27	110	44	12	9	12	15
M18 × 2.5		TD723656	30	125	50	14	11	14	16.8
M20 × 2.5		TD723706	32	140	54	16	12	15	18.8

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

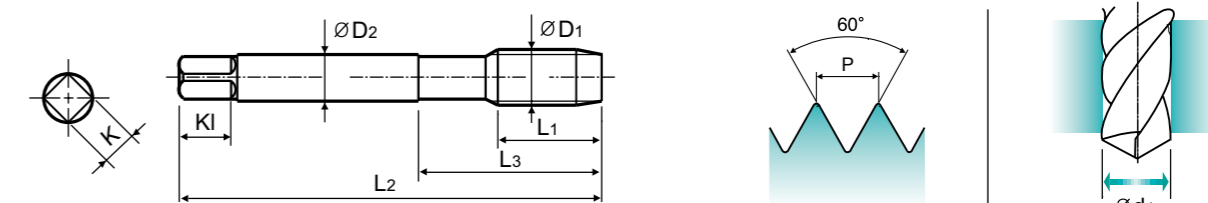
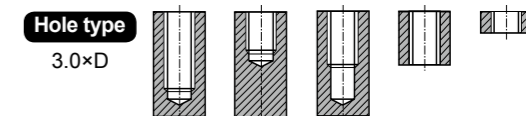
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** **HSS-E** **DIN 374** **6HX** **60°** **C** **TiN**

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	TiN	L1	L2	L3	ØD2	K	KI	Ød1
M4 × 0.5		TD733256	10	63	21	2.8	2.1	5	3.75
M5 × 0.5		TD733296	11	70	25	3.5	2.7	6	4.75
M6 × 0.75		TD733326	13	80	30	4.5	3.4	6	5.65
M6 × 0.5		TD733336	13	80	30	4.5	3.4	6	5.75
M7 × 0.75		TD733356	14	80	30	5.5	4.3	7	6.65
M8 × 1		TD733376	17	90	36	6	4.9	8	7.5
M8 × 0.75		TD733386	14	80	30	6	4.9	8	7.65
M10 × 1.25		TD733436	22	100	40	7	5.5	8	9.4
M10 × 1		TD733446	18	90	36	7	5.5	8	9.5
M10 × 0.75		TD733456	18	90	36	7	5.5	8	9.65
M12 × 1.5		TD733516	22	100	40	9	7	10	11.25
M12 × 1.25		TD733526	22	100	40	9	7	10	11.4
M12 × 1		TD733536	18	100	40	9	7	10	11.5
M14 × 1.5		TD733556	22	100	40	11	9	12	13.25
M14 × 1.25		TD733566	22	100	40	11	9	12	13.4
M16 × 1.5		TD733616	22	100	40	12	9	12	15.25
M18 × 1.5		TD733676	25	110	44	14	11	14	17.25
M20 × 1.5		TD733726	25	125	50	16	12	15	19.25

◎ : 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		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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

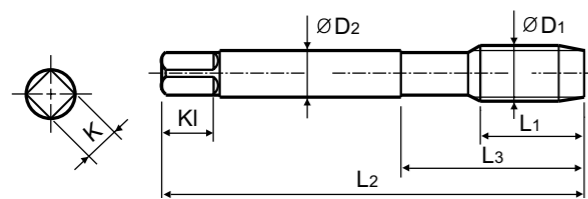
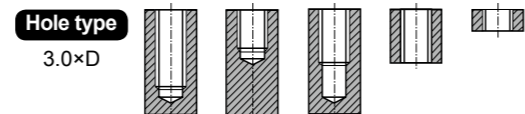
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 374 6HX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	P	Ni	L1	L2	L3	ØD2	K	Kl	Ød1
M4	× 0.5	TE733256	10	63	21	2.8	2.1	5	3.75
M5	× 0.5	TE733296	11	70	25	3.5	2.7	6	4.75
M6	× 0.75	TE733326	13	80	30	4.5	3.4	6	5.65
M6	× 0.5	TE733336	13	80	30	4.5	3.4	6	5.75
M7	× 0.75	TE733356	14	80	30	5.5	4.3	7	6.65
M8	× 1	TE733376	17	90	36	6	4.9	8	7.5
M8	× 0.75	TE733386	14	80	30	6	4.9	8	7.65
M10	× 1.25	TE733436	22	100	40	7	5.5	8	9.4
M10	× 1	TE733446	18	90	36	7	5.5	8	9.5
M10	× 0.75	TE733456	18	90	36	7	5.5	8	9.65
M12	× 1.5	TE733516	22	100	40	9	7	10	11.25
M12	× 1.25	TE733526	22	100	40	9	7	10	11.4
M12	× 1	TE733536	18	100	40	9	7	10	11.5
M14	× 1.5	TE733556	22	100	40	11	9	12	13.25
M14	× 1.25	TE733566	22	100	40	11	9	12	13.4
M16	× 1.5	TE733616	22	100	40	12	9	12	15.25
M18	× 1.5	TE733676	25	110	44	14	11	14	17.25
M20	× 1.5	TE733726	25	125	50	16	12	15	19.25

◎ : 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	30	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	260	160	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

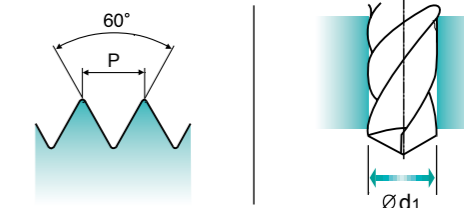
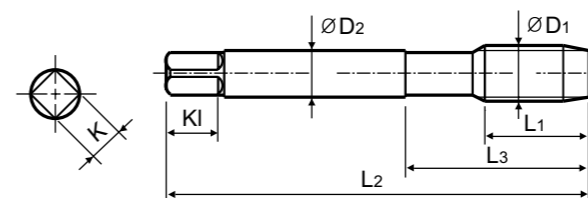
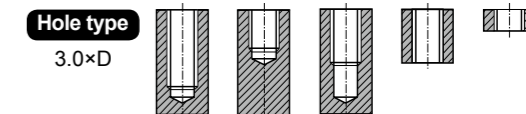
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo grosso

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 2BX 60° C TiN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	TPI	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1		TiN	L1	L2	L3	ØD2	K	Kl	Ød1
#5	- 40 UNC	TD704202	11	56	18	3.5	2.7	6	2.87
#6	- 32 UNC	TD704242	12	56	20	4	3	6	3.1
#8	- 32 UNC	TD704282	13	63	21	4.5	3.4	6	3.8
#10	- 24 UNC	TD704322	15	70	25	6	4.9	8	4.3
#12	- 24 UNC	TD704362	16	80	30	6	4.9	8	4.95
1/4	- 20 UNC	TD704402	17	80	30	7	5.5	8	5.75
5/16	- 18 UNC	TD704442	20	90	35	8	6.2	9	7.25
3/8	- 16 UNC	TD704482	22	100	39	9	7	10	8.75
7/16	- 14 UNC	TD704522	22	100	40	8	6.2	9	10.2
1/2	- 13 UNC	TD704562	25	110	44	9	7	10	11.7
9/16	- 12 UNC	TD704602	26	110	40	11	9	12	13.2
5/8	- 11 UNC	TD704642	27	110	44	12	9	12	14.7
3/4	- 10 UNC	TD704702	30	125	50	14	11	14	17.8

►DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : Excellent ○ : Good

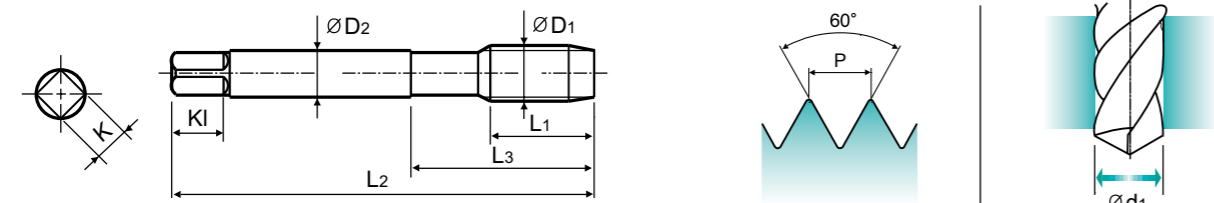
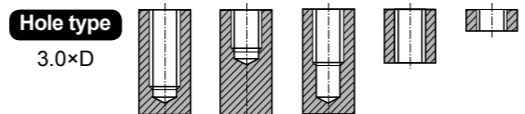
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	260	160	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
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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNC Unified coarse threads
 Unified Grobgewinde
 UNC
 Unificato passo grosso

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups
 GV HSS-E DIN 371/376 2BX 60° C NI

Cold forming taps with oil grooves
 Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

SIZE	TPI	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1		Ni	L1	L2	L3	ØD2	K	Kl	Ød1
#5 - 40 UNC		TE704202	11	56	18	3.5	2.7	6	2.87
#6 - 32 UNC		TE704242	12	56	20	4	3	6	3.1
#8 - 32 UNC		TE704282	13	63	21	4.5	3.4	6	3.8
#10 - 24 UNC		TE704322	15	70	25	6	4.9	8	4.3
#12 - 24 UNC		TE704362	16	80	30	6	4.9	8	4.95
1/4 - 20 UNC		TE704402	17	80	30	7	5.5	8	5.75
5/16 - 18 UNC		TE704442	20	90	35	8	6.2	9	7.25
3/8 - 16 UNC		TE704482	22	100	39	9	7	10	8.75
7/16 - 14 UNC		TE704522	22	100	40	8	6.2	9	10.2
1/2 - 13 UNC		TE704562	25	110	44	9	7	10	11.7
9/16 - 12 UNC		TE704602	26	110	40	11	9	12	13.2
5/8 - 11 UNC		TE704642	27	110	44	12	9	12	14.7
3/4 - 10 UNC		TE704702	30	125	50	14	11	14	17.8

►DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : 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	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

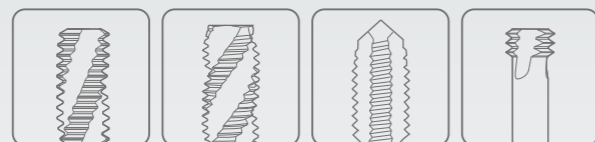
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)											
					TD703	TE703	TY703	TQ703	TD713	TE713	TQ723	TE723	TD723			
P	1	Non-alloy steel	125		15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20		
	2		190	13	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20		
	3		250	25	12-18	12-18	12-18	12-18	12-18	12-18	12-18	12-18	12-18	12-18		
	4		270	28												
	5		300	32												
	6	Low alloy steel	180	10	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15		
	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	10-13	7-10	10-13	7-10	10-13	7-10	7-10	7-10	10-13			
	13		240	23	8-11	5-8	8-11	5-8	8-11	5-8	5-8	5-8	8-11			
	14		180	10	6-8	4-6	6-8	4-6	6-8	4-6	4-6	4-6	6-8			
K	15	Grey cast iron	180	10												
	16		260	26												
	17	Nodular cast iron	160	3												
	18		250	25												
	19		130													
20	Malleable cast iron	230	21													
N	21	Aluminum-wrought alloy	60		10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15			
	22		100		10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15			
	23	Aluminum-cast, alloyed	75		15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20			
	24		90		10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15			
	25		130													
	26	Copper and Copper Alloys (Bronze / Brass)	110		25-35	25-35	25-35	25-35	25-35	25-35	25-35	25-35	25-35			
	27		90													
	28		100		15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20	15-20			
	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												
	39		630	60												
	40	Chilled Cast Iron	400	42												
	41	Hardened Cast Iron	550	55												



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



THREADING

HSS-E

NUT TAPS

MUTTERGEWINDEBOHRER

- Nut Tapping Machines
- Zum Gewindeschneiden von Muttern



HSS-E NUT TAPS

Nut Tapping Machines

HOLE TYPE	Max. 2.0xD Through Hole		
TOOL MATERIAL	HSS-E		
CHAMFER LEAD ACC. TO DIN2197	Long		
FLUTE TYPE	Straight Flute		
SPIRAL FLUTE ANGLE	-		
SERIES	M	DIN371/376 DIN352 DIN357/LONG	TC803 (P.289)
	MF	DIN374 DIN2181	
		UNC	
	UNF	DIN371/374 DIN2181	
		BSW	
	G(BSP)		
	EG-M	DIN371/376	
	EG-UNC	DIN371/376	
	EG-UNF	DIN371/374	
	SURFACE TREATMENT	Bright	
	MODEL		

Please visit globalyg1.com/mat for material search
 ◎ : Excellent ○ : Good
 Recommended cutting conditions : P.288

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	Vc (m/min)
P	1	Non-alloy steel	About 0.15% C Annealed	125		15-20
	2		About 0.45% C Annealed	190	13	15-20
	3		About 0.45% C Quenched & Tempered	250	25	12-18
	4		About 0.75% C Annealed	270	28	10-15
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	10-15
	7		Quenched & Tempered	275	29	10-15
	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	10-15
	18		Pearlitic	250	25	5-8
	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		10-15
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		25-35
	27		CuZn, CuSnZn (Brass)	90		8-12
	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	Hardened Cast Iron	Cast	400	42	
	41		Hardened	550	55	

YG NUT TAPS

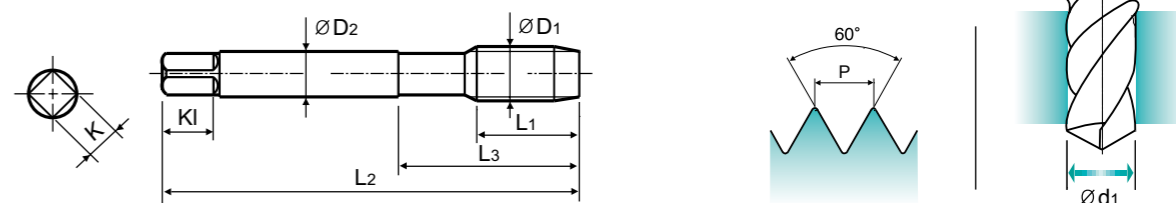
TC803 SERIES

M ISO metric coarse threads DIN 13

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

- For making nuts on machines.
- The work pieces can be taken out from shank side only.

- Zur Herstellung von Muttern auf Sondermaschinen.
- Die fertigen Muttern können nur über das Schaftende entnommen werden.



Material groups: **GS** HSS-E DIN 357 6H 60° LONG Bright

Nut taps Muttergewindebohrer

Recommended Cutting Page : P.288 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
M4 × 0.7		TC803246	25	90	45	2.8	2.1	5	3	3.3
M5 × 0.8		TC803286	28	100	50	3.5	2.7	6	3	4.2
M6 × 1		TC803316	32	110	55	4.5	3.4	6	3	5
M7 × 1		TC803346	36	110	55	5.5	4.3	7	3	6
M8 × 1.25		TC803366	40	125	62	6	4.9	8	3	6.8
M10 × 1.5		TC803426	45	140	70	7	5.5	8	3	8.5
M12 × 1.75		TC803506	50	180	90	9	7	10	3	10.2
M14 × 2		TC803546	56	200	100	11	9	12	4	12
M16 × 2		TC803606	63	200	100	12	9	12	4	14
M18 × 2.5		TC803656	63	220	110	14	11	14	4	15.5
M20 × 2.5		TC803706	70	250	125	16	12	15	4	17.5

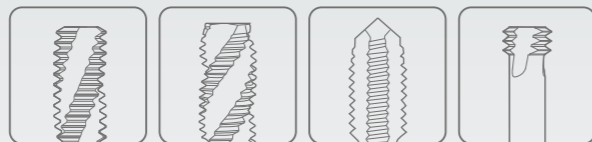
◎ : Excellent ○ : Good

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	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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						○	○	○													



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation



HSS-E



SCREW THREAD INSERT TAPS

SCHRAUBENGWINDE INSERT TAPS

- Tapping STI Threads of Soft Materials
- Gewindeschneiden von STI-Gewinden in weichen Materialien

SELECTION GUIDE



HSS-E SCREW THREAD INSERT TAPS

Tapping STI Threads of Soft Materials

Please visit globalyg1.com/mat for material search
 ◎ : Excellent ○ : Good
 Recommended cutting conditions : P.298

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	TC909 (P.293)	TC973 (P.294)
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	○	○
	4		About 0.75% C Annealed	270	28		
	5	About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	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		
	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	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90		◎	◎
	28		CuSn, lead-free copper and electrolytic copper	100			
	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	Titanium Alloys	Ni or Co Based Cured	350	38		
	35		Cast	320	34		
36		Pure Titanium	400 Rm				
37		Alpha + Beta Alloys	1050 Rm				
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Hardened Cast Iron	Cast	400	42		
	41		Hardened	550	55		

HOLE TYPE	Max. 2.5xD Blind Hole	Max. 3.0xD Through Hole		
TOOL MATERIAL	HSS-E			
CHAMFER LEAD ACC. TO DIN2197	C	B		
FLUTE TYPE	Spiral Flute	Spiral Point		
SPIRAL FLUTE ANGLE	R40	-		
SERIES	M	DIN371/376		
		DIN352		
		DIN357/LONG		
	MF	DIN374		
		DIN2181		
	UNC	DIN371/376		
		DIN351		
	UNF	DIN371/374		
		DIN2181		
	BSW	DIN2182/2183		
DIN351				
G(BSP)	DIN5156/5157			
EG-M	DIN371/376	TC909 (P.293)	TC973 (P.294)	
EG-UNC	DIN371/376	TC944 (P.295)	TC934 (P.296)	
EG-UNF	DIN371/374		TC954 (P.297)	
SURFACE TREATMENT	Bright	Bright		
MODEL				

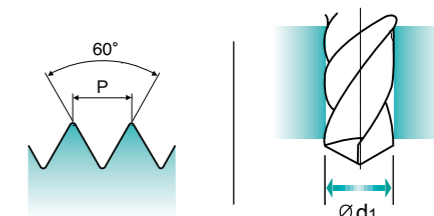
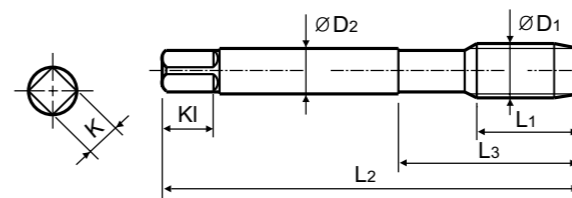
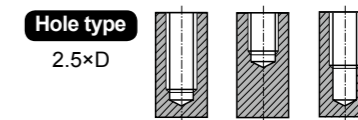
YG SCREW THREAD INSERT TAPS

TC909 SERIES

EG-M ISO metric coarse threads for Screw Thread insert
 ● Metrisches ISO Regelgew.f.Gew. Drahteins
 ○ ISO MÉTRIQUE DIN13 POUR FILETS RAPPORTÉS
 ○ ISO Metrico passo grosso per Helicoid

► Wire insert threads are used for increasing fastening strength in soft materials.

► Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: AI HSS-E DIN 371/376 6H Mod. 60° C Bright R40 Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.298

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
M2.5 × 0.45		TC909176	6	56	18	3.5	2.7	6	3	2.65
M3 × 0.5		TC909206	5	63	21	4.5	3.4	6	3	3.15
M3.5 × 0.6		TC909226	8	70	25	6	4.9	8	3	3.7
M4 × 0.7		TC909246	8	70	25	6	4.9	8	3	4.2
M5 × 0.8		TC909286	8	80	30	6	4.9	8	3	5.25
M6 × 1		TC909316	10	90	35	8	6.2	9	3	6.3
M8 × 1.25		TC909366	16	100	39	10	8	11	3	8.4
M10 × 1.5		TC909426	15	110	44	9	7	10	3	10.4
M12 × 1.75		TC909506	20	110	44	11	9	12	3	12.5
M14 × 2		TC909546	22	110	44	12	9	12	3	14.5
M16 × 2		TC909606	25	125	50	14	11	14	4	16.5
M18 × 2.5		TC909656	27	140	54	18	14.5	17	4	18.75
M20 × 2.5		TC909706	30	160	60	18	14.5	17	4	20.75

►DIN 371(M2.5~M8) and DIN 376(M10~M20)

◎ : 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	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

Y/G SCREW THREAD INSERT TAPS

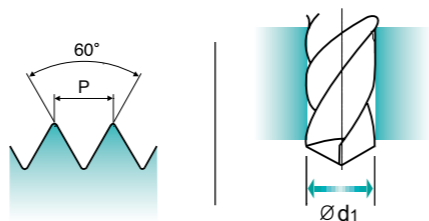
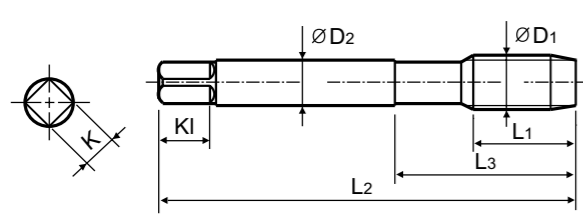
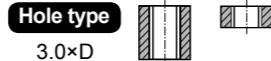
TC973 SERIES

EG-M ISO metric coarse threads for Screw Thread insert

- Metrisches ISO Regelgew.f.Gew. Drahteins
- ISO MÉTRIQUE DIN13 POUR FILETS RAPPORTÉS
- ISO Metrico passo grosso per Helicoil

Wire insert threads are used for increasing fastening strength in soft materials.

Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: AI, HSS-E, DIN 371/376, 6H Mod., 60°, B, Bright. Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.298 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
M2.5 × 0.45		TC973176	11	56	18	3.5	2.7	6	3	2.65
M3 × 0.5		TC973206	10	63	21	4.5	3.4	6	3	3.15
M3.5 × 0.6		TC973226	14	70	25	6	4.9	8	3	3.7
M4 × 0.7		TC973246	13	70	25	6	4.9	8	3	4.2
M5 × 0.8		TC973286	13	80	30	6	4.9	8	3	5.25
M6 × 1		TC973316	17	90	35	8	6.2	9	3	6.3
M8 × 1.25		TC973366	18	100	39	10	8	11	3	8.4
M10 × 1.5		TC973426	22	110	44	9	7	10	3	10.4
M12 × 1.75		TC973506	26	110	44	11	9	12	3	12.5
M14 × 2		TC973546	27	110	44	12	9	12	3	14.5
M16 × 2		TC973606	30	125	50	14	11	14	4	16.5
M18 × 2.5		TC973656	32	140	54	18	14.5	17	4	18.75
M20 × 2.5		TC973706	34	160	60	18	14.5	17	4	20.75

►DIN 371(M2.5~M8) and DIN 376(M10~M20)

◎ : 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
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	38	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	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

Y/G SCREW THREAD INSERT TAPS

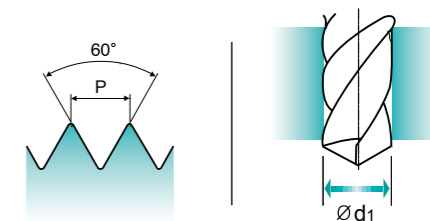
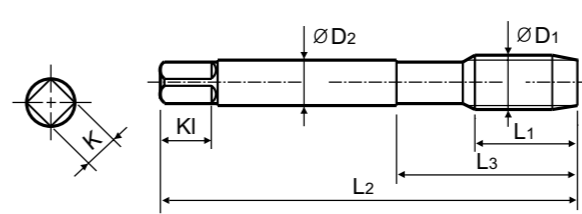
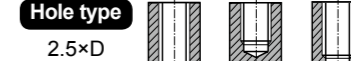
TC944 SERIES

EG-UNC Unified coarse threads for Screw Thread insert

- Unified Regelgew.f.Gew.Drahteins
- UNC POUR FILETS RAPPORTÉS
- ISO Metrico passo grosso per Helicoil

Wire insert threads are used for increasing fastening strength in soft materials.

Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: AI, HSS-E, DIN 371/376, 2B, 60°, C, Bright, R40. Machine taps Maschinengewindebohrer

Recommended Cutting Page : P.298 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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 40 UNC		TC944162	7	63	21	4.5	3.4	6	3	3.1
#5 - 40 UNC		TC944202	7	63	21	4.5	3.4	6	3	3.4
#6 - 32 UNC		TC944242	8	70	25	6	4.9	8	3	3.8
#8 - 32 UNC		TC944282	8	80	25	6	4.9	8	3	4.4
#10 - 24 UNC		TC944322	10	80	30	7	5.5	8	3	5.2
#12 - 24 UNC		TC944362	10	80	30	7	5.5	8	3	5.8
1/4 - 20 UNC		TC944402	14	90	35	8	6.2	9	3	6.7
5/16 - 18 UNC		TC944442	16	100	39	10	8	11	3	8.4
3/8 - 16 UNC		TC944482	16	110	39	12	9	12	3	10
7/16 - 14 UNC		TC944522	20	110	44	11	9	12	3	11.6
1/2 - 13 UNC		TC944562	22	110	44	12	9	12	3	13.3
9/16 - 12 UNC		TC944602	22	125	50	14	11	14	3	15
5/8 - 11 UNC		TC944642	25	125	50	14	11	14	4	16.5
3/4 - 10 UNC		TC944702	27	140	56	18	14.5	17	4	19.75

►DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : 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
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	38	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	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

Y/G SCREW THREAD INSERT TAPS

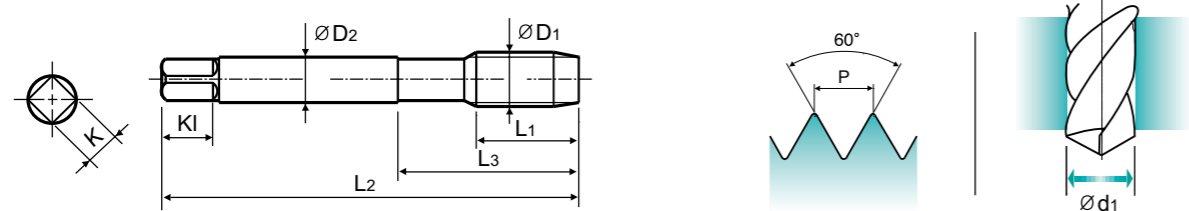
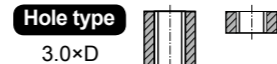
TC934 SERIES

EG-UNC Unified coarse threads for Screw Thread insert

Unified Regelgew.f.Gew.Drahteins
 UNC POUR FILETS RAPPORTÉS
 ISO Metrico passo grosso per Helicoil

► Wire insert threads are used for increasing fastening strength in soft materials.

► Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: **AI** HSS-E DIN 371/376 2B 60° B Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.298

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 40 UNC	40	TC934162	13	63	21	4.5	3.4	6	3	3.1
#5 - 40 UNC	40	TC934202	13	63	21	4.5	3.4	6	3	3.4
#6 - 32 UNC	32	TC934242	14	70	25	6	4.9	8	3	3.8
#8 - 32 UNC	32	TC934282	13	80	25	6	4.9	8	3	4.4
#10 - 24 UNC	24	TC934322	17	80	30	7	5.5	8	3	5.2
#12 - 24 UNC	24	TC934362	17	80	30	7	5.5	8	3	5.8
1/4 - 20 UNC	20	TC934402	20	90	35	8	6.2	9	3	6.7
5/16 - 18 UNC	18	TC934442	22	100	39	10	8	11	3	8.4
3/8 - 16 UNC	16	TC934482	21	110	39	12	9	12	3	10
7/16 - 14 UNC	14	TC934522	26	110	44	11	9	12	3	11.6
1/2 - 13 UNC	13	TC934562	27	110	44	12	9	12	3	13.3
9/16 - 12 UNC	12	TC934602	30	125	50	14	11	14	3	15
5/8 - 11 UNC	11	TC934642	30	125	50	14	11	14	4	16.5
3/4 - 10 UNC	10	TC934702	32	140	54	18	14.5	17	4	19.75

►DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : 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		
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	38	10	29	32	38	45	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	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎		◎															

Y/G SCREW THREAD INSERT TAPS

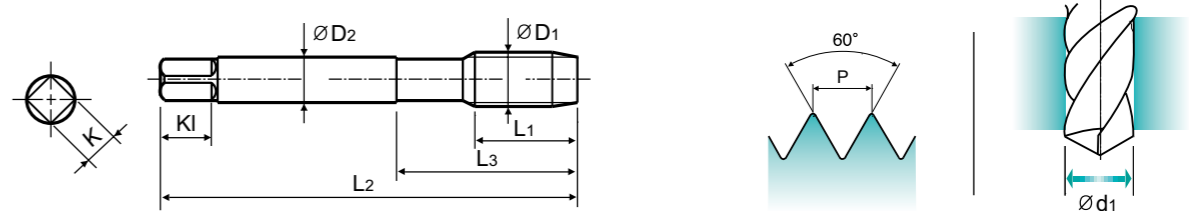
TC954 SERIES

EG-UNF Unified fine threads for Screw Thread insert

Unified Feingew.f.Gew.Drahteins
 UNC POUR FILETS RAPPORTÉS
 ISO Metrico passo grosso per Helicoil

► Wire insert threads are used for increasing fastening strength in soft materials.

► Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: **AI** HSS-E DIN 371/374 2B 60° B Bright

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.298

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
#4 - 48 UNF	48	TC954182	12	56	20	4	3	6	3	3.1
#6 - 40 UNF	40	TC954262	14	70	25	6	4.9	8	3	3.7
#8 - 36 UNF	36	TC954302	13	70	25	6	4.9	8	3	4.4
#10 - 32 UNF	32	TC954342	13	80	25	6	4.9	8	3	5.1
1/4 - 28 UNF	28	TC954422	17	90	35	8	6.2	9	3	6.6
5/16 - 24 UNF	24	TC954462	18	100	39	10	8	11	3	8.25
3/8 - 24 UNF	24	TC954502	18	110	39	12	9	12	3	9.8
7/16 - 20 UNF	20	TC954542	22	100	40	9	7	10	3	11.5
1/2 - 20 UNF	20	TC954582	22	100	40	11	9	12	3	13.1
9/16 - 18 UNF	18	TC954622	22	100	40	12	9	12	3	14.75
5/8 - 18 UNF	18	TC954662	25	110	44	14	11	14	4	16.25
3/4 - 16 UNF	16	TC954722	25	125	50	16	12	15	4	19.5

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

◎ : 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		
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	38	10	29	32	38	45	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	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎		◎															

ISO	VDI 3323	Material Description	HB	HRc	TC909 TC944	TC973 TC934 TC954	
					Vc (m/min)		
P	1	Non-alloy steel	125		15-20	15-20	
	2		190	13	15-20	15-20	
	3		250	25	12-18	12-18	
	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		10-15	10-15	
	22		100		10-15	10-15	
	23	Aluminum- cast, alloyed	75		15-20	15-20	
	24		90		15-20	15-20	
	25		130				
	26		110				
	27	Copper and Copper Alloys (Bronze / Brass)	90		8-12	8-12	
	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			
	39		630	60			
	40	Chilled Cast Iron	400	42			
	41	Hardened Cast Iron	550	55			



HSS & HSS-E

PIPE TAPS GASGEWINDEBOHRER

- Tapping Whitworth Pipe threads
- Zum Gewindeschneiden von Whitworth-Rohrgewinden

SELECTION GUIDE



HSS & HSS-E PIPE TAPS

Tapping Whitworth Pipe threads

HOLE TYPE	Max 2.0xD Blind Through Hole	Max. 2.5xD Blind Hole	Max. 3.0xD Through Hole
TOOL MATERIAL	HSS		HSS-E
CHAMFER LEAD ACC. TO DIN2197	I/III	C	B
FLUTE TYPE	Straight Flute	Spiral Flute	
SPIRAL FLUTE ANGLE	-	R40	R40

SERIES	M	DIN371/376				
		DIN352				
MF	DIN357/LONG					
	DIN374					
UNC	DIN371/376					
	DIN351					
UNF	DIN371/374					
	DIN2181					
BSW	DIN2182/2183					
	DIN351					
G(BSP)	DIN5156/5157	T7709 (P.301)	TC728 (P.302)	TC729 (P.303)	TB514 (P.304)	TC727 (P.305)
EG-M	DIN371/376					
EG-UNC	DIN371/376					
EG-UNF	DIN371/374					

SURFACE TREATMENT	Bright	Bright	Bright	VAP	Bright
MODEL					

Please visit globalyg1.com/mat for material search
 ◎ : Excellent ○ : Good
 Recommended cutting conditions : P.306

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	○	◎				
	4		About 0.75% C Annealed	270	28	○	◎				
	5		About 0.75% C Quenched & Tempered	300	32						
	6	Low alloy steel	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			◎		◎	
	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		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	110			◎			◎
	27		CuZn, lead-free copper and electrolytic copper	90				○			○
	28		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic	100						
	29		Rubber, Wood, etc.								
	30										
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34	Titanium Alloys	Ni or Co Based Cured	350	38						
	35		Cast	320	34						
36	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						

YG PIPE TAPS

T7709 SERIES

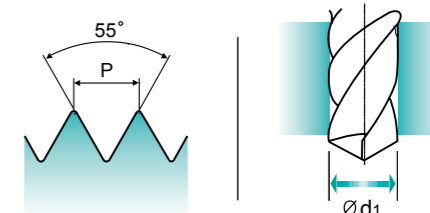
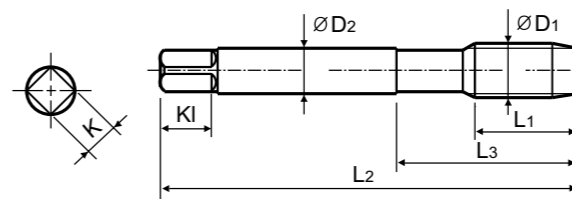
G(BSP)

Whitworth Pipe threads DIN ISO 228/1

- Whitworth Rohrgewinde DIN ISO 228/1
- G(BSP) PROFIL 55° DIN ISO 228/1
- Filettatura Whitworth per tubi DIN ISO 228/1

- Serial hand tap set in First and Bottoming.
- Bottoming tap of set has final internal thread dimensions only.

- Handgewindebohrersatz mit Vor- und Fertigschneider.
- Nur der Fertigschneider kann das gewünschte Gewinde schneiden.



Material groups: **GS** HSS DIN 5157 55° I/III Bright

Sets of taps Gewindebohrer-Satz

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		Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
G1/16	- 28	T7709029	22	56	26	6	4.9	8	3	6.8
G1/8	- 28	T7709209	20	63	27	7	5.5	8	4	8.8
G1/4	- 19	T7709409	22	70	32	11	9	12	4	11.8
G3/8	- 19	T7709489	22	70	32	12	9	12	4	15.25
G1/2	- 14	T7709569	22	80	35	16	12	15	4	19
G3/4	- 14	T7709709	22	90	40	20	16	19	4	24.5
G1	- 11	T7709789	25	100	45	25	20	23	6	30.75
G1-1/4	- 11	T7709869	40	125	77	32	24	27	6	39.5
G1-1/2	- 11	T7709949	40	140	85	36	29	32	6	45.2

◎ : 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	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	42	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
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	15	30	25	38	34	34				200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100														
Recommended	○	○	○																			

YG PIPE TAPS

TC728 SERIES

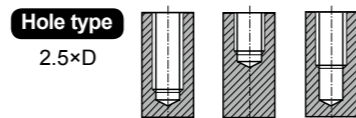
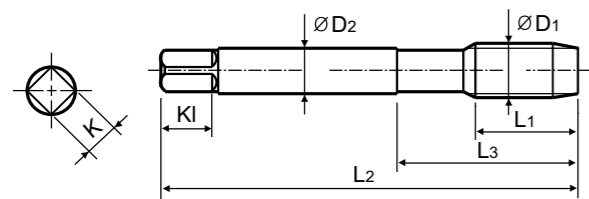
G(BSP)

Whitworth pipe threads DIN ISO 228/1

- Whitworth Rohrgewinde DIN ISO 228/1
- G(BSP) PROFIL 55° DIN ISO 228/1
- Filettatura Whitworth per tubi DIN ISO 228/1

► 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: **GS** HSS-E DIN 5156 55° C Bright R40

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.306

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
G1/8 - 28		TC728200	20	90	36	7	5.5	8	3	8.8
G1/4 - 19		TC728400	22	100	40	11	9	12	3	11.8
G3/8 - 19		TC728480	22	100	40	12	9	12	3	15.25
G1/2 - 14		TC728560	25	125	50	16	12	15	4	19
G3/4 - 14		TC728700	28	140	54	20	16	19	4	24.5
G1 - 11		TC728780	30	160	60	25	20	23	4	30.75

◎ : 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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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)	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	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG PIPE TAPS

TC729 SERIES

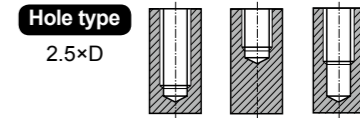
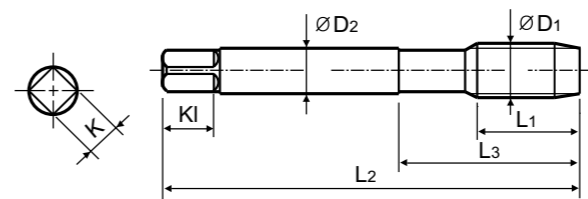
G(BSP)

Whitworth pipe threads DIN ISO 228/1

- Whitworth Rohrgewinde DIN ISO 228/1
- G(BSP) PROFIL 55° DIN ISO 228/1
- Filettatura Whitworth per tubi DIN ISO 228/1

► 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: **VG** HSS-E DIN 5156 55° C Bright R40

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.306

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
G1/8 - 28		TC729200	20	90	36	7	5.5	8	3	8.8
G1/4 - 19		TC729400	22	100	40	11	9	12	3	11.8
G3/8 - 19		TC729480	22	100	40	12	9	12	3	15.25
G1/2 - 14		TC729560	25	125	50	16	12	15	4	19
G3/4 - 14		TC729700	28	140	54	20	16	19	4	24.5
G1 - 11		TC729780	30	160	60	25	20	23	4	30.75

◎ : 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	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	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)	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	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG PIPE TAPS

TB514 SERIES

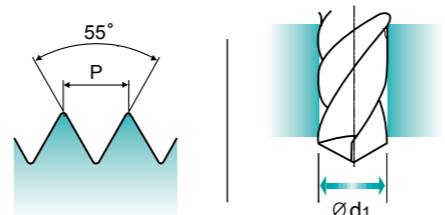
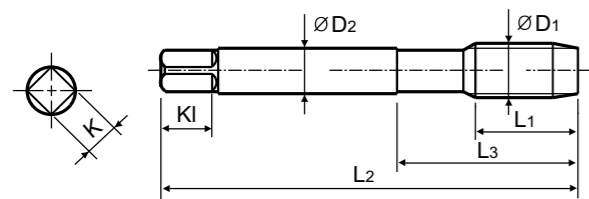
G(BSP)

Whitworth pipe threads DIN ISO 228/1

- Whitworth Rohrgewinde DIN ISO 228/1
- G(BSP) PROFIL 55° DIN ISO 228/1
- Filettatura Whitworth per tubi DIN ISO 228/1

► 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: **VA** **NW** **HSS-E** **DIN 5156** **55°** **C** **Vap** **R40**

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.306

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		Vap	L1	L2	L3	ØD2	K	KI	Z	Ød1
G1/8 - 28		TB514200	20	90	36	7	5.5	8	3	8.8
G1/4 - 19		TB514400	22	100	40	11	9	12	3	11.8
G3/8 - 19		TB514480	22	100	40	12	9	12	3	15.25
G1/2 - 14		TB514560	25	125	50	16	12	15	4	19
G3/4 - 14		TB514700	28	140	54	20	16	19	4	24.5
G1 - 11		TB514780	30	160	60	25	20	23	4	30.75

YG PIPE TAPS

TC727 SERIES

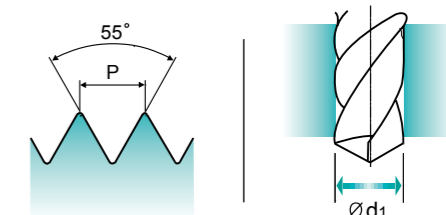
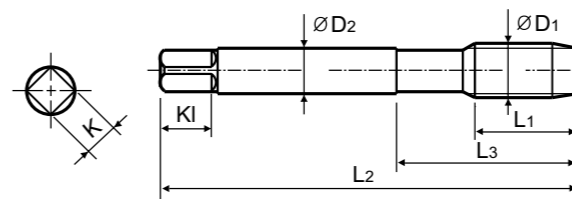
G(BSP)

Whitworth Pipe threads DIN ISO 228/1

- Whitworth Rohrgewinde DIN ISO 228/1
- G(BSP) PROFIL 55° DIN ISO 228/1
- Filettatura Whitworth per tubi DIN ISO 228/1

► Suitable for through hole in more cutting speed than other taps due to strong geometry.

► Geeignet für Sacklöcher in höherer Schnittgeschwindigkeit als andere Gewindebohrer dank einer stabilen Bohrer-geometrie.



Material groups: **GS** **HSS-E** **DIN 5156** **55°** **B** **Bright**

Machine taps
Maschinengewindebohrer

Recommended Cutting Page : P.306

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		Bright	L1	L2	L3	ØD2	K	KI	Z	Ød1
G1/8 - 28		TC727200	20	90	36	7	5.5	8	3	8.8
G1/4 - 19		TC727400	22	100	40	11	9	12	3	11.8
G3/8 - 19		TC727480	22	100	40	12	9	12	3	15.25
G1/2 - 14		TC727560	25	125	50	16	12	15	4	19
G3/4 - 14		TC727700	28	140	54	20	16	19	4	24.5
G1 - 11		TC727780	30	160	60	25	20	23	4	30.75

◎ : 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	38	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	◎	◎	◎	◎	◎																

◎ : 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	38	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	◎	◎	◎	◎	◎																

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

					TC728	TC729	TB514	TC727	
ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min)				
P	1	Non-alloy steel	125				15-20		
	2		190	13	15-20		15-20	15-20	
	3		250	25	12-18			12-18	
	4		270	28	10-15			10-15	
	5		300	32					
	6	Low alloy steel	180	10	10-15	10-15		10-15	
	7		275	29	10-15	10-15		10-15	
	8		300	32		6-10			
	9		350	38		3-5			
	10		High alloyed steel, and tool steel	200	15				
	11			325	35				
M	12	Stainless steel	200	15			7-10		
	13		240	23			5-8		
	14		180	10		4-6	4-6		
K	15	Grey cast iron	180	10					
	16		260	26					
	17	Nodular cast iron	160	3	10-15			10-15	
	18		250	25	5-8			5-8	
	19		130						
20	Malleable cast iron	230	21						
N	21	Aluminum-wrought alloy	60		10-15			10-15	
	22		100		10-15			10-15	
	23	Aluminum-cast, alloyed	75		15-20			15-20	
	24		90		15-20			15-20	
	25		130		10-15			10-15	
	26	Copper and Copper Alloys (Bronze / Brass)	110		25-35			25-35	
	27		90		8-12			8-12	
	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					
	39		630	60					
	40	Chilled Cast Iron	400	42					
	41	Hardened Cast Iron	550	55					



TAPS

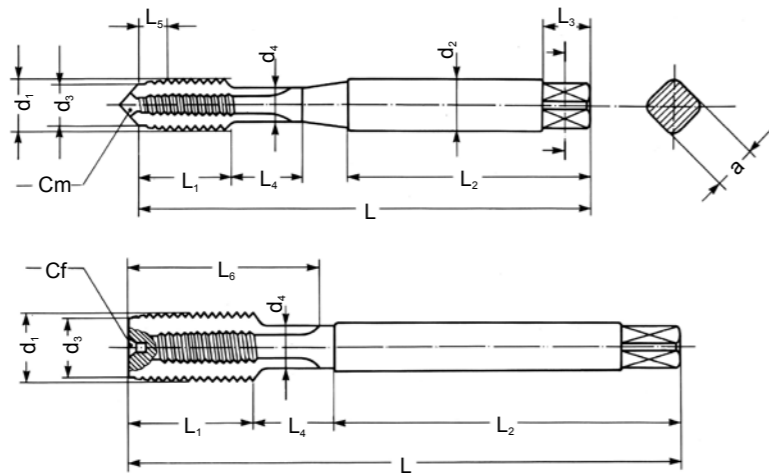
TECHNICAL DATA
TECHNISCHE DATEN



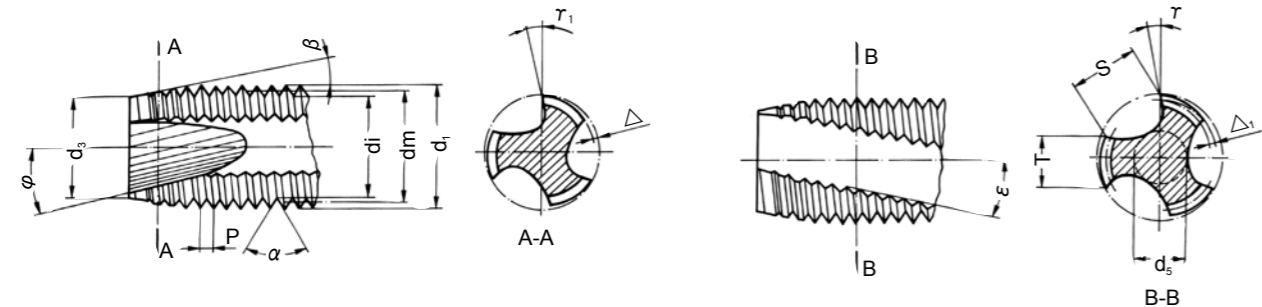
TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

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



- | | | |
|---------------------------------|---------------------------------------|--|
| d ₁ Major diameter | d ₁ Nenn Aussendurchmesser | d ₁ Diamètre externe nominal |
| d ₂ Shank diameter | d ₂ Schaftdurchmesser | d ₂ Diamètre de la queue |
| d ₃ Chamfer diameter | d ₃ Anschnittdurchmesser | d ₃ Diamètre de l'entrée |
| d ₄ Neck diameter | d ₄ Bunddurchmesser | d ₄ Diamètre de la collerette de dégagement |
| L Total length | L Gesamtlänge | L Longueur totale |
| L ₁ Thread length | L ₁ Gewindelänge | L ₁ Longueur de la partie filetée |
| L ₂ Shank length | L ₂ Schaftlänge | L ₂ Longueur de la queue |
| L ₃ Square length | L ₃ Vierkantlänge | L ₃ Longueur du carré |
| L ₄ Neck length | L ₄ Bundlänge | L ₄ Longueur de la collerette de dégagement |
| L ₅ Chamfer length | L ₅ Anschnittlänge | L ₅ Longueur de l'entrée |
| L ₆ Flutes length | L ₆ Nutenlänge | L ₆ Longueur des goujures |
| a Square | a Vierkantmaß | a Carré |
| Cm Center male | Cm Mittelpunkt des Aussengewindes | Cm Centre mâle |
| Cf Center female | Cf Mittelpunkt des Innengewindes | Cf Centre femelle |



