VERGNANO

nr. 54 - EN

General Catalogue

vergnano.com

Taps for Generic Applications

The renowned Vergnano A-Series provides tapping solutions for almost all types of generic applications. Available as hand taps, machine cutting taps and forming taps, A-Series offers a complete range of taps in the most common thread types and tolerances. The taps are manufactured in high speed steel and are available with top quality PVD coatings.

A

page 26

High Performance Taps

P-Series comprises high performance taps for the highest demands in terms of productivity. To enhance wear resistance, all P-Series taps are produced in powder metallurgy high speed steel and are available with advanced PVD coatings. These taps can be used on a wide range of applications, including difficult-to-machine materials. P-Series are available both as cutting taps and forming taps.

P

page 138

Synchronous Taps

Driven by the trend towards modern CNC machines with synchronous spindles, S-Series taps have been specifically designed for synchronous/rigid tapping and high speed machining. Powder metallurgy high speed steel and advanced PVD coatings convey excellent performance charateristics on a wide range of applications. S-Series taps must be used only in combination with synchronous/ rigid tapping attachments (also available from Vergnano).

S

page 158

Solid Carbide Taps

Vergnano H-Series taps are produced in the highest quality ultra-fine grained solid carbide. In specific tapping applications, such as heat-treated steels, grey cast iron and cast aluminium, solid carbide offers extremely high productivity both in terms of tool life and cutting speeds. Likewise in many forming tap applications, for example low/medium resistance steel, stainless steel and wrought aluminium alloys, the use of solid carbide taps is highly competitive compared to high speed steel.

H

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See pages 10 ÷ 23 >

ARTICLE LEGEND

A…	Taps for Generic Applications
P…	High Performance Taps
S…	Synchronous Taps
H…	Solid Carbide Taps
B…	Taps with internal coolant supply
…**FC**	Taps for blind holes
…**FP**	Taps for through holes
…**K**	Taps in HSSK
…**S**	Taps with increased relief
…**L**	Taps with long shank
…**N**	Forming taps with oil grooves
…**R**	Forming taps with internal coolant supply and radial outlet
…**E**	Taps with short chamfer (Form E)
…**EG**	Taps for wire thread inserts
…**LH**	Taps with left hand thread
…**AZ** / **BZ** / **FZ**	Taps with interrupted thread

SERIES
CHAMFER FORM
MATERIAL
TYPE OF HOLE

TAP MATERIAL

HSS / **HSSE**:	Conventional high speed steel
HSSK / **HSSZ** / **HSSP**:	Powder metallurgy high speed steel
HM:	Solid Carbide

LUBRICATION

E	Emulsion
O	Oil
MQL	Minimum quantity lubrication
S	Dry

A1 | 26	Product code / page
● 10-12	Ideal tap / cutting speed m/min
❍ 3-5	Suitable tap / cutting speed m/min

TOOL CODE

M	4H
	6H/6HX
	6G/6GX
	7G/7GX
	6H +0,1
MF	6H/6HX
	6G/6GX
UNC	2B/2BX
	3B
UNF	2B/2BX
	3B
8-UN	2B
G	
Rp (BSPP)	
Rc (BSPT)	
BSW	
NPT	
NPTF	
Coolant	
Coating	

ISO 513	Material*	Group	Application	T.S. N/mm²	Lubrication
P	Steel	**P.1**	Mild / magnetic steel	200 - 400	E, O, MQL
		P.2	Construction steel, case hardening steel	350 - 700	E, O, MQL
		P.3	Carbon steel	350 - 850	E, O, MQL
		P.4	Alloyed steel / tempered steel	500 - 850	E, O, MQL
		P.5	Alloyed steel / tempered steel	850 - 1200	O, MQL
		P.6	Alloyed steel / high strength steel	1200 - 1600	O, MQL
		P.7	Ferritic stainless steel, martensitic stainless steel, precipitation hardening	< 1000	E, O, MQL
M	Stainless steel	**M.1**	Austenitic stainless steel	< 850	O, MQL
		M.2	Ferritic+austenitic (Duplex)	< 1000	O, MQL
K	Cast iron	**K.1**	Grey cast iron	< 1000	O, MQL, D
		K.2	Nodular cast iron, malleable cast iron, tempered cast iron	< 1000	E, O, MQL
		K.3	Austempered ductile iron (ADI)	< 1400	O, MQL
N	Aluminium Aluminium alloys	**N.1**	Pure aluminium	< 300	E, O, MQL
		N.2	Aluminium wrought and die cast alloys with Si < 0,5% (long chipping)	< 500	E, O, MQL
		N.3	Aluminium wrought and die cast alloys with Si < 10% (medium chipping)	< 500	E, O, MQL
		N.4	Aluminium die cast alloys with Si > 10% (short chipping)	< 600	E, O, MQL
	Copper Copper alloys Brass Bronze	**N.5**	Pure copper	250 - 350	E, O, MQL
		N.6	Copper alloys (long chipping), soft brass	< 700	E, O, MQL
		N.7	Copper alloys (short chipping), hard brass	< 700	E, O, MQL
		N.8	High strength bronze	700 - 1500	E, O, MQL
	Magnesium Magnesium alloys	**N.9**	Pure magnesium, magnesium alloys	120 - 300	E, O, MQL
		N.10	High strength magnesium alloy	240 - 400	E, O, MQL
S	Titanium Titanium alloys	**S.1**	Pure titanium	400 - 600	E, O, MQL
		S.2	Titanium alloys	600 - 1000	O, MQL
	Nickel Nickel alloys	**S.3**	Pure nickel	400 - 600	E, O, MQL
		S.4	Nickel alloys	600 - 1000	O, MQL
H	Hardened materials	**H.1**	Alloyed steel, hardness HRC 44-55	-	O, MQL
		H.2	Alloyed steel, hardness HRC 56-63	-	O, MQL

*For specific material examples see "Technical Information" section on page 211

General Catalogue nr. 54 - EN

Taps and Dies

Introduction

"A" Series Taps for Generic Applications

A

"P" Series High Performance Taps

P

"S" Series Synchronous Taps

S

"H" Series Solid Carbide Taps

H

Discontinued Taps

E

"F" Dies

F

Technical Information

VERGNANO

Tradition and Innovation

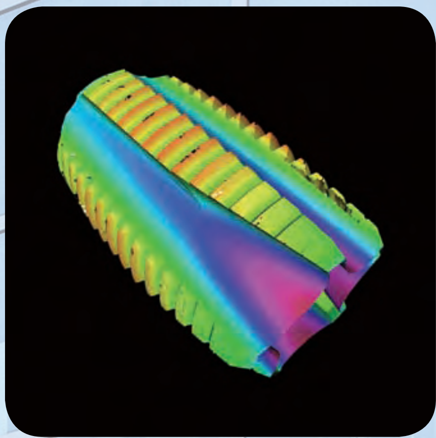
With over 60 years of experience in the cutting tool industry, Vergnano is one of the world's leading manufacturers of high quality precision threading taps, hobs, end mills and threading dies. Over the years, Vergnano has constantly innovated its product range to meet the demands of a continuously evolving market while keeping a firm foothold in the honoured tradition of the Vergnano brand.

Technology and Know-How

The quality of Vergnano tools is the consequence of strict controls of processes and products, constant research in new technical solutions and continuous investments in state-of-the-art technology and highly qualified human resources. As a result of the company's vast interdisciplinary know-how, each manufacturing step takes place internally at the Vergnano production plant starting from the steel bar to the final PVD coating process of the finished tool.

Quality

In order to guarantee consistent and high quality levels, Vergnano has always invested in new generation metrological equipment which enables analysis of the complex geometrical characteristics of tools during manufacturing. Highly specialised workers perform in-line quality control while a final quality control department checks every production batch. Complete traceability is guaranteed for all manufactured tools. Vergnano has a Certified Quality System according to ISO 9001.



Commercial Network and Service

In the last 25 years Vergnano has oriented its sales efforts to the international market. Vergnano has established itself internationally thanks to commercial subsidiaries in the key markets of Germany (Vergnano GmbH) and South Korea (Vergnano Korea), both with their own autonomous product stock and technical assistance service, and a capillary distribution network ranging from Europe to Asia to the American continent. As a result Vergnano can boast among its customers the most important companies in the most diverse industrial branches: automotive, aerospace, windmill, fasteners, machine tools and mechanical components in general.

Environmental and Company Policy

The protection of the environment and safety at work are firm principles of the Vergnano company policy. Starting from the design phase, environmental compability and safety are considered in all products, processes and technologies. Vergnano encourages customers to use its products ecologically (working conditions, recycling and end-of-life disposal).
Worker safety and health are guaranteed by strict controls of processes throughout the whole production plant. Furthermore, Vergnano prefers a local workforce to maximise occupational benefits to its host territory and to reduce commuting times for its employees.

A	ISO			
A701 S	P	M	K	N

M

R40 2,5xD HSSE

New tolerance 6H+0.1 mm with 40° spiral geometry for generic applications on blind holes

page 62

A	ISO			
A159 S	P	M	K	N

Rp (BSPP)

R40 2,5xD HSSE

New thread type Rp (BSPP) with 40° spiral geometry for generic applications on blind holes

page 128

A	ISO	
A130	P	N

M

1,5xD HSSP

New geometry for high tensile strength materials on blind and through holes

page 37

A	ISO	
A150	P	M

M

2,5xD HSSE

New optimised geometry for stainless steels on through holes

page 47

P	ISO	
P180 N	P	M

M

3xD HSSK

New high performance forming tap for stainless steels

page 148

P	ISO			
P30	P	K	N	S

MF

New thread type MF with 15° spiral geometry for blind holes

page 150

P	ISO	
P43	K	N

M

New high performance tap for cast materials on blind and through holes

page 138

P	ISO			
BP30	P	K	N	S

MF

New through coolant version of tap P30

page 150

P	ISO	
BP43	K	N

M

New through coolant version of tap P43.

page 138

P	ISO	
P43 E	K	N

M

New version with short form E chamfer of tap P43

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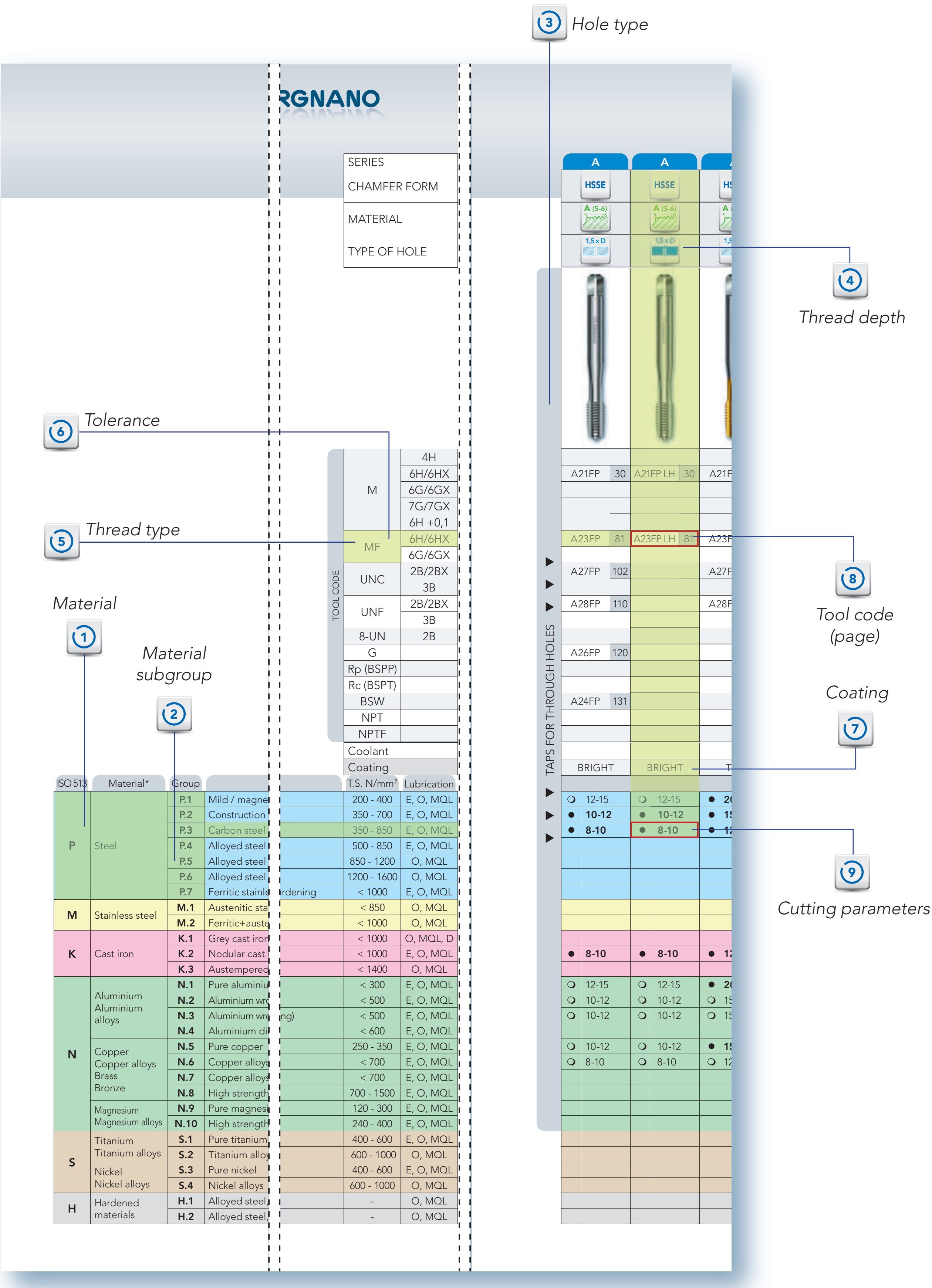
In order to select the correct tap, follow steps 1 to 9.



Thread type

Application characteristics

UNF

2,5 x D | ASME B1.1 | HSSE

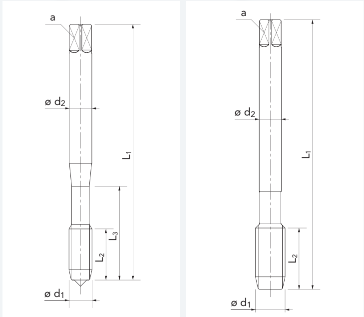
MACHINE TAPS - Straight flutes with spiral point
For through holes
Unified fine thread - UNF ASME B1.1

Dimensional standard

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4" | DIN 2184-1 ≥ ø 5/16"



TOOL CODE

Tool code

Coating

A20 S	A20 S	A20 S	A20 S 3B
BRIGHT	TiN	TiCN	BRIGHT

Tap characteristics

	A20 S BRIGHT	A20 S TiN	A20 S TiCN	A20 S 3B BRIGHT
Tolerance	2B	2B	2B	3B
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Recommended application range

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A20 S BRIGHT	A20 S TiN	A20 S TiCN	A20 S 3B BRIGHT
P	P.2	• 20-25	• 30-35	• 30-35	• 20-25
	P.3	• 15-20	• 25-30	• 25-30	• 15-20
	P.4	• 12-15	• 20-25	• 20-25	• 12-15
	P.5		• 10-15	• 10-15	
	P.7		• 10-15	• 10-15	
M	M.1		• 10-15	• 10-15	
K	K.2	• 15-20	• 25-30	• 25-30	• 15-20
N	N.2-3	• 20-25	• 30-35	• 30-35	• 20-25
	N.6	• 15-18	• 25-30	• 25-30	• 15-18

Sizes

(•) Standard execution

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A20 S BRIGHT	A20 S TiN	A20 S TiCN	A20 S 3B BRIGHT
Nr.2	64	2,184	45	9	13	2,8	2,1	2	1,85	•	•	•	
Nr.3	56	2,515	50	9	15	2,8	2,1	3	2,15	•	•	•	
Nr.4	48	2,845	56	10	18	3,5	2,7	3	2,4	•	•	•	
Nr.5	44	3,175	56	10	18	3,5	2,7	3	2,7	•	•	•	
Nr.6	40	3,505	56	11	20	4	3	3	2,95	•	•	•	•
Nr.8	36	4,166	63	12	21	4,5	3,4	3	3,5	•	•	•	•
Nr.10	32	4,826	70	14	24,5	6	4,9	3	4,1	•	•	•	•
Nr.12	28	5,486	80	16	26,5	6	4,9	3	4,6	•	•	•	•
1/4"	28	6,350	80	16	30	7	5,5	3	5,5	•	•	•	•
5/16"	24	7,938	90	18	-	6	4,9	3	6,9	•	•	•	•
3/8"	24	9,525	90	18	-	7	5,5	3	8,5	•	•	•	•
7/16"	20	11,113	100	20	-	8	6,2	3	9,9	•	•	•	•
1/2"	20	12,700	100	22	-	9	7	4	11,5	•	•	•	•
9/16"	18	14,288	100	22	-	11	9	4	12,9	•	•	•	•
5/8"	18	15,875	100	22	-	12	9	4	14,5	•	•	•	•
3/4"	16	19,050	110	25	-	14	11	4	17,5	•	•	•	•
7/8"	14	22,225	125	25	-	18	14,5	4	20,4	•	•	•	
1"	12	25,400	140	28	-	18	14,5	4	23,25	•	•	•	

• = standard execution

See price list on page 29 29 29 29

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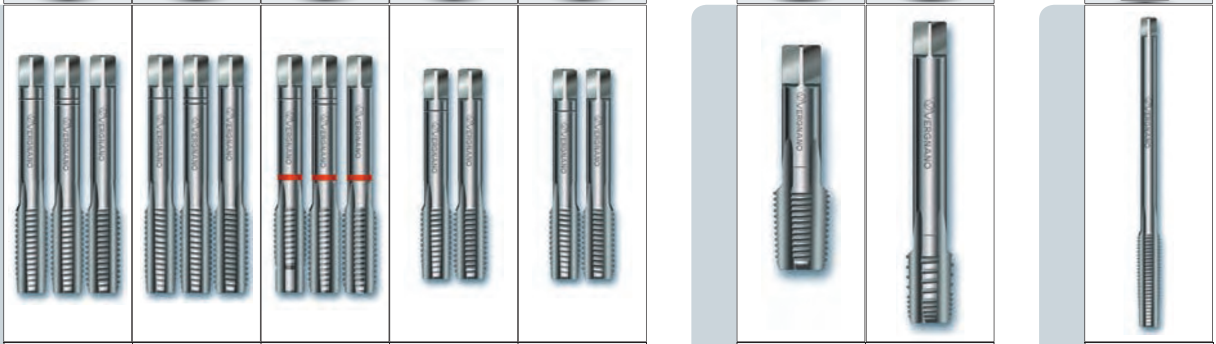
Price list page reference

Tap Application Table

HAND TAPS FOR BLIND AND THROUGH HOLES

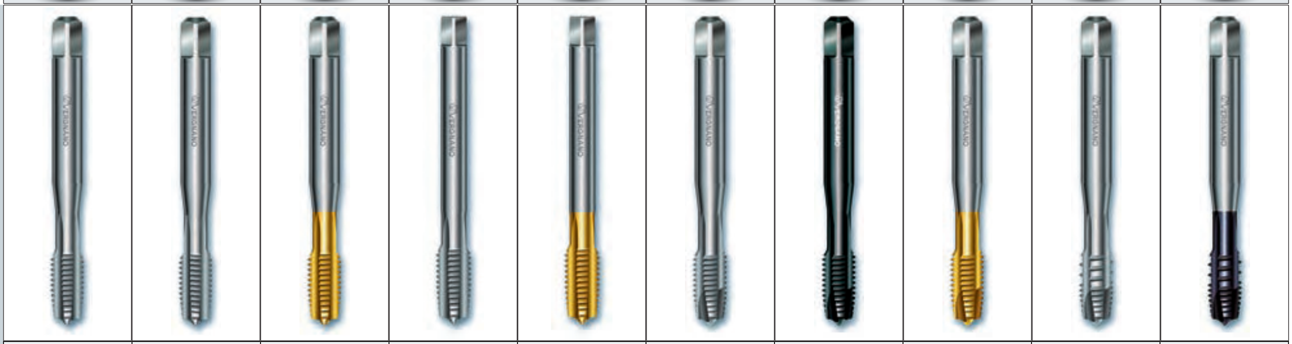
TAPS FOR TAPERED HOLES

NUT TAPS

A	A	A	A	A	A	A	A
HSS	HSS	HSSE	HSS	HSS	HSSE	HSSE	HSSE
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	–
2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D			
							
A1 26	A1 LH 27	A100 28		A2 LH 77			A9 68
			A2 74				A10 96
A7 101							
			A8 109				
			A5 119				
					A6 129		
A4 130							
					A6 B 133	A6 BZ 134	
					A6 F 135	A6 FZ 136	
BRIGHT	BRIGHT	BRIGHT	BRIGHT	BRIGHT	BRIGHT	BRIGHT	BRIGHT
HAND TAPS FOR BLIND AND THROUGH HOLES					TAPERED HOLES		NUTS
●	●	●	●	●	❍ 12-15	● **12-15**	● **18-20**
●	●	●	●	●	● **10-15**		● **15-18**
●	●	●	●	●	● **10-12**		● **12-15**
●	●	●	●	●	● **8-10**		❍ 10-12
		●			❍ 3-5		
●	●	●	●	●	❍ 2-3	● **2-3**	
❍	❍	●	❍	❍	❍ 2-3	● **2-3**	
❍	❍	●	❍	❍		❍ 2-3	
❍	❍	●	❍	❍	❍ 10-12		
●	●	●	●	●	● **10-12**		
		●					
●	●	●	●	●		● **12-15**	
●	●	●	●	●	❍ 12-15	● **12-15**	
●	●	●	●	●	❍ 10-12		
❍	❍	●	❍	❍	❍ 10-12		
●	●	●	●	●		● **10-12**	
●	●	●	●	●	❍ 6-8	● **6-8**	
●	●	●	●	●	❍ 10-12		
		●			❍ 2-3		
		●			❍ 6-8		
		●			❍ 2-3		
❍	❍	●	❍	❍		❍ 5-8	
		❍					
❍	❍	●	❍	❍		❍ 5-8	
		❍					

TAPS FOR THROUGH HOLES

A	A	A	A	A	A	A	A	A	A
HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
A (5-6)	A (5-6)	A (5-6)	A (5-6)	A (5-6)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)
1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D

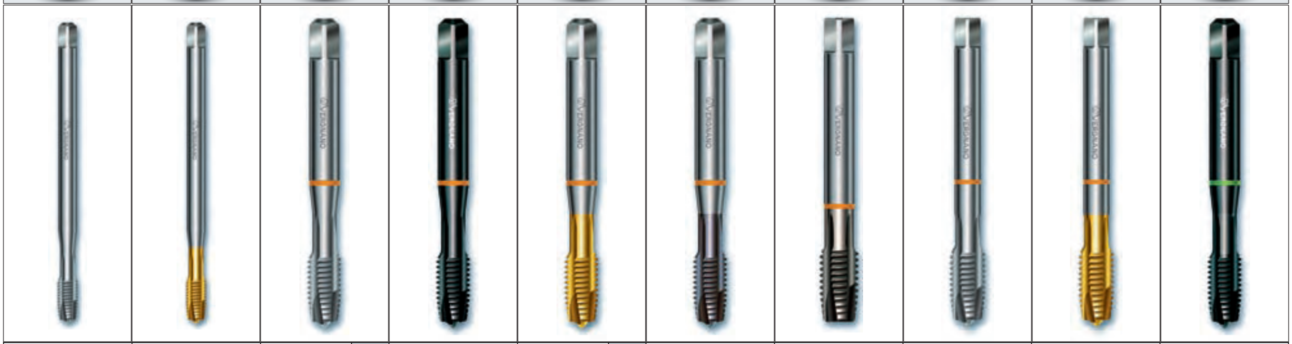


A21FP 30	A21FP LH 30	A21FP 30	A22FP 32	A22FP 32	A15 38	A15 38	A15 38	A15 AZ 40	A15 AZ 40
					A15 39		A15 39		
A23FP 81	A23FP LH 81	A23FP 81			A17 86	A17 86	A17 86		
A27FP 102		A27FP 102							
A28FP 110		A28FP 110							
A26FP 120									
A24FP 131									
BRIGHT	BRIGHT	TiN	BRIGHT	TiN	BRIGHT	VAP	TiN	BRIGHT	TiH1
TAPS FOR THROUGH HOLES									
❍ 12-15	❍ 12-15	● **20-25**	❍ 12-15	● **20-25**	● **18-20**	● **18-20**	● **30-35**	● **18-20**	● **30-35**
● **10-12**	● **10-12**	● **15-20**	● **10-12**	● **15-20**	● **15-18**	● **15-18**	● **25-30**		
● **8-10**	● **8-10**	● **12-15**	● **8-10**	● **12-15**	❍ 12-15	❍ 12-15	❍ 20-25		
					❍ 10-12	❍ 10-12	❍ 15-20		
● **8-10**	● **8-10**	● **12-15**	● **8-10**	● **12-15**	❍ 12-15	❍ 12-15	❍ 20-25		
❍ 12-15	❍ 12-15	● **20-25**	❍ 12-15	● **20-25**	● **18-20**	● **18-20**	❍ 30-35	● **18-20**	● **30-40**
❍ 10-12	❍ 10-12	❍ 15-20	❍ 10-12	❍ 15-20	● **15-18**	● **15-18**	● **25-30**	● **15-18**	● **30-40**
❍ 10-12	❍ 10-12	❍ 15-20	❍ 10-12	❍ 15-20	❍ 15-18	❍ 15-18	❍ 25-30		
❍ 10-12	❍ 10-12	● **15-20**	❍ 10-12	● **15-20**	● **15-18**	● **15-18**	❍ 25-30	● **15-18**	● **30-35**
❍ 8-10	❍ 8-10	❍ 12-15	❍ 8-10	❍ 12-15	● **12-15**	● **12-15**	● **20-25**	● **12-15**	● **30-35**
					❍ 6-8	❍ 6-8		❍ 6-8	
					❍ 6-8	❍ 6-8	❍ 8-10	❍ 6-8	

Tap Application Table

VERGNANO

A	A	A	A	A	A	A	A	A	A
HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)
2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D



		A15S 43		A15S 43					
A15L 41	A15L 41	A15S 42	A15S 42	A15S 42	A15S 42		A16S 46	A16S 46	A150 47
		A15S 44		A15S 44					
		A15S 45		A15S 45					
		A17S 88	A17S 88	A17S 88	A17S 88				
		A17S 90		A17S 90					
		A19S 104		A19S 104	A19S 104				
		A19S 104							
		A20S 112		A20S 112	A20S 112				
		A20S 112							
		A119 117		A119 117					
		A18S 122	A18S 122		A18S 122	A18S 122			
BRIGHT	TiN	BRIGHT	VAP	TiN	TiCN	TiX2	BRIGHT	TiN	VAP
FOR THROUGH HOLES									
● 18-20	● 30-35	❍ 18-20	❍ 18-20	❍ 30-35	❍ 30-35		❍ 18-20	❍ 30-35	
● 15-18	● 25-30	● 20-25	● 20-25	● 30-35	● 30-35		● 20-25	● 30-35	
● 12-15	● 20-25	● 15-20	● 15-20	● 25-30	● 25-30		● 15-20	● 25-30	
❍ 10-12	❍ 15-20	● 12-15	● 12-15	● 20-25	● 20-25		● 12-15	● 20-25	
		❍ 3-5	❍ 3-5	● 10-15	● 10-15		❍ 3-5	● 10-15	
❍ 3-5	❍ 6-8	❍ 5-7	❍ 5-7	● 10-15	● 10-15	● 10-15	❍ 5-7	● 10-15	● 10-12
❍ 3-5	❍ 6-8	❍ 5-7	❍ 5-7	● 10-15	● 10-15	● 10-15	❍ 5-7	● 10-15	● 10-12
❍ 2-3	❍ 3-5	❍ 2-3	❍ 2-3	❍ 6-8	❍ 6-8	❍ 6-8	❍ 2-3	❍ 6-8	● 8-10
❍ 12-15	❍ 20-25	● 15-20	● 15-20	● 25-30	● 25-30		● 15-20	● 25-30	
● 18-20	❍ 30-35	❍ 18-20	❍ 18-20	❍ 30-35	❍ 30-35		❍ 18-20	❍ 30-35	
● 15-18	● 25-30	● 20-25	● 20-25	● 30-35	● 30-35		● 20-25	● 30-35	
❍ 15-18	❍ 25-30	● 20-25	● 20-25	● 30-35	● 30-35		● 20-25	● 30-35	
● 15-18	❍ 25-30	❍ 15-18	❍ 15-18	❍ 25-30	❍ 25-30		❍ 15-18	❍ 25-30	
● 12-15	● 20-25	● 15-18	● 15-18	● 25-30	● 25-30		● 15-18	● 25-30	
❍ 6-8		❍ 8-10	❍ 8-10				❍ 8-10		
❍ 8-10		❍ 8-10	❍ 8-10	❍ 12-15	❍ 12-15		❍ 8-10	❍ 12-15	

A	A	A	P	P	P	S	S	S		A
HSSE	HSSE	HSSE	HSSP	HSSP	HSSP	HSSK	HSSK	HSSK		HSSE
B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)	B (4-5)		C (2-3)
2,5 x D	1 x D	1 x D	3 x D	3 x D	3 x D	3 x D	3 x D	3 x D		1,5 x D
										
A150 47	A51 48	A51 48	P15 139	P15 139	BP15 139	S15 159	S15 159	BS15 159		A21FC 29
			P15 139							
			P17 149	P17 149		S17 163				A23FC 78
			P17 149							
									▶	A27FC 102
									▶	A28FC 110
									▶	
			P18 153	P18 153						A26FC 120
										A24FC 131
									TAPS FOR BLIND HOLES	
					IKZ-R			IKZ-R		
TiX2	BRIGHT	TiN	TiN	TiH1	TiH1	TiN	TiH1	TiH1		BRIGHT
FOR THROUGH HOLES									▶	FOR BLIND HOLES
	● 18-20	● 30-35				● 50-60	● 50-60	● 50-60	▶	○ 12-15
	● 15-18	● 25-30	○ 30-40	○ 30-40	○ 30-40	● 50-60	● 50-60	● 50-60	▶	● 10-12
	● 12-15	● 20-25	● 25-35	● 25-35	● 25-35	● 45-55	● 45-55	● 45-55		● 8-10
			● 20-30	● 20-30	● 20-30	● 40-50	● 40-50	● 40-50		
			● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 15-25		
			● 8-10	● 8-10	● 8-10					
● 18-20	○ 5-7	○ 10-12	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 15-25		
● 18-20	○ 3-5	○ 8-10	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 15-25		
● 10-12			● 6-8	● 6-8	● 6-8	● 10-20	● 10-20	● 10-20		
			● 25-35	● 25-35	● 25-35	● 45-55	● 45-55	● 45-55		● 8-10
	● 18-20	● 30-35				● 50-60	● 50-60	● 50-60		○ 12-15
	● 15-18	● 25-30	● 30-40	● 30-40	● 30-40	● 45-55	● 45-55	● 45-55		○ 10-12
	○ 15-18	○ 25-30	● 30-40	● 30-40	● 30-40	● 45-55	● 45-55	● 45-55		○ 10-12
	● 15-18	○ 25-30				● 40-50	● 40-50	● 40-50		○ 10-12
	● 12-15	● 20-25	● 25-35	● 25-35	● 25-35	● 35-45	● 35-45	● 35-45		○ 8-10
							● 15-25	● 15-25		
				○ 12-18	○ 12-18		○ 10-20	○ 10-20		
						● 15-25	● 15-25	● 15-25		
			○ 12-18	○ 12-18	○ 12-18	○ 10-20	○ 10-20	○ 10-20		

Tap Application Table

A	A	A	A	A	A	A	A	A	A
HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)
1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D	1,5 x D
									
A21FC LH 29	A21FC 29	A22FC 31	A22FC 31	A29 49	A29 49	A29 49	A29 376 52	A29 376 52	A29L 51
				A29 50		A29 50			
A23FC LH 78	A23FC 78			A30 91		A30 91			
	A27FC 102			A33 105		A33 105			
				A33 105					
	A28FC 110			A34 113		A34 113			
				A34 113					
				A32 123		A32 123			
				A31 132		A31 132			
BRIGHT	TiN	BRIGHT	TiN	BRIGHT	VAP	TiN	BRIGHT	TiN	BRIGHT
FOR BLIND HOLES									
❍ 12-15	● 20-25	❍ 12-15	● 20-25	● 18-20	● 18-20	● 30-35	● 18-20	● 30-35	● 18-20
● 10-12	● 15-20	● 10-12	● 15-20	● 15-18	● 15-18	● 25-30	● 15-18	● 25-30	● 15-18
● 8-10	● 12-15	● 8-10	● 12-15	● 12-15	● 12-15	● 20-25	● 12-15	● 20-25	● 12-15
				● 10-12	● 10-12	● 15-20	● 10-12	● 15-20	● 10-12
						● 5-10		● 5-10	
● 8-10	● 12-15	● 8-10	● 12-15	● 12-15	● 12-15	● 20-25	● 12-15	● 20-25	● 12-15
❍ 12-15	● 20-25	❍ 12-15	● 20-25	● 18-20	● 18-20	❍ 30-35	● 18-20	❍ 30-35	● 18-20
❍ 10-12	❍ 15-20	❍ 10-12	❍ 15-20	● 15-18	● 15-18	● 25-30	● 15-18	● 25-30	● 15-18
❍ 10-12	❍ 15-20	❍ 10-12	❍ 15-20	● 15-18	● 15-18	● 25-30	● 15-18	● 25-30	● 15-18
❍ 10-12	● 15-20	❍ 10-12	● 15-20	● 15-18	● 15-18	❍ 25-30	● 15-18	❍ 25-30	● 15-18
❍ 8-10	❍ 12-15	❍ 8-10	❍ 12-15	● 12-15	● 12-15	● 20-25	● 12-15	● 20-25	● 12-15
				❍ 6-8	❍ 6-8		❍ 6-8		❍ 6-8
				❍ 6-8	❍ 6-8	❍ 8-10	❍ 6-8	❍ 8-10	❍ 6-8

A	A	A	A	A	A	A	A	A	A
HSSE	HSSK	HSSK	HSSE	HSSE	HSSE	HSSE	HSSE	HSSK	HSSK
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)
1,5xD	1,5xD	1,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD

A29L 51	A29K 53	A29K 53	A70 54	A70 54	A70 54	A70L 56	A70L 56	A70K 57	A70K 57
			A70 55	A70 55	A70 55				
			A71 93		A71 93				
			A60 106		A60 106				
			A61 114		A61 114				
			A59 124		A59 124				
TiN	BRIGHT	TiN	BRIGHT	VAP	TiN	BRIGHT	TiN	BRIGHT	TiN
FOR BLIND HOLES									
● 30-35	● 18-20	● 30-35	● 12-15	● 12-15	● 25-30	● 12-15	● 25-30	● 12-15	● 25-30
● 25-30	● 15-18	● 25-30	● 10-15	● 10-15	● 20-25	● 10-15	● 20-25	● 10-15	● 20-25
● 20-25	● 12-15	● 20-25	❍ 8-10	❍ 8-10	❍ 15-20	❍ 8-10	❍ 15-20	● 8-10	● 15-20
● 15-20	● 10-12	● 15-20						❍ 8-10	❍ 12-15
● 5-10	❍ 3-5	● 5-10							
● 20-25	● 12-15	● 20-25	❍ 8-10	❍ 8-10	❍ 15-20	❍ 8-10	❍ 15-20	● 8-10	● 15-20
❍ 30-35	● 18-20	❍ 30-35	● 12-15	● 12-15	❍ 25-30	● 12-15	❍ 25-30	● 12-15	❍ 25-30
● 25-30	● 15-18	● 25-30	● 12-15	● 12-15	● 25-30	● 12-15	● 25-30	● 12-15	● 25-30
● 25-30	● 15-18	● 25-30	❍ 10-12	❍ 10-12	❍ 20-25	❍ 10-12	❍ 20-25	❍ 10-12	❍ 20-25
❍ 25-30	● 15-18	❍ 25-30	● 10-12	● 10-12	❍ 20-25	● 10-12	❍ 20-25	● 10-12	❍ 20-25
● 20-25	● 12-15	● 20-25	● 10-12	● 10-12	● 20-25	● 10-12	● 20-25	● 10-12	● 20-25
	❍ 6-8								
❍ 8-10	❍ 6-8	❍ 8-10							

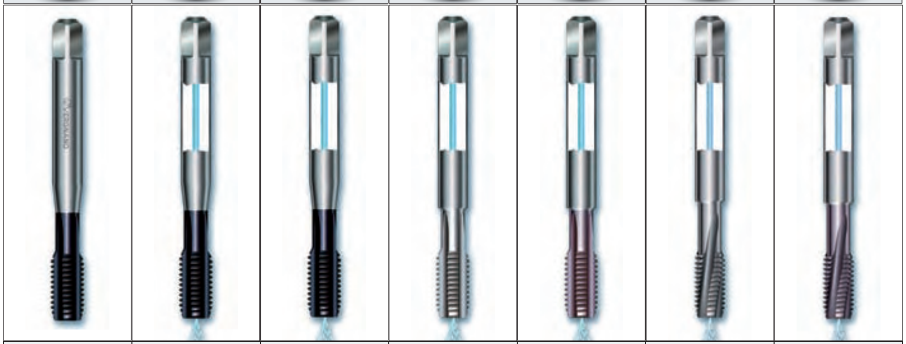
VERGNANO

A	A	A	A	A	A	A	A	A	A
HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	E(1,5-2)	E(1,5-2)	C (2-3)	C (2-3)	C (2-3)
2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D
									