- | | | |
|--|--|--|
| d ₁ Major diameter | d ₁ Nenn Aussendurchmesser | d ₁ Diamètre externe nominal |
| dm Flank diameter | dm Flankendurchmesser | dm Diamètre moyen |
| di Minor diameter | di Kerndurchmesser | di Diamètre interne |
| d ₃ Chamfer diameter | d ₃ Anschnittdurchmesser | d ₃ Diamètre de l'entrée |
| P Pitch | P Steigung | P Pas |
| a Flank angle | a Flankenwinkel | alpha Angle du filet |
| beta Chamfer angle | beta Anschnittwinkel | beta Demi-angle du cône d'entrée |
| phi Gun nose angle | phi Schälswinkel | phi Angle de l'entrée GUN |
| tau Gun nose rake angle in front | tau1 Schälswinkel-Spanwinkel | tau1 Angle de coupe sur l'entrée GUN |
| delta Chamfer relief | delta Hinterschliff am Anschnitt | delta Détalonnage sur l'entrée |
| delta1 Pitch diameter relief on the land | delta1 Flankenhinterschliff auf Zahnbreite | delta1 Flankenhinterschliff sur la largeur |
| tau Rake angle | tau Spanwinkel | tau Angle de coupe frontale |
| T Width of land | T Zahnstollenbreite | T Largeur des dents |
| S Flute width | S Nutenbreite | S Largeur des goujures |
| d ₅ Web thickness | d ₅ Seelendicke | d ₅ Diamètre de l'âme |
| epsilon Angle of spiral flute | epsilon Spiralwinkel | epsilon Angle d'hélice des goujures |



TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

**2 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				



TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

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
#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
#8	32	3.528	3.50	#6	40	3.012	3.00
#10	24	3.950	3.90	#8	36	3.597	3.50
#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
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
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
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
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
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
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
1/8"	40	2.590	2.50	1/4"	19	11.890	11.80
5/32"	32	3.211	3.10	3/8"	19	15.395	15.25
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				

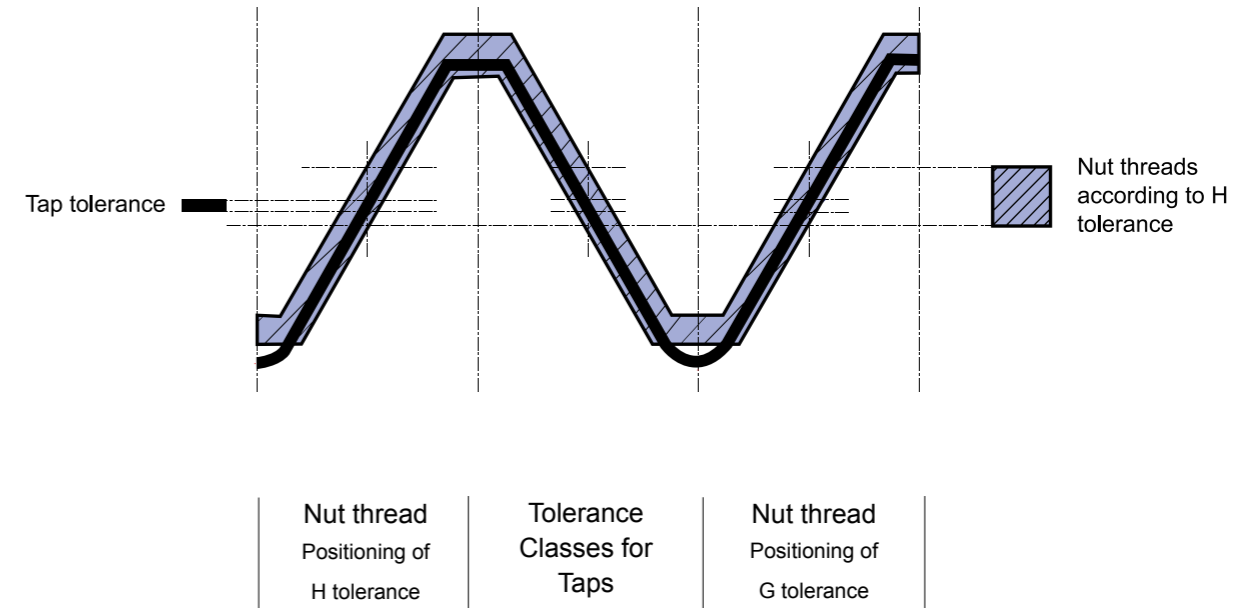


TECHNICAL DATA

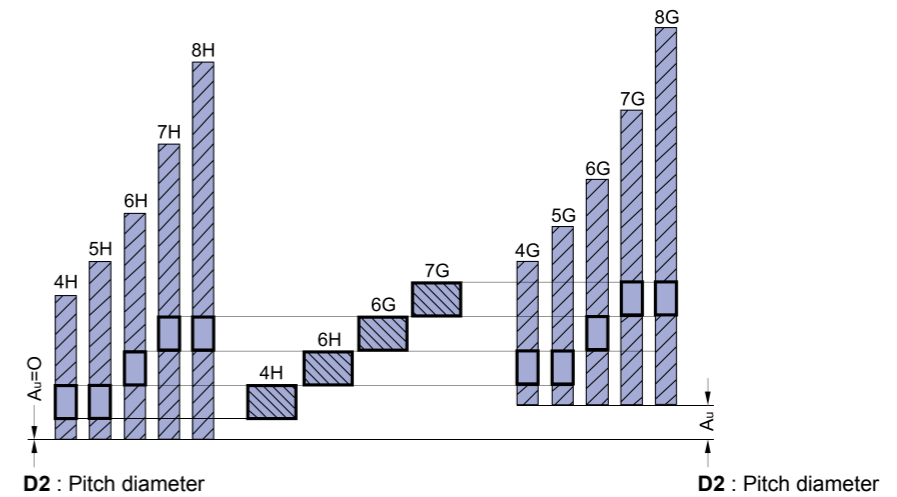
**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

**3 TAP TOLERANCES
GEWINDEBOHRER TOLERANZEN**

Tolerance classes of taps and tolerance positions for screw threads as per Metric ISO Standard.
Toleranzklassen und Toleranzfelder für Schraubengewinde entsprechen dem metrischen ISO-Standard



Nut thread Positioning of H tolerance | Tolerance Classes for Taps | Nut thread Positioning of G tolerance



Taps tolerances and recommended classes

Tap tolerance ISO	Tap tolerance DIN	Correct class to obtain Nut thread with tolerance				
ISO 1	4H	4H	5H			
ISO 2	6H	4G	5G	6H		
ISO 3	6G			6G	7H	
	7G				7G	8H
						8G



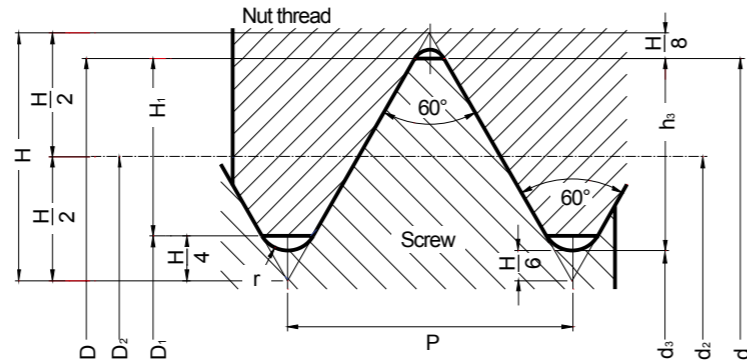
TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

**METRIC ISO COARSE THREADS
METRISCHES ISO-GEWINDE**

Nominal dimensions UNI 4535-64
Production tolerances on tap pitch diameter for ISO 6H Nut threads
Limit dimensions-Nut threads ISO 6H

Dimensions in mm
 $H = 0.86603P$
 $H_1 = \frac{5}{8} H = 0.54127P$
 $h_3 = \frac{17}{24} H = 0.61343P$
 $d_2 = D_2 = d - H = \frac{3}{4} d - 0.64952P$
 $d_3 = d - 2h_3 = d - 1.22687P$
 $r = \frac{H}{6} = 0.14434P$



Nominal diameter d = D	Pitch P	Pitch diameter d2 = D2	Minor diameter		Thread depth		Radius r	Pitch diameter Tap tolerance 6H		Pitch diameter Nut tolerance 6H	
			Screw d3	Nut D1	Screw h3	Nut H1		min.	max.	min.	max.
M 1.6	0.35	1.373	1.171	1.221	0.215	0.189	0.051	1.393	1.407	1.373	1.458
M 1.8	0.35	1.573	1.371	1.421	0.215	0.189	0.051	1.593	1.607	1.573	1.658
M 2	0.4	1.740	1.509	1.567	0.245	0.217	0.058	1.761	1.776	1.740	1.830
M 2.2	0.45	1.908	1.648	1.713	0.276	0.244	0.065	1.931	1.946	1.908	2.003
M 2.5	0.45	2.208	1.948	2.013	0.276	0.244	0.065	2.231	2.246	2.208	2.303
M 3	0.5	2.675	2.387	2.459	0.307	0.271	0.072	2.699	2.715	2.675	2.775
M 3.5	0.6	3.110	2.764	2.850	0.368	0.325	0.087	3.137	3.155	3.110	3.222
M 4	0.7	3.545	3.141	3.242	0.429	0.379	0.101	3.574	3.593	3.545	3.663
M 4.5	0.75	4.013	3.580	3.688	0.460	0.406	0.108	4.042	4.061	4.013	4.131
M 5	0.8	4.480	4.019	4.134	0.491	0.433	0.115	4.510	4.530	4.480	4.605
M 6	1	5.350	4.773	4.917	0.613	0.541	0.144	5.385	5.409	5.350	5.500
M 7	1	6.350	5.773	5.917	0.613	0.541	0.144	6.385	6.409	6.350	6.500
M 8	1.25	7.188	6.466	6.647	0.767	0.677	0.180	7.226	7.251	7.188	7.348
M 9	1.25	8.188	7.466	7.647	0.767	0.677	0.180	8.226	8.251	8.188	8.348
M 10	1.5	9.026	8.160	8.376	0.920	0.812	0.217	9.068	9.096	9.026	9.206
M 11	1.5	10.026	9.160	9.376	0.920	0.812	0.217	10.068	10.096	10.026	10.206
M 12	1.75	10.863	9.853	10.106	1.074	0.947	0.253	10.911	10.943	10.863	11.063
M 14	2	12.701	11.546	11.835	1.227	1.083	0.289	12.752	12.786	12.701	12.913
M 16	2	14.701	13.546	13.835	1.227	1.083	0.289	14.752	14.786	14.701	14.913
M 18	2.5	16.376	14.933	15.294	1.534	1.353	0.361	16.430	16.466	16.376	16.600
M 20	2.5	18.376	16.933	17.294	1.534	1.353	0.361	18.430	18.466	18.376	18.600
M 22	2.5	20.376	18.933	19.294	1.534	1.353	0.361	20.430	20.466	20.376	20.600
M 24	3	22.051	20.319	20.752	1.840	1.624	0.433	22.115	22.157	22.051	22.316
M 27	3	25.051	23.319	23.752	1.840	1.624	0.433	25.115	25.157	25.051	25.316
M 30	3.5	27.727	25.706	26.211	2.147	1.894	0.505	27.794	27.839	27.727	28.007
M 33	3.5	30.727	28.706	29.211	2.147	1.894	0.505	30.794	30.839	30.727	31.007
M 36	4	33.402	31.093	31.670	2.454	2.165	0.577	33.473	33.520	33.402	33.702
M 39	4	36.402	34.093	34.670	2.454	2.165	0.577	36.473	36.520	36.402	36.702
M 42	4.5	39.077	36.479	37.129	2.760	2.436	0.650	39.152	39.202	39.077	39.392
M 45	4.5	42.077	39.479	40.129	2.760	2.436	0.650	42.152	42.202	42.077	42.392
M 48	5	44.752	41.866	42.587	3.067	2.706	0.722	44.832	44.885	44.752	45.087
M 52	5	48.752	45.866	46.587	3.067	2.706	0.722	48.832	48.885	48.752	49.087
M 56	5.5	52.428	49.252	50.046	3.374	2.977	0.794	52.512	52.568	52.428	52.783
M 60	5.5	56.428	53.252	54.046	3.374	2.977	0.794	56.512	56.568	56.428	56.783
M 64	6	60.103	56.639	57.505	3.681	3.248	0.866	60.193	60.253	60.103	60.478
M 68	6	64.103	60.639	61.505	3.681	3.248	0.866	64.193	64.253	64.103	64.478

Metric thread MA(old UNI 159 Profile) Nut tolerance SH8

M 1.7	0.35	1.473	1.246	1.246	0.227	0.227	0.040	1.493	1.507	1.473	1.529
M 2.3	0.4	2.040	1.780	1.780	0.260	0.260	0.040	2.061	2.076	2.040	2.120
M 2.6	0.45	2.308	2.016	2.016	0.292	0.292	0.050	2.331	2.346	2.308	2.388



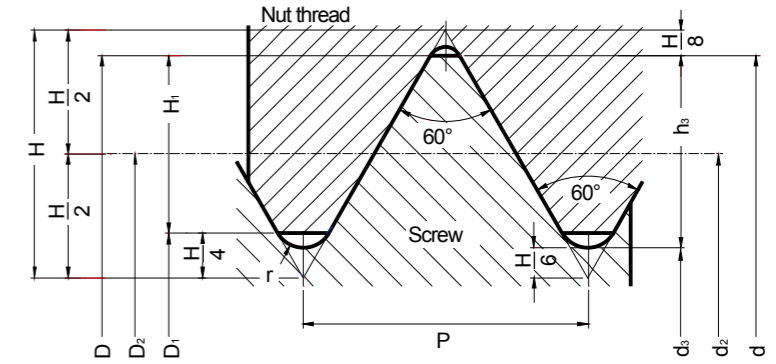
TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

**METRIC ISO FINE THREADS
METRISCHES ISO-FEINGEWINDE**

Nominal dimensions UNI 4535-64
Production tolerances on tap flank diameter for ISO 6H Nut threads
Limit dimensions-Nut threads ISO 6H

Dimensions in mm
 $H = 0.86603P$
 $H_1 = \frac{5}{8} H = 0.54127P$
 $h_3 = \frac{17}{24} H = 0.61343P$
 $d_2 = D_2 = d - \frac{3}{4} H = d - 0.64952P$
 $d_3 = d - 2h_3 = d - 1.22687P$
 $r = \frac{H}{6} = 0.14434P$



Nominal diameter d = D	Pitch P	Pitch diameter d2 = D2	Minor diameter		Thread depth		Radius r	Pitch diameter Tap tolerance 6H		Pitch diameter Nut tolerance 6H	
			Screw d3	Nut D1	Screw h3	Nut H1		min.	max.	min.	max.
M 2	0.25	1.838	1.693	1.729	0.153	0.135	0.036	1.844	1.856	1.838	1.886
M 2.5	0.35	2.273	2.701	2.121	0.215	0.189	0.051	2.293	2.307	2.273	2.358
M 3	0.35	2.773	2.571	2.621	0.215	0.189	0.051	2.794	2.809	2.773	2.863
M 3.5	0.35	3.273	3.071	3.121	0.215	0.189	0.051	3.294	3.309	3.273	3.363
M 4	0.5	3.675	3.387	3.459	0.307	0.271	0.072	3.699	3.715	3.675	3.775
M 4.5	0.5	4.175	3.887	3.959	0.307	0.271	0.072	4.199	4.215	4.175	4.275
M 5	0.5	4.675	4.387	4.459	0.307	0.271	0.072	4.699	4.715	4.675	4.775
M 5.5	0.5	5.175	4.887	4.959	0.307	0.271	0.072	5.199	5.215	5.175	5.275
M 6	0.5	5.675	5.387	5.459	0.307	0.271	0.072	5.702	5.720	5.675	5.787
M 6	0.75	5.513	5.080	5.188	0.460	0.406	0.108	5.545	5.566	5.513	5.645
M 7	0.75	6.513	6.080	6.188	0.460	0.406	0.108	6.545	6.566	6.513	6.645
M 8	0.5	7.675	7.387	7.459	0.307	0.271	0.072	7.702	7.720	7.675	7.787
M 8	0.75	7.513	7.080	7.188	0.460	0.406	0.108	7.545	7.566	7.513	7.645
M 8	1	7.350	6.773	6.917	0.613	0.541	0.144	7.835	7.409	7.350	7.500
M 9	0.75	8.513	8.080	8.188	0.460	0.406	0.108	8.545	8.566	8.513	8.645
M 9	1	8.350	7.773	7.917	0.613	0.541	0.144	8.385	8.409	8.350	8.500
M 10	0.5	9.675	9.387	9.459	0.307	0.271	0.072	9.702	9.720	9.675	9.787
M 10	0.75	9.513	9.080	9.188	0.460	0.406	0.108	9.545	9.566	9.513	9.645
M 10	1	9.350	8.773	8.917	0.613	0.541	0.144	9.385	9.409	9.350	9.500
M 10	1.25	9.188	8.466	8.647	0.767	0.677	0.180	9.226	9.251	9.188	9.348
M 11	0.75	10.513	10.080	10.188	0.460	0.406	0.108	10.545	10.566	10.513	10.645
M 11	1	10.350	9.773	9.917	0.613	0.541	0.144	10.385	10.409	10.350	10.500
M 12	0.75	11.513	11.080	11.188	0.460	0.406	0.108	11.547	11.569	11.513	11.653
M 12	1	11.350	10.773	10.917	0.613	0.541	0.144	11.388	11.413	11.350	11.510
M 12	1.25	11.188	10.466	10.647	0.767	0.677	0.180	11.230	11.258	11.188	11.368
M 12	1.5	11.026	10.160	10.376	0.920	0.812	0.217	11.071	11.101	11.026	11.216
M 13	1	12.350	11.773	11.917	0.613	0.541	0.144	12.388	12.413	12.350	12.510
M 14	1	13.350	12.773	12.917	0.613	0.541	0.144	13.388	13.413	13.350	13.510
M 14	1.25	13.188	12.466	12.647	0.767	0.677	0.180	13.230	13.258	13.188	13.368
M 14	1.5	13.026	12.160	12.376	0.920	0.812	0.217	13.071	13.101	13.026	13.216
M 15	1	14.350	13.773	13.917	0.613	0.541	0.144	14.388	14.413	14.350	14.510
M 15	1.5	14.026	13.160	13.376	0.920	0.812	0.217	14.071	14.101	14.026	14.216
M 16	1	15.350	14.773	14.917	0.613	0.541	0.144	15.388	15.413	15.350	15.510
M 16	1.25	15.188	14.466	14.647	0.767	0.677	0.180	15.230	15.258	15.188	15.368
M 16	1.5	15.026	14.160	14.376	0.920	0.812	0.217	15.071	15.101	15.026	15.216
M 17	1	16.350	15.773	15.917	0.613	0.541	0.144	16.388	16.413	16.350	16.510
M 17	1.5	16.026	15.160	15.376	0.920	0.812	0.217	16.071	16.101	16.026	16.216
M 18	1	17.350	16.773	16.917	0.613	0.541	0.144	17.388	17.413	17.350	17.510
M 18	1.5	17.026	16.160	16.376	0.920	0.812	0.217	17.071	17.101	17.026	17.216
M 18	2	16.701	15.546	15.835	1.227	1.083	0.289	16.752	16.786	16.701	16.913



TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

Nominal diameter	Pitch	Pitch diameter	Minor diameter		Thread depth		Radius	Pitch diameter Tap tolerance 6H		Pitch diameter Nut tolerance 6H	
			Screw	Nut	Screw	Nut		min.	max.	min.	max.
d = D	P	d ₂ = D ₂	d ₃	D ₁	h ₃	H ₁	r	d ₂			
M 22	2	20.701	19.546	19.835	1.227	1.083	0.289	20.752	20.786	20.701	20.913
M 24	1	23.350	22.773	22.917	0.613	0.541	0.144	23.390	23.416	23.350	23.520
M 24	1.5	23.026	22.160	22.376	0.920	0.812	0.217	23.074	23.106	23.026	23.226
M 24	2	22.701	21.546	21.835	1.227	1.083	0.289	22.754	22.791	22.701	22.925
M 25	1	24.350	23.773	23.917	0.613	0.541	0.144	24.390	24.416	24.350	24.520
M 25	1.5	24.026	23.160	23.376	0.920	0.812	0.217	24.074	24.106	24.026	24.226
M 25	2	23.701	22.546	22.835	1.227	1.083	0.289	23.754	23.791	23.701	23.925
M 26	1	25.350	24.773	24.917	0.613	0.541	0.144	25.390	25.416	25.350	25.520
M 26	1.5	25.026	24.160	24.376	0.920	0.812	0.217	25.074	25.106	25.026	25.226
M 26	2	24.701	23.546	23.835	1.227	1.083	0.289	24.754	24.791	24.701	24.925
M 27	1	26.350	25.773	25.917	0.613	0.541	0.144	26.390	26.416	26.350	26.520
M 27	1.5	26.026	25.160	25.376	0.920	0.812	0.217	26.074	26.106	26.026	26.226
M 27	2	25.701	24.546	24.835	1.227	1.083	0.289	25.754	25.791	25.701	25.925
M 28	1	27.350	26.773	26.917	0.613	0.541	0.144	27.390	27.416	27.350	27.520
M 28	1.5	27.026	26.160	26.376	0.920	0.812	0.217	27.074	27.106	27.026	27.226
M 28	2	26.701	25.546	25.835	1.227	1.083	0.289	26.754	26.791	26.701	26.925
M 30	1	29.350	28.773	28.917	0.613	0.541	0.144	29.390	29.416	29.350	29.520
M 30	1.5	29.026	28.160	28.376	0.920	0.812	0.217	29.074	29.106	29.026	29.226
M 30	2	28.701	27.546	27.835	1.227	1.083	0.289	28.754	28.791	28.701	28.925
M 30	3	28.051	26.319	26.752	1.840	1.624	0.433	28.115	28.157	28.051	28.316
M 32	1.5	31.026	30.160	30.376	0.920	0.812	0.217	31.074	31.106	31.026	31.226
M 32	2	30.701	29.546	29.835	1.227	1.083	0.289	30.754	30.791	30.701	30.925
M 33	1.5	32.026	31.160	31.376	0.920	0.812	0.217	32.074	32.106	32.026	32.226
M 33	2	31.701	30.546	30.835	1.227	1.083	0.289	31.754	31.791	31.701	31.925
M 33	3	31.051	29.319	29.752	1.840	1.624	0.433	31.115	31.157	31.051	31.316
M 35	1.5	34.026	33.160	33.376	0.920	0.812	0.217	34.074	34.106	34.026	34.226
M 35	2	33.701	32.546	32.835	1.227	1.083	0.289	33.754	33.791	33.701	33.925
M 36	1.5	35.026	34.160	34.376	0.920	0.812	0.217	35.074	35.106	35.026	35.226
M 36	2	34.701	33.546	33.835	1.227	1.083	0.289	34.754	34.791	34.701	34.925
M 36	3	34.051	32.319	32.752	1.840	1.624	0.433	34.115	34.157	34.051	34.316
M 38	1.5	37.026	36.160	36.376	0.920	0.812	0.217	37.074	37.106	37.026	37.226
M 39	1.5	38.026	37.160	37.376	0.920	0.812	0.217	38.074	38.106	38.026	38.226
M 39	2	37.701	36.546	36.835	1.227	1.083	0.289	37.754	37.791	37.701	37.925
M 39	3	37.051	35.319	35.752	1.840	1.624	0.433	37.115	37.157	37.051	37.316
M 40	1.5	39.026	38.160	38.376	0.920	0.812	0.217	39.074	39.106	39.026	39.226
M 40	2	38.701	37.546	37.835	1.227	1.083	0.289	38.754	38.791	38.701	38.925
M 40	3	38.051	36.319	36.752	1.840	1.624	0.433	38.115	38.157	38.051	38.316
M 42	1.5	41.026	40.160	40.376	0.920	0.812	0.217	41.074	41.106	41.026	41.226
M 42	2	40.701	39.546	39.835	1.227	1.083	0.289	40.754	40.791	40.701	40.925
M 42	3	40.051	38.319	38.752	1.840	1.624	0.433	40.115	40.157	40.051	40.316
M 45	1.5	44.026	43.160	43.376	0.920	0.812	0.217	44.074	44.106	44.026	44.226
M 45	2	43.701	42.546	42.835	1.227	1.083	0.289	43.754	43.791	43.701	43.925
M 45	3	43.051	41.319	41.752	1.840	1.624	0.433	43.115	43.157	43.051	43.316
M 48	1.5	47.026	46.160	46.376	0.920	0.812	0.217	47.074	47.106	47.026	47.226
M 48	2	46.701	45.546	45.835	1.227	1.083	0.289	46.754	46.791	46.701	46.925
M 48	3	46.051	44.319	44.752	1.840	1.624	0.433	46.115	46.157	46.051	46.316
M 50	1.5	49.026	48.160	48.376	0.920	0.812	0.217	49.074	49.106	49.026	49.226
M 50	2	48.701	47.546	47.835	1.227	1.083	0.289	48.754	48.791	48.701	48.925
M 50	3	48.051	46.319	46.752	1.840	1.624	0.433	48.115	48.157	48.051	48.316
M 52	1.5	51.026	50.160	50.376	0.920	0.812	0.217	51.074	51.106	51.026	51.226
M 52	2	50.701	49.546	49.835	1.227	1.083	0.289	50.754	50.791	50.701	50.925
M 52	3	50.051	48.319	48.752	1.840	1.624	0.433	50.115	50.157	50.051	50.316
M 55	1.5	54.026	53.160	53.376	0.920	0.812	0.217	54.074	54.106	54.026	54.226
M 55	2	53.701	52.546	52.835	1.227	1.083	0.289	53.754	53.791	53.701	53.925
M 55	3	53.051	51.319	51.752	1.840	1.624	0.433	53.115	53.157	53.051	53.316
M 56	1.5	55.026	54.160	54.376	0.920	0.812	0.217	55.074	55.106	55.026	55.226
M 56	2	54.701	53.546	53.835	1.227	1.083	0.289	54.754	54.791	54.701	54.925
M 56	3	54.051	52.319	52.752	1.840	1.624	0.433	54.115	54.157	54.051	54.316
M 58	1.5	57.026	56.160	56.376	0.920	0.812	0.217	57.074	57.106	57.026	57.226
M 58	2	56.701	55.546	55.835	1.227	1.083	0.289	56.754	56.791	56.701	56.925
M 58	3	56.051	54.319	54.752	1.840	1.624	0.433	56.115	56.157	56.051	56.316
M 60	1.5	59.026	58.160	58.376	0.920	0.812	0.217	59.074	59.106	59.026	59.226
M 60	2	58.701	57.546	57.835	1.227	1.083	0.289	58.754	58.791	58.701	58.925
M 60	3	58.051	56.319	56.752	1.840	1.624	0.433	58.115	58.157	58.051	58.316

Metric thread MB(old UNI 160 Profile)

Nut tolerance SH8

M 2,3	0.25	2.138	1.976	1.976	0.162	0.162	0.030	2.144	2.156	2.138	2.194
M 2,6	0.35	2.373	2.146	2.146	0.227	0.227	0.040	2.393	2.407	2.373	2.429



TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**



**UNIFIED COARSE THREADS
UNIFIED GROBGEWINDE**

Nominal dimensions as per ANSI B1.1

Production tolerances on tap flank diameter for 2B class nut threads

Limit dimensions-Nut threads as per ANSI B1.1, 2B-3B tolerance classes

Dimensions in mm

$H = 0.86603P$

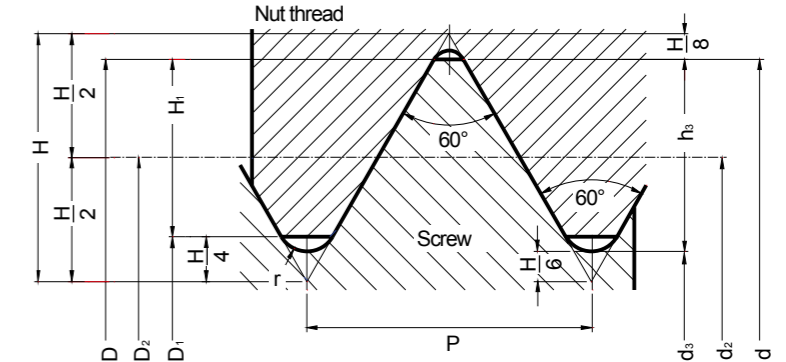
$H_1 = \frac{5}{8} H = 0.54127P$

$h_3 = \frac{17}{24} H = 0.61343P$

$d_2 = D_2 = d - \frac{3}{4} H = d - 0.64952P$

$d_3 = d - 2h_3 = d - 1.22687P$

$r = \frac{H}{6} = 0.14434P$



Nominal diameter	T.P.I	Pitch	External diameter	Flank diameter	Thread depth		Flank diameter Tap tolerance 2B		Flank diameter Nut tolerance		
					Nut	Screw	min.	max.	min. 2B/3B	max. 2B	max. 3B
		P	d = D	d ₂ = D ₂	D ₁	d ₃					
#1	- 64 UNC	0.397	1.854	1.598	1.425	1.367	1.610	1.623	1.598	1.664	1.646
#2	- 64 UNC	0.454	2.184	1.890	1.694	1.628	1.902	1.915	1.890	1.961	1.943
#3	- 48 UNC	0.529	2.515	2.172	1.941	1.864	2.184	2.197	2.172	2.248	2.228
#4	- 40 UNC	0.635	2.845	2.433	2.156	2.065	2.446	2.459	2.433	2.517	2.494
#5	- 40 UNC	0.635	3.175	2.764	2.487	2.395	2.776	2.789	2.764	2.847	2.827
#6	- 32 UNC	0.794	3.505	2.990	2.647	2.532	3.105	3.028	2.990	3.084	3.058
#8	- 32 UNC	0.794	4.166	3.650	3.307	3.193	3.675	3.688	3.650	3.746	3.721
#10	- 24 UNC	1.058	4.826	4.138	3.680	3.528	4.163	4.176	4.138	4.247	4.219
#12	- 24 UNC	1.058	5.486	4.798	4.341	4.188	4.823	4.836	4.798	4.910	4.882
1/4"	- 20 UNC	1.270	6.350	5.524	4.976	4.793	5.575	5.588	5.524	5.646	5.616
5/16"	- 18 UNC	1.411	7.938	7.021	6.411	6.205	7.071	7.084	7.021	7.155</	



TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**



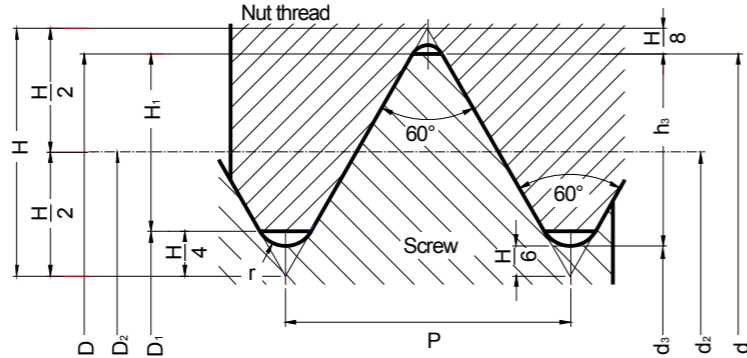
TECHNICAL DATA

**SUPER CUTTING TAPS
HOCHLEISTUNGS GEWINDEBOHRER**

**UNIFIED FINE THREADS
UNIFIED FEINGEWINDE**

Nominal dimensions as per ANSI B1.1
Production tolerances on tap flank diameter for 2B class nut threads
Limit dimensions-Nut threads as per ANSI B1.1, 2B-3B tolerance classes

Dimensions in mm
 $H = 0.86603P$
 $H_1 = \frac{5}{8} H = 0.54127P$
 $h_3 = \frac{17}{24} H = 0.61343P$
 $d_2 = D_2 = d - \frac{3}{4} H = d - 0.64952P$
 $d_3 = d - 2h_3 = d - 1.22687P$
 $r = \frac{H}{6} = 0.14434P$

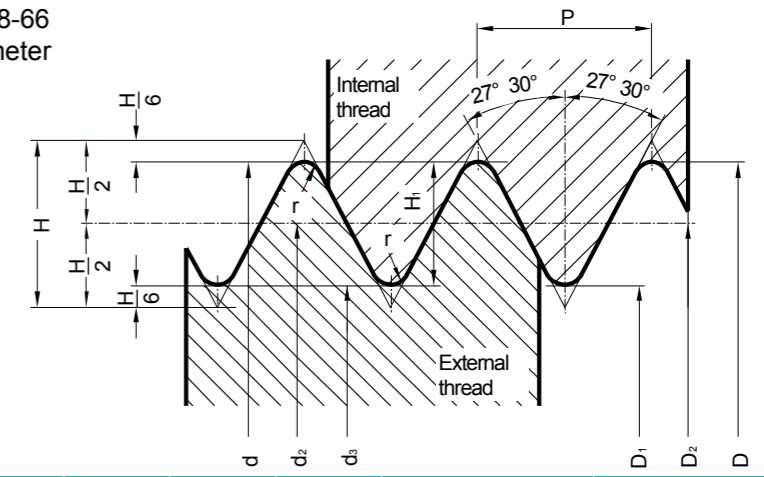


Nominal diameter	T.P.I	Pitch	External diameter d = D	Flank diameter d2 = D2	Thread depth		Flank diameter Tap tolerance 2B		Flank diameter Nut tolerance		
					Nut D1	Screw d3	min.	max.	min. 2B/3B	max. 2B	max. 3B
#0	-80 UNF	0.318	1.524	1.318	1.181	1.135	1.331	1.344	1.318	1.377	1.361
#1	-72 UNF	0.353	1.854	1.626	1.473	1.422	1.638	1.651	1.626	1.689	1.674
#2	-64 UNF	0.397	2.184	1.928	1.755	1.697	1.941	1.953	1.928	1.996	1.979
#3	-56 UNF	0.454	2.515	2.220	2.024	1.958	2.233	2.245	2.220	2.291	2.273
#4	-48 UNF	0.529	2.845	2.502	2.271	2.195	2.515	2.527	2.502	2.581	2.560
#5	-44 UNF	0.577	3.175	2.799	2.550	2.466	2.812	2.824	2.799	2.880	2.860
#6	-40 UNF	0.635	3.505	3.094	2.817	2.725	3.108	3.119	3.094	3.180	3.157
#8	-36 UNF	0.706	4.166	3.708	3.401	3.299	3.721	3.734	3.708	3.800	3.777
#10	-32 UNF	0.794	4.826	4.310	3.967	3.853	4.336	4.348	4.310	4.409	4.384
#12	-28 UNF	0.907	5.486	4.897	4.503	4.374	4.923	4.935	4.897	5.004	4.976
1/4"	-28 UNF	0.907	6.350	5.761	5.367	5.237	5.799	5.812	5.761	5.870	5.842
5/16"	-24 UNF	1.058	7.938	7.249	6.792	6.640	7.287	7.300	7.249	7.371	7.341
3/8"	-24 UNF	1.058	9.525	8.837	8.379	8.227	8.875	8.887	8.837	8.961	8.931
7/16"	-20 UNF	1.270	11.112	10.287	9.738	9.555	10.338	10.351	10.287	10.424	10.391
1/2"	-20 UNF	1.270	12.700	11.874	11.326	11.143	11.925	11.938	11.874	12.017	11.981
9/16"	-18 UNF	1.411	14.288	13.371	12.761	12.555	13.421	13.434	13.371	13.520	13.482
5/8"	-18 UNF	1.411	15.875	14.958	14.348	14.143	15.009	15.022	14.958	15.110	15.072
3/4"	-16 UNF	1.588	19.050	18.019	17.330	17.102	18.070	18.082	18.019	18.184	18.143
7/8"	-14 UNF	1.814	22.225	21.046	20.262	20.000	21.110	21.123	21.046	21.224	21.181
1"	-12 UNF	2.117	25.400	24.026	23.109	22.804	24.089	24.102	24.026	24.219	24.171
1 1/8"	-12 UNF	2.117	28.575	27.201	26.284	25.979	27.252	27.277	27.201	27.339	27.351
1 1/4"	-12 UNF	2.117	31.750	30.376	29.459	29.154	30.427	30.452	30.376	30.579	30.528
1 3/8"	-12 UNF	2.117	34.925	33.551	32.634	32.329	33.602	33.627	33.551	33.759	33.706
1 1/2"	-12 UNF	2.117	38.100	36.726	35.809	35.504	36.777	36.802	36.726	36.937	36.886

**WHITWORTH PIPE THREADS
WHITWORTH ROHRGEWINDE**

Nominal dimensions ISO 228/1-UNI 338-66
Production tolerances on tap flank diameter
Limit dimensions for internal threads

Dimensions in mm
 $P = \frac{25.4}{Z}$
 $H = 0.960491 P$
 $H_1 = 0.640327 P$
 $r = 0.137329 P$



Type	Thread diameter	Pitch	T.P.I	Flank diameter	Minor diameter	H1	r	Tap Flank diameter		Internal Thread Flank diameter	
								min.	max.	min.	max.
G 1/8"	9.728	0.907	28	9.147	8.566	0.581	0.125	9.177	9.194	9.147	9.254
G 1/4"	13.157	1.157	19	12.301	11.445	0.856	0.184	12.336	12.356	12.301	12.426
G 3/8"	16.662	1.337	19	15.806	14.950	0.856	0.184	15.841	15.861	15.806	15.933
G 1/2"	20.955	1.814	14	19.793	18.631	1.162	0.249	19.828	19.848	19.793	19.935
G 5/8"	22.911	1.814	14	21.749	20.587	1.162	0.249	21.784	21.804	21.749	21.891
G 3/4"	26.441	1.814	14	25.279	24.117	1.162	0.249	25.314	25.334	25.279	25.421
G 7/8"	32.201	1.814	14	29.039	27.877	1.162	0.249	29.074	29.094	29.039	29.181
G 1"	33.249	2.309	11	31.770	30.291	1.479	0.317	31.815	31.839	31.770	31.950
G 1 1/8"	37.897	2.309	11	36.418	34.939	1.479	0.317	36.463	36.487	36.418	36.598
G 1 1/4"	41.910	2.309	11	40.431	38.952	1.479	0.317	40.476	40.500	40.431	40.611
G 1 3/8"	44.323	2.309	11	42.844	41.365	1.479	0.317	42.889	42.913	42.844	43.024
G 1 1/2"	47.803	2.309	11	46.324	44.845	1.479	0.317	46.374	46.398	46.324	46.504
G 1 3/4"	53.746	2.309	11	52.267	50.788	1.479	0.317	52.327	52.354	52.267	52.447
G 2"	59.614	2.309	11	58.135	56.656	1.479	0.317	58.195	58.222	58.135	58.315
G 2 1/4"	65.710	2.309	11	64.231	62.752	1.479	0.317	64.291	64.318	64.231	64.448
G 2 3/8"	69.398	2.309	11	67.919	66.440	1.479	0.317	67.979	68.006	67.919	68.136
G 2 1/2"	75.184	2.309	11	73.705	72.226	1.479	0.317	73.765	73.792	73.705	73.922
G 2 3/4"	81.534	2.309	11	80.055	78.576	1.479	0.317	80.127	80.157	80.055	80.272
G 3"	87.884	2.309	11	86.405	84.926	1.479	0.317	86.477	86.507	86.405	86.622
G 3 1/4"	93.980	2.309	11	92.501	91.022	1.479	0.317	92.573	92.603	92.501	92.718
G 3 1/2"	100.330	2.309	11	98.851	97.372	1.479	0.317	98.923	98.953	98.851	99.068
G 3 3/4"	106.680	2.309	11	105.201	103.722	1.479	0.317	105.273	105.303	105.201	105.418
G 4"	113.030	2.309	11	111.551	110.072	1.479	0.317	111.623	111.653	111.551	111.768
G 4 1/2"	125.730	2.309	11	124.251	122.772	1.479	0.317				
G 5"	138.430	2.309	11	136.951	135.472	1.479	0.317				
G 5 1/2"	151.130	2.309	11	149.651	148.172	1.479	0.317				
G 6"	163.830	2.309	11	162.351	160.872	1.479	0.317				

(1) - This type is conventional:originally the value in inches was the internal pipe diameter.

INTERESTING HINTS FOR TAPPING
HINWEISE ZUM GEWINDESCHNEIDENSelection of the most suitable tap
Auswahl des geeigneten Gewindebohrers

Which types of tap or whether or not a thread former can be used, depends on the type of material to be machined. As a general guide, materials with an extension of at least 10% can be cold-formed.

To determine the most suitable tap, refer to the tap recommendation table on pages 356 to 363.

Welcher Typ Gewindebohrer oder ob ein Gewindeformer eingesetzt werden kann, hängt von dem zu bearbeitenden Werkstoff ab.

Als allgemeiner Leitwert gilt, daß Werkstoffe mit mindestens 10% Dehnung kaltgeformt werden können.

Zur Bestimmung des optimalen Gewindebohrers nutzen Sie die Empfehlungstabelle auf den Seiten 356 bis 363.

Core holes
Kernlöcher

- Core holes should be clean and swarf-free.
- Core holes should be of the prescribed size, see chart extract on page 583-584 of this catalogue, and dependent on the actual application, selected towards the upper diameter limit.
- Kernlöcher sollten sauber und spanfrei sein.
- Kernlöcher sollten die angegebenen Durchmesser haben, siehe Seiten 583 und 584, und abhängig vom aktuellen Einsatzfall, zur größtmöglichen Durchmesserangabe tendieren.

Lubricant in relation to machining centers
Schmiermitteleinsatz auf Bearbeitungszentren

Frequently the coolants used on machining centers are unsatisfactory for tapping because their percentage lubricant content is too low. If it is not possible to increase the percentage of lubricant in the emulsion, the lubrication problem can be solved in other ways, i.e.:

Meistens sind die gebräuchlichen Kühlmittel in Bearbeitungszentren zum Gewindeschneiden nicht geeignet, weil ihr Anteil an Schmierstoffen zu gering ist. Wenn es nicht möglich ist, den Anteil an Schmierstoffen in der Emulsion zu erhöhen, kann das Schmierproblem in anderer Weise gelöst werden, z. B.:

Lubricating with concentrated emulsion Schmierung mit konzentrierter Emulsion

A. A lubricating unit, connected to the machine control, delivers at the required instant a specific quantity of concentrated emulsion into the core hole or onto the tap.

B. A pump in a separate tank, controlled by the machine, delivers a specific amount of concentrate into the core hole.

A. Eine Schmiervorrichtung, die mit der Maschinensteuerung verbunden ist, gibt zum gewünschten Zeitpunkt eine bestimmte Menge konzentrierter Emulsion in das Kernloch oder auf den Gewindebohrer ab.

B. Eine Pumpe mit separatem Tank, mit der Maschinensteuerung verbunden, gibt eine bestimmte Menge des Konzentrats in das Kernloch.

Tapping in separate operations Gewindeschneiden als separater Bearbeitungsgang

This procedure allows the use of the ideal tapping lubricant.

Dies erlaubt den Einsatz des idealen Gewindeschneid Schmiermittels.

Cutting speeds for taps
Schnittgeschwindigkeiten für Gewindebohrer

The cutting speed has a great influence on chip flow and the life of the tap.

It is worthwhile to establish the ideal cutting speed by tapping trials.

Guide values see on the recommendation table page 364. The cutting speed should be in relation to the characteristics of the material, the machine and its equipment.

Die Schnittgeschwindigkeit hat großen Einfluss auf den Spanabgang und die Lebensdauer des Gewindebohrers.

Bei Großserien ist es lohnend, die ideale Schnittgeschwindigkeit durch Versuche zu ermitteln.

Leitwerte finden Sie in der Empfehlungstabelle Seite 364. Die Schnittgeschwindigkeit sollte auf den Werkstoff, die Maschine und das Umfeld abgestimmt sein.

Effects of unsuitable cutting speed Die Folgen falscher Schnittgeschwindigkeiten

- forced tapping Zu hoher Kraftaufwand
- tap lead chipping caused by overloaded cutting tooth Beschädigte Steigung durch überlastete Schneide
- torn threads Verschnittenes Gewinde
- unsatisfactory tap-life Ungenügende Standzeit
- rejected threads Ausschuss

Cold welding
Kaltaufschweißung

What are the causes of cold welding? Was sind die Gründe für eine Kaltaufschweißung?

- unsuitable tap selection Ungeeignete Gewindebohrer Auswahl
- tap with incorrect cutting geometry Gewindebohrer mit falscher Schneidengeometrie
- coolant unsuitable for material Kühlmittel ungeeignet für den Werkstoff
- insufficient coolant Unzureichende Kühlung
- axial pressure (pull or push) on the tap Axialer Druck (Zug oder Druck) auf den Gewindebohrer
- core hole too small Kernloch zu klein
- breaks in walls of core hole Risse in der Wand des Kernlochs
- speed too high or too low Schnittgeschwindigkeit zu hoch oder zu klein
- swarf trapped in the hole Verklemmter Span im Kernloch
- incorrect alignment of tap and core hole Achsversatz zwischen Gewindebohrer und Kernloch
- tap eccentricity Gewindebohrer läuft unrun

Effects of cold welding: Die Folgen von Kaltaufschweißungen

- torn threads verschnittene Gewinde
- short tap life kurze Standzeit
- rejected threads Ausschuss
- tap breakage Werkzeugbruch
- scrap workpieces schrottreife Werkstücke

Tap mounting
Gewindebohrer einspannen

- The tap must be mounted on the axis of the core hole.
- On non-synchronized machines (feed / speed) we recommend the use of a tapping spindle.
- Die Achsen von Gewindebohrer und Kernloch müssen genau fluchten.
- Auf nicht synchronisierten Maschinen (Vorschub / Schnittgeschwindigkeit) empfehlen wir den Einsatz einer Gewindeschneidspindel.