A70S 59		A70S 59							
A70S 58	A70S 58	A70S 58	A70S 58		A70SE 63	A70SE 63	A76S 64	A76S 64	A170 65
A70S 60		A70S 60							
A70S 61		A70S 61							
A701S 62		A701S 62							
A71S 94	A71S 94	A71S 94	A71S 94						
A71S 95		A71S 95							
A60S 107		A60S 107	A60S 107	A60S 107					
A61S 115		A61S 115	A61S 115						
A160 118		A160 118							
A59S 125	A59S 125	A59S 125	A59S 125	A59S 126					
A159S 128		A159S 128							
BRIGHT	VAP	TiN	TiCN	TiX2	BRIGHT	TiN	BRIGHT	TiN	VAP
FOR BLIND HOLES									
○ 15-20	○ 15-20	○ 25-30	○ 25-30		○ 15-20	○ 25-30	○ 15-20	○ 25-30	
● 12-15	● 12-15	● 20-25	● 20-25		● 12-15	● 20-25	● 12-15	● 20-25	
● 10-12	● 10-12	● 15-20	● 15-20		● 10-12	● 15-20	● 10-12	● 15-20	
○ 6-8	○ 6-8	● 5-10	● 5-10		○ 6-8	● 5-10	○ 6-8	● 5-10	
○ 6-8	○ 6-8	● 8-10	● 8-10	● 8-10	○ 6-8	● 8-10	○ 6-8	● 8-10	● 6-8
○ 6-8	○ 6-8	● 8-10	● 8-10	● 8-10	○ 6-8	● 8-10	○ 6-8	● 8-10	● 6-8
		○ 3-5	○ 3-5	● 5-7		○ 3-5		○ 3-5	○ 3-5
● 12-15	● 12-15	● 20-25	● 20-25		● 12-15	● 20-25	● 12-15	● 20-25	
○ 18-20	○ 18-20	○ 30-35	○ 30-35		○ 18-20	○ 30-35	○ 18-20	○ 30-35	
● 15-18	● 15-18	● 25-30	● 25-30		● 15-18	● 25-30	● 15-18	● 25-30	
● 15-18	● 15-18	● 25-30	● 25-30		● 15-18	● 25-30	● 15-18	● 25-30	
○ 6-8	○ 6-8				○ 6-8		○ 6-8		
○ 6-8	○ 6-8	○ 8-10	○ 8-10		○ 6-8	○ 8-10	○ 6-8	○ 8-10	

A	A	A	A	A	P	P	P	P	P
HSSE	HSSE	HSSE	HSSE	HSSE	HSSP	HSSP	HSSP	HSSP	HSSZ
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)
2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2xD	2xD	2xD	2xD	3xD
									
A170 65	A62 66	A62 66	A72 67	A72 67	P29 140	P29 140	P29 140	BP29 140	P70 141
					P30 150	P30 150	P30 150	BP30 150	
	A65 108								
	A66 116								
							IKZ	
TiX2	BRIGHT	TiH1	BRIGHT	TiH1	BRIGHT	TiN	TiH1	TiH1	VAP
FOR BLIND HOLES									
			● 12-15	● 25-30					
									● 15-25
					● 15-18	● 25-30	● 25-30	● 25-30	● 10-20
					● 12-15	● 20-25	● 20-25	● 20-25	● 10-15
					● 8-10	● 10-15	● 10-15	● 10-15	❍ 5-10
					● 3-5	● 5-10	● 5-10	● 5-10	
● 8-10					● 8-10	● 10-15	● 10-15	● 10-15	❍ 5-10
● 8-10									❍ 5-10
● 5-7									
					● 15-18	● 25-30	● 25-30	● 25-30	● 10-20
	● 12-15	● 25-30	● 12-15	● 25-30					
	● 12-15	● 25-30	● 12-15	● 25-30					● 20-30
	❍ 10-12	❍ 20-25	● 10-12	● 20-25	● 15-18	● 25-30	● 25-30	● 25-30	● 15-25
	● 10-12	● 20-25	● 10-12	● 20-25					
	● 10-12	● 20-25	● 10-12	● 20-25	● 15-18	● 25-30	● 25-30	● 25-30	● 15-25
					● 12-15	● 20-25	● 20-25	● 20-25	
	● 6-8	● 10-12							❍ 10-12
					● 2-3		● 2-3	● 2-3	
	● 6-8	● 10-12							❍ 10-12
					● 2-3	● 2-3	● 2-3	● 2-3	

Tap Application Table

P	P	P	P	P	S	S	S	P	P
HSSZ	HSSZ	HSSZ	HSSZ	HSSZ	HSSK	HSSK	HSSK	HSSP	HSSP
C (2-3)	C (2-3)	C (2-3)	E(1,5-2)	E(1,5-2)	C (2-3)	C (2-3)	C (2-3)	E(1,5-2)	C (2-3)
3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD
									
P70 141	P70 141	BP70 141	P70E 143	P70E 143	S70 160	S70 160	BS70 160	P43E 138	BP43 138
P70 142									
P71 151	P71 151				S71 164				
P71 151									
P59 154	P59 154								
		IKZ					IKZ		IKZ
TiN	TiH1	TiH1	TiN	TiH1	TiN	TiH1	TiH1	ACE	ACE
FOR BLIND HOLES									
					● 45-55	● 45-55	● 45-55		
○ 25-35	○ 25-35	○ 25-35	○ 25-35	○ 25-35	● 45-55	● 45-55	● 45-55		
● 20-30	● 20-30	● 20-30	● 20-30	● 20-30	● 40-50	● 40-50	● 40-50		
● 15-25	● 15-25	● 15-25	● 15-25	● 15-25	● 35-45	● 35-45	● 35-45		
● 5-15	● 5-15	● 5-15	● 5-15	● 5-15	● 15-20	● 15-20	● 15-20		
○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8					
● 10-15	● 10-15	● 10-15	● 10-15	● 10-15	● 15-20	● 15-20	● 15-20		
● 10-15	● 10-15	● 10-15	● 10-15	● 10-15	● 15-20	● 15-20	● 15-20		
● 5-7	● 5-7	● 5-7	● 5-7	● 5-7					
								● 40-50	● 40-50
● 20-30	● 20-30	● 20-30	● 20-30	● 20-30	● 40-50	● 40-50	● 40-50		
								○ 10-20	○ 10-20
					● 45-55	● 45-55	● 45-55		
○ 30-40	○ 30-40	○ 30-40	○ 30-40	○ 30-40	● 40-50	● 40-50	● 40-50		
● 25-35	● 25-35	● 25-35	● 25-35	● 25-35	● 40-50	● 40-50	● 40-50		
								● 40-50	● 40-50
					● 35-45	● 35-45	● 35-45		
● 25-35	● 25-35	● 25-35	● 25-35	● 25-35	● 30-40	● 30-40	● 30-40		
								● 40-50	● 40-50
								● 45-55	● 45-55
								● 45-55	● 45-55
	● 10-15	● 10-15		● 10-15		● 15-20	● 15-20		
						○ 5-15	○ 5-15		
● 10-15	● 10-15	● 10-15	● 10-15	● 10-15	● 15-20	● 15-20	● 15-20		
					○ 5-15	○ 5-15	○ 5-15		

S	S	S	H	H	H	H	A	A	A
HSSK	HSSK	HSSK	HM	HM	HM	HM	HSSE	HSSE	HSSE
E(1,5-2)	C (2-3)	E(1,5-2)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)
3xD	3xD	3xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD
									
S43E 158	BS43 158	BS43E 158	HB43 166	HB43 166	HB29 167	HB29 167	A43 33	A43 33	A43 33
			HB45 170	HB45 170			A45 84	A45 84	A45 84
							A49 103	A49 103	
							A50 111	A50 111	
							A48 121	A48 121	
	IKZ	IKZ	IKZ	IKZ	IKZ	IKZ			
ACE	ACE	ACE	BRIGHT	TiAlN	BRIGHT	TiCN	NITRIDED	TiCN	ACE
FOR BLIND HOLES							FOR BLIND AND THROUGH HOLES		
● 55-65	● 55-65	● 55-65	● 15-40	● 40-80	○ 15-40	○ 40-80	● 15-20	● 40-45	● 40-45
			● 10-20	● 15-40	○ 10-20	○ 15-40			
○ 20-30	○ 20-30	○ 20-30							
					● 15-30	● 25-50			
					● 15-30	● 25-50			
			● 20-30	● 30-50	● 20-30	● 30-50			
● 55-65	● 55-65	● 55-65	● 15-20	● 25-40	● 15-20	● 25-40	● 15-20	● 40-45	● 40-45
● 55-65	● 55-65	● 55-65	○ 20-25	○ 30-40	● 20-25	● 30-40	● 15-20	● 40-45	● 40-45
● 55-65	● 55-65	● 55-65					● 20-25	● 45-50	● 45-50
● 55-65	● 55-65	● 55-65					● 20-25	● 45-50	● 45-50

TAPS FOR BLIND AND THROUGH HOLES

Tap Application Table

A	A	A	A	A	A	A	A	A	A
HSSK	HSSK	HSSK	HSSE	HSSE	HSSE	HSSE	HSSE	HSSK	HSSK
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)
2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D	2,5 x D
			A44 34	A44 34	A44 34	A67 35	A67 35	A110 36	A110 36
A45K 85	A45K 85	A45K 85							
NITRIDED	TiCN	ACE	NITRIDED	TiCN	ACE	BRIGHT	TiH1	VAP	CrN
FOR BLIND AND THROUGH HOLES									
						● 12-15	● 20-25		
● 15-20	● 40-45	● 40-45	● 15-20	● 40-45	● 40-45				
						● 12-15	● 20-25		
						● 10-12	● 15-20		
● 15-20	● 40-45	● 40-45	● 15-20	● 40-45	● 40-45				
						● 10-12	● 15-20		
						● 8-10	● 12-15		
● 15-20	● 40-45	● 40-45	● 15-20	● 40-45	● 40-45				
● 20-25	● 45-50	● 45-50	● 20-25	● 45-50	● 45-50				
● 20-25	● 45-50	● 45-50	● 20-25	● 45-50	● 45-50				
								● 6-8	● 10-12
								● 3-5	● 6-8

A	A	A	P	P	S	H	H	A	A
HSSK	HSSK	HSSE	HSSP	HSSP	HSSK	HM	HM	HSSE	HSSE
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	D (4-5)	D (4-5)	C (2-3)	C (2-3)
1,5xD	1,5xD	1,5xD	3xD	3xD	3xD	1,5xD	1,5xD	1,5xD	1,5xD
									
A130 37	A130 37	A190-EG 73	P43 138	P43 138	S43 158	H130 168	H130 168	A80 69	A80 69
								A80 70	A80 70
					S45 162			A81 97	A81 97
								A81 98	A81 98
BRIGHT	ACE	BRIGHT	TiCN	ACE	ACE	BRIGHT	TiCN	VAP	TiN
FOR BLIND AND THROUGH HOLES								FORMING TAPS	
		❍ 12-15						● 20-25	● 40-45
		● 10-12						● 20-25	● 40-45
		● 8-10						● 15-20	● 35-40
● 2-3	● 5-8					❍ 2-5	❍ 5-10		
									❍ 15-20
									❍ 15-20
			● 40-50	● 40-50	● 55-65				
		● 8-10							
			❍ 10-20	❍ 10-20	❍ 20-30				
		❍ 12-15						● 20-25	● 40-45
		❍ 10-12							● 40-45
		❍ 10-12							● 35-40
			● 40-50	● 40-50	● 55-65				
		❍ 10-12						● 20-25	● 40-45
		❍ 8-10							● 40-45
			● 40-50	● 40-50	● 55-65				
● 3-5	● 8-10								
			● 45-55	● 45-55	● 55-65				
			● 45-55	● 45-55	● 55-65				
						● 2-3	● 3-6		
						● 1-2	● 2-4		

FORMING TAPS

Tap Application Table

A	A	A	A	P	P	P	P	P	P
HSSE	HSSE	HSSE	HSSE	HSSK	HSSK	HSSK	HSSK	HSSK	HSSK
C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	E(1,5-2)	E(1,5-2)	C (2-3)
1,5xD	2,5xD	2,5xD	2,5xD	1,5xD	3xD	3xD	1,5xD	3xD	3xD
									
A80 69	A80N 71	A80N 71	A80N 71	P80 144	P80N 145	P80N 145	P80E 146	P80NE 146	BP80N 147
A80 70	A80N 72	A80N 72	A80N 72	P80 144	P80N 145			P80NE 146	
				P80 144	P80N 145				
A81 97	A81N 99	A81N 99	A81N 99	P81 152	P81N 152				
A81 98	A81N 100	A81N 100	A81N 100	P81 152	P81N 152				
	A82N 127	A82N 127	A82N 127		P82N 155				
									IKZ
TiCN	VAP	TiN	TiCN	TiN	TiN	TiH1	TiN	TiN	TiN
FORMING TAPS									
● 40-45	● 20-25	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45
● 40-45	● 20-25	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45
● 35-40	● 15-20	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40
				● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35
				● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20
❍ 15-20		❍ 15-20	❍ 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20
❍ 15-20		❍ 15-20	❍ 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20
● 40-45	● 20-25	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45
● 40-45		● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45
● 35-40		● 35-40	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40	● 35-40
● 40-45	● 20-25	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45
● 40-45		● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45	● 40-45
						● 10-15			
						❍ 5-10			
				● 10-15	● 10-15	● 10-15	● 10-15	● 10-15	● 10-15
				❍ 5-10	❍ 5-10	❍ 5-10	❍ 5-10	❍ 5-10	❍ 5-10

BP80NR	P180N	S80N	BS80NR	BS80NRE	HB80 NR	HP900
P	P	S	S	S	H	H
HSSK	HSSK	HSSK	HSSK	HSSK	HM	HM
C (2-3)	C (2-3)	C (2-3)	C (2-3)	E(1,5-2)	C (2-3)	DIN 6535HA
3xD	3xD	3xD	3xD	3xD	2,5xD	3xD
						
BP80NR 147	P180N 148	S80N 161	BS80NR 161	BS80NRE 161	HB80 NR 169	HP900 171
		S80N 161				
IKZ-R			IKZ-R	IKZ-R	IKZ-R	
TiN	TiN	TiN	TiN	TiH1	TiCN	TiAIN
FORMING TAPS						*Vc-f
● 40-45		● 50-60	● 50-60	● 50-60	● 40-50	
● 40-45		● 50-60	● 50-60	● 50-60	● 40-50	
● 35-40		● 45-55	● 45-55	● 45-55	● 35-45	
● 30-35		● 40-50	● 40-50	● 40-50	● 30-40	
● 15-20		● 20-30	● 20-30	● 20-30	● 15-25	
						● 40-f1
● 15-20	● 25-35	● 25-35	● 25-35	● 25-35	● 15-25	
● 15-20	● 25-35	● 25-35	● 25-35	● 25-35	● 15-25	
	● 15-25	● 15-25	● 15-25	● 15-25		
● 40-45		● 50-60	● 50-60	● 50-60	● 40-50	
● 40-45		● 50-60	● 50-60	● 50-60	● 40-50	
● 35-40		● 45-55	● 45-55	● 45-55	● 35-45	
● 40-45		● 50-60	● 50-60	● 50-60	● 40-50	
● 40-45		● 50-60	● 50-60	● 50-60	● 40-50	
				● 10-20		
				○ 5-15		
● 10-15		● 10-20	● 10-20	● 10-20	● 10-20	
○ 5-10		○ 5-15	○ 5-15	○ 5-15	○ 5-15	
						● 30-f2
						● 30-f2

Cutting parameters for twist drill HP900

$$N\ [rev/min] = \frac{\text{Cutting speed } [m/min] \times 1000}{3{,}14 \times d_1\ [mm]}$$

f [mm/min] = f [mm/rev] x N [rev/min]

*Feed rate for drill HP900 [mm/rev]

Diameter	f1	f2
2,6	0,032	0,025
3,4	0,040	0,032
4,3	0,050	0,040
5,1	0,050	0,040
6,9	0,070	0,055
8,6	0,090	0,070
10,4	0,110	0,090

A130 ACE

A

"A" SERIES

Taps for Generic Applications

The renowned Vergnano A-Series provides tapping solutions for almost all types of generic applications. Available as hand taps, machine cutting taps and forming taps, A-Series offers a complete range of taps in the most common thread types and tolerances. The taps are manufactured in high speed steel and are available with top quality PVD coatings.

M

HAND TAPS in sets of three pieces
For blind and through holes
ISO Metric coarse thread - DIN 13

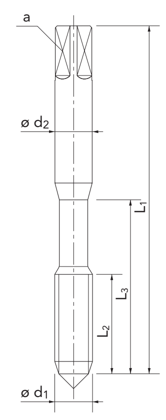
2,5 x D | DIN 13 | HSS

VERGNANO

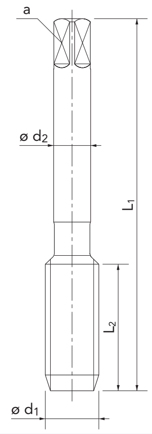
A

TAP DIMENSIONS

DIN 352 ≤ M6



DIN 352 ≥ M7



APPLICATION RANGE

ISO	MG	A1 ROUGHING	A1 SECOND	A1 FINISHING	A1 SET
P	P.1-4	●	●	●	●
P	P.7	●	●	●	●
K	K.2	●	●	●	●
N	N.1-3	●	●	●	●
N	N.5-7	●	●	●	●

TOOL CODE

	A1 ROUGHING	A1 SECOND	A1 FINISHING	A1 SET
				
Tolerance	—	—	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	D (4-5)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A1 ROUGHING	A1 SECOND	A1 FINISHING	A1 SET
M 2	0,4	36	7,5	12	2,8	2,1	3	1,6	•	•	•	•
2,2	0,45	36	8,5	13,5	2,8	2,1	3	1,75	•	•	•	•
2,3	0,4	36	8,5	13,5	2,8	2,1	3	1,9	•	•	•	•
2,5	0,45	40	8,5	14,5	2,8	2,1	3	2,05	•	•	•	•
2,6	0,45	40	8,5	14,5	2,8	2,1	3	2,1	•	•	•	•
3	0,5	40	10	18	3,5	2,7	3	2,5	•	•	•	•
3,5	0,6	45	11	20	4	3	3	2,9	•	•	•	•
4	0,7	45	12	21	4,5	3,4	3	3,3	•	•	•	•
4,5	0,75	50	13	23	6	4,9	3	3,7	•	•	•	•
5	0,8	50	14	24	6	4,9	3	4,2	•	•	•	•
6	1	56	16	28	6	4,9	3	5	•	•	•	•
7	1	56	19	-	6	4,9	3	6	•	•	•	•
8	1,25	63	22	-	6	4,9	3	6,8	•	•	•	•
9	1,25	63	22	-	7	5,5	3	7,8	•	•	•	•
10	1,5	70	24	-	7	5,5	3	8,5	•	•	•	•
11	1,5	70	24	-	8	6,2	3	9,5	•	•	•	•
12	1,75	75	28	-	9	7	4	10,2	•	•	•	•
14	2	80	30	-	11	9	4	12	•	•	•	•
16	2	80	32	-	12	9	4	14	•	•	•	•
18	2,5	95	34	-	14	11	4	15,5	•	•	•	•
20	2,5	95	34	-	16	12	4	17,5	•	•	•	•
22	2,5	100	34	-	18	14,5	4	19,5	•	•	•	•
24	3	110	38	-	18	14,5	4	21	•	•	•	•
27	3	110	38	-	20	16	4	24	•	•	•	•
30	3,5	125	45	-	22	18	4	26,5	•	•	•	•
33	3,5	125	50	-	25	20	4	29,5	•	•	•	•
36	4	150	56	-	28	22	4	32	•	•	•	•
39	4	150	60	-	32	24	4	35	•	•	•	•
42	4,5	150	60	-	32	24	4	37,5	•	•	•	•
45	4,5	160	65	-	36	29	4	40,5	•	•	•	•
48	5	180	70	-	36	29	4	43	•	•	•	•
52	5	180	70	-	40	32	5	47	•	•	•	•
56	5,5	180	70	-	40	32	5	50,5	•	•	•	•
								See price list on page	4	4	4	4

• = standard execution

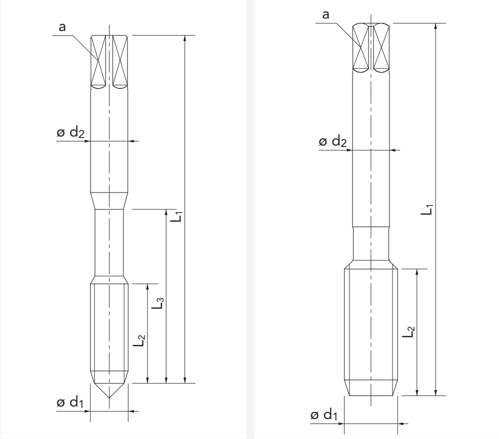
2,5 x D | DIN 13 | HSS | LH

VERGNANO

HAND TAPS in sets of three pieces
For blind and through holes
ISO Metric coarse left-hand thread - DIN 13

TAP DIMENSIONS

DIN 352 ≤ M6 | DIN 352 ≥ M8



TOOL CODE

	A1 LH ROUGHING	A1 LH SECOND	A1 LH FINISHING	A1 LH SET

	A1 LH ROUGHING	A1 LH SECOND	A1 LH FINISHING	A1 LH SET
Tolerance	–	–	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	D (4-5)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	LH	LH	LH	LH
Through coolant				

APPLICATION RANGE

ISO	MG	A1 LH ROUGHING	A1 LH SECOND	A1 LH FINISHING	A1 LH SET
P	P.1-4	•	•	•	•
	P.7	•	•	•	•
K	K.2	•	•	•	•
N	N.1-3	•	•	•	•
	N.5-7	•	•	•	•

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A1 LH ROUGHING	A1 LH SECOND	A1 LH FINISHING	A1 LH SET
M 2,6	0,45	40	8,5	14,5	2,8	2,1	3	2,1	•	•	•	•
3	0,5	40	10	18	3,5	2,7	3	2,5	•	•	•	•
3,5	0,6	45	11	20	4	3	3	2,9	•	•	•	•
4	0,7	45	12	21	4,5	3,4	3	3,3	•	•	•	•
5	0,8	50	14	24	6	4,9	3	4,2	•	•	•	•
6	1	56	16	28	6	4,9	3	5	•	•	•	•
8	1,25	63	22	-	6	4,9	3	6,8	•	•	•	•
10	1,5	70	24	-	7	5,5	3	8,5	•	•	•	•
12	1,75	75	28	-	9	7	4	10,2	•	•	•	•
14	2	80	30	-	11	9	4	12	•	•	•	•
16	2	80	32	-	12	9	4	14	•	•	•	•
18	2,5	95	34	-	14	11	4	15,5	•	•	•	•
20	2,5	95	34	-	16	12	4	17,5	•	•	•	•
22	2,5	100	34	-	18	14,5	4	19,5	•	•	•	•
24	3	110	38	-	18	14,5	4	21	•	•	•	•
27	3	110	38	-	20	16	4	24	•	•	•	•
30	3,5	125	45	-	22	18	4	26,5	•	•	•	•

• = standard execution

See price list on page 4 | 4 | 4 | 4

M

HAND TAPS in sets of three pieces
For blind and through holes
ISO Metric coarse thread - DIN 13

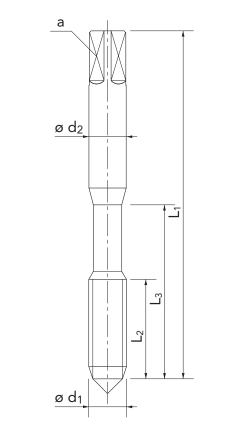
2,5 x D | DIN 13 | HSSE

VERGNANO

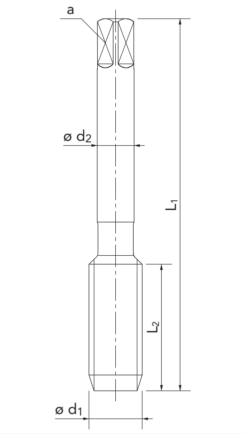
A

TAP DIMENSIONS

DIN 352 ≤ M6



DIN 352 ≥ M8



APPLICATION RANGE

ISO	MG	A100 ROUGHING	A100 SECOND	A100 FINISHING	A100 SET
P	P.1-5	•	•	•	•
P	P.7	•	•	•	•
M	M.1-2	•	•	•	•
K	K.1-3	•	•	•	•
N	N.1-10	•	•	•	•
S	S.1	•	•	•	•
S	S.3	•	•	•	•

TOOL CODE

	A100 ROUGHING	A100 SECOND	A100 FINISHING	A100 SET
				
Tolerance	–	–	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A100 ROUGHING	A100 SECOND	A100 FINISHING	A100 SET
M 2	0,4	36	7,5	13	2,8	2,1	3	1,6	•	•	•	•
2,5	0,45	40	9	15	2,8	2,1	3	2,05	•	•	•	•
3	0,5	40	10	18	3,5	2,7	3	2,5	•	•	•	•
3,5	0,6	45	11	18	4	3	3	2,9	•	•	•	•
4	0,7	45	12	21	4,5	3,4	3	3,3	•	•	•	•
5	0,8	50	14	24	6	4,9	3	4,2	•	•	•	•
6	1	56	16	28	6	4,9	3	5	•	•	•	•
8	1,25	63	22	-	6	4,9	4	6,8	•	•	•	•
10	1,5	70	24	-	7	5,5	4	8,5	•	•	•	•
12	1,75	75	28	-	9	7	4	10,2	•	•	•	•
14	2	80	30	-	11	9	4	12	•	•	•	•
16	2	80	32	-	12	9	4	14	•	•	•	•
18	2,5	95	34	-	14	11	4	15,5	•	•	•	•
20	2,5	95	34	-	16	12	4	17,5	•	•	•	•

• = standard execution

See price list on page | 4 | 4 | 4 | 4

1,5 x D DIN 13 HSSE

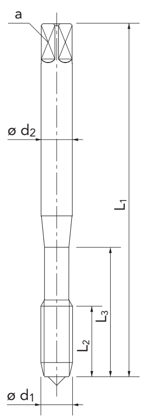
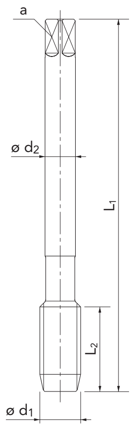
VERGNANO

M

MACHINE TAPS - Straight flutes
For blind holes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M11
	

TOOL CODE

A21 FC BRIGHT	A21 FC TiN	A21 FC LH BRIGHT
		

	A21 FC BRIGHT	A21 FC TiN	A21 FC LH BRIGHT
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	LH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A21 FC BRIGHT	A21 FC TiN	A21 FC LH BRIGHT
P	P.1		● 20-25	
	P.2	● 10-12	● 15-20	● 10-12
	P.3	● 8-10	● 12-15	● 8-10
K	K.2	● 8-10	● 12-15	● 8-10
N	N.1		● 20-25	
	N.5		● 15-20	

Ød1	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A21 FC BRIGHT	A21 FC TiN	A21 FC LH BRIGHT
M 2	0,4	45	7	11	2,8	2,1	3	1,6	•	•	
2,2	0,45	45	8	13	2,8	2,1	3	1,75	•	•	
2,3	0,4	45	8	13	2,8	2,1	3	1,9	•	•	
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•	
2,6	0,45	50	9	15	2,8	2,1	3	2,1	•	•	
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
3,5	0,6	56	11	20	4	3	3	2,9	•	•	
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
7	1	80	16	29	7	5,5	3	6	•	•	
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
9	1,25	90	18	33	9	7	3	7,8	•	•	
10	1,5	100	20	36	10	8	3	8,5	•	•	•
11	1,5	100	22	-	8	6,2	3	9,5	•	•	
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	3	12	•	•	•
16	2	110	28	-	12	9	3	14	•	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•	•
24	3	160	36	-	18	14,5	4	21	•	•	•
27	3	160	36	-	20	16	4	24	•	•	•
30	3,5	180	40	-	22	18	4	26,5	•	•	•
33	3,5	180	40	-	25	20	4	29,5	•	•	
36	4	200	55	-	28	22	4	32	•	•	
39	4	200	60	-	32	24	4	35	•		
42	4,5	200	60	-	32	24	4	37,5	•		
45	4,5	220	65	-	36	29	4	40,5	•		
48	5	250	70	-	36	29	4	43	•		
52	5	250	70	-	40	32	4	47	•		

• = standard execution

See price list on page 5 5 5

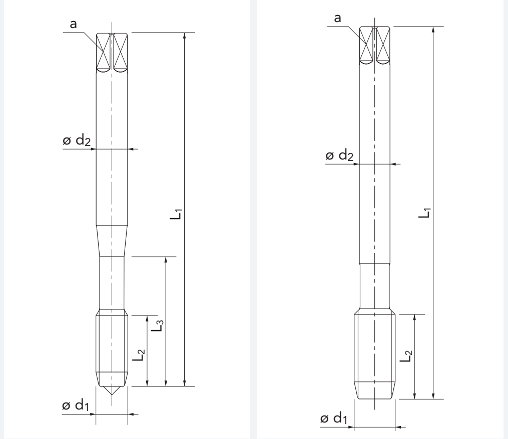
1,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M11



TOOL CODE

	A21 FP BRIGHT	A21 FP TiN	A21 FP LH BRIGHT
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	A (5-6)	A (5-6)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	LH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A21 FP BRIGHT	A21 FP TiN	A21 FP LH BRIGHT
P	P.1		● 20-25	
	P.2	● 10-12	● 15-20	● 10-12
	P.3	● 8-10	● 12-15	● 8-10
K	K.2	● 8-10	● 12-15	● 8-10
N	N.1		● 20-25	
	N.5		● 15-20	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A21 FP BRIGHT	A21 FP TiN	A21 FP LH BRIGHT
M 2	0,4	45	7	11	2,8	2,1	3	1,6	•	•	
2,2	0,45	45	8	13	2,8	2,1	3	1,75	•	•	
2,3	0,4	45	8	13	2,8	2,1	3	1,9	•	•	
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•	
2,6	0,45	50	9	15	2,8	2,1	3	2,1	•	•	
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
3,5	0,6	56	11	20	4	3	3	2,9	•	•	
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
7	1	80	16	29	7	5,5	3	6	•	•	
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
9	1,25	90	18	33	9	7	3	7,8	•	•	
10	1,5	100	20	36	10	8	3	8,5	•	•	•
11	1,5	100	22	-	8	6,2	3	9,5	•	•	
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	3	12	•	•	•
16	2	110	28	-	12	9	3	14	•	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•	•
24	3	160	36	-	18	14,5	4	21	•	•	•
27	3	160	36	-	20	16	4	24	•	•	•
30	3,5	180	40	-	22	18	4	26,5	•	•	•
33	3,5	180	40	-	25	20	4	29,5	•	•	
36	4	200	55	-	28	22	4	32	•	•	
39	4	200	60	-	32	24	4	35	•		
42	4,5	200	60	-	32	24	4	37,5	•		
45	4,5	220	65	-	36	29	4	40,5	•		
48	5	250	70	-	36	29	4	43	•		
52	5	250	70	-	40	32	4	47	•		

• = standard execution

See price list on page 5 5 5

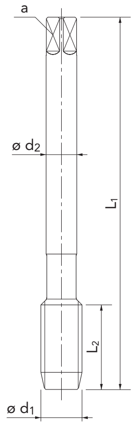
MACHINE TAPS - Straight flutes / through shank

For blind holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



TOOL CODE

	A22 FC BRIGHT	A22 FC TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A22 FC BRIGHT	A22 FC TiN		
P	P.1		● 20-25		
	P.2	● 10-12	● 15-20		
	P.3	● 8-10	● 12-15		
K	K.2	● 8-10	● 12-15		
N	N.1		● 20-25		
	N.5		● 15-20		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A22 FC BRIGHT	A22 FC TiN
M 4	0,7	63	12	-	2,8	2,1	3	3,3	•	•
5	0,8	70	14	-	3,5	2,7	3	4,2	•	•
6	1	80	16	-	4,5	3,4	3	5	•	•
7	1	80	16	-	5,5	4,3	3	6	•	•
8	1,25	90	18	-	6	4,9	3	6,8	•	•
9	1,25	90	18	-	7	5,5	3	7,8	•	•
10	1,5	100	20	-	7	5,5	3	8,5	•	•

• = standard execution

See price list on page 6 6

DIN 13 HSSE 1,5 x D

VERGNANO

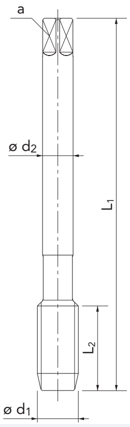
MACHINE TAPS - Straight flutes / through shank

For through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A22 FP BRIGHT	A22 FP TiN		
P	P.1		● 20-25		
	P.2	● 10-12	● 15-20		
	P.3	● 8-10	● 12-15		
K	K.2	● 8-10	● 12-15		
N	N.1		● 20-25		
	N.5		● 15-20		

TOOL CODE

	A22 FP BRIGHT	A22 FP TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	A (5-6)	A (5-6)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A22 FP BRIGHT	A22 FP TiN
M 4	0,7	63	12	-	2,8	2,1	3	3,3	•	•
5	0,8	70	14	-	3,5	2,7	3	4,2	•	•
6	1	80	16	-	4,5	3,4	3	5	•	•
7	1	80	16	-	5,5	4,3	3	6	•	•
8	1,25	90	18	-	6	4,9	3	6,8	•	•
9	1,25	90	18	-	7	5,5	3	7,8	•	•
10	1,5	100	20	-	7	5,5	3	8,5	•	•

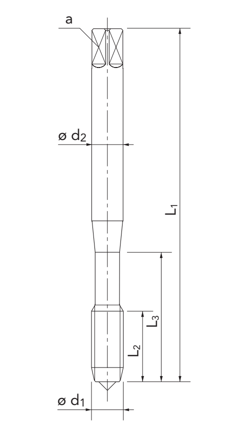
• = standard execution

See price list on page 6 6

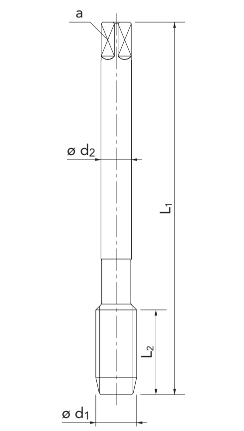
MACHINE TAPS - Straight flutes / for cast iron
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M11



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A43 NITRIDED	A43 TiCN	A43 ACE
K	K.1	• 15-20	• 40-45	• 40-45
N	N.4	• 15-20	• 40-45	• 40-45
	N.7	• 15-20	• 40-45	• 40-45
	N.9-10	• 20-25	• 45-50	• 45-50

TOOL CODE

	A43 NITRIDED	A43 TiCN	A43 ACE
			
Tolerance	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A43 NITRIDED	A43 TiCN	A43 ACE
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
3,5	0,6	56	11	20	4	3	3	2,9	•	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	4	5	•	•	•
7	1	80	16	29	7	5,5	4	6	•	•	•
8	1,25	90	18	33	8	6,2	4	6,8	•	•	•
9	1,25	90	18	33	9	7	4	7,8	•	•	•
10	1,5	100	20	36	10	8	4	8,5	•	•	•
11	1,5	100	22	-	8	6,2	4	9,5	•	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•	•
14	2	110	25	-	11	9	4	12	•	•	•
16	2	110	28	-	12	9	4	14	•	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•	•
24	3	160	36	-	18	14,5	5	21	•	•	•
27	3	160	36	-	20	16	5	24	•	•	•
30	3,5	180	40	-	22	18	5	26,5	•	•	•
33	3,5	180	40	-	25	20	5	29,5	•	•	•
36	4	200	55	-	28	22	5	32	•	•	•

• = standard execution

See price list on page	6	6	6

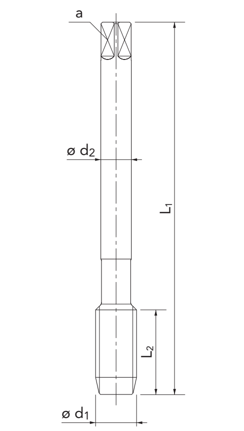
2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes / through shank / for cast iron
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



TOOL CODE

	A44 NITRIDED	A44 TiCN	A44 ACE
			
Tolerance	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A44 NITRIDED	A44 TiCN	A44 ACE
K	K.1	● 15-20	● 40-45	● 40-45
N	N.4	● 15-20	● 40-45	● 40-45
	N.7	● 15-20	● 40-45	● 40-45
	N.9-10	● 20-25	● 45-50	● 45-50

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A44 NITRIDED	A44 TiCN	A44 ACE
M 4	0,7	63	12	-	2,8	2,1	3	3,3	•	•	•
5	0,8	70	14	-	3,5	2,7	3	4,2	•	•	•
6	1	80	16	-	4,5	3,4	4	5	•	•	•
8	1,25	90	18	-	6	4,9	4	6,8	•	•	•
10	1,5	100	20	-	7	5,5	4	8,5	•	•	•

• = standard execution

See price list on page 6 6 6

MACHINE TAPS - Straight flutes / interrupted thread / for light alloys

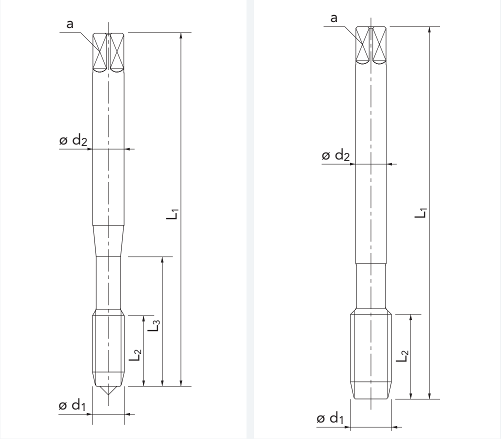
For blind and through holes

ISO Metric coarse thread - DIN 13

2,5 x D | DIN 13 | HSSE

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A67 BRIGHT	A67 TiH1		
P	P.1	● 12-15	● 20-25		
N	N.1	● 12-15	● 20-25		
	N.2	● 10-12	● 15-20		
	N.5	● 10-12	● 15-20		
	N.6	● 8-10	● 12-15		

TOOL CODE

	A67 BRIGHT	A67 TiH1
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A67 BRIGHT	A67 TiH1
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•
14	2	110	25	-	11	9	3	12	•	•
16	2	110	28	-	12	9	3	14	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•
20	2,5	140	32	-	16	12	3	17,5	•	•

• = standard execution

See price list on page 7 7

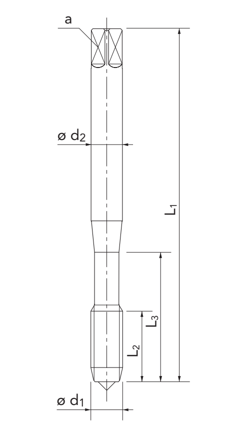
2,5 x D | DIN 13 | HSSK

VERGNANO

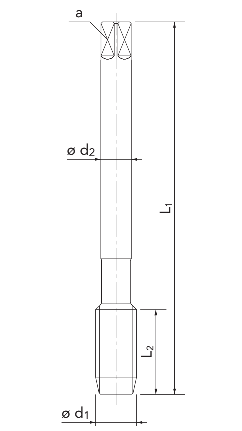
MACHINE TAPS - Straight flutes / for titanium alloys
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A110 VAP	A110 CrN		
S	S.1	● 6-8	● 10-12		
	S.2	● 3-5	● 6-8		

TOOL CODE

	A110 VAP	A110 CrN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A110 VAP	A110 CrN
M 2	0,4	45	7	11	2,8	2,1	3	1,6	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	4	5	•	•
8	1,25	90	18	33	8	6,2	4	6,8	•	•
10	1,5	100	20	36	10	8	4	8,5	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•
14	2	110	25	-	11	9	4	12	•	•
16	2	110	28	-	12	9	4	14	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•

• = standard execution

See price list on page 7 7

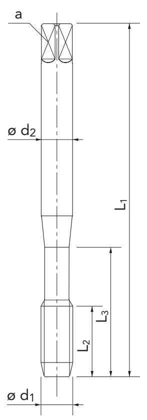
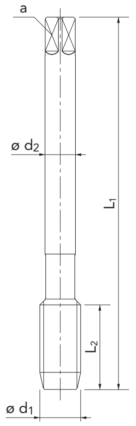
1,5xD DIN 13 HSSP

VERGNANO

M

MACHINE TAPS - Straight flutes / for high resistance materials
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A130 BRIGHT	A130 ACE		
P	P.6	● 2-3	● 5-8		
N	N.8	● 3-5	● 8-10		

TOOL CODE

	A130 BRIGHT	A130 ACE		
				
Tolerance	6HX	6HX		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5xD	1,5xD		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A130 BRIGHT	A130 ACE
M 4	0,7	63	12	21	4,5	3,4	4	3,4 (*)	•	•
5	0,8	70	14	24,5	6	4,9	4	4,3 (*)	•	•
6	1	80	16	29	6	4,9	5	5,1 (*)	•	•
8	1,25	90	18	33	8	6,2	5	6,9 (*)	•	•
10	1,5	100	20	36	10	8	5	8,6 (*)	•	•
12	1,75	110	24	-	9	7	5	10,4 (*)	•	•
14	2	110	25	-	11	9	5	12,2 (*)	•	•
16	2	110	28	-	12	9	5	14,2 (*)	•	•

• = standard execution
(*)= The hole diameters are oversized.