Tapping heads
Gewindeschneidköpfe

With non-synchronized machine spindles (feed / speed) the feed rate should as a rule be programmed approx. 5-10% lower than the thread pitch. In these cases a tapping chuck must be used which will compensate the difference between the feed rate and the thread pitch.

It is important that the tension spring in the axial compensation is set to a light rate to avoid axially loading the tap. The compression spring should be tensioned so that the tap starts to cut by compressing the spring at the most up to one half pitch.

Bei nicht synchronisierten Maschinenspindeln (Vorschub / Schnittgeschwindigkeit) sollte der Vorschub in der Regel 5 – 10% kleiner sein als die Gewindesteigung. In diesen Fällen muss ein Gewindeschneidfutter verwendet werden, das die Differenz zwischen dem Vorschub und der Gewindesteigung ausgleicht.

Es ist wichtig, daß die Spannfeder im axialen Ausgleich locker eingestellt wird, um eine zu große axiale Belastung des Gewindebohrers zu vermeiden.

Die Druckfeder sollte so gespannt sein, daß der Gewindebohrer zu schneiden beginnt, wenn die Feder bei höchstens einer halben Steigung gespannt ist.

Important hints: Wichtige Hinweise :

Ensure that the correct speed is selected.

Ensure that ample lubricating coolant is used when tapping.

Good machine and equipment stability is essential for optimum quality and performance.

Sorgen Sie für die richtige Schnittgeschwindigkeit.

Sorgen Sie dafür, daß reichlich Kühlschmiermittel beim Gewindeschneiden verwendet wird.

Gute Stabilität von Maschine und Vorrichtungen ist die Grundlage für optimale Qualität und Leistung.

**APPLICATION AND USE OF THREADING TAPS
FEHLER UND ABHILFEN BEIM GEWINDESCHNEIDEN**

Problem / FEHLER	Causes / URSACHEN	Solutions / LOSUNGEN
Tapped hole oversize Gewinde zu groß	Incorrect tap in use (cutting geometry unsuitable for application) Falscher Gewindebohrer im Einsatz (Schneidengeometrie ungeeignet)	Use tap selected from the relevant material group Einen für den Werkstoff geeigneten Gewindebohrer auswählen
	Faulty alignment Fehlerhafte Fluchtung	Ensure that the tap is correctly aligned with the core hole axis Dafür sorgen, daß Gewindebohrer und Kernloch axial genau fluchten
	Cold welding Kaltaufschweißung	Improve lubrication and direction of coolant Adjust cutting speed Schmierung und Ausrichtung des Kühlstrahls verbessern Schnittgeschwindigkeit korrigieren
	Re-ground tap (lead-in is not concentric) Nachgescharfter Gewindebohrer (Anschnitt nicht konzentrisch)	Regrind tap lead correctly on a suitable tap grinding machine Anschnitt fehlerfrei auf geeigneter Schleifmaschine nachschleifen
Stripped threads Gewinde verschnitten	Incorrect tap in use (cutting geometry incorrect for application) Falscher Gewindebohrer im Einsatz (Schneidengeometrie ungeeignet)	Use a tap from the relevant material group. Einen für den Werkstoff geeigneten Gewindebohrer auswählen
	Spindle speed and feed rate not synchronized Spindelgeschwindigkeit und Vorschub sind nicht aufeinander abgestimmt	Check feed rate programming and / or pitch of leading spindle Use a tapping spindle with axial float Vorschub und / oder Steigung der Spindel überprüfen Gewindeschneidspindel mit axialem Ausgleich verwenden
	Insufficient start pressure exerted on tap with peel-cut Unzureichender Startdruck auf einen Gewindebohrer mit Schalanschnitt	Increase start pressure Startdruck erhöhen
Bell mouthed tapped hole Gewinde trichterförmig	Incorrect start pressure applied to tap Falscher Gewindebohrer im Einsatz	Use a tapping spindle with axial float Gewindeschneidspindel mit axialem Ausgleich verwenden
Unsatisfactory thread surface finish Gewinde zu rau	Incorrect tap in use (Cutting geometry unsuitable for application) Falscher Gewindebohrer im Einsatz (Schneidengeometrie ungeeignet)	Select tap from the relevant material group Einen für den Werkstoff geeigneten Gewindebohrer auswählen
	The tap is blunt Die Schneiden sind stumpf	Replace or re-grind tap Neuen oder nachgescharften Gewindebohrer einsetzen
	Tap badly re-ground Der Gewindebohrer ist schlecht nachgescharft	Re-grind tap again. Check that cutting geometry is suitable for material Gewindebohrer korrekt nachschleifen Prüfen, ob die Schneidengeometrie für den Werkstoff geeignet ist
	Coolant lacking in lubricating qualities and / or quantity Kühlmittel mit unzureichendem Schmiermittelanteil	Ensure the use of a suitable coolant and an ample supply Für qualitative und quantitative gute Kühlung und Schmierung sorgen



Problem / FEHLER	Causes / URSACHEN	Solutions / LOSUNGEN
Partial chipping of tap Gewinde ist unfertig	Swarf jamming Spanestau	Check cutting speed Use alternative tap type Schnittgeschwindigkeit prüfen Andere Gewindebohrertypen wählen
	Tap has jammed against bottom of core hole Gewindebohrer ist auf den Grund des Kernlochs gefahren	Check hole and thread depths Drill core hole deeper Kernlochtiefe und Gewindelänge prüfen Kernloch tiefer bohren
	Tap incorrectly re-ground (lead-in diameter too small therefore too few cutting teeth) Gewindebohrer ist schlecht nachgescharft (Anschnittdurchmesser zu klein, deshalb zu wenige schneidende Zähne)	Ensure that original values are maintained when regrinding Beim Nachschärfen auf originale Geometrie achten
	Irregular workpiece material structure Materialfehler im Werkstück	Adjust cutting speed Improve lubricating quality of coolant Schnittgeschwindigkeit anpassen Die Schmierfähigkeit des Kühlmittels verbessern
Excessive tap wear Übermäßiger Verschleiß des Gewindebohrers	Incorrect cutting speed Falsche Schnittgeschwindigkeit	Adjust cutting speed to suit workpiece material Schnittgeschwindigkeit dem Werkstoff anpassen
	Coolant lacking in lubricating qualities and / or quantity Kühlmittel mit unzureichender Schmierqualität oder ?menge	Ensure the use of a suitable coolant and an ample supply Für qualitative und quantitative gute Kühlung und Schmierung sorgen Check that coolant is reaching the cutting zone Prüfen, ob das Kühlmittel den Schnittbereich erreicht
	Surface of the core hole is compacted Verfestigte Bohrungswand des Kernlochs	Check core hole drilling conditions (drill carefully to reduce risk of surface compacting) Einsatzwerte beim Kernlochbohren prüfen (vorsichtig bohren um eine Aufhärtung der Bohrungswand zu vermeiden) Check drill cutting edges Bohrerschneiden überprüfen
Tap breakage Bruch des Gewindebohrers	Incorrect tap in use (cutting geometry unsuitable for application) Falscher Gewindebohrer im Einsatz (Schneidengeometrie ungeeignet)	Use tap from the relevant material group Einen für den Werkstoff geeigneten Gewindebohrer auswählen
	Centering error Fehlerhafte Fluchtung	Ensure that axes of tap and core hole are aligned Dafür sorgen, daß Gewindebohrer und Kernloch axial genau fluchten
	Blunt tap Schneiden sind stumpf	Re-grind tap Neuen oder nachgescharften Gewindebohrer einsetzen Ensure that taps are stored carefully Auf sorgfältige Lagerung der Gewindebohrer achten
	Tap has reached bottom of core hole Gewindebohrer ist auf den Grund des Kernlochs gefahren	Use tapping spindle with axial float and slipping clutch Gewindeschneidspindel mit axialem Ausgleich und Rutschkupplung verwenden
	Core hole too small Kernloch ist zu klein	Select core hole as per chart, pages 583~584 of this catalogue Kernloch Durchmesser auf der Tabelle Seite 583 u. 584 auswählen



6 RESHARPENING NACHSCHARFEN

The resharpening on taps is done for regenerating the active hedges worn by the destructive action of cutting and of friction, it has high importance for an economical exploitation of the tool and so far has to be made rationally, keeping away from wrong operations which can heavily compromise the accuracy and the life.

In order to execute the tap resharpening quickly and accurately we recommend the use of proper resharpening machines having all necessary equipments for this operation.

The tap resharpening take place in two steps:

- resharpening of (relieved) chamfer;
- resharpening of flutes. (See picture 1)

Das Nachscharfen der Gewindebohrer dient der Erneuerung der verschlissenen Schneidkanten.

Es ist wichtig, um das Leistungsvermögen des Werkzeugs voll auszunutzen und muss daher präzise durchgeführt werden, um Fehler zu vermeiden, die die Präzision des Gewindes und die Standzeit beeinträchtigen.

Um das Nachscharfen schnell und präzise durchzuführen, empfehlen wir den Einsatz von geeigneten Schleifmaschinen mit dem notwendigen Zubehor.

Das Nachscharfen der Gewindebohrer erfolgt in zwei Stufen :

- scharfen der Freiflachen im Anschnitt;
- scharfen der Nuten (Spanfläche) (siehe Abb. 1)

RESHARPENING OF (RELIEVED) CHAMFER RESHARPENING OF (RELIEVED) CHAMFER

The chamfer resharpening must be executed both on specific for taps machines or on conventional resharpening machines equipped with an auxiliary system proper to generate the circular relief on back.

The picture 2 shows the resharpening made with the cylindrical surface of a grinding wheel.

Before resharpening, verify that the tap, fixed between points or on pincer, runs concentric; verify also the angle β which has to be correct in order to keep the same number of threads on chamfer.

Das Scharfen des Anschnitts muss entweder auf besonderen Gewindeschleifmaschinen erfolgen, oder auf konventionellen Schleifmaschinen mit entsprechenden Vorrichtungen für einen genauen Hinterschliff.

Abb. 2 zeigt das Nachscharfen mit einer zylindrischen Schleifscheibe.

Vor dem Schleifen überprüfen, ob der Gewindebohrer, zwischen Spitzen oder in einer Spannzange gehalten, rund läuft; prüfen Sie auch den Winkel β , der korrekt sein muss, um die gleiche Anzahl Gänge im Anschnitt zu haben

RESHARPENING OF FLUTES NACHSCHARFEN DER NUTEN

This operation must be done on a specific resharpening machine for taps, equipped with: deviding head, lead screw of "barrasinus" for executing the helix and cooling equipment.

The rake angle τ is obtained moving the tap axis, in relation to the resharpening surface, of an amount X to be calculated with the formula: $X = \frac{1}{2} d_1 \sin \tau$ (see picture 3). (d_1 =tap major diameter)

Dieser Arbeitsgang muss auf einer speziellen Gewindebohrer ? Schleifmaschine erfolgen, die ausgerüstet ist mit :

Teilkopf, Leitspindel zum Schleifen entlang gedrahter Nuten und Kühlmittelversorgung. Den Spanwinkel g bei Gewindebohrern mit geraden Nuten erhält man durch Verstellen der Bohrerachse im Verhältnis zu der zu schleifenden Oberfläche um den Einstellwert X, der nach folgender Formel errechnet wird :

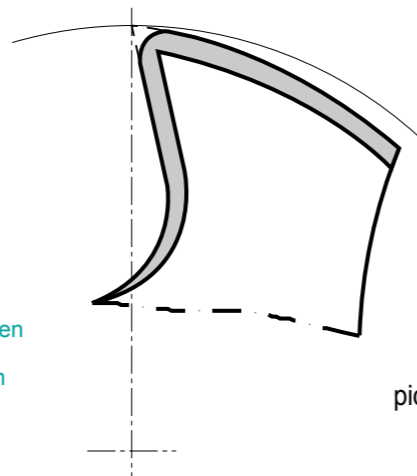
$$X = \frac{1}{2} d_1 \sin g \quad (\text{siehe Abb. 3}).$$

(d_1 = Gewindebohrerdurchmesser)

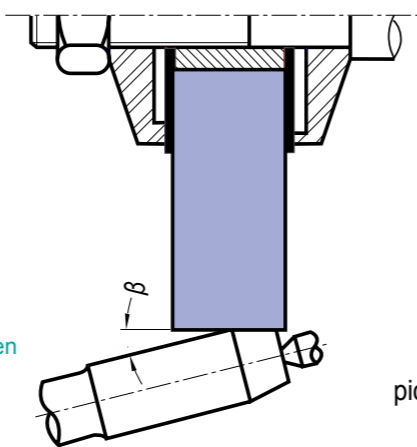
Example:

Tap 10 x 1,5 to cut on steel strength = 600 N/mm²
 $d_1 = 10\text{mm}$; $\tau = 15^\circ$; $\sin \tau = 0,25882$;

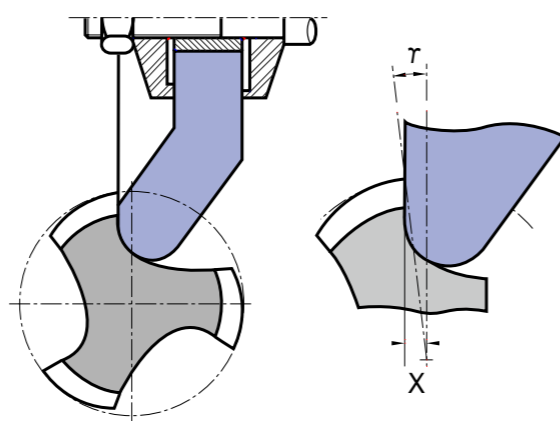
$$X = \frac{0,25882 \times 10}{2} ; X = 1,29\text{mm}$$



pic. 1



pic. 2



pic. 3



On all taps having spiral-flutes, in addition to the trade mark and identification of the dimension and type, it is possible to find also the pitch of the spiral referred to the lead screw necessary for the resharpening.

In case of employment of taps equipped with deburring tool Burr-Bit it is necessary to extend the flutes following what suggested by the supplier.

Because the wear on a tap is mainly on the chamfer area, on taps having "gun nose" the resharpening of the flutes can be made on the front area only (see picture 4).

Bei allen Gewindebohrern mit gedrahten Nuten werden allgemein spezielle Schleifmaschinen eingesetzt, die die Drallsteigung messen und selbständig einstellen können.

Beim Einsatz von Gewindebohrern mit dem Entgratwerkzeug Burr-Bit ist es notwendig, die Nuten entsprechend den Vorgaben des Herstellers zu verlängern.

Da der Verschleiß eines Gewindebohrers hauptsächlich im Anschnitt und dem erstenvollen Gewindezahn liegt,

können Gewindebohrer mit Schalanschnitt und gerader Nute auch nur im vorderen

Gewindeteil nachgeschliffen werden (siehe Abb. 4).

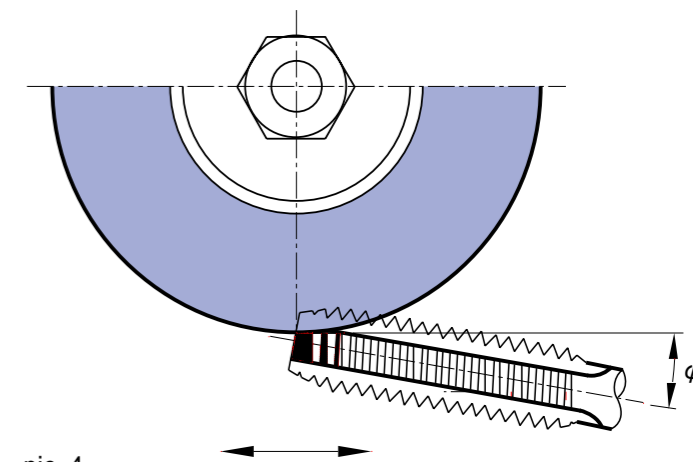
It is very important to pay attention that, when also the thread flanks are worn (in addition to the active hedges) the resharpening as above described is practically useless.

In this case the "regeneration" is made, by means of cutting completely the chamfer away (this means a shorter tap) and reproducing then the chamfer with same angle and relief. (see picture 5)

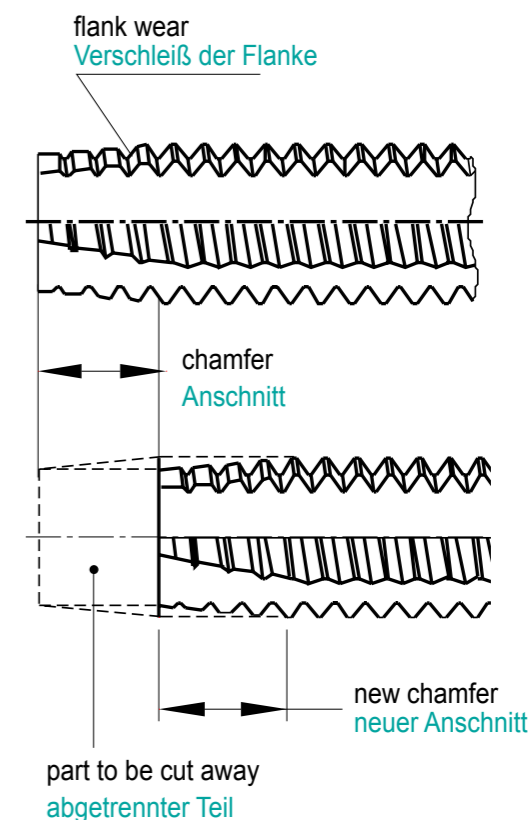
The regeneration is also advisable on taps with spiral flutes, because that way the flutes grinding is not necessary, in absence of special resharpening machines with lead screw with proper angle.

Es ist wichtig zu wissen, daß beim Verschleiß der Gewindezahnflanken (zusätzlich zur Hauptschneidkante) das oben beschriebene Nachschleifen praktisch nutzlos ist!

In diesem Fall wird die "Erneuerung" dadurch erreicht, daß der Anschnitt komplett abgetrennt wird (das bedeutet eine Kürzung des Gewindebohrers und Verlust der entrierung) und neu angeschliffen wird, mit gleichen Winkeln und Hinterschliff (siehe Abb. 5). Diese "Erneuerung" ist auch für drallgenutete Gewindebohrer zu empfehlen, weil dann das Nutenschleifen entfällt, wenn keine geeignete Schleifmaschine mit Leitspindel vorhanden ist



pic. 4



pic. 5

IMPORTANT RECOMMENDATIONS
WICHTIGE EMPFEHLUNGEN

RESHARPEN TIMELY

RECHTZEITIGES NACHSCHARFEN

It is important to resharpen timely the worn tap. In these conditions in fact defective threads can be produced, risking to brake the tool; in addition the wear is increasing quickly, damaging a wide area of the cutter and rapidly.

Es ist wichtig, den Gewindebohrer rechtzeitig nachzuschleifen.

Stumpfe Gewindebohrer können defekte Gewinde schneiden, die Bruchgefahr ist erhöht; zudem nimmt der Verschleiß schnell zu und zerstört weite Bereiche der Schneiden

PROPER GRINDING WHEELS

RICHTIGE SCHLEIFSCHLEIBEN

The structure and grain of grinding wheels must be the right one for the tap to be resharpened. Our technicians are at complete disposal to give the proper recommendations.

Bindung und Korn der Schleifscheiben müssen auf die Gewindebohrer abgestimmt sein.

Unsere Techniker sind bereit, Ihnen die geeignete Empfehlung zu geben

TAPS FOR CAST IRONS

GEWINDEBOHRER FÜR GUSS

On these taps the resharpening is rarely possible because, due to cast iron is abrasive, the tap is wearing on flank of the thread and so far out of tolerance.

Bei diesen Gewindebohrern ist Nachscharfen kaum möglich. Der verschleißfordernde

Guss greift die Schneidenflanken an, wodurch die Toleranz verloren geht.

TAPS FOR ALUMINIUM

GEWINDEBOHRER FÜR ALUMINIUM

It is advisable, after resharpening as above described, to remove steel burrs from the grinding wheel action.

This operation, easy with iron brushes, avoid the danger of boring or over tolerance tapping instead of accurate tapping.

Es ist empfehlenswert nach dem oben beschriebenen Nachscharfen Schleifgrate vom Gewindebohrer mit Stahlbursten zu entfernen.

Dadurch wird die Gefahr vermieden, Gewinde zu groß zu schneiden.

CONTROLS (TESTS)

KONTROLLEN (TESTS)

Once resharpened the tap, it is always better to make some tests to obtain correct threads same as when the tap was new.

- The chamfer must be perfectly on axis to avoid the effects of picture 6.

- The cutters must have correct divisions. The results of a resharpening with a wrong division is shown on picture 7.

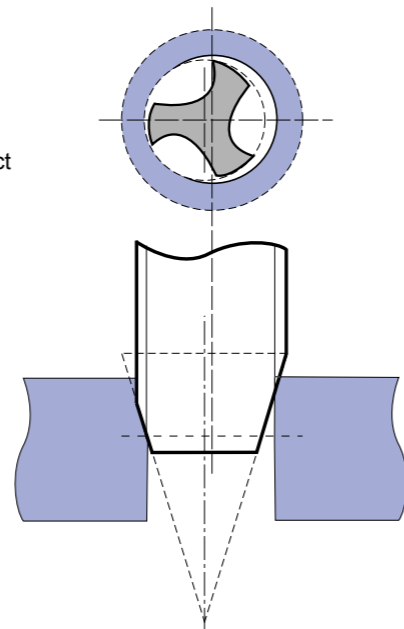
- The length and number of threads on chamfer must be rigorously identical to those of the new tap.

Nach dem Nachscharfen sollte der Gewindebohrer genau kontrolliert werden um sicher zu stellen, daß er genauso gut schneidet, wie ein neuer Bohrer.

- Der Anschnitt muss genau axial sein, um den Effekt wie in Abb. 7 zu vermeiden.

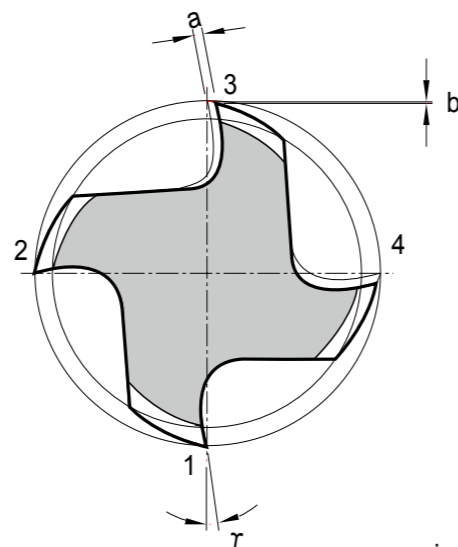
- Die Schneiden müssen eine genaue Teilung haben. Das Ergebnis des Nachschleifens mit falscher Teilung ist in Abb. 7 zu sehen.