See price list on page 7 7

A

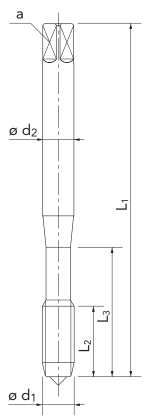
2,5 x D | DIN 13 | HSSE

VERGNANO

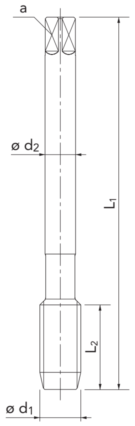
MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 BRIGHT	A15 VAP	A15 TiN	
P	P.1	● 18-20	● 18-20	● 30-35	
	P.2	● 15-18	● 15-18	● 25-30	
N	N.1	● 18-20	● 18-20		
	N.2	● 15-18	● 15-18	● 25-30	
	N.5	● 15-18	● 15-18		
	N.6	● 12-15	● 12-15	● 20-25	

TOOL CODE

	A15 BRIGHT	A15 VAP	A15 TiN	
				
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	
Chamfer form	B (4-5)	B (4-5)	B (4-5)	
Hole type	2,5 x D	2,5 x D	2,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 BRIGHT	A15 VAP	A15 TiN
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
3,5	0,6	56	11	20	4	3	3	2,9	•	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	3	12	•	•	•
16	2	110	28	-	12	9	3	14	•	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•	•
24	3	160	36	-	18	14,5	4	21	•	•	•
27	3	160	36	-	20	16	4	24	•	•	•
30	3,5	180	40	-	22	18	4	26,5	•	•	•

• = standard execution

See price list on page 8 8 8

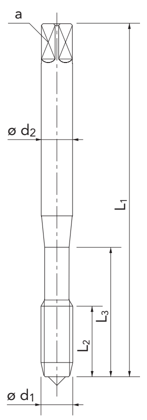
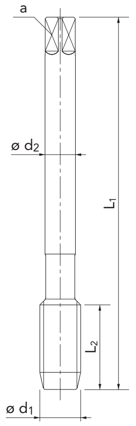
MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

2,5 x D | DIN 13 | HSSE

M

A

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 6G BRIGHT	A15 6G TiN		
P	P.1	• 18-20	• 30-35		
	P.2	• 15-18	• 25-30		
N	N.1	• 18-20			
	N.2	• 15-18	• 25-30		
	N.5	• 15-18			
	N.6	• 12-15	• 20-25		

TOOL CODE

	A15 6G BRIGHT	A15 6G TiN
		
Tolerance	ISO3 6G	ISO3 6G
Chamfer form	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 6G BRIGHT	A15 6G TiN
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•
14	2	110	25	-	11	9	3	12	•	•
16	2	110	28	-	12	9	3	14	•	•

• = standard execution

See price list on page 8 8

M

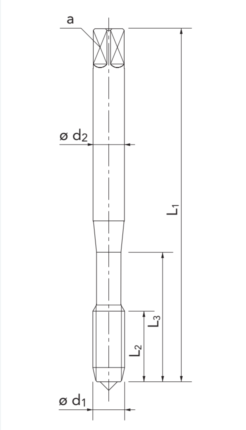
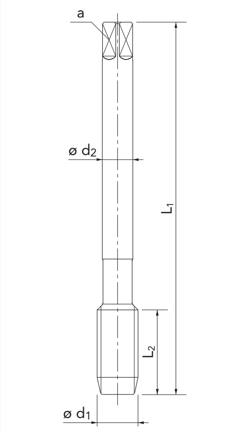
2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes with spiral point / interrupted thread
For through holes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 AZ BRIGHT	A15 AZ TiH1		
P	P.1	● 18-20	● 30-35		
N	N.1	● 18-20	● 30-40		
	N.2	● 15-18	● 30-40		
	N.5	● 15-18	● 30-35		
	N.6	● 12-15	● 30-35		

TOOL CODE

	A15 AZ BRIGHT	A15 AZ TiH1		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	B (4-5)	B (4-5)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 AZ BRIGHT	A15 AZ TiH1
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•
14	2	110	25	-	11	9	3	12	•	•
16	2	110	28	-	12	9	3	14	•	•

• = standard execution

See price list on page 8 8

2,5 x D | DIN 13 | HSSE

VERGNANO

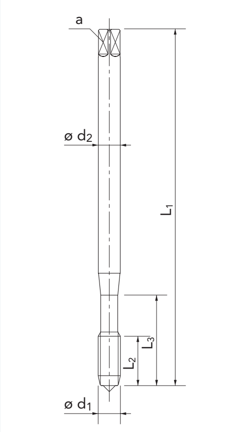
M

MACHINE TAPS - Straight flutes with spiral point / long shank
For through holes
ISO Metric coarse thread - DIN 13

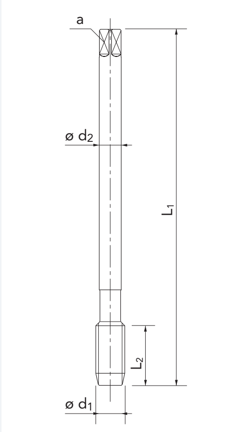
A

TAP DIMENSIONS

≤M10



≥M12



TOOL CODE

	A15 L BRIGHT	A15 L TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	B (4-5)	B (4-5)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 L BRIGHT	A15 L TiN		
P	P.1	● 18-20	● 30-35		
	P.2	● 15-18	● 25-30		
	P.3	● 12-15	● 20-25		
N	N.1	● 18-20			
	N.2	● 15-18	● 25-30		
	N.5	● 15-18			
	N.6	● 12-15	● 20-25		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 L BRIGHT	A15 L TiN		
M 3	0,5	112	10	18	3,5	2,7	3	2,5	•	•		
4	0,7	112	12	21	4,5	3,4	3	3,3	•	•		
5	0,8	125	14	24,5	6	4,9	3	4,2	•	•		
6	1	125	16	29	6	4,9	3	5	•	•		
8	1,25	140	18	33	8	6,2	3	6,8	•	•		
10	1,5	160	20	36	10	8	3	8,5	•	•		
12	1,75	180	24	-	9	7	3	10,2	•	•		
16	2	200	28	-	12	9	3	14	•	•		
20	2,5	225	32	-	16	12	4	17,5	•	•		

• = standard execution

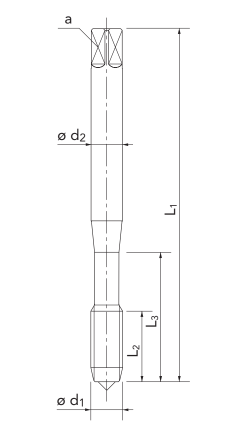
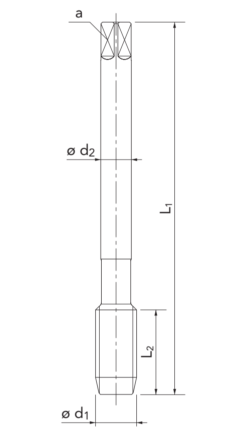
See price list on page 8 8

2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M11
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 S BRIGHT	A15 S VAP	A15 S TiN	A15 S TiCN
P	P.2	• 20-25	• 20-25	• 30-35	• 30-35
	P.3	• 15-20	• 15-20	• 25-30	• 25-30
	P.4	• 12-15	• 12-15	• 20-25	• 20-25
	P.5			• 10-15	• 10-15
	P.7			• 10-15	• 10-15
M	M.1			• 10-15	• 10-15
K	K.2	• 15-20	• 15-20	• 25-30	• 25-30
N	N.2-3	• 20-25	• 20-25	• 30-35	• 30-35
	N.6	• 15-18	• 15-18	• 25-30	• 25-30

TOOL CODE

	A15 S BRIGHT	A15 S VAP	A15 S TiN	A15 S TiCN
				
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 S BRIGHT	A15 S VAP	A15 S TiN	A15 S TiCN
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•	•	•
2,2	0,45	45	8	13	2,8	2,1	2	1,75	•	•	•	
2,3	0,4	45	8	13	2,8	2,1	2	1,9	•	•	•	
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•	•	•
2,6	0,45	50	9	15	2,8	2,1	3	2,1	•	•	•	
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•	•
3,5	0,6	56	11	20	4	3	3	2,9	•	•	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•	•
7	1	80	16	29	7	5,5	3	6	•	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•	•
9	1,25	90	18	33	9	7	3	7,8	•	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•	•
11	1,5	100	22	-	8	6,2	3	9,5	•	•	•	
12	1,75	110	24	-	9	7	4	10,2	•	•	•	•
14	2	110	25	-	11	9	4	12	•	•	•	•
16	2	110	28	-	12	9	4	14	•	•	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•	•	•
24	3	160	36	-	18	14,5	4	21	•	•	•	•
27	3	160	36	-	20	16	4	24	•	•	•	•
30	3,5	180	40	-	22	18	4	26,5	•	•	•	•
33	3,5	180	40	-	25	20	5	29,5	•		•	
36	4	200	55	-	28	22	5	32	•		•	
39	4	200	60	-	32	24	5	35	•			
42	4,5	200	60	-	32	24	5	37,5	•			
45	4,5	220	65	-	36	29	5	40,5	•			
48	5	250	70	-	36	29	5	43	•			
52	5	250	70	-	40	32	5	47	•			
See price list on page									9	9	9	9

• = standard execution

2,5 x D DIN 13 HSSE

VERGNANO

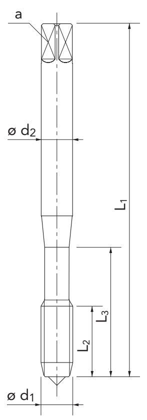
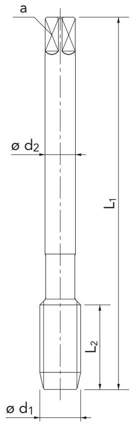
M

MACHINE TAPS - Straight flutes with spiral point

For through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	A15 S 4H BRIGHT	A15 S 4H TiN		
				
Tolerance	ISO1 4H	ISO1 4H		
Chamfer form	B (4-5)	B (4-5)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

A

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 S 4H BRIGHT	A15 S 4H TiN		
P	P.2	● 20-25	● 30-35		
	P.3	● 15-20	● 25-30		
	P.4	● 12-15	● 20-25		
	P.5		● 10-15		
	P.7		● 10-15		
M	M.1		● 10-15		
K	K.2	● 15-20	● 25-30		
N	N.2-3	● 20-25	● 30-35		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 S 4H BRIGHT	A15 S 4H TiN
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•
14	2	110	25	-	11	9	4	12	•	•
16	2	110	28	-	12	9	4	14	•	•

• = standard execution

See price list on page 9 9

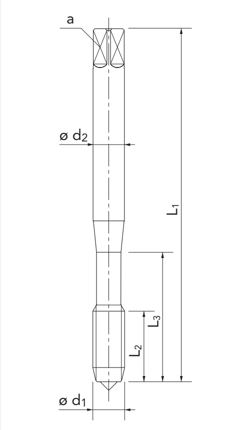
2,5 x D | DIN 13 | HSSE

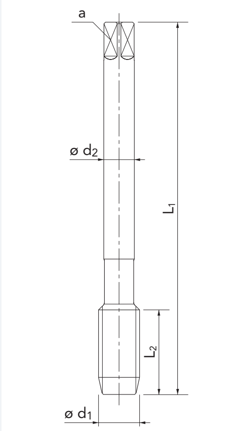
VERGNANO

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12





APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 S 6G BRIGHT	A15 S 6G TiN		
P	P.2	● 20-25	● 30-35		
	P.3	● 15-20	● 25-30		
	P.4	● 12-15	● 20-25		
	P.5		● 10-15		
	P.7		● 10-15		
M	M.1		● 10-15		
K	K.2	● 15-20	● 25-30		
N	N.2-3	● 20-25	● 30-35		
	N.6	● 15-18	● 25-30		

TOOL CODE

	A15 S 6G BRIGHT	A15 S 6G TiN		
				
Tolerance	ISO3 6G	ISO3 6G		
Chamfer form	B (4-5)	B (4-5)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 S 6G BRIGHT	A15 S 6G TiN
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•
14	2	110	25	-	11	9	4	12	•	•
16	2	110	28	-	12	9	4	14	•	•

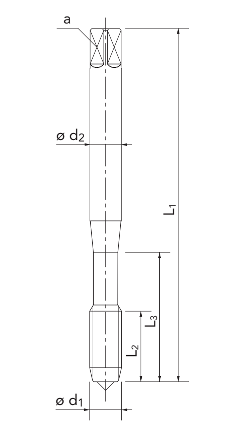
• = standard execution

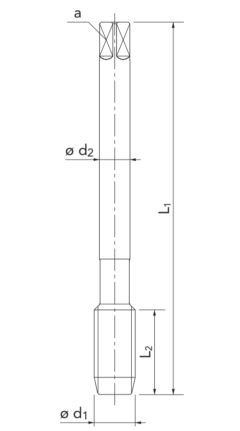
See price list on page 9 9

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M12





TOOL CODE

	A15 S 7G BRIGHT	A15 S 7G TiN
Tolerance	7G	7G
Chamfer form	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A15 S 7G BRIGHT	A15 S 7G TiN		
P	P.2	● 20-25	● 30-35		
	P.3	● 15-20	● 25-30		
	P.4	● 12-15	● 20-25		
	P.5		● 10-15		
	P.7		● 10-15		
M	M.1		● 10-15		
K	K.2	● 15-20	● 25-30		
N	N.2-3	● 20-25	● 30-35		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 S 7G BRIGHT	A15 S 7G TiN
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•
14	2	110	25	-	11	9	4	12	•	•
16	2	110	28	-	12	9	4	14	•	•

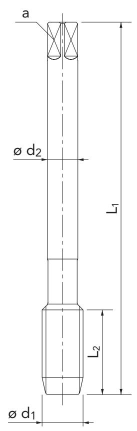
• = standard execution

See price list on page 9 9

MACHINE TAPS - Straight flutes with spiral point / through shank
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



TOOL CODE

	A16 S BRIGHT	A16 S TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A16 S BRIGHT	A16 S TiN		
P	P.2	• 20-25	• 30-35		
	P.3	• 15-20	• 25-30		
	P.4	• 12-15	• 20-25		
	P.5		• 10-15		
	P.7		• 10-15		
M	M.1		• 10-15		
K	K.2	• 15-20	• 25-30		
N	N.2-3	• 20-25	• 30-35		
	N.6	• 15-18	• 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A16 S BRIGHT	A16 S TiN
M 4	0,7	63	12	-	2,8	2,1	3	3,3	•	•
5	0,8	70	14	-	3,5	2,7	3	4,2	•	•
6	1	80	16	-	4,5	3,4	3	5	•	•
7	1	80	16	-	5,5	4,3	3	6	•	•
8	1,25	90	18	-	6	4,9	3	6,8	•	•
9	1,25	90	18	-	7	5,5	3	7,8	•	•
10	1,5	100	20	-	7	5,5	3	8,5	•	•

• = standard execution

See price list on page 10 10

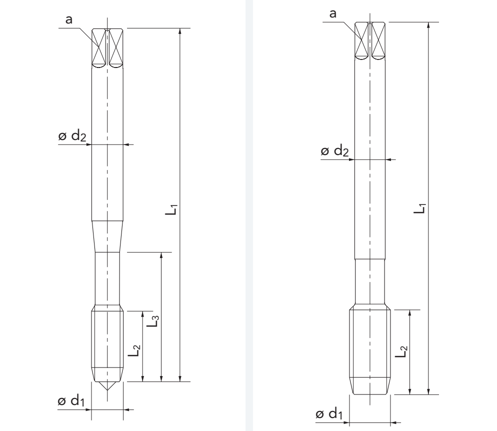
MACHINE TAPS - Straight flutes with spiral point / for stainless steel

For through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A150 VAP	A150 TiX2		
P	P.7	● 10-12	● 18-20		
M	M.1	● 10-12	● 18-20		
	M.2	● 8-10	● 10-12		

TOOL CODE

	A150 VAP	A150 TiX2		
Tolerance	6HX	6HX		
Chamfer form	B (4-5)	B (4-5)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A150 VAP	A150 TiX2		
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•		
3,5	0,6	56	11	16	4	3	3	2,9	•	•		
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•		
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•		
6	1	80	16	29	6	4,9	3	5	•	•		
8	1,25	90	18	33	8	6,2	3	6,8	•	•		
10	1,5	100	20	36	10	8	3	8,5	•	•		
12	1,75	110	24	-	9	7	3	10,2	•	•		
14	2	110	25	-	11	9	3	12	•	•		
16	2	110	28	-	12	9	3	14	•	•		
18	2,5	125	32	-	14	11	4	15,5	•	•		
20	2,5	140	32	-	16	12	4	17,5	•	•		

• = standard execution

See price list on page 10 10

M

1 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight lubrication grooves with spiral point

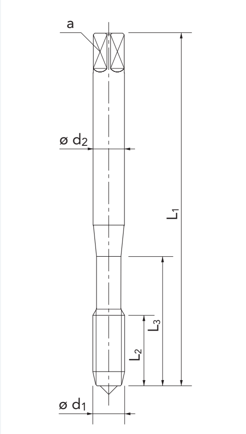
For through holes

ISO Metric coarse thread - DIN 13

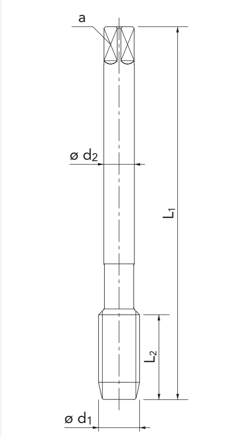
A

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



TOOL CODE

	A51 BRIGHT	A51 TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	B (4-5)	B (4-5)		
Hole type	1 x D	1 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A51 BRIGHT	A51 TiN		
P	P.1	● 18-20	● 30-35		
	P.2	● 15-18	● 25-30		
	P.3	● 12-15	● 20-25		
N	N.1	● 18-20	● 30-35		
	N.2	● 15-18	● 25-30		
	N.5	● 15-18			
	N.6	● 12-15	● 20-25		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	(drill) [mm]	A51 BRIGHT	A51 TiN		
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•		
2,2	0,45	45	8	13	2,8	2,1	2	1,75	•	•		
2,3	0,4	45	8	13	2,8	2,1	2	1,9	•	•		
2,5	0,45	50	9	15	2,8	2,1	2	2,05	•	•		
2,6	0,45	50	9	15	2,8	2,1	2	2,1	•	•		
3	0,5	56	10	18	3,5	2,7	2	2,5	•	•		
3,5	0,6	56	11	20	4	3	2	2,9	•	•		
4	0,7	63	12	21	4,5	3,4	2	3,3	•	•		
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•		
6	1	80	16	29	6	4,9	3	5	•	•		
8	1,25	90	18	33	8	6,2	3	6,8	•	•		
10	1,5	100	20	36	10	8	3	8,5	•	•		
12	1,75	110	24	-	9	7	3	10,2	•	•		

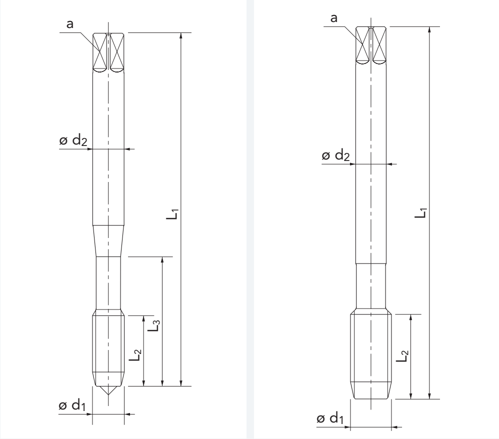
• = standard execution

See price list on page 10 10

MACHINE TAPS - 15° Spiral flutes
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M11



TOOL CODE

	A29 BRIGHT	A29 VAP	A29 TiN

	A29 BRIGHT	A29 VAP	A29 TiN
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A29 BRIGHT	A29 VAP	A29 TiN
P	P.1	● 18-20	● 18-20	● 30-35
	P.2	● 15-18	● 15-18	● 25-30
	P.3	● 12-15	● 12-15	● 20-25
	P.4	● 10-12	● 10-12	● 15-20
	P.5			● 5-10
K	K.2	● 12-15	● 12-15	● 20-25
N	N.1	● 18-20	● 18-20	
	N.2-3	● 15-18	● 15-18	● 25-30
	N.5	● 15-18	● 15-18	
	N.6	● 12-15	● 12-15	● 20-25

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A29 BRIGHT	A29 VAP	A29 TiN
M 2	0,4	45	7	11	2,8	2,1	3	1,6	•	•	•
2,2	0,45	45	8	13	2,8	2,1	3	1,75	•		
2,3	0,4	45	8	13	2,8	2,1	3	1,9	•		
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•	•
2,6	0,45	50	9	15	2,8	2,1	3	2,1	•		
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
3,5	0,6	56	11	20	4	3	3	2,9	•	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
4,5	0,75	70	14	24,5	6	4,9	3	3,7	•		
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
7	1	80	16	29	7	5,5	3	6	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
9	1,25	90	18	33	9	7	3	7,8	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•
11	1,5	100	22	-	8	6,2	3	9,5	•		
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	3	12	•	•	•
16	2	110	28	-	12	9	3	14	•	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•	•
24	3	160	36	-	18	14,5	4	21	•	•	•
27	3	160	36	-	20	16	4	24	•	•	•
30	3,5	180	40	-	22	18	4	26,5	•	•	•
33	3,5	180	40	-	25	20	5	29,5	•	•	•
36	4	200	56	-	28	22	5	32	•		
39	4	200	60	-	32	24	5	35	•		
42	4,5	200	60	-	32	24	5	37,5	•		
45	4,5	220	65	-	36	29	5	40,5	•		
48	5	250	70	-	36	29	5	43	•		
52	5	250	70	-	40	32	5	47	•		

• = standard execution

See price list on page 11 11

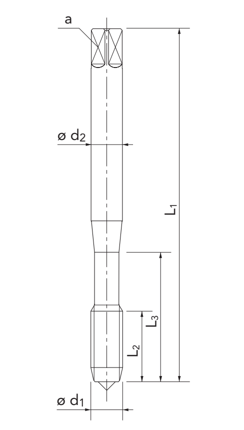
R15 | 1,5 x D | DIN 13 | HSSE

VERGNANO

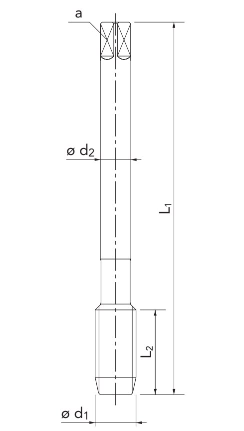
MACHINE TAPS - 15° Spiral flutes
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A29 6G BRIGHT	A29 6G TiN		
P	P.1	• 18-20	• 30-35		
	P.2	• 15-18	• 25-30		
	P.3	• 12-15	• 20-25		
	P.4	• 10-12	• 15-20		
	P.5		• 5-10		
K	K.2	• 12-15	• 20-25		
N	N.1	• 18-20			
	N.2-3	• 15-18	• 25-30		
	N.5	• 15-18			
	N.6	• 12-15	• 20-25		

TOOL CODE

	A29 6G BRIGHT	A29 6G TiN		
				
Tolerance	ISO3 6G	ISO3 6G		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A29 6G BRIGHT	A29 6G TiN
M 2	0,4	45	7	11	2,8	2,1	3	1,6	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•
14	2	110	25	-	11	9	3	12	•	•

• = standard execution

See price list on page 11 11

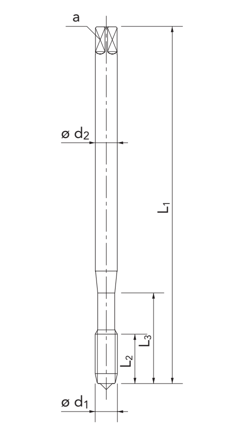
MACHINE TAPS - 15° Spiral flutes / long shank / back tapered

For blind holes

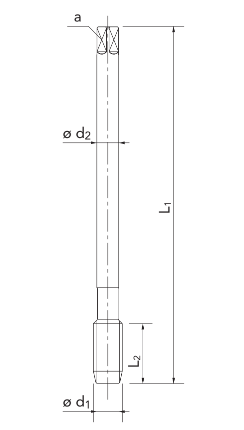
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

≤M10



≥M12



TOOL CODE

	A29 L BRIGHT	A29 L TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A29 L BRIGHT	A29 L TiN		
P	P.1	● 18-20	● 30-35		
	P.2	● 15-18	● 25-30		
	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
K	K.2	● 12-15	● 20-25		
N	N.1	● 18-20			
	N.2-3	● 15-18	● 25-30		
	N.5	● 15-18			
	N.6	● 12-15	● 20-25		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A29 L BRIGHT	A29 L TiN		
M 4	0,7	112	12	21	4,5	3,4	3	3,3	•	•		
5	0,8	125	14	24,5	6	4,9	3	4,2	•	•		
6	1	125	16	29	6	4,9	3	5	•	•		
8	1,25	140	18	33	8	6,2	3	6,8	•	•		
10	1,5	160	20	36	10	8	3	8,5	•	•		
12	1,75	180	24	-	9	7	3	10,2	•	•		

• = standard execution

See price list on page 11 11

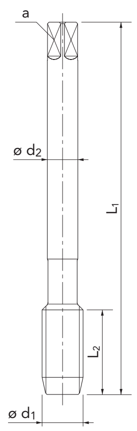
R15 | 1,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - 15° Spiral flutes / through shank
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A29 DIN 376 BRIGHT	A29 DIN 376 TiN		
P	P.1	● 18-20	● 30-35		
	P.2	● 15-18	● 25-30		
	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
K	K.2	● 12-15	● 20-25		
N	N.1	● 18-20			
	N.2-3	● 15-18	● 25-30		
	N.5	● 15-18			
	N.6	● 12-15	● 20-25		

TOOL CODE

	A29 DIN 376 BRIGHT	A29 DIN 376 TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A29 DIN 376 BRIGHT	A29 DIN 376 TiN
M 5	0,8	70	14	-	3,5	2,7	3	4,2	•	•
6	1	80	16	-	4,5	3,4	3	5	•	•
8	1,25	90	18	-	6	4,9	3	6,8	•	•
10	1,5	100	20	-	7	5,5	3	8,5	•	•

• = standard execution

See price list on page 11 11

R15 | 1,5 x D | DIN 13 | HSSK

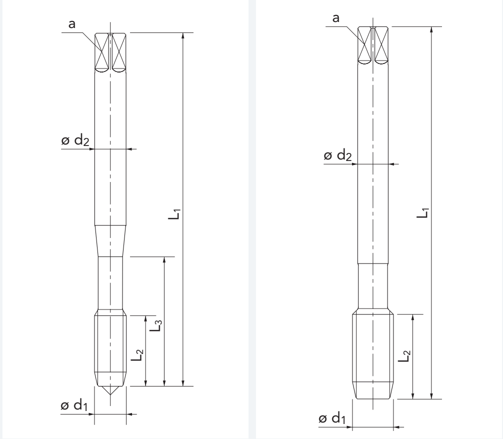
M

A

MACHINE TAPS - 15° Spiral flutes
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M12



TOOL CODE

	A29 K BRIGHT	A29 K TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A29 K BRIGHT	A29 K TiN
P	P.1	● 18-20	● 30-35
	P.2	● 15-18	● 25-30
	P.3	● 12-15	● 20-25
	P.4	● 10-12	● 15-20
	P.5		● 5-10
K	K.2	● 12-15	● 20-25
N	N.1	● 18-20	
	N.2-3	● 15-18	● 25-30
	N.5	● 15-18	
	N.6	● 12-15	● 20-25

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A29 K BRIGHT	A29 K TiN
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•
14	2	110	25	-	11	9	3	12	•	•
16	2	110	28	-	12	9	3	14	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•

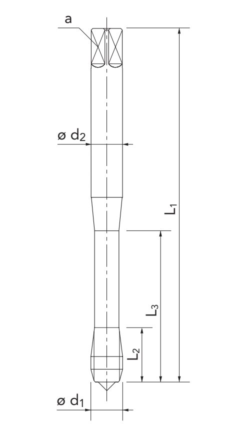
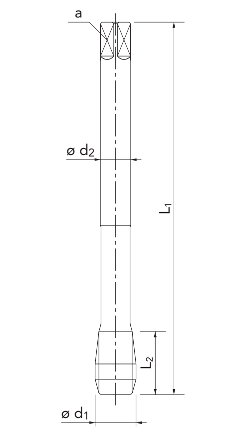
• = standard execution

See price list on page 12 12

R40 | 2,5 x D | DIN 13 | HSSE

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	A70 BRIGHT	A70 VAP	A70 TiN
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 BRIGHT	A70 VAP	A70 TiN
P	P.1	● 12-15	● 12-15	● 25-30
	P.2	● 10-15	● 10-15	● 20-25
N	N.1	● 12-15	● 12-15	
	N.2	● 12-15	● 12-15	● 25-30
	N.5	● 10-12	● 10-12	
	N.6	● 10-12	● 10-12	● 20-25

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	(drill) [mm]	A70 BRIGHT	A70 VAP	A70 TiN
M 2	0,4	45	6	12	2,8	2,1	3	1,6	•	•	•
2,5	0,45	50	6,5	15	2,8	2,1	3	2,05	•	•	•
3	0,5	56	7	15	3,5	2,7	3	2,5	•	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•	•
6	1	80	12	29	6	4,9	3	5	•	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•	•
14	2	110	20,5	-	11	9	4	12	•	•	•
16	2	110	20,5	-	12	9	4	14	•	•	•
18	2,5	125	25,5	-	14	11	4	15,5	•	•	•
20	2,5	140	29,5	-	16	12	4	17,5	•	•	•
22	2,5	140	29,5	-	18	14,5	4	19,5	•	•	•
24	3	160	35,5	-	18	14,5	4	21	•	•	•
27	3	160	37,5	-	20	16	4	24	•	•	•
30	3,5	180	42	-	22	18	4	26,5	•	•	•
33	3,5	180	43,5	-	25	20	4	29,5	•	•	•
36	4	200	47	-	28	22	4	32	•	•	•

• = standard execution

See price list on page 12 | 12 | 12

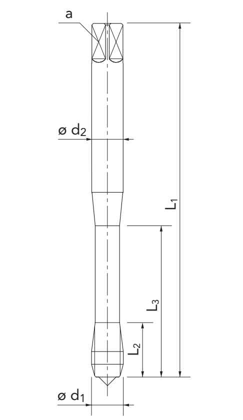
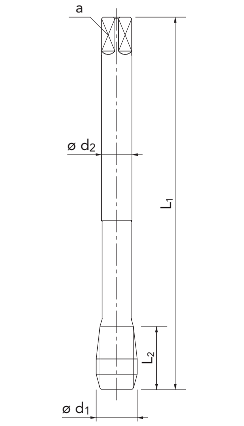
R40 | 2,5 x D | DIN 13 | HSSE

VERGNANO

M

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	A70 6G BRIGHT	A70 6G VAP	A70 6G TiN
			
Tolerance	ISO3 6G	ISO3 6G	ISO3 6G
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 6G BRIGHT	A70 6G VAP	A70 6G TiN
P	P.1	● 12-15	● 12-15	● 25-30
	P.2	● 10-15	● 10-15	● 20-25
N	N.1	● 12-15	● 12-15	
	N.2	● 12-15	● 12-15	● 25-30
	N.5	● 10-12	● 10-12	
	N.6	● 10-12	● 10-12	● 20-25

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 6G BRIGHT	A70 6G VAP	A70 6G TiN
M 2	0,4	45	6	12	2,8	2,1	3	1,6	•	•	•
2,5	0,45	50	6,5	15	2,8	2,1	3	2,05	•	•	•
3	0,5	56	7	15	3,5	2,7	3	2,5	•	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•	•
6	1	80	12	29	6	4,9	3	5	•	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•	•

• = standard execution

See price list on page 12 12 12

A

R40 | 2,5 x D | DIN 13 | HSSE

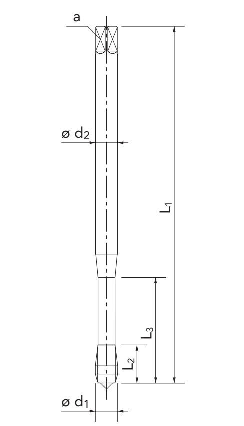
MACHINE TAPS - 40° Spiral flutes / back tapered / long shank

For blind holes

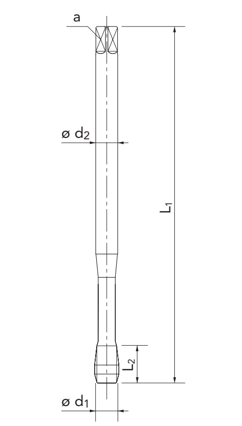
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

≤M10



≥M12



TOOL CODE

	A70 L BRIGHT	A70 L TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 L BRIGHT	A70 L TiN		
P	P.1	● 12-15	● 25-30		
	P.2	● 10-15	● 20-25		
N	N.1	● 12-15			
	N.2	● 12-15	● 25-30		
	N.5	● 10-12			
	N.6	● 10-12	● 20-25		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 L BRIGHT	A70 L TiN		
M 3	0,5	112	7	15	3,5	2,7	3	2,5	•	•		
4	0,7	112	8,5	21	4,5	3,4	3	3,3	•	•		
5	0,8	125	10	24,5	6	4,9	3	4,2	•	•		
6	1	125	12	29	6	4,9	3	5	•	•		
8	1,25	140	15	33	8	6,2	3	6,8	•	•		
10	1,5	160	17,5	38	10	8	3	8,5	•	•		
12	1,75	180	18	-	9	7	4	10,2	•	•		
16	2	200	20,5	-	12	9	4	14	•	•		
20	2,5	225	29,5	-	16	12	4	17,5	•	•		

• = standard execution

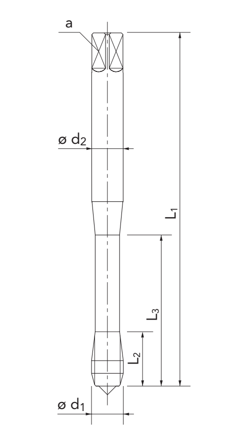
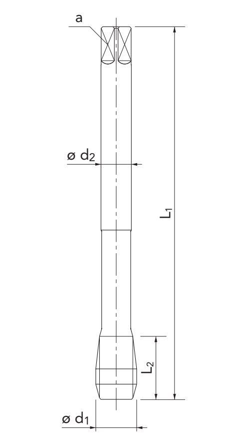
See price list on page 12 12

MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	A70 K BRIGHT	A70 K TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 K BRIGHT	A70 K TiN		
P	P.1	● 12-15	● 25-30		
	P.2	● 10-15	● 20-25		
	P.3	● 8-10	● 15-20		
K	K.2	● 8-10	● 15-20		
N	N.1	● 12-15			
	N.2	● 12-15	● 25-30		
	N.5	● 10-12			
	N.6	● 10-12	● 20-25		

$Ød_1$ [mm]	P [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	$Ød_2$ h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 K BRIGHT	A70 K TiN		
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•		
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•		
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•		
6	1	80	12	29	6	4,9	3	5	•	•		
8	1,25	90	15	33	8	6,2	3	6,8	•	•		
10	1,5	100	17,5	38	10	8	3	8,5	•	•		
12	1,75	110	18	-	9	7	4	10,2	•	•		
14	2	110	20,5	-	11	9	4	12	•	•		
16	2	110	20,5	-	12	9	4	14	•	•		
18	2,5	125	25,5	-	14	11	4	15,5	•	•		
20	2,5	140	29,5	-	16	12	4	17,5	•	•		