- Die Länge und Anzahl der Gewindegänge im Anschnitt muss absolut genau so sein, wie bei einem neuen Gewindebohrer.



pic. 6

chamfer out of center
unrund geschliffener Anschnitt



pic. 7

incorrect division
Teilungsfehler
cutters not concentric
Schneiden nicht konzentrisch

ORDERS / INQUIRIES SPECIAL TAPS
Bestellungen / Anfragen ; SONDERGEWINDEBOHRER

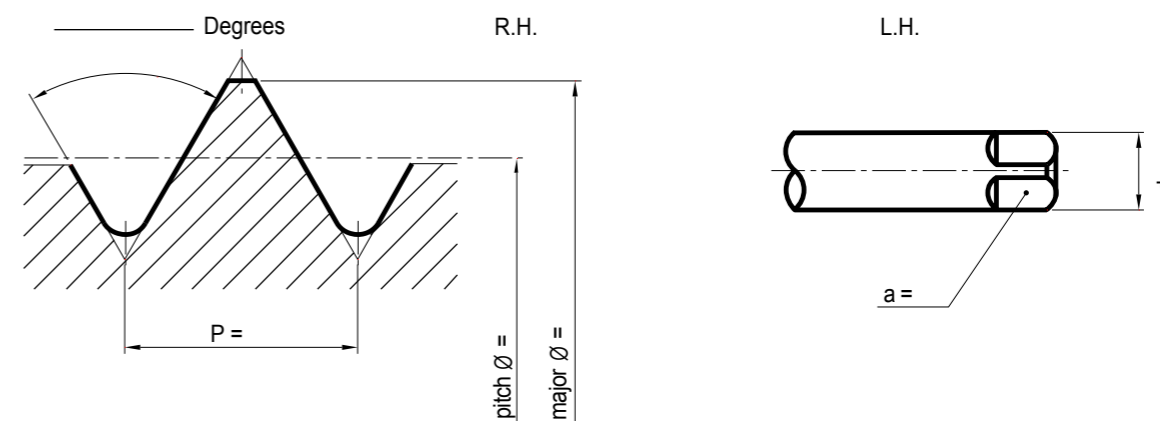
For photocopying

Orders / Inquiries

This form may be returned to your local YG-1 distributor or to YG-1.

Company _____
Address _____
Department _____
Phone _____

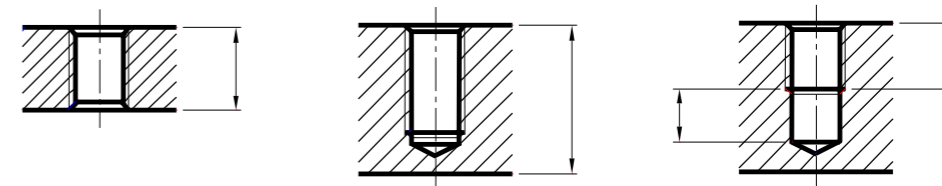
Tool

Thread \varnothing and pitch _____

Tolerance class _____

Overall length _____ mm

Hole



Unusual characteristics of the threaded product or of the tapping method, e.g. counterbore, tapping on an angle, etc. _____

Material to be tapped

Material No. or designation _____
Tensile strength _____ N/mm² _____ HB _____ HRC
Chip form short long
Annealed steel Hardened steel Heat treated steel

Special requirements : _____

Person to be contacted within the company _____

Date _____ Signature _____



SEND US YOUR TAPPING PROBLEMS

SENDEN SIE UNS IHR GEWINDESCHNEIDPROBLEM

For photocopying

This form may be returned to your local YG-1 distributor or to YG-1.		Company _____
		Address _____
		Department _____
		Phone _____
Tool	Description of the tap being used at present Thread Ø and pitch _____ <input type="radio"/> right-hand cutting <input type="radio"/> fluteless <input type="radio"/> straight flutes <input type="radio"/> spiral point Additional information for special pitches or thread forms pitch Ø _____ major Ø _____ minor Ø _____ flank angle _____ degrees	Make _____ Type _____ Class of tolerance _____ <input type="radio"/> left-hand cutting <input type="radio"/> right hand spiral flutes _____ degrees <input type="radio"/> left hand spiral flutes _____ degrees <input type="radio"/> length of chamfer _____ thread chamfer
Hole	Tap drill Ø _____ <input type="radio"/> through hole Special requirements or unusual characteristics of the threaded product _____	length of hole _____ depth of full thread _____ <input type="radio"/> bottoming hole
Tapping speed	_____ meters per minute _____ revolutions per minute	
Lubricant	<input type="radio"/> without <input type="radio"/> emulsion _____% <input type="radio"/> cutting oil <input type="radio"/> other _____ Application <input type="radio"/> under pressure <input type="radio"/> vaporization <input type="radio"/> other _____	
Machine	Type _____ <input type="radio"/> horizontal tapping <input type="radio"/> vertical tapping	
Driving	<input type="radio"/> tap revolves <input type="radio"/> work revolves Number of spindles _____	
Feed	<input type="radio"/> without <input type="radio"/> power <input type="radio"/> CNC _____%	
Tool holder	<input type="radio"/> rigid <input type="radio"/> floating <input type="radio"/> with safety clutch Make _____ Type _____	
Material to be tapped	Material No. or designation _____ Composition, if possible _____ Tensile strength or hardness _____ N/mm ² HB _____ HRc Chip form <input type="radio"/> short <input type="radio"/> long	
Short description of problem : _____ _____ _____ _____		
Person to be contacted within the company _____ Date _____ Signature _____		



MAIN THREAD SYMBOLS

HAUFIGE GEWINDEARTE

AMERICAN STANDARD

Cylindrical threads

UNC	Unified Coarse-Thread Series
UNF	Unified Fine-Thread Series
UNEF	Unified Extra-Fine-Thread Series
UN	Constant Pitch Series-Threads with constant pitch of T.P.I. 4,6,8,12,16, 20,28,32
UNS	Selected combinations-Threads with special dia-pitch combinations
UNJ	Unified threads with constant pitch with radius on minor diameter from 0,15011 Pitch to 0,18042 Pitch
UNJC	Unified coarse thread with radius on minor diameter from 0,15011 Pitch to 0,18042 Pitch
UNJEF	Unified extra fine thread with radius on minor diameter from 0,15011 Pitch to 0,18042 Pitch
UNJF	Unified fine threads with radius on minor diameter from 0,15011 Pitch to 0,18042 Pitch

Pipe cylindrical threads

NPS	Cylindrical threads for pipe
NPSC	American Standard for pipe coupling
NPSF	American Standard for internal thread on pipe, dryseal
NPSH	American Standard for cylindrical threads for pipe, joints and nipples
NPSI	American Standard for internal cylindrical threads on pipe(dryseal)
NPSL	American Standard for cylindrical threads on pipe for nuts
NPSM	American Standard for cylindrical threads on pipe for mechanical joints
NGO	American National pipe threads for gas exhaust
NGS	American National pipe threads for gas

Taper pipe threads

ANPT	Taper pipe threads for Army, Navy and Airforce
------	--

F-PTE	Taper pipe fine threads(dryseal)
NPT	Taper pipe thread
NPTF	Taper pipe thread (dryseal)
NPTR	Taper pipe thread for railways equipments
PTF-SAE SHORT	Taper pipe short thread(dryseal)-SAE
PTF-SPL SHORT	Taper pipe special thread(dryseal)-SAE
PTF-SPL EXTRA SHORT	Extra short special thread(dryseal)-SAE
SPL-PTF	Special taper pipe dryseal thread
NGT	National American taper pipe thread
SGT	Special taper pipe thread
API	American petroleum Institute taper pipe thread

Trapezoidal and saw tooth threads

ACME-C	ACME selfcentering thread
ACME-G	ACME general application
STUB-ACME	ACME flat thread with reduced thread depth
60° STUB-ACME	ACME flat thread with 60° flank angle
N BUTT	American National Saw tooth thread

BRITISH STANDARD

BSW	Whitworth British Standard coarse pitch
BSF	Whitworth British Standard fine pitch
WHIT	Whitworth Standard special pitch
R	British Standard external threading for taper pipe(dryseal)(already BSP-Tr)
Rc	British Standard internal threading taper thread for pipe(BSP-Tr)
Rp	British Standard cylindrical thread for pipe(already BSP.PI)
BA	British Standard Association thread
BSC	British Standard thread for bicycle
CEI	British Standard for bicycle

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC	Examples
P	1	Non-alloyed steel	About 0.15% C	Annealed	125		S15C, C15, 1015
	2		About 0.45% C	Annealed	190	13	S45C, C45, 1045
	3		About 0.45% C	Quenched & tempered	250	25	
	4		About 0.75% C	Annealed	270	28	SK5, Ck75, 1080
	5		About 0.75% C	Quenched & Tempered	300	32	
	6	Low-alloyed Steel		Annealed	180	10	SCM440, 42CrMo4, 410
	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	SKD, D2
	11			Quenched & Tempered	325	35	SKH, SUH, M42
M	12	Stainless Steel	Ferritic / Martensitic	Annealed	200	15	SUS 420, X40Cr13, 420
	13		Martensitic	Quenched & Tempered	240	23	
	14		Austenitic		180	10	
K	15	Grey cast iron	Pearlitic / Ferritic		180	10	FC, GG, EN-GJL-250
	16		Pearlitic (Martensitic)		260	26	
	17	Nodular cast iron	Ferritic		160	3	FCD, GGG, EN-GJS-500-7
	18		Pearlitic		250	25	
	19	Malleable cast iron	Ferritic		130		FCMW, FCMP, GTS, GJMB350-10
	20		Pearlitic		230	21	
N	21	Aluminum-wrought alloy	Not Curable		60		SAE 1000, AlMg 1, 3.3315
	22		Curable Hardened		100		SAE 7050, AlCuMg 1, 3.1325
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		ADC12, G-AlSi12, 3.2581
	24		≤ 12% Si, Curable Hardened		90		C4BS, G-AlSi10Mg, 3.2381
	25		> 12% Si, Not Curable		130		
	26	Copper and copper alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		CuZn36Pb 3, 2.0375
	27		CuZn, CuSnZn (Brass)		90		CuZn 15, 2.0240
	28		CuSn, lead-free copper and electrolytic copper		100		G-CuZn40Fe, 2.0590
	29	Non-metallic materials	Duroplastic, Fiber Reinforced Plastic				CFRP
	30		Rubber, Wood, etc.				
S	31	Heat resistant super alloys	Fe Based	Annealed	200	15	X12 NiCrSi 36-16, 1.4864
	32			Aged	280	30	
	33			Annealed	250	25	Inconel 718, NiCr20TiAl, 2.4631
	34		Ni or Co Based	Aged	350	38	NiCu30Al, 2.4375
	35			Cast	320	34	G-X120Mn12, 1.3401
	36	Titanium alloys	Pure Titanium		400 Rm		
	37		Alpha + Beta Alloys Hardened		1050 Rm		TiAl6V4, 3.7165
H	38	Hardened steel	Hardened		550	55	SK3
	39		Hardened		630	60	
	40	Chilled cast iron	Cast		400	42	
	41	Hardened cast iron	Hardened		550	55	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRC
			Non-alloyed steel			About 0.15% C, Annealed						
P 1												
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0037	STKM 12 C	St 37-2	-	4360 40 B	S235JR	E24-2	1311	Fe 360 B			16D	
1.0038	STKM 12 A	St 37-3	A570.36	4360 40 C	S275J2G3	E28-3	1312	Fe 360 D FF			ST14KP	
1.0045	SM 490 YA	S 355 JR	-	-	S 1207	E36-2	-	Fe 510 BFN				
1.0050	SS 50	St 50-2	A570 Gr. 50	4360 50 B	E 295	A50-2	2172	Fe 490			ST5PS	
1.0060	SM 58	St 60-2	A572 Gr. 65	4360 55 E	-	A60-2	1650	Fe 60-2			ST6PS	
1.0114		S 235 J0	-	En 40C	S 235 J0	E24-3		Fe 360 CFN				
1.0143		S 275 J0	-	-	S 275 J0	E28-3	1414	Fe 430 C				
1.0144	SM41C, SM400	St 44-3 N	A573 Gr. 81	4360 43C	S 275 J2 G3	E28-3	1412	Fe 430 D FF			ST14KP	
1.0149		Ro St 44-2	-	43C	S 275 J0 H	-	1412	Fe430C				
1.0301	S10C	C10	1010	045M10	C10	34C10, XC10		C10	F.1511	G10100	10	
1.0330	SPCC	St 12	-	DC 01	Fe P01	DC 01/Fe P01	1142	Fe P01			15KP	
1.0335	SPHE	D D 13 (StW 24)	A622(1008)	H 5 3	D D 13	3C		FeP13			08KP	
1.0338	SPCE	St 4	A620(1008)	14491CR	Fe P04	Fe 14	1147	DC04/FeP04			08JU	
1.0345	SPV 50	P235 GH	A516 Gr. 65	P 235 GH	P 235 GH	A 37 CP	1330	Fe E 235		K02503		
1.0401	S15C	C15	1015	080M15	-	C18RR, XC18	1350	C15, C16	F.1110	G10170	15	
1.0402	S20C	C22	1020	050 A 20	1 C 22	C20	1450	C 20	F.1120	G10200	20	
1.0425	SPV315	P265GH/HII				A42CP	1430	Fe4101KW		K02801	16K	
1.0443	SC 450	GS-45	A2765-35	A1		E23-45M	1305					
1.0539		S355NH				TSE355-4	2134	Fe510B				
1.0545		S355N		4360-50E		E355R	2334	FeE355KG				
1.0546		S355NL		4360-50EE		E355FP	2135	FeE355KT				
1.0547		S355J0H		4360-50C		TSE355-3	2172	Fe510C				
1.0549		S355NLH					2135	Fe510D				
1.0553	SM 520 M	St 52-3U	A14880-40	4360-50C		320-560M	1606	Fe510C				
1.0562	SM490A	St E 355	A633 Gr. C	P 355 N		FeE355KGN	2132	Fe E 355 KG		K12000	15GF	
1.0565		W St E 355		P 355 NH		P 355 NH	2106	Fe E 355 KW		K01600		
1.0566	SLA 37	T St E 355		P 355 NL1		P 355 NL1	2107	Fe E 355 KT				
1.0570	SM 50 YA	St 52-3	1	4360-50 C	S355JR	E36-3	2172	Fe 510 B			17G15	
1.0715	SUM22	95Mn28	1213	230M07		S250	1912	CF5Mn28	F.2111	G12130		
1.0718	SUM22L	95MnPb28	12L13			S250Pb	1914	CF95MnPb28	F.2112	G12134		
1.0721		10S20	1108	10S20		10S20		CF10S20	F.2121	G11080		
1.0722		10SPb20	11L08			10PbF2		CF10SPb20		G11084		
1.0736	SUM25	95Mn36	1215			S300		CF9Mn36	F.2113	G12150		
1.0737		95MnPb36	12L14			S300Pb	1926	CF95MnPb36	F.2114	G12144		
1.0972		S315MC		1501-40F30		E315D						
1.0976		S355MC		1501-43F35		E355D	2642	FeE355TM				
1.0982		S460MC		1501-50F45								
1.0984		S500MC				E490D	2662	FeE490TM				
1.0986		S500MC		1501-60F55		E560D		FeE560TM				
1.1121	S10C	Ck10	1010	040A10		XC10	1265	C10	F.1510	G10100	10	
1.1141	S15	Ck15	1015	040A15	32C	XC15	1370	C15	F.1110	G10150	15	
1.1151	S20C	C22E	1020	055M15		2C22	1450	C20	F.1120	G10230	20	
1.8900	S25C	StE380	A572-60	436055E			2145	FeE390KG				
		St44-2	A36	436043A		NFA35-501E28	1411					
		StE320-3Z		1501160			1421					

P	VDI 3323 2		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	Non-alloyed steel			About 0.45% C, Annealed					190	13		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0501	S35C	C35	1035	080A32		1C35	1572	C35	F.113	G10350	35	
1.0503	S45C	C45	1045	060A47		XC42H1TS	1672	C45	F.114	G10450	45	
1.0511	S40C	C40	1040	080M40		1C40		C40	F.114.A	G10400	40	
1.0540	S 50 C	C50					1674	C50		G10500		
1.0551		GS-52	A2770-36	A2		280-480M	1505					
1.0553	SM 520 M	St52-3U	A14880-40	4360-50C		320-560M	1606	Fe510C				
1.0577		S 355 J 2 G 4	A738	Fe 510 D 2 FF		A52FP	2107					
1.0726		35520	1140	212M36	8M	35MF6	1957			G11400	40	
1.0727		45520	1146			45MF4	1973			G11460		
1.1157		40Mn4	1039	150M36	15	40M5				G10390	40G	
1.1158	S25C	C25E	1025	070M25		XC25		C25	F.1120	G10250	25	
1.1166	SMn433H	34Mn5	1536						T.O.B	G15360		
1.1167	SMn438(H)	36Mn5	1335	150M36		40M5	2120	36Mn6	F.1203	G13350	35G2	
1.1170	SCMn1	28Mn6	1330	150M28	14A	20M5		C28Mn	28Mn6	G13300	30G	
1.1178	S 30 C	C30E		080M30		XC32		C30	2C30	G10300		
1.1180		C35R	1035	080A35		3C35	1572		F.1135	G10350		
1.1181	S35C	C35E	1035	080A35		XC38	1572	C36	F.1130	G10340	35	
1.1191	S45C	Ck45	1045	080A46		XC45	1672	C45	F.1140		45	
1.1206	S 50 C	C50E	1050	080M50		2C50	1674	C50		G10500	50	
1.1213	S50C	C53	1050	070M55		XC48H1TS	1674	C53		G10500	50	

P	VDI 3323 3		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	Non-alloyed steel			About 0.45% C, Annealed					250	25		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0481	SG365	17 Mn 4/P 295 GH	A516 Gr.70	224-460B	P 295 GH	A 48 CP	2102	Fe E 295	A47RCl	K03501	14G2	
1.0501	S35C	C35	1035	080A32		1C35	1572	C35	F.1130	G10350	35	
1.0503	S45C	C45	1045	060A47		XC42H1TS	1672	C45	F.1140	G10450	45	
1.0614		C76D	1074			XC75				G10750		
1.0616		C86D	1086			XC80		C85		G10860		
1.0618		C92D	1095			XC90				G10950		
1.0726		35520	1140	212M36	8M	35MF6	1957			G11400	40	
1.1157		40Mn4	1039	150M36	15	40M5				G10390	40G	
1.1165	SMn433H	30Mn5	1036	120M36		35M5		30Mn5	F.8211	K13300	30G2	
1.1167	SMn438(H)	36Mn5	1335	150M36		40M5	2120	36Mn6	F.1203	G13350	35G2	
1.1186	S40C	C40E	1040	060A40		2C40		C40		G10400		
1.1191	S45C	Ck45	1045	080M46		2C45	1672	C45	F.1140		45	
1.1201	S50C	C45R	1049	080M46		3C45	1660	C45	F.1145		38HM	
1.1213	S50C	C53	1050	070M55		XC48H1TS	1674	C53		G10500	50	
1.7242	SCM 418 H	18CrMo4										
1.7337		16CrMo4-4	A387 Gr.12					A18CrMo45KW		K11564	15C M	
1.7362	SCMV 6	12CrMo195		3606-625		Z10CD5-05		16CrMo205		K41545		
		17MnV6	A572-60	436055E		NFA35-501E36	2142					

P	VDI 3323 4		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	Non-alloyed steel			About 0.75% C, Annealed					270	28		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0603	S70 C -CSP	C67	107	080A67		XC65		C67		G10700		
1.0605		C75	1075	144980HS				C75		G10740	75	
1.1203	S55C	Ck55	1055	060A57		2C55	1655	C55	F.1150	G10550	55	
1.1209		C55R	1055	070M55		3C55		C55	F.1155	G10550		
1.1221	S58C	Ck60	1060	060A62	43D	2C60	1678	C60	F.1150	G10640	60	
1.1231	S70 C-CSP	C67E	1070	060A67		XC68	1770	C70	F.5103	G10700	65GA	
1.1248	C75	C75E	1074	060A78		XC75	1774	C75	F.5107	G10800	75(A)	
1.1269	SK 5 -CSP	C85E	1086			XC90		C90		G10900	85(A)	
1.1274	SUP4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F.5117	G10950		
1.1545	SK 3	C 105 W1	W1	BW 2	C 105U	Y1 105	1880	C 100 KU	F.5118		U10A	
1.1663	SK 2	C125W	W112			Y2120					U13	

P	VDI 3323 5		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	Non-alloyed steel			About 0.75% C, Quenched & Tempered					300	32		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0070		St 70-2	1055	Fe690-2FN	-	A70-2	1655	Fe 690	F.1150		55	
1.0535	S55C	C55	1055	070M55		1C55	1655	C55		J05000	55	
1.0601	S58C	C60	1060	060A62	43D	1C60		C60		G10600	60(G)	
1.1203	S55C	Ck55	1055	060A57		2C55	1655	C55	F.1150	G10550	55	
1.1221	S58C	Ck60	1060	060A62	43D	2C60	1678	C60	F.1150	G10640	60	
1.1274	SUP4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F.5117	G10950		
1.1545	SK 3	C 105 W1	W1	BW 2	C 105U	Y1 105	1880	C 100 KU	F.5118		U10A	
1.1663	SK 2	C125W	W112			Y2120					U13	
1.5120		38MnSi4										
1.5710	SNC236	36NiCr6	3135	640A35	111A	35NC6						
1.7701		51CrMoV4						51CrMoV4				