• = standard execution

See price list on page 13 13

M

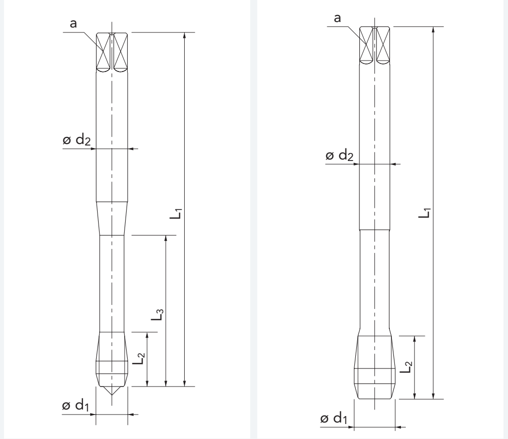
R40 | 2,5 x D | DIN 13 | HSSE

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M11



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 S BRIGHT	A70 S VAP	A70 S TiN	A70 S TiCN
P	P.3	● 12-15	● 12-15	● 20-25	● 20-25
	P.4	● 10-12	● 10-12	● 15-20	● 15-20
	P.5			● 5-10	● 5-10
	P.7			● 8-10	● 8-10
M	M.1			● 8-10	● 8-10
K	K.2	● 12-15	● 12-15	● 20-25	● 20-25
N	N.3	● 15-18	● 15-18	● 25-30	● 25-30
	N.6	● 15-18	● 15-18	● 25-30	● 25-30

TOOL CODE

	A70 S BRIGHT	A70 S VAP	A70 S TiN	A70 S TiCN

	A70 S BRIGHT	A70 S VAP	A70 S TiN	A70 S TiCN
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 S BRIGHT	A70 S VAP	A70 S TiN	A70 S TiCN
M 2	0,4	45	6	12	2,8	2,1	3	1,6	•	•	•	•
2,5	0,45	50	6,5	15	2,8	2,1	3	2,05	•	•	•	•
3	0,5	56	7	15	3,5	2,7	3	2,5	•	•	•	•
3,5	0,6	56	8	18,5	4	3	3	2,9	•	•	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•	•	•
6	1	80	12	29	6	4,9	3	5	•	•	•	•
7	1	80	12	29	7	5,5	3	6	•	•	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•	•	•
9	1,25	90	15	33	9	7	3	7,8	•	•	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•	•	•
11	1,5	100	17,5	-	8	6,2	3	9,5	•	•	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•	•	•
14	2	110	20,5	-	11	9	4	12	•	•	•	•
16	2	110	20,5	-	12	9	4	14	•	•	•	•
18	2,5	125	25,5	-	14	11	4	15,5	•	•	•	•
20	2,5	140	29,5	-	16	12	4	17,5	•	•	•	•
22	2,5	140	29,5	-	18	14,5	4	19,5	•	•	•	•
24	3	160	35,5	-	18	14,5	4	21	•	•	•	•
27	3	160	37,5	-	20	16	5	24	•	•	•	•
30	3,5	180	42	-	22	18	5	26,5	•	•	•	•
33	3,5	180	43,5	-	25	20	5	29,5	•	•	•	
36	4	200	47	-	28	22	5	32	•	•	•	
42	4,5	200	55	-	32	24	6	37,5	•			
48	5	250	59,5	-	36	29	6	43	•			
52	5	250	59,5	-	40	32	6	47	•			

• = standard execution

See price list on page 13 13 13 13

R40 | 2,5 x D | DIN 13 | HSSE

VERGNANO

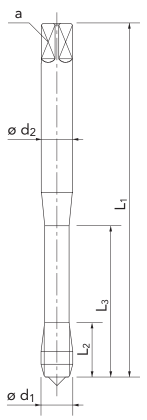
M

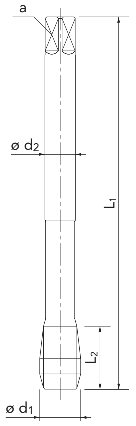
MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M12





TOOL CODE

	A70 S 4H BRIGHT	A70 S 4H TiN		
Tolerance	ISO1 4H	ISO1 4H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 S 4H BRIGHT	A70 S 4H TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 S 4H BRIGHT	A70 S 4H TiN		
M 2	0,4	45	6	12	2,8	2,1	3	1,6	•	•		
2,5	0,45	50	6,5	15	2,8	2,1	3	2,05	•	•		
3	0,5	56	7	15	3,5	2,7	3	2,5	•	•		
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•		
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•		
6	1	80	12	29	6	4,9	3	5	•	•		
8	1,25	90	15	33	8	6,2	3	6,8	•	•		
10	1,5	100	17,5	38	10	8	3	8,5	•	•		
12	1,75	110	18	-	9	7	4	10,2	•	•		

• = standard execution

See price list on page 13 13

M

R40 | 2,5 x D | DIN 13 | HSSE

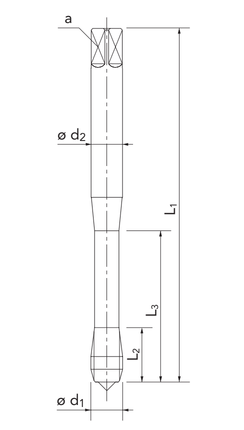
VERGNANO

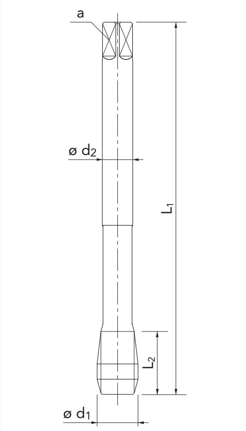
MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M12





TOOL CODE

	A70 S 6G BRIGHT	A70 S 6G TiN		

	A70 S 6G BRIGHT	A70 S 6G TiN		
Tolerance	ISO3 6G	ISO3 6G		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH 	RH 		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 S 6G BRIGHT	A70 S 6G TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	(drill) [mm]	A70 S 6G BRIGHT	A70 S 6G TiN		
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•		
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•		
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•		
6	1	80	12	29	6	4,9	3	5	•	•		
8	1,25	90	15	33	8	6,2	3	6,8	•	•		
10	1,5	100	17,5	38	10	8	3	8,5	•	•		
12	1,75	110	18	-	9	7	4	10,2	•	•		
14	2	110	20,5	-	11	9	4	12	•	•		
16	2	110	20,5	-	12	9	4	14	•	•		

• = standard execution

See price list on page 13 13

R40 | 2,5 x D | DIN 13 | HSSE

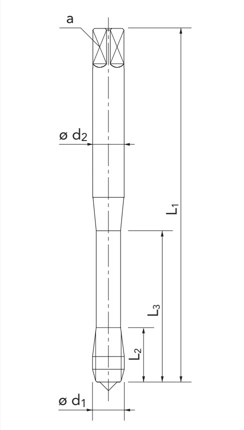
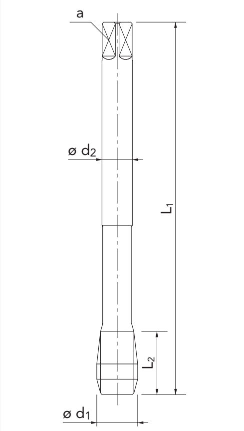
VERGNANO

M

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	A70 S 7G BRIGHT	A70 S 7G TiN		
				
Tolerance	7G	7G		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 S 7G BRIGHT	A70 S 7G TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 S 7G BRIGHT	A70 S 7G TiN		
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•		
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•		
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•		
6	1	80	12	29	6	4,9	3	5	•	•		
8	1,25	90	15	33	8	6,2	3	6,8	•	•		
10	1,5	100	17,5	38	10	8	3	8,5	•	•		
12	1,75	110	18	-	9	7	4	10,2	•	•		
14	2	110	20,5	-	11	9	4	12	•	•		
16	2	110	20,5	-	12	9	4	14	•	•		

• = standard execution

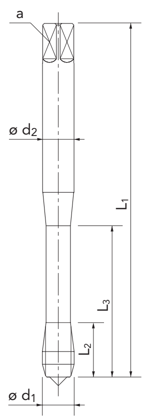
See price list on page 13 13

R40 | 2,5 x D | DIN 13 | HSSE

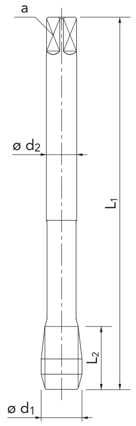
MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



TOOL CODE

	A701 S BRIGHT	A701 S TiN
		
Tolerance	6H +0,1 mm	6H +0,1 mm
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A701 S BRIGHT	A701 S TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A701 S BRIGHT	A701 S TiN
M 5	0,8	70	10	24,5	6	4,9	3	4,2	•	•
6	1	80	12	29	6	4,9	3	5	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•
14	2	110	20,5	-	11	9	4	12	•	•
16	2	110	20,5	-	12	9	4	14	•	•

• = standard execution

See price list on page 13 13

R40 | 2,5 x D | DIN 13 | HSSE | E(1,5-2)

VERGNANO

M

MACHINE TAPS - 40° Spiral flutes / back tapered / chamfer form E

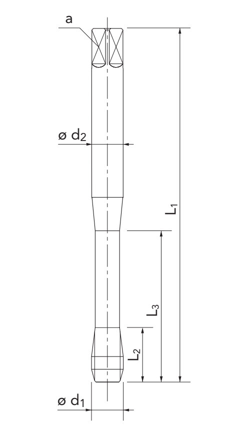
For blind holes

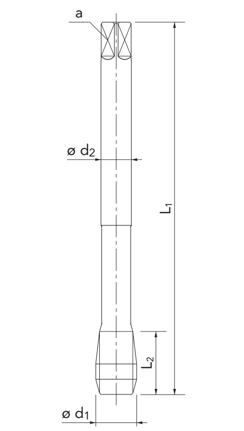
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12





TOOL CODE

	A70 SE BRIGHT	A70 SE TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	E(1,5-2)	E(1,5-2)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A70 SE BRIGHT	A70 SE TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 SE BRIGHT	A70 SE TiN
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•
6	1	80	12	29	6	4,9	3	5	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•
16	2	110	20,5	-	12	9	4	14	•	•

• = standard execution

See price list on page 14 14

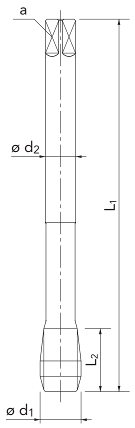
R40 | 2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - 40° Spiral flutes / back tapered / through shank
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



TOOL CODE

	A76 S BRIGHT	A76 S TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A76 S BRIGHT	A76 S TiN
P	P.3	● 12-15	● 20-25
	P.4	● 10-12	● 15-20
	P.5		● 5-10
	P.7		● 8-10
M	M.1		● 8-10
K	K.2	● 12-15	● 20-25
N	N.3	● 15-18	● 25-30
	N.6	● 15-18	● 25-30

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A76 S BRIGHT	A76 S TiN
M 4	0,7	63	8,5	-	2,8	2,1	3	3,3	•	•
5	0,8	70	10	-	3,5	2,7	3	4,2	•	•
6	1	80	12	-	4,5	3,4	3	5	•	•
8	1,25	90	15	-	6	4,9	3	6,8	•	•
10	1,5	100	17,5	-	7	5,5	3	8,5	•	•

• = standard execution

See price list on page 14 14

R40 | 2,5 x D | DIN 13 | HSSE

VERGNANO

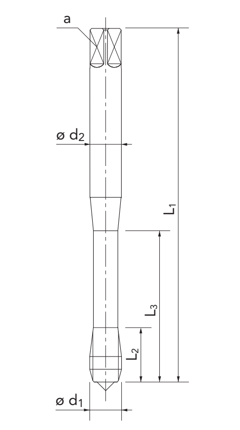
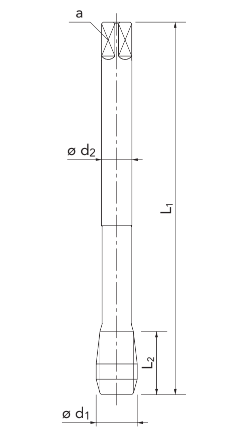
M

MACHINE TAPS - 40° Spiral flutes / back tapered / for stainless steel

For blind holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A170 VAP	A170 TiX2		
P	P.7	● 6-8	● 8-10		
M	M.1	● 6-8	● 8-10		
	M.2		● 5-7		

TOOL CODE

	A170 VAP	A170 TiX2		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A170 VAP	A170 TiX2
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•
6	1	80	12	29	6	4,9	3	5	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•
12	1,75	110	18	-	9	7	3	10,2	•	•
14	2	110	20,5	-	11	9	3	12	•	•
16	2	110	20,5	-	12	9	4	14	•	•
18	2,5	125	25,5	-	14	11	4	15,5	•	•
20	2,5	140	29,5	-	16	12	4	17,5	•	•

• = standard execution

See price list on page 14 14

A

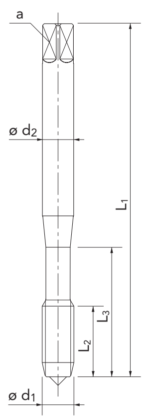
R40 2 | 2,5 x D | DIN 13 | HSSE

VERGNANO

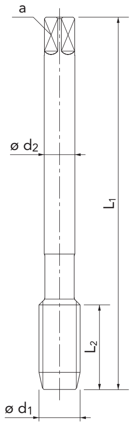
MACHINE TAPS - Two 40° spiral flutes / for light alloys
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M11



TOOL CODE

	A62 BRIGHT	A62 TiH1		
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A62 BRIGHT	A62 TiH1		
N	N.1-2	● 12-15	● 25-30		
	N.5-6	● 10-12	● 20-25		
S	S.1	● 6-8	● 10-12		
	S.3	● 6-8	● 10-12		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A62 BRIGHT	A62 TiH1		
M 2	0,4	45	7	11	2,8	2,1	2	1,6	•	•		
2,2	0,45	45	8	13	2,8	2,1	2	1,75	•	•		
2,3	0,4	45	8	13	2,8	2,1	2	1,9	•	•		
2,5	0,45	50	9	15	2,8	2,1	2	2,05	•	•		
2,6	0,45	50	9	15	2,8	2,1	2	2,1	•	•		
3	0,5	56	10	18	3,5	2,7	2	2,5	•	•		
3,5	0,6	56	11	20	4	3	2	2,9	•	•		
4	0,7	63	12	21	4,5	3,4	2	3,3	•	•		
5	0,8	70	14	24,5	6	4,9	2	4,2	•	•		
6	1	80	16	29	6	4,9	2	5	•	•		
7	1	80	16	29	7	5,5	2	6	•	•		
8	1,25	90	18	33	8	6,2	2	6,8	•	•		
9	1,25	90	18	33	9	7	2	7,8	•	•		
10	1,5	100	20	36	10	8	2	8,5	•	•		
11	1,5	100	20	-	8	6,2	2	9,5	•	•		
12	1,75	110	24	-	9	7	2	10,2	•	•		
14	2	110	25	-	11	9	2	12	•	•		

• = standard execution

See price list on page 15 15

MACHINE TAPS - 40° Spiral flutes / back tapered / for light alloys

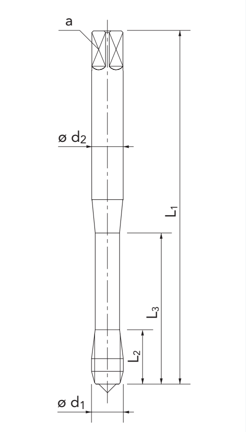
For blind holes

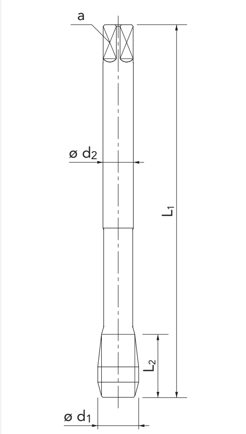
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 371 ≤ M10 | DIN 376 ≥ M12





TOOL CODE

	A72 BRIGHT	A72 TiH1		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A72 BRIGHT	A72 TiH1		
P	P.1	● 12-15	● 25-30		
N	N.1-2	● 12-15	● 25-30		
	N.3	● 10-12	● 20-25		
	N.5	● 10-12	● 20-25		
	N.6	● 10-12	● 20-25		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A72 BRIGHT	A72 TiH1
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•
6	1	80	12	29	6	4,9	3	5	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•
12	1,75	110	18	-	9	7	3	10,2	•	•
14	2	110	20,5	-	11	9	3	12	•	•
16	2	110	20,5	-	12	9	3	14	•	•
18	2,5	125	25,5	-	14	11	3	15,5	•	•
20	2,5	140	29,5	-	16	12	3	17,5	•	•

• = standard execution

See price list on page 15 15

DIN 13 HSSE

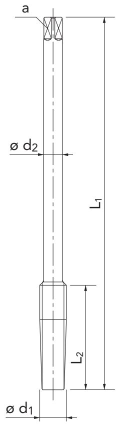
VERGNANO

MACHINE NUT TAPS - Straight flutes
ISO Metric coarse thread - DIN 13

A

TAP DIMENSIONS

DIN 357



TOOL CODE

A9
BRIGHT

	A9 BRIGHT
Tolerance	ISO2 6H
Chamfer form	–
Hole type	
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A9 BRIGHT
P	P.1	● 18-20
	P.2	● 15-18
	P.3	● 12-15

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A9
M 4	0,7	90	25	-	2,8	2,1	3	3,3	•
5	0,8	100	28	-	3,5	2,7	3	4,2	•
6	1	110	32	-	4,5	3,4	3	5	•
8	1,25	125	40	-	6	4,9	3	6,8	•
10	1,5	140	45	-	7	5,5	3	8,5	•
12	1,75	180	50	-	9	7	3	10,2	•
14	2	200	56	-	11	9	3	12	•
16	2	200	63	-	12	9	3	14	•
18	2,5	220	63	-	14	11	3	15,5	•
20	2,5	250	70	-	16	12	3	17,5	•
22	2,5	280	80	-	18	14,5	3	19,5	•
24	3	280	80	-	18	14,5	3	21	•
27	3	315	90	-	20	16	3	24	•
30	3,5	315	100	-	22	18	3	26,5	•

• = standard execution

See price list on page 15

1,5 x D | DIN 13 | HSSE

VERGNANO

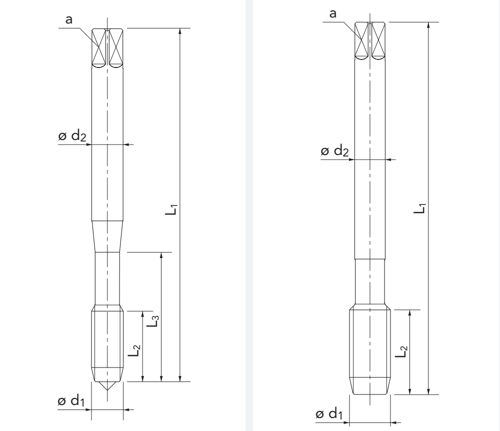
COLD FORMING TAPS

For blind and through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10 | DIN 2174 DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A80 VAP	A80 TiN	A80 TiCN	
P	P.1-2	● 20-25	● 40-45	● 40-45	
	P.3	● 15-20	● 35-40	● 35-40	
N	N.1	● 20-25	● 40-45	● 40-45	
	N.2		● 40-45	● 40-45	
	N.3		● 35-40	● 35-40	
	N.5	● 20-25	● 40-45	● 40-45	
	N.6		● 40-45	● 40-45	

TOOL CODE

	A80 VAP	A80 TiN	A80 TiCN	
Tolerance	6HX	6HX	6HX	
Chamfer form	C (2-3)	C (2-3)	C (2-3)	
Hole type	1,5 x D	1,5 x D	1,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A80 VAP	A80 TiN	A80 TiCN
M 2	0,4	45	7	11	2,8	2,1	3	1,85	•	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,3	•	•	•
3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•
3,5	0,6	56	11	20	4	3	4	3,25	•	•	•
4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•
5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•	•
12	1,75	110	24	-	9	7	5	11,2	•	•	•
14	2	110	25	-	11	9	6	13,1	•	•	•
16	2	110	28	-	12	9	6	15,1	•	•	•