P	VDI 3323 6	Material Description				Composition / Structure / Heat Treatment					HB	HRC
		Low-alloyed Steel				Annealed					180	10
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0116		St 37-3	A570 Gr. 36	4360-40C	S 235 J2 G3	E24-3	1312	Fe 360 D1(2)	AE235D		ST3KP	
1.0904	SKH 1, SKT 4	55Si7	9255	250A53	45	55S7	2085	55Si8	56Si7	G92550	55S2	
1.0961	SUP 7	60SiCr7	9262			60SiCr6		60SiCr8	60SiCr8	G92620		
1.2067		100Cr6	L3	BL3		Y100C6				100Cr6		
1.2108		90CrSi5	L1				2092	105WCR5				
1.2210		115CrV3	L2					107CrV3KU	F.520L		11KHF	
1.2241		51CrV4										
1.2330	SCM435TK	35CrMo4	4135	708A37		34CD4	2234	35CrMo4			35KHM	
1.2419	SKS31	105WCr6		105WC13		105WC13	2140	10WCr6			CWG	
1.2510	SKS3	100MnCrW4	01	B01		90MWCV5	2140	95 MnWCr 5 KU	F.5220		9KHVG	
1.2542		45WCrV7	S1	BS1			2710	45WCrV8KU			5CW25F	
1.2550		60WCrV7	S1			55WC20	2710	58WCr9KU			5KHV25F	
1.2713	SKT4	55NiCrMoV6	L6			55NCDV7			F.5205		5CNM	
1.2721		50NiCr13	L6			55NVC6	2550		F.528			
1.2842		90MnCrV8	02	B02		90MV8				T31502	9G2F	
1.3501		100Cr2	E50100									
1.3505	SUJ2	100Cr6	52100	25135	31	100C6	2258	100Cr6	F.1310		SC C 15	
1.5024		46Si7				45S7		46Si7	F.1451			
1.5025		51Si7	9259H		50Si7	51S7	2090	50Si7	F.1450			
1.5026		55Si7			56Si7	55S7	2085	55Si7	F.1440	G92550	55S2	
1.5027		60Si7	9260	251A60	60Si7	60S7		60Si7	F.1441	G92600	60S2	
1.5028	SUP7	65Si7	9260H									
1.5415	STFA 12	15Mo3	A204Gr.A	1503-243B		15D3	2912	16Mo3(KG)	F.2601		K11820	
1.5419	SCPH11	20Mo4	4419	1503-243-430			2512	G20Mo5			G44190	
1.5423	SB450M	16Mo5	4520	1503-245-420				16Mo5(KG)	F.2602		K11522	
1.5622		14Ni6	A350-LF5			16N6		14Ni6(KG)	F.2641			
1.5732	SNC415(H)	14NiCr10	3415			14NC11		16NiCr11				
1.5752	SNC815(H)	14NiCr14	3310	655M13	36A	12NC15					20X2H4A	
1.6511	SUP10	36CrNiMo4	9840	816M40	110	40NCD3		36NiCrMo4(KB)			40C N2MA	
1.6523	SNCM220(H)	21NiCrMo2	8620	805M20	362	20NCD2	2506	20NiCrMo2			20C GNM	
1.6546	SNCM240	40NiCrMo2-2	8740	311-Tyre7				40NiCrMo2(KB)			38C GNM	
1.6566		17NiCrMo6-4										
1.6587		17CrNiMo6		820A16		18NCD6		14NiCrMo13				
1.6657		10NiCrMo13-4						14NiCrMo131				
1.7015	SCr415(H)	10Cr3	5015	523M15		12C3				G50150	15C	
1.7033	SCr430(H)	34Cr4	5132	530A32	18B	32C4		34Cr4(KB)		G51300	35C	
1.7035	SCr440(H)	41Cr4	5140	530M40	18	42C4	2245	41Cr4		G51400	40H	
1.7131	SCR 415	16MnCr5	5115	527M17		16MCS	2511	16MnCr5		G51150	12KHN2	
1.7139		16MnCr55					2127				18HG	
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3			50C GA	
1.7218	SCM420	25CrMo4	4130	CD5110		25CD4	2225	25CrMo4(KB)			20C M	
1.7220	SCM432	34CrMo4	4135	708 A 37		35CD4	2234	34CrMo4			35C M	
1.7223	SNB22-1	41CrMo4	4142					41CrMo4			40C FA	
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F.1252		38HM	
1.7228		55NiCrMoV6G		823M30	33		2512	653M31				
1.7262	SCM415(H)	15CrMo5				12CD4	2216	12CrMo4				
1.7321		20mCr4					2625					
1.7335	SCM415(H)	13CrMo4-4	A182-F11	1501-620		15CD4-5	2216	14CrMo45			12C M	
1.7361		32CrMo12		722M24	40B	30CD12	2240	30CrMo12	F.124A			
1.7380		10CrMo9-10	A182F22	1501-622		12CD9-10	2218	12CrMo9			12KH8	

P	VDI 3323 6	Material Description				Composition / Structure / Heat Treatment					HB	HRC
		Low-alloyed Steel				Annealed					180	10
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.7715		14MoV6-3						1503-660-440			13MoCrV6	
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4		G61500	50C GFA	
1.8161		58CrV4										
1.8509	SACM 645	41CrAlMo7	A355A	905M39	41B	40CAD6-12	2940	41CrAlMo7				
1.8523		39CrMoV13-9		897M39	40C						36CrMoV12	

P	VDI 3323 7	Material Description				Composition / Structure / Heat Treatment					HB	HRC
		Low-alloyed Steel				Quenched & Tempered					275	29
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.5415	STFA 12	15Mo3	A204Gr.A	1503-243B		15D3	2912	16Mo3(KG)	F.2601		K11820	
1.5423	SB450M	16Mo5	4520	1503-245-420				16Mo5(KG)	F.2602		K11522	
1.5622		14Ni6	A350-LF5			16N6		14Ni6(KG)	F.2641			
1.5732	SNC415(H)	14NiCr10	3415			14NC11		16NiCr11				
1.5752	SNC815(H)	14NiCr14	3310	655M13	36A	12NC15					20X2H4A	
1.5755	SNC236	31NiCr14		653M31		18NC13	2534		F.1270			
1.6565	SNCM447	40NiCrMo6	4340	817M40	24	35NCD6	2541	35NiCrMo6(KB)			38C 2N2MA	
1.6587		17CrNiMo6		820A16		18NCD6		14NiCrMo13				
1.6657		10NiCrMo13-4						14NiCrMo131				
1.6957		26NiCrMoV14-5										
1.7015	SCr415(H)	10Cr3	5015	523M15		12C3				G50150	15C	
1.7262	SCM415(H)	15CrMo5				12CD4	2216	12CrMo4				
1.7335	SCM415(H)	13CrMo4-4	A182-F11	1501-620		15CD4-5	2216	14CrMo45			12C M	
1.7380		10CrMo9-10	A182F22	1501-622		12CD9-10	2218	12CrMo9			12KH8	
1.7715		14MoV6-3						1503-660-440			13MoCrV6	
1.7733		24CrMoV55				20CDV6					21CrMoV511	
1.7755		GS-45CrMoV10-4										
1.8070		21CrMoV511						35NiCr9				

P	VDI 3323 8	Material Description				Composition / Structure / Heat Treatment					HB	HRC
		Low-alloyed Steel				Quenched & tempered					300	32
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.1730		C45W3	C45W			XC48						
1.2332	SCM(440)	47CrMo4	4142	708M40	19A	42CD4	2244	42CrMo4				
1.5736	SNC 631 (H)	36NiCr10	3435			30NC11						
1.6523	SNCM220(H)	21NiCrMo2	8620	805M20	362	20NCD2	2506	20NiCrMo2			20C GNM	
1.7033	SCr430(H)	34Cr4	5132	530A32	18B	32C4		34Cr4(KB)		G51300	35C	
1.7218	SCM420	25CrMo4	4130	CD5110		25CD4	2225	25CrMo4(KB)			20C M	
1.8515		32CrMo12		722M24	40B	30CD12	2240	32CrMo12	F.124A			

P	VDI 3323 9		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	Low-alloyed Steel			Quenched & Tempered					350	38		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0904	SKH 1, SKT 4	55Si7	9255	250A53	45	55S7	2085	55S8		G92550	55S2	
1.0961	SUP 7	60SiCr7	9262			60SiCr6		60SiCr8		G92620		
1.2067		100Cr6	L3	BL3		Y100C6		100Cr6				
1.2419	SKS31	105WCr6		105WC13		105WC13	2140	10WCr6			CWG	
1.2542		45WCrV7	S1	B51			2710	45WCrV8KU			5CW25F	
1.2713	SKT4	55NiCrMoV6	L6			55NCDV7			F.5205		5C NM	
1.4882		X50CrMnNiNbN219				Z50CMNNb21-09						
1.5120		38MnSi4										
1.5710	SNC236	36NiCr6	3135	640A35	111A	35NC6						
1.5755	SNC236	31NiCr14		830m31		18NC13	2534		F.1270			
1.6511	SUP10	36CrNiMo4	9840	816M40	110	40NCD3		36NiCrMo4(KB)			40C N2MA	
1.6546	SNCM240	40NiCrMo2-2	8740	311-Tyre7				40NiCrMo2(KB)			38C GNM	
1.7035	SCR440(H)	41Cr4	5140	530M40	18	42C4	2245	41Cr4		G51400	40H	
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3			50C GA	
1.7220	SCM432	34CrMo4	4135	708Aa37		35CD4	2234	34CrMo4			35C M	
1.7223	SNB22-1	41CrMo4	4142					41CrMo4			40C FA	
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F.1252		38HM	
1.7361		32CrMo12		722M24	40B	30CD12	2240	30CrMo12	F.124A			
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4	51CrV4	G61500	50C GFA	
1.8161		58CrV4										
1.8509	SACM 645	41CrAlMo7	A355A	905M39	41B	40CAD6-12	2940	41CrAlMo7				
1.8523		39CrMoV13-9		897M39	40C			36CrMoV12				

P	VDI 3323 10		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	High-alloyed steel, and tool steel			Annealed					200	15		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0347	SPCD	RR St 3	A619	CR 3	Fe P03	F 13		DC03/FeP03			08JU	
1.0723	SUM32	15S22		210A15			1922		F.210F			
1.2080	SKD1	X210Cr12	D3	BD3	X210Cr12	Z200C12		X205Cr12KU		T30403	KH12	
1.2162	SCR 420 H	21MnCr5				20MCS						
1.2311		40CrMnMo7				40CMD8		35CrMn08KU				
1.2312		40CrMnMoS8.6	P20+S			40CMD8S						
1.2316		X36CrMo17			X38CrMo16							
1.2343	SKD 6	X38CrMoV5-1	H11	BH11		Z38CDV5		X37CrMoV51KU		T20811	4C 5MFS	
1.2344	SKD61	X40CrMoV5-1	H13	BH13		Z40CDV5	2242	X40CrMoV511KU	F.5318	T20813	4C 5MFI5	
1.2363	SKD12	X100CrMoV5-1	A2	BA2		Z100CDV5	2260	X100CrMoV511KU	F.5227		9KH5VF	
1.2379	SKD11	X155CrVMo121	D2	BD2		Z160CDV12	2310	X165CrMoW12KU		T30402	KH12MF	KRUPP2379
1.2436	SKD 2	X210CrW12	D4(D6)	BD6		Z200CD12	2312	X215CrW121KU	F.5213		KH12	

P	VDI 3323 10		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	High-alloyed steel, and tool steel			Annealed					200	15		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.2510	SKS3	100MnCrW4	O1	B01		90MWCV 5	2140	95 MnWCr 5 KU	F.5220		9KHVG	
1.2581	SKD5	X30WCrV9-3	H21	BH21		Z30WCV9		X30WCrV93KU	F.526	T20821	3C 2W8F	
1.2601		X165CrMoV12					2310	X160CrMoV12			KH12MF	
1.2606	SKD 62	X37CrMoW51	H12	BH12		Z35CWDV5		X35CrMoW05KU	F.537	T20812	5C NM	
1.2764		X19NiCrMo4										
1.2767		X45NiCrMo4				45NCD16		40NiCrMoV8KU				
1.2842		90MnCrV8	O2	B02		90MV8		90MnVCr8KU		T31502	9G2F	
1.3243	SKH55	S6-5-2-5	T15			KCV06-05-05-04-02	2723	HS6-5-2-5			R6M5K5	
1.3249	SKH 3	S18-1-2-5	T4	BT4		Z80WKC18-05-04					R18K5F2	
1.3343	SKH51, SKH9	S6-5-2	M2	BM2		Z85WDCV	2722	HS652	F.5604		R6M5	
1.3348	SKH 58	S2-9-2	M7			Z100DCWV09-04-02	2782	HS292	F.5607			
1.3355	SKH 2	S18-0-1	T1	BT1		Z80WCV18-4-01					R18	
1.4718	SUH1	X45CrSi9-3	HN3	401545	52	Z45CS9		X45CrSi8	F.322		40C 9S2	
1.5662	SL9N60(53)	X8Ni9	ASMA353	502-650		9Ni		X10Ni9	F.2645			
1.5680		12Ni19	2515	12Ni19		Z18N5						

P	VDI 3323 11		Material Description			Composition / Structure / Heat Treatment					HB	HRC
	High-alloyed steel, and tool steel			Quenched & Tempered					325	35		
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.2080	SKD1	X210Cr12	D3	BD3	X210Cr12	Z200C12		X205Cr12KU		T30403	KH12	
1.2344	SKD61	X40CrMoV5-1	H13	BH13		Z40CDV5	2242	X40CrMoV511KU	F.5318	T20813	4C 5MFI5	
1.2363	SKD12	X100CrMoV5-1	A2	BA2		Z100CDV5	2260	X100CrMoV511KU	F.5227		9KH5VF	
1.2436	SKD 2	X210CrW12	D4(D6)	BD6		Z200CD12	2312	X215CrW121KU	F.5213		KH12	
1.2581	SKD5	X30WCrV9-3	H21	BH21		Z30WCV9		X30WCrV93KU	F.526	T20821	3C 2W8F	
1.2601		X165CrMoV12					2310	X160CrMoV12			KH12MF	
1.2714	SKT 4	55NiCrMoV7	6F3/L6			55NiCrMoV7			F.5205		SKHNV	
1.3202		S12-1-4-5		BT15				HS12-1-5-5				
1.3207		S10-4-3-10		BT42		Z130WKCDV						
1.3243	SKH55	S6-5-2-5	T15			KCV06-05-05-04-02	2723	HS6-5-2-5			R6M5K5	
1.3246		S7-4-2-5	M35			Z110WKCDV07-05-04		HS7-4-2-5				
1.3247	SKH 51	S2-10-1-8	M42	BM42		Z110DKCW09-08-04		HS2-9-1-8			R2AM9K5	
1.3255	SKH 3	S18-1-2-5	T4	BT4		Z80WKC18-05-04					R18K5F2	
1.3343	SKH51, SKH9	S6-5-2	M2	BM2		Z85WDCV	2722	HS652	F.5604		R6M5	
1.3348	SKH 58	S2-9-2	M7			Z100DCWV09-04-02	2782	HS292	F.5607			
1.3355	SKH 2	S18-0-1	T1	BT1		Z80WCV18-4-01					R18	
1.4718	SUH1	X45CrSi9-3	HN3	401545	52	Z45CS9		X45CrSi8	F.322		40C 9S2	
1.4935	SUH 616	X20CrMoWV121	422							S42200		
1.5680		12Ni19	2515	12Ni19		Z18N5						

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRC
			AISI/ASTM/SAE	BS	EN	Stainless steel						
VDI 3323 12												
Ferritic / Martensitic, Annealed												
200 15												
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.4000	SUS403	X6Cr13	403	403S17		Z6C13	2301	X6Cr13	F.3110	S40300	08C 13	ATI 410S
1.4001		X7Cr14	410 S	403S7		Z8C13	2301		F.8401		08C 13	
1.4002	SUS 405	X6CrAl13	405	405S17		Z6CA13	2302	X6CrAl13		S40500		
1.4005	SUS416	X12Cr13	416	416S21		Z11CF13	2380	X12Cr13	F.3411	S41600		ATI 416
1.4006	SUS410	X12Cr13	410	410S21	56A	Z10C13	2302	X12Cr13	F.3401	S41000	12C 13	ATI 410
1.4016	SUS430	X6Cr17	430	430S15	X8Cr17	Z8C17	2320	X8Cr17	F.3113	S43000	12C 17	ATI 430
1.4027	SCS 2	GX20Cr14		420C29		Z20C13M					20C 13L	
1.4028	SUS420J2	X30Cr13	420	420S45		Z30C13	2304			S42020	20C 13	
1.4034	SUS420J2	X46Cr13		420S45		Z40C14		X40Cr14	F.3405			
1.4057	SUS431	X19CrNi17-2	431	431S29	57	Z15CN16-02	2321	X16CrNi16	F.3427	S43100	20C 17N2	431 (HT)
1.4086		GX120Cr29		452C11								
1.4104	SUS430F	X12CrMoS17	430F	420S37		Z10CF17	2383	X10CrS17	F.3117	S43020		
1.4112	SUS 440 B	X90CrMoV18	440B							S44003	95KH18	
1.4113	SUS434	X6CrMo17	434	434S17		Z8CD17-01	2325	X8CrMo17		S43400		AL 434
1.4313	SCS5	X3CrNi13-4	CA6-NM	425C11		Z4CND13-04M	2385	(G)X6CrNi304		J91540		
1.4340		GX40CrNi274								J92615		
1.4417		X2CrNiMoS195	S31500							2376		
1.4418		X4CrNiMo165				Z6CND16-04-01	2387					APX4
1.4510	SUS430LX	X6CrTi17	XM8			Z4CT17		X6CrTi17	F.3115	S43035	08C 17T	430 Ti
1.4511	SUS430LK	X6CrNb17				Z4CNb17		X6CrNb17	F.3122			AXCS25
1.4512	SUH409	X6CrTi12	409	LW19		Z3CT12		X6CrTi12		S40900		
1.4720		X20CrMo13										
1.4724	SUS 405	X10CrAl13	405	403S17		Z10C13		X10CrAl12	F.3111		10C 13SJU	
1.4742	SUS430	X10CrAl18	430	439S15	60	Z10CAS18		X8Cr17	F.3113	S43000	15C 13SJU	
1.4747	SUH4	X80CrNiSi20	HNV6	443S65	59	Z80CSN20-02		X80CrSiNi20	F.320B	S65006		
1.4749		X18CrN28	446								15KH28	
1.4762	SUH446	X10CrAl24	446			Z10CAS24	2322	X16Cr26		S44600		
1.4871	SUH35,SUH36	X53CrMnNiN21-9	EV8	349S54		Z53CMN21-09		X53CrMnNiN219		S63008	55C20G9AN4	
		X10CrNi15	429									
		X12CrNi18-9	302	302S31		Z10CN18-09	2330					

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRC
			AISI/ASTM/SAE	BS	EN	Stainless steel						
VDI 3323 13												
Martensitic, Quenched & Tempered												
240 23												
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.4000	SUS403	X6Cr13	403	403S17		Z6C13	2301	X6Cr13	F.3110	S40300	08C 13	ATI 410S
1.4001		X7Cr14	410 S	403S7		Z8C13	2301		F.8401		08C 13	
1.4006	SUS410	X12Cr13	410	410S21	56A	Z10C13	2302	X12Cr13	F.3401	S41000	12C 13	ATI 410
1.4016	SUS430	X6Cr17	430	430S15	X8Cr17	Z8C17	2320	X8Cr17	F.3113	S43000	12C 17	ATI 430
1.4021	SUS 420J1	X20Cr13	420	420S37		Z20C13	2303	14210	F.5261	S42000	20C 13	ATI 420
1.4027	SCS 2	GX20Cr14		420C29		Z20C13M					20C 13L	
1.4031	SUS 420 J2	X40Cr13	420			Z40C14	-2304		F.3404	S42080	40C 13	
1.4034	SUS420J2	X46Cr13		420S45		Z40C14		X40Cr14	F.3405			
1.4057	SUS431	X19CrNi17-2	431	431S29	57	Z15CN16-02	2321	X16CrNi16	F.3427	S43100	20C 17N2	431 (HT)
1.4104	SUS430F	X12CrMoS17	430F	420S37		Z10CF17	2383	X10CrS17	F.3117	S43020		
1.4113	SUS434	X6CrMo17	434	434S17		Z8CD17-01	2325	X8CrMo17		S43400		AL 434
1.4313	SCS5	X3CrNi13-4	CA6-NM	425C11		Z4CND13-04M	2385	(G)X6CrNi304		J91540		
1.4544		A 700	321	S.524		Z 10 CNT 18 11		X6CrNiTi1811		J92630	08C 18N12T	
1.4546		X5CrNiNb18-10	348	347S31				X6CrNiNb1811		J92640		ATI 348
1.4871	SUH35,SUH36	X53CrMnNiN21-9	EV8	349S54		Z53CMN21-09		X53CrMnNiN219		S63008	55C20G9AN4	
1.4922		X20CrMnV12-1					2317	x20CrMnNi1201				
1.4923		X22CrMoV121										Jethete X20

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRC	
			AISI/ASTM/SAE	BS	EN	Stainless steel							
VDI 3323 14													
Austenitic													
180 10													
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands	
1.4301	SUS 304	X5CrNi18-10	304	304S15		Z5CN18-09	2332			F.3551	S30409	08C 18N10	
1.4305	SUS303	X10CrNiS18-10	303	303S21	58M	Z8CNF18-09	2346	X10CrNiS18.09	F.3508	S30300	30C 18N11	ATI 303	
1.4306	SCS19	X2CrNi1911	304L	304C12	X3CrNi1810KD	Z2CN18-09	2352	GX2CrNi1910	F.3503	S30403	03KH18N11	ATI 304L	
1.4308	SUS304L	GX6CrNi18-9	CF-8	304C15	58E	Z6CN18-10M	2333					CF-8	
1.4310	SUS 301	X10CrNi18-8	301	301S21		Z12CN17-07	2331	X2CrNi1807	F.3517	S30100	07KH16N6	ATI 301	
1.4311	SUS304LN	X2CrNi18 10	304LN	304S62		Z2CN18-10	2371	X2CrNi1810	F.3541	S30453	03KH18N11		
1.4312	SCS12	GX10CrNi188	305	302C25		Z10CN18-9M					10C 18N9L	ATI 305	
1.4350	SUS304	X5CrNi18-9	304	304S15	58E	Z6CN18-09	2332	X5CrNi1810	F.3551	S30400		ATI 304	
1.4362		X2CrNiN234	S32304			Z2CN23-04AZ	2327			S32304		ATI 2304TM	
1.4371		X3CrMnNiN18887	202	284S16		Z8CMN18-08-05							
1.4401	SUS316	X5CrNiMo17-12-2	316	316S13		Z3CND17-11-01	2347	X5CrNiMo17 12 2	F.3534	S31600	08KH17H13M2T	ATI 316	
1.4404	SUS316L	X2CrNiMo17-13-2	316L	316S11		Z2CND17-12	2348	X2CrNiMo1712	F.3533	S31603		ATI 316L	
1.4406	SUS316LN	X2CrNiMoN17122	316LN	316S61		Z2CND17-12AZ		X2CrNiMo1712	F.3542	S31653	07C 18N	ATI 316LN	
1.4408	SCS14	GX6CrNiMo18-10	CF-8M	316C16			2343	X7CrNiMo2010	F.8414	J92900	10G25MSL		
1.4410	SCS 14 A	GX10CrNiMo18-9				Z5CND20-12M	2328			S32750			
1.4429	SUS316LN	X2CrNiMoN17-13-3	316Ln	316S62		Z2CND17-13AZ	2375	X2CrNiMo17133	F.3543		03KH16N15M3		
1.4435	SUS316L	X2CrNiMo18143	316L	316S11		Z3CND17-12-03	2375	X2CrNiMo17 13 2	F.3533	S31603	03C 17N14M3		
1.4436	SUS316	X3CrNiMo17-13-3	316	316S19		Z6CND18-12-03	2343	X5CrNiMo17 12 2	F.3543	S31600			
1.4438	SUS317L	X2CrNiMo18164	317L	317S12		Z2CND19-15-04	2367	X2CrNiMo18 16 4	F.3539	S31703		ATI 317L	
1.4439		X2CrNiMoN17135 (s31726)				Z3CND18-14-06AZ							
1.4440		X2CrNiMo18-16											
1.4449	SUS317	X5CrNiMo17133	317	317S16				X5CrNiMo1815		S31700		ATI 317	
1.4460	SUS 329 J1	X8CrNiMo275	329				2324			S32900		10RE51	
1.4462	SUS329J3L	X2CrNiMoN2253		318S13		Z3CND22-05AZ	2377			S31803		ATI 2205TM	
1.4500		X7NiCrMoCuNb2520				Z3NCNDU25-20M				J95150			
1.4521	SUS444	X2CrMoTi18-2	443444				2326	X2CrMoTiNb 18 2	F.3123				
1.4539		X1NiCrMoCuN25205				Z2NCNDU25-20	2562			N08904		ATI 904L	
1.4541	SUS321	X14CrNiTi18-10	321	321S31		Z6CNT18-10	2337	X6CrNiTi 18 11	F.3523	S32100	06C 18N10T	ATI 321	
1.4542	SUS630	X5CrNiCuNb174	630			Z7CNU15-05						UGIMA 4542	
1.4545		Z7CNU15.05	15-5PH							S15500		ATI 15-5	
1.4547		X1CrNiMoN20187	S31254				2378			S31254		Uranus B25 6Mo	
1.4550	SUS347	X6CrNiNb18-10	347	347S17	58F	Z6CNNb18-10	2338	X6CrNiNb 18 11	F.3552	S34700	08C 18N12B	ATI 347	
1.4552	SCS 21	GX7CrNiNb18-9				Z4CNNb19-10M				J92710			
1.4568	SUS 631	X 7 CrNiAl 17 7		316S111		Z 9 CAN 17-7	2388	Z8CNA17-07		S17700	09C 17NJU1	17-7PH	
1.4571	SUS 316Ti	X6CrNiMoTi17-12-2	316Ti	320S31	58J	Z6NDT17-12	2350	X6CrNiMoTi17 12	F.3535		10C 17N13M2T	ATI 316Ti	
1.4581	SCS 22	GX5CrNiMoNb18		318C17		Z4CNDNb18-12M							
1.4583		X6CrNiMoNb18-12	318	303S21		Z15CNS20-12		X15CrNiSi2 12					
1.4585		GX7CrNiMoCuNb1818						X6CrNiMoTi17 12		J94651			
1.4821		X20CrNiSi254				Z20CNS25-04				S44635			
1.4823		GX40CrNiSi274								J92605			
1.4828	SCS17	X15CrNiSi20-12	309	309S24	58C	Z15CNS20-12				F.8414	S30900	20C 20N14S2	ATI 309
1.4833	SUS 309 S	X6CrNi2213	309S	309S13		Z15CN24-13				J93400			
1.4845	SUH310	X12CrNi25-21	310S	310S24		Z12CN25-20	2361	X6CrNi2520	F.331	S31008	20C 23N18	ATI 310S	
1.4878	SUS321	X12CrNiTi18-9	321	321S20	58B	Z6CNT18-12(B)	2337	X6CrNiTi1811	F.3553	S32100		ACX315	
1.4891		X5CrNiNb18-10	S330415				2372						
1.4893		X8CrNiNb11	S30815				2368						
1.4948		X6CrNi1811	304H	304S51		Z5CN18-09	2333			S30480			
1.4980		X5NiCrTi2515	660				2570			S66286		Incoloy A 286	
		X5NiCrTi3525											
		X2CrNiMoN18134	S31753										
		X2CrNiMoN25227											

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
<p>K VDI 3323 15 Grey cast iron Pearlitic / Ferritic HB 180 HRc 10</p>												
0.6010	FC100	GG10	A48 20 B	Grade 100	GJL-100	Ft 10 D	0100	G10	FG10		Sc 10	
0.6015	FC150	GG15	A48 25 B	Grade 150	GJL-150	Ft 15 D	0115	G15	FG15		Sc 15	
0.6020	FC200	GG20	A48 30 B	Grade 220	GJL-200	Ft 20 D	0120	G20	FG20	W06020	Sc 20	
0.6025	FC250	GG25	A48 40 B	Grade 260	GJL-250	Ft 25 D	0125	G25	FG25		Sc 25	
0.6660		GGL-NiCr 20 2	1050/700/7	Grade F2	GJLA-XNiCr 20-2	L-NC 202	0523	-		F41002	Ni-Resist 2	
1.4449	SUS317	XSCrNiMo17133	317	317S16				XSCrNiMo1815		S31700	ATI 317	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
<p>K VDI 3323 16 Grey cast iron Pearlitic (Martensitic) HB 260 HRc 26</p>												
0.6025	FC250	GG25	A48 40 B	Grade 260	GJL-250	Ft 25 D	0125	G25	FG25		Sc 25	
0.6030	FC300	GG30	A48 45 B	Grade 300	GJL-300	Ft 30 D	0130	G30	FG30		Sc 30	
0.6035	FC350	GG35	A48 50 B	Grade 350	GJL-350	Ft 35 D	0135	G35	FG35		Sc 35	
0.6040	FC400	GG40	A48 60 B	Grade 400	GJL-400	Ft 40 D	0140	G40	FC40		Sc 40	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
<p>K VDI 3323 17 Nodular cast iron Ferritic HB 160 HRc 3</p>												
0.7033	FCD350-22L	GGG35.3	-	350/22L40	GJS-350-22-LT	FGS 370-17	0717-15	-				
0.7040	FCD400	GGG40	60-40-18	SNG 420-12	GJS-400-15	FCS 400-12	0717-02	GS 400-12	FG E38-17	F32800	Vc 42-12	
0.7043	FCD 370	GGG40.3	60-40-18	SNG 370-17	GJS-400-18-LT	FGS 370-17	0717-12	GSO 42-17			Vc 42-12	
0.6040	FC400	GG40	A48 60 B	Grade 400	GJL-400	Ft 40 D	0140	G40	FC40		Sc 40	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
<p>K VDI 3323 18 Nodular cast iron Pearlitic HB 250 HRc 25</p>												
0.7050	FCD500	GGG50	80-55-06	SNG 500-7	GJS-500-7	FGS 500-7	0727-02	GS 500-7	FG E50-7	F33100	Vc 50-2	
0.7060	FCD600	GGG60	80-55-06	SNG 600-3	GJS-600-3	FGS 600-3	0732-03	GS 600-3	FG E60-2		Vc 60-2	
0.7070	FCD700	GGG70	100-70-03	SNG 700-2	GJS-700-2	FGS 700-2	0737-01	GS 700-2	FG S70-2	F34800	Vc 70-2	
0.7652	FCDA-NiMn 13 7	GGG NiMn 13-7	-	Grade S6	GJSA-XNiMn 13-7	FGS Ni13 Mn7	0772	-			Nodumag	
0.7660		GGG NiCr 20-2	A436 D2	Grade S2	GJSA-XNiCr 20-2	FGS Ni20 Cr2	0776	-			Ni-Resist D-2	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
<p>K VDI 3323 19 Malleable cast iron Ferritic HB 130 HRc</p>												
0.8135	FCMW330	GTS-35	32510	B 340-12	GJMB350-10	MN 35-10	0815	GMN 35	GTS35		Kc 35-10	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
<p>K VDI 3323 20 Malleable cast iron Pearlitic HB 230 HRc 21</p>												
0.8145	FCMW370	GTS-45	A220-40010	P 440-7	GJMB450-6	MN 450	0852	GMN 45				
0.8155	FCMP490	GTS-55	50005	P 510-4	GJMB-550-4	MP 50-5	0854	GMN 55			Kc 60-3	
0.8165	FCMP590	GTS-65	70003	P 570-3	GJMB-650-2	MN 650-3	0856	GMN 65				
0.8170	FCMP690	GTS-70	90001	P 690-2	GJMB-700-2	MN 700-2	0862	GMN 70			Kc 70-2	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
3.0205		Al99	Al99										
3.0255	(A1050)	Al99.5	1000	L31		A59050C						D1	
3.3315		AlMg1											

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
3.1325		AlCuMg1										AD35	
3.1655	A2011	AlCuSiPb											
3.2315		AlMgSi1											AK9
3.4345		AlZnMgCu0.5	7050	L86		AZ4GU/9051				811-04			
3.4365	7075	AlZnMgCu1.5	7075	7075		7075				AlZn5.8MgCuCr		B95	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
3.2163		G-AlSi9Cu3										VAL8	
3.2382		GD-AlSi10Mg											
3.2383		G-AlSi0Mg(Cu)	A360.2	LM9						4253			
3.2581		G-AlSi12											
3.3561		G-AlMg5											
3.5101		G-MgZn4sE1Zr1	ZE41	MAG5									
3.5103		MgSE3Zn27r1	EZ33	MAG6		G-TR3Z2							
3.5812		G-MgAl8Zn1	AZ81	NMAG1									
3.5912		G-MgAl9Zn1	AZ91	MAG7									
			A356-72	2789		NFA32-201							
A5052			356.1	LM25						4244		AK7	
		G-AlSi12	A413.2	LM6						4261			
ADC12		G-AlSi12(Cu)	A413.1	LM20						4260		AK12	
A6061		GD-AlSi12	A413.0							4247			
A7075		GD-AlSi8Cu3	A380.1	LM24						4250			

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
2.1871		G-AlCu4TiMg											
3.1754		G-AlCu5Ni1.5											
3.2371		G-AlSi7Mg	4218B										AK8
3.2373	C4BS	G-AlSi9MgWA	SC64D						A-57G	4251			AK9
3.2381		G-AlSi10Mg											AK12
3.5106		G-MgAg3SE2Zr1	QE22	mag12									
		G-ALMG5	GD-AlSi12	LMS					A-SU12	4252			

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
2.0375		CuZn36Pb3											LS60-2
2.1090		G-CuSn75pb	C93200							U-E7Z5pb4			
2.1096		G-CuSn5ZnPb	c83600	LG2									
2.1098		G-CuSn2Znpb	C83600										
2.1182		G-CuPb15Sn	C23000	LB1						U-pb15E8			

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
2.0240	C2300	CuZn15											L90
2.0321		CuZn37	C27200	cz108						CuZn36,CuZn37	C2700		L63
2.0590		G-CuZn40Fe											
2.0592		G-CuZn35Al1	C86500	U-Z36N3						HTB1			
2.0596		G-CuZn34Al2	C86200	HTB1						U-Z36N3			LS23AD
2.1293		CuCrZr	C18200	CC102						U-Cr0-8Zr			

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc	
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS			GOST
2.0060		E-Cu57											
2.0966		CuAl10Ni5Fe4	C63000	Ca104						U-A10N			BrAD
2.0975		G-CuAl10Ni	B-148-52										
2.1050		G-CuSn10	c90700	CT1									
2.1052		G-CuSn12	C90800	pb2						UE12P			
2.1292		G-CuCrF35	C81500	CC1-FF									

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 31 Heat resistant super alloys Fe Based, Annealed HB 200 HRc 15												
1.4558	NCF 800TB	X2NiCrAlTi3220	N08800	NA15								
1.4562		X1NiCrMoCu32287	N08031									
1.4563		X1NiCrMoCuN31274	N08028			Z1NCDU31-27-03	2584				EK77	
1.4864	SUH330	X12NiCrSi36-16	330	NA17		Z12NCS37-18					N08330	
1.4865	SCH15	GX40NiCrSi38-18		330C40				XG50NiCr3919			J94605	
1.4958		X5NiCrAlTi3120										

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 32 Heat resistant super alloys Fe Based, Aged HB 280 HRc 30												
1.4977		X40CoCrNi2020				Z42CNKDWNb						

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 33 Heat resistant super alloys Ni or Co Based, Annealed HB 250 HRc 25												
2.4360		NiCu30Fe		NA13		NU30					N04400	Monel400
2.4603		NiCr 30 FeMo	5390A			NC22FeD						Hastelloy G-30
2.4610		NiMo16Cr16Ti									N26455	HastelloyC-4
2.4630		NiCr20Ti		HRS_203-4		NC20T					N06075	Nimonic75
2.4631	NCF 80A	NiCr20TiAl		Hr40		NC20TA					N07080	KHN777YuR Nimonic 80A
2.4642	NCF 690	NiCr29Fe				Nnc30Fe					N06690	Inconel 690
2.4856		NiCr22Mo9Nb		NA21		NC22FeDNb					N06625	Inconel 625
2.4858		NiCr21Mo		NA16		NC21FeDU					N08825	KHN38VT Incoloy 825

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 34 Heat resistant super alloys Ni or Co Based, Aged HB 350 HRc 38												
2.4375		NiCu30Al	4676	NA18		NU30AT					N05500	MonelK500
2.4662		NiFe5Cr14MoTi	5660			Z5NCDT42					N09901	Incoloy 901
2.4668		NiCr19Fe19NbMo	5383	HR8		NC19eNB					N07718	Inconel 718
2.4670		S-NiCr13A16MoNb	5391	Mar-46		NC12AD						Nimocast 713
2.4694		NiCr16Fe7TiAl									N07751	Inconel 751
2.4955		NiFe25Cr20NbTi										
2.4964		CoCr20W15Ni	5772			KC20WN						Haynes 25
		CoCr22W14Ni	AMS 5772			KC22WN						

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 35 Heat resistant super alloys Ni or Co Based, Cast HB 320 HRc 34												
2.4669		NiCr15Fe7TiAl				NC15TNbA					N07750	Inconel X750
2.4685		G-NiMo28									N10665	Hastelloy B
2.4810		G-NiMo30										Hastelloy C
2.4973		NiCr19Co11MoTi	AMS 5399			NC19KDT					VT5-1	
3.7115		TiAl5Sn2									R54520	VT1-00 ATI Grade 6

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 36 Titanium alloys Pure Titanium HB 400 Rm												
2.4674		NiCo15Cr10MoAlTi	AMS 5397								N13100	IN 100
3.7025		Ti1	R50250	2TA1							R50250	ATI 30 CP Gr. 1
3.7225		Ti1pd	R52250	TP1							R52250	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
S VDI 3323 37 Titanium alloys Alpha + Beta Alloys, Hardened HB 1050 Rm												
3.7124		TiCu2		2TA21-24								
3.7145		TiAl6Sn2Zr4Mo2Si	R54620								R54620	
3.7165		TiAl6V4	AMS R56400	TA10-13		T-A6V						VT6
3.7185		TiAl4Mo4Sn2		TA45-51								
3.7195		TiAl3V2.5									R56320	ATI 3-2.5
		TiAl4Mo4Sn4Si0.5										
		TiAl5Sn2.5	AMS R54520	TA14/17		T-ASE						
		Ti6Al4VELI	AMS R56401	TA11								

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
<p>H VDI 3323 38 Material Description: Hardened steel Composition / Structure / Heat Treatment: Hardened HB: 550 HRc: 55</p>												
1.1231	S70 C-CSP	Ck 67	1070	060 A 67	C 67S	XC 68	1770	C 70	F.5103		70	
1.1248	C75	Ck 75	1078, 1080	060 A 78	C 75S	XC 75	1774	C 75	F.5107		75	
1.1274	SUP 4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F.5117			
1.1545	SK 3	C 105 W1	W1	BW 2	C 105U	Y1 105	1880	C 100 KU	F.5118		U10A	
1.2762		75CrMoNiW67	-	-	-	-	-	-	-			
1.3401	SCMnH1	GX120Mn12	A128(A)			Z120M12	2183	GX120Mn12	F.8251		110G13L	
1.4021	SUS 420 J1	X 20 Cr 13	420	420 S 37	X 20 Cr 13	Z 20 C 13	2303	X 20 Cr 13	F.5261		20KH13	ATI 420
1.4109	SUS 440 A	X 65 CrMo 14	440 A	-	X 70 CrMo 15	Z 70 D 14	-	-	-			ATI 440A
1.4112	SUS 440 B	X 90 CrMoV 18	440 B	409 S 19	X 90 CrMoV 18	Z 2 CND 18 05	2327	X CrTi 12				
1.4125	SUS 440 C	X 105 CrMo 17	440 C	-	X 105 CrMo 17	Z 100 CD 17	-	X 105 CrMo 17			95KH18	ATI 440C
1.6746		32NiCrMo14-5	-	832M31	32nicRm0145	35NCD14	-	-				
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3				
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F.1252		38HM	

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
<p>H VDI 3323 40 Material Description: Chilled cast iron Composition / Structure / Heat Treatment: Cast HB: 400 HRc: 42</p>												
0.9620		GX260NiCr42	A532 1B	Grade 2 A	GJN-HV520	FB Ni4 Cr2 BC	0512	-			F45001	Ni-Hard2
0.9625		GX330NiCr42	A532 1A	Grade 2 B	GJN-HV550	FB Ni4 Cr2 HC	0513	-			F45000	Ni-Hard1
0.9630		GX300 CrNiSi 9 5 2	A532 1D	Grade 2 C	GJN-HV600	FB Cr9 Ni5	0457	-			F45003	Ni-Hard 4
0.9640		GX300CrMoNi1521	-	-	-	-	-	-			F45005	
0.9650		GX260Cr27	-	Grade 3 D	-	-	0466	-				
0.9655		GX300CrNiMo271	-	Grade 3 E	-	-	-	-			20C 25N20S2	
1.4841	SUH 310	X15CrNiSi25-20	310	314S31	X 15 CrNiSi 25 20	Z15CNS25-20	-	-			S31400	Cronifer 2520

Mat'l No.	JIS	DIN	Material Description			Composition / Structure / Heat Treatment					HB	HRc
			AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS		
<p>H VDI 3323 41 Material Description: Hardened cast iron Composition / Structure / Heat Treatment: Hardened HB: 550 HRc: 55</p>												
0.9635		GX300 CrMo 15 3	-	-	-	-	-	-				
0.9645		GX260 CrMoNi 20 21	-	-	-	-	-	-			F45007	

EDP No. INDEX

EDP No.	Page	EDP No.	Page	EDP No.	Page
L1211	42	TBE15	210	TC874	111
L1212	43	TBE16	211	TC909	293
L1213	44	TBE17	212	TC934	296
L1214	45	TBE18	213	TC944	295
L12D1	54	TBJ05	96	TC954	297
L12D3	55	TBJ06	97	TC963	244
L19E1	56	TBJ07	98	TC973	294
L19E3	57	TBJ08	99	TCE01	92
L41A1	58	TC122	137	TCE02	94
L4211	46	TC124	131	TCE05	77
L4212	47	TC127	135	TCE06	78
L4271	49	TC134	132	TCE07	79
L4272	50	TC144	130	TCE08	80
L4273	51	TC163	242	TCE09	83-84
L4274	52	TC169	245	TCH14	214
L4276	53	TC170	246	TCH23	218
L42A1	58	TC174	174	TCJ01	110
L6215	48	TC184	176	TCJ02	112
T0993	229	TC211	147	TCJ05	96
T0997-TIC	194	TC214	142	TCJ06	97
T0999-TIC	195	TC222	138-139	TCJ07	98
T7109	151-152	TC224	144	TCJ08	99
T7309	153-154	TC227	145	TCJ09	102-103
T7343	158	TC234	143	TD127	136
T7363	155	TC244	186	TD174	175
T7509	156	TC254	188	TD222	140-141
T7609	157	TC263	184	TD227	146
T7709	301	TC283	199	TD244	187
TB123	222	TC312	168	TD263	185
TB183	219	TC313	196	TD312	169
TB264	223	TC353	160	TD411	128-129
TB274	224	TC411	126-127	TD413	173
TB312	170	TC413	172	TD422	181
TB313	197	TC422	180	TD703	272
TB373	159	TC424	150	TD704	283
TB428	106	TC433	249	TD711	125
TB438	108	TC445	105	TD713	276
TB514	304	TC463	148	TD723	280
TB623	217	TC473	149	TD733	281
TB711	206	TC517	133	TD804	76
TB744	88	TC612	134	TD814	95
TB754	90	TC622	247	TD821	231
TB804	76	TC633	87	TD824	91
TB814	95	TC711	124	TD834	109
TB824	91	TC727	305	TD844	81-82
TB834	109	TC728	302	TD854	100-101
TB844	81-82	TC729	303	TD864	93
TB854	100-101	TC803	289	TD874	111
TB864	93	TC804	76	TDE01	92
TB874	111	TC804-IC	85	TDE02	94
TB904	220	TC807	86	TDE05	77
TB913	177	TC814	95	TDE06	78
TB914	209	TC814-IC	104	TDE07	79
TB924	221	TC824	91	TDE08	80
TBE05	77	TC834	109	TDE09	83-84
TBE06	78	TC844	81-82	TDJ01	110
TBE07	79	TC854	100-101	TDJ02	112
TBE08	80	TC864	93	TDJ05	96

EDP No. INDEX

EDP No.	Page
TDJ06	97
TDJ07	98
TDJ08	99
TDJ09	102-103
TE403	234
TE422	182
TE433	250
TE434	235
TE454	236
TE703	273
TE704	284
TE713	277
TE723	279
TE733	282
TE821	230
TE943	248
TE953	243
TI821	232
TI914	209
TKS35	67

EDP No.	Page
TM293	258
TM903	256
TM923	262
TM933	260
TQ428	106
TQ438	107
TQ703	275
TQ723	278
TQ744	88
TQ754	89
TQ813	207
TQ823	166
TQ833	264
TQ853	215
TQ863	178
TQ873	266
TR813	208
TR823	167
TR833	265
TR853	216

EDP No.	Page
TR863	179
TR873	267
TTS31	65
TTS33	66
TTS37	68
TY283	200
TY312	171
TY313	198
TY422	183
TY433	251
TY703	274
TY821	233
TZ293	259
TZ903	257
TZ923	263
TZ933	261

HIGH QUALITY PRODUCTS and ON TIME DELIVERY for WORLD-WIDE CUSTOMERS

Since 1982, YG-1 has been committed to quality, innovation and the unique customer experience.

Our performance and experience have granted YG-1 the global impression of one of the leading manufacturers of high quality cutting tool solutions. This global footprint expands over 75 countries, with international logistic centers, pledging to our customers to give the best service available today - and tomorrow.

EUROPE

 BELGIUM	 FINLAND	 ITALY	 PORTUGAL	 SLOVENIA	 THE NETHERLANDS
 CROATIA	 FRANCE	 LITHUANIA	 ROMANIA	 SPAIN	 TURKEY
 CZECH REPUBLIC	 GERMANY	 NORWAY	 RUSSIA	 SWEDEN	 UNITED KINGDOM
 DENMARK	 HUNGARY	 POLAND	 SERBIA	 SWITZERLAND	

ASIA PACIFIC

 AUSTRALIA	 INDONESIA	 MALAYSIA	 SINGAPORE	 UNITED ARAB EMIRATES
 CHINA	 ISRAEL	 PAKISTAN	 SOUTH KOREA	 VIETNAM
 HONG KONG	 JAPAN	 PHILIPPINES	 TAIWAN	
 INDIA	 KINGDOM OF SAUDI ARABIA		 THAILAND	

AMERICAS

 BRAZIL	 CANADA	 COLOMBIA	 MEXICO	 UNITED STATES
--	--	--	--	---

AFRICA

 EGYPT	 SOUTH AFRICA
---	--



HEAD OFFICE

211, Sewolcheon-ro, Bupyeong-gu, Incheon, South Korea

Phone: +82-32-526-0909

Http://www.yg1.kr E-mail: yg1@yg1.kr

Note The information is provided for reference only. Tool specifications are subject to change without prior notice.
Although we endeavor to supply accurate and timely information, there can be no guarantee to cover every particular application.
YG-1 or publishers are not liable for any damage for use of the information.



Search 'YG-1' on social media outlets