• = standard execution

See price list on page 16 16 16

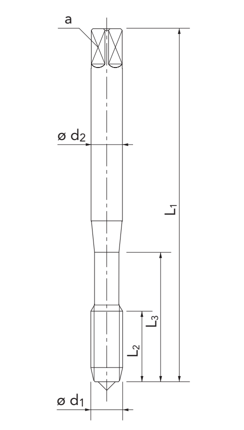
1,5 x D | DIN 13 | HSSE

VERGNANO

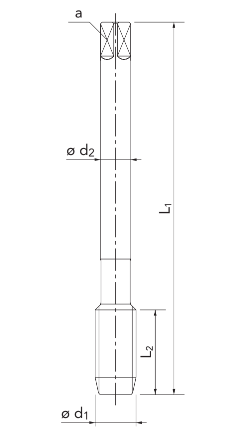
COLD FORMING TAPS
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤ M10



DIN 2174 DIN 376 ≥ M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A80 6GX VAP	A80 6GX TiN	A80 6GX TiCN	
P	P.1-2	● 20-25	● 40-45	● 40-45	
	P.3	● 15-20	● 35-40	● 35-40	
N	N.1	● 20-25	● 40-45	● 40-45	
	N.2		● 40-45	● 40-45	
	N.3		● 35-40	● 35-40	
	N.5	● 20-25	● 40-45	● 40-45	
	N.6		● 40-45	● 40-45	

TOOL CODE

	A80 6GX VAP	A80 6GX TiN	A80 6GX TiCN	
				
Tolerance	6GX	6GX	6GX	
Chamfer form	C (2-3)	C (2-3)	C (2-3)	
Hole type	1,5 x D	1,5 x D	1,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

Ød1 [mm]		P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A80 6GX VAP	A80 6GX TiN	A80 6GX TiCN
M	2	0,4	45	7	11	2,8	2,1	3	1,85	•	•	•
	2,5	0,45	50	9	15	2,8	2,1	3	2,3	•	•	•
	3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•
	3,5	0,6	56	11	20	4	3	4	3,25	•	•	•
	4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•
	5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•
	6	1	80	16	29	6	4,9	5	5,55	•	•	•
	8	1,25	90	18	33	8	6,2	5	7,4	•	•	•
	10	1,5	100	20	36	10	8	5	9,3	•	•	•
	12	1,75	110	24	-	9	7	5	11,2	•	•	•
	14	2	110	25	-	11	9	6	13,1	•	•	•
	16	2	110	28	-	12	9	6	15,1	•	•	•

• = standard execution

See price list on page 16 16 16

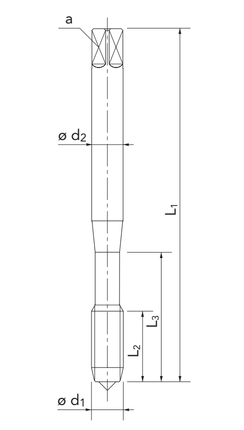
COLD FORMING TAPS - Oil grooves

For blind and through holes

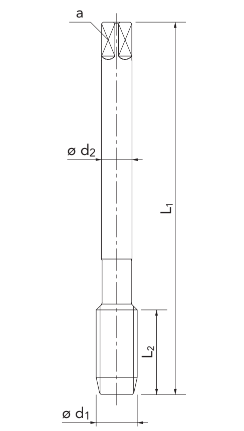
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 · DIN 371 · ≤ M10



DIN 2174 · DIN 376 · ≥ M12



TOOL CODE

	A80 N VAP	A80 N TiN	A80 N TiCN
			
Tolerance	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A80 N VAP	A80 N TiN	A80 N TiCN
P	P.1-2	● 20-25	● 40-45	● 40-45
	P.3	● 15-20	● 35-40	● 35-40
N	N.1	● 20-25	● 40-45	● 40-45
	N.2		● 40-45	● 40-45
	N.3		● 35-40	● 35-40
	N.5	● 20-25	● 40-45	● 40-45
	N.6		● 40-45	● 40-45

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A80 N VAP	A80 N TiN	A80 N TiCN
M 2	0,4	45	7	11	2,8	2,1	3	1,85	•	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,3	•	•	•
3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•
3,5	0,6	56	11	20	4	3	4	3,25	•	•	•
4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•
5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•	•
12	1,75	110	24	-	9	7	5	11,2	•	•	•
14	2	110	25	-	11	9	6	13,1	•	•	•
16	2	110	28	-	12	9	6	15,1	•	•	•
18	2,5	125	28	-	14	11	8	16,9	•	•	•
20	2,5	140	30	-	16	12	8	18,9	•	•	•
								See price list on page	16	16	16

• = standard execution

See price list on page 16

M

2,5 x D | DIN 13 | HSSE

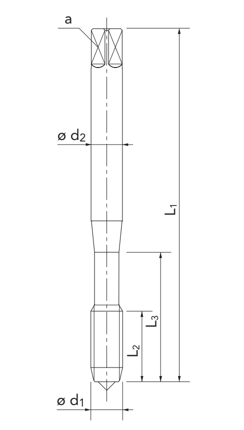
VERGNANO

COLD FORMING TAPS - Oil grooves
For blind and through holes
ISO Metric coarse thread - DIN 13

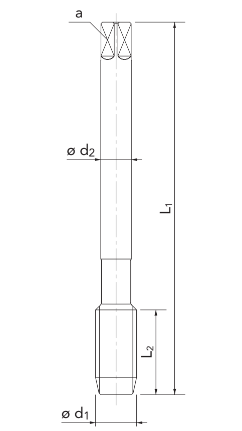
A

TAP DIMENSIONS

DIN 2174 DIN 371 ≤ M10



DIN 2174 DIN 376 ≥ M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A80 N 6GX VAP	A80 N 6GX TiN	A80 N 6GX TiCN
P	P.1-2	● 20-25	● 40-45	● 40-45
	P.3	● 15-20	● 35-40	● 35-40
N	N.1	● 20-25	● 40-45	● 40-45
	N.2		● 40-45	● 40-45
	N.3		● 35-40	● 35-40
	N.5	● 20-25	● 40-45	● 40-45
	N.6		● 40-45	● 40-45

TOOL CODE

	A80 N 6GX VAP	A80 N 6GX TiN	A80 N 6GX TiCN
			
Tolerance	6GX	6GX	6GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød_1 [mm]	P [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	Ød_2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A80 N 6GX VAP	A80 N 6GX TiN	A80 N 6GX TiCN
M 2	0,4	45	7	11	2,8	2,1	3	1,85	•	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,3	•	•	•
3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•
3,5	0,6	56	11	20	4	3	4	3,25	•	•	•
4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•
5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•	•
12	1,75	110	24	-	9	7	5	11,2	•	•	•
14	2	110	25	-	11	9	6	13,1	•	•	•
16	2	110	28	-	12	9	6	15,1	•	•	•

• = standard execution

See price list on page 16 16 16

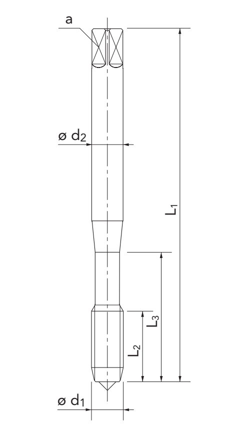
MACHINE TAPS - Straight flutes / for wire thread inserts

For blind and through holes

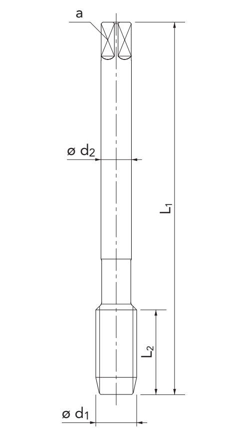
ISO Metric coarse thread - DIN 8140-2

TAP DIMENSIONS

DIN 40435 ≤M8



DIN 40435 ≥M10



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A190 BRIGHT			
P	P.2	● 10-12			
	P.3	● 8-10			
K	K.2	● 8-10			

TOOL CODE

A190
BRIGHT

	A190 BRIGHT
Tolerance	6H MOD
Chamfer form	C (2-3)
Hole type	1,5 x D
Direction of cut	RH
Through coolant	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A190
EG-M 3	0,5	63	12	17	4,5	3,4	3	3,15	•
4	0,7	70	14	24,5	6	4,9	3	4,2	•
5	0,8	80	16	29	6	4,9	3	5,25	•
6	1	90	18	33	8	6,2	3	6,3	•
8	1,25	100	20	36	10	8	3	8,4	•
10	1,5	100	22	-	9	7	3	10,5	•
12	1,75	110	25	-	11	9	3	12,5	•
14	2	110	28	-	12	9	3	14,5	•
16	2	125	28	-	14	11	4	16,5	•

• = standard execution

See price list on page 16

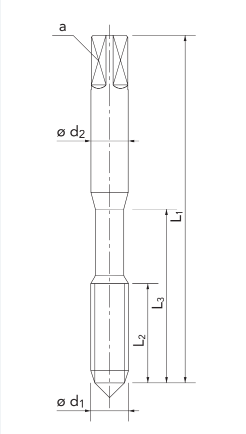
2,5 x D DIN 13 HSS

VERGNANO

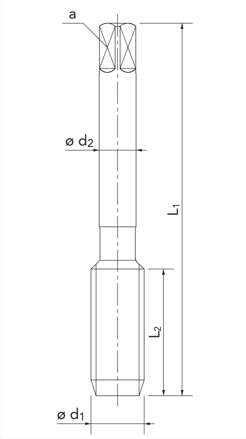
HAND TAPS in sets of two pieces
For blind and through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 2181 ≤ M6



DIN 2181 ≥ M7



TOOL CODE

	A2 ROUGHING	A2 FINISHING	A2 SET	
				
Tolerance	–	ISO2 6H	ISO2 6H	
Chamfer form	A (5-6)	C (2-3)	C (2-3)	
Hole type	2,5 x D	2,5 x D	2,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

APPLICATION RANGE

ISO	MG	A2 ROUGHING	A2 FINISHING	A2 SET	
P	P.1-4	●	●	●	
	P.7	●	●	●	
K	K.2	●	●	●	
N	N.1-3	●	●	●	
	N.5-7	●	●	●	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A2 ROUGHING	A2 FINISHING	A2 SET	
M 2	0,25	36	7,5	12	2,8	2,1	3	1,75	•	•	•	
2,3	0,25	36	8,5	13,5	2,8	2,1	3	2,05	•	•	•	
2,5	0,35	40	8,5	14,5	2,8	2,1	3	2,15	•	•	•	
2,6	0,35	40	8,5	14,5	2,8	2,1	3	2,25	•	•	•	
3	0,35	40	8	18	3,5	2,7	3	2,65	•	•	•	
3,5	0,35	45	9	19	4	3	3	3,15	•	•	•	
4	0,5	45	10	21	4,5	3,4	3	3,5	•	•	•	
4,5	0,5	50	12	23	6	4,9	3	4	•	•	•	
5	0,5	50	12	24	6	4,9	3	4,5	•	•	•	
6	0,5	56	14	28	6	4,9	3	5,5	•	•	•	
6	0,75	56	14	28	6	4,9	3	5,2	•	•	•	
7	0,75	56	14	-	6	4,9	3	6,2	•	•	•	
8	0,75	56	18	-	6	4,9	3	7,2	•	•	•	
8	1	63	22	-	6	4,9	3	7	•	•	•	
9	1	63	22	-	7	5,5	3	8	•	•	•	
10	0,75	63	20	-	7	5,5	4	9,2	•	•	•	
10	1	63	20	-	7	5,5	4	9	•	•	•	
10	1,25	70	24	-	7	5,5	3	8,8	•	•	•	
11	1	63	20	-	8	6,2	4	10	•	•	•	
12	0,75	70	22	-	9	7	4	11,2	•	•	•	
12	1	70	22	-	9	7	4	11	•	•	•	
12	1,25	70	22	-	9	7	4	10,8	•	•	•	
12	1,5	70	22	-	9	7	4	10,5	•	•	•	
14	1	70	22	-	11	9	4	13	•	•	•	
14	1,25	70	22	-	11	9	4	12,8	•	•	•	
14	1,5	70	22	-	11	9	4	12,5	•	•	•	
15	1	70	22	-	12	9	4	14	•	•	•	
15	1,5	70	22	-	12	9	4	13,5	•	•	•	
16	1	70	22	-	12	9	4	15	•	•	•	
16	1,25	70	22	-	12	9	4	14,8	•	•	•	
16	1,5	70	22	-	12	9	4	14,5	•	•	•	

• = standard execution

See price list on page 17 17 17

2,5 x D DIN 13 HSS

VERGNANO

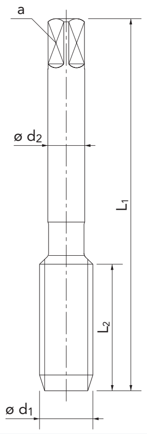
MF

HAND TAPS in sets of two pieces
For blind and through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 2181



TOOL CODE

A2 ROUGHING	A2 FINISHING	A2 SET
		

	A2 ROUGHING	A2 FINISHING	A2 SET
Tolerance	–	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE

ISO	MG	A2 ROUGHING	A2 FINISHING	A2 SET
P	P.1-4	●	●	●
	P.7	●	●	●
K	K.2	●	●	●
N	N.1-3	●	●	●
	N.5-7	●	●	●

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A2 ROUGHING	A2 FINISHING	A2 SET
M18	1	80	22	-	14	11	4	17	•	•	•
18	1,5	80	22	-	14	11	4	16,5	•	•	•
18	2	80	22	-	14	11	4	16	•	•	•
20	1	80	22	-	16	12	4	19	•	•	•
20	1,5	80	22	-	16	12	4	18,5	•	•	•
20	2	80	22	-	16	12	4	18	•	•	•
22	1	80	22	-	18	14,5	4	21	•	•	•
22	1,5	80	22	-	18	14,5	4	20,5	•	•	•
22	2	80	22	-	18	14,5	4	20	•	•	•
24	1	90	22	-	18	14,5	4	23	•	•	•
24	1,5	90	22	-	18	14,5	4	22,5	•	•	•
24	2	90	22	-	18	14,5	4	22	•	•	•
25	1,5	90	22	-	18	14,5	4	23,5	•	•	•
25	2	90	22	-	18	14,5	4	23	•	•	•
26	1,5	90	22	-	18	14,5	4	24,5	•	•	•
26	2	90	22	-	18	14,5	4	24	•	•	•
27	1,5	90	22	-	20	16	4	25,5	•	•	•
27	2	90	22	-	20	16	4	25	•	•	•
28	1,5	90	22	-	20	16	4	26,5	•	•	•
28	2	90	22	-	20	16	4	26	•	•	•
30	1,5	90	22	-	22	18	4	28,5	•	•	•
30	2	90	22	-	22	18	4	28	•	•	•
32	1,5	90	22	-	22	18	5	30,5	•	•	•
32	2	90	22	-	22	18	4	30	•	•	•
33	2	100	25	-	25	20	4	31	•	•	•
35	1,5	100	25	-	28	22	5	33,5	•	•	•
35	2	125	30	-	28	22	5	33	•	•	•
36	1,5	100	25	-	28	22	5	34,5	•	•	•
36	2	125	30	-	28	22	5	34	•	•	•
36	3	125	40	-	28	22	4	33	•	•	•
38	1,5	100	25	-	28	22	5	36,5	•	•	•
39	2	125	32	-	32	24	5	37	•	•	•
39	3	125	40	-	32	24	4	36	•	•	•
See price list on page									17	17	17

• = standard execution

MF

2,5 x D DIN 13 HSS

VERGNANO

HAND TAPS in sets of two pieces

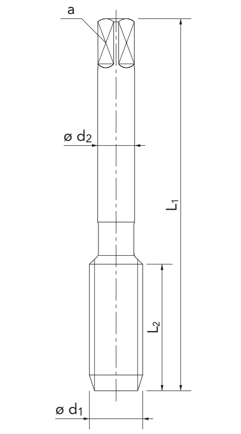
For blind and through holes

ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 2181



TOOL CODE

	A2 ROUGHING	A2 FINISHING	A2 SET
			
Tolerance	–	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE

ISO	MG	A2 ROUGHING	A2 FINISHING	A2 SET	
P	P.1-4	•	•	•	
	P.7	•	•	•	
K	K.2	•	•	•	
N	N.1-3	•	•	•	
	N.5-7	•	•	•	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	Drill [mm]	A2 ROUGHING	A2 FINISHING	A2 SET
M 40	1,5	110	25	-	32	24	6	38,5	•	•	•
40	2	125	32	-	32	24	5	38	•	•	•
40	3	125	40	-	32	24	4	37	•	•	•
42	1,5	110	25	-	32	24	6	40,5	•	•	•
42	2	125	32	-	32	24	5	40	•	•	•
42	3	125	40	-	32	24	4	39	•	•	•
45	1,5	110	25	-	36	29	6	43,5	•	•	•
45	2	125	32	-	36	29	5	43	•	•	•
45	3	125	40	-	36	29	5	42	•	•	•
48	1,5	140	25	-	36	29	6	46,5	•	•	•
48	2	140	32	-	36	29	6	46	•	•	•
48	3	140	40	-	36	29	5	45	•	•	•

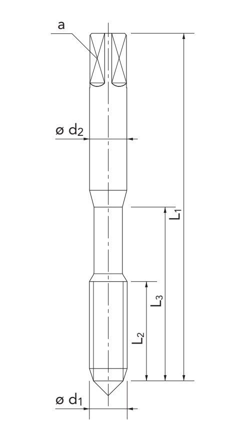
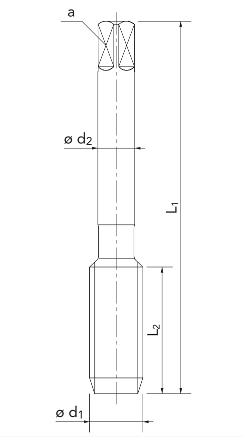
• = standard execution

See price list on page 17 17 17

MF

HAND TAPS in sets of two pieces
For blind and through holes
ISO Metric fine left-hand thread - DIN 13

TAP DIMENSIONS

DIN 2181 ≤ M6	DIN 2181 ≥ M8
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A2 ROUGHING	A2 FINISHING	A2 SET	
P	P.1-4	•	•	•	
	P.7	•	•	•	
K	K.2	•	•	•	
N	N.1-3	•	•	•	
	N.5-7	•	•	•	

TOOL CODE

	A2 LH ROUGHING	A2 LH FINISHING	A2 LH SET	
				
Tolerance	–	ISO2 6H	ISO2 6H	
Chamfer form	A (5-6)	C (2-3)	C (2-3)	
Hole type	2,5 x D	2,5 x D	2,5 x D	
Direction of cut	LH	LH	LH	
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A2 LH ROUGHING	A2 LH FINISHING	A2 LH SET
M 4	0,5	45	10	21	4,5	3,4	3	3,5	•	•	•
5	0,5	50	12	24	6	4,9	3	4,5	•	•	•
6	0,75	56	14	28	6	4,9	3	5,2	•	•	•
8	1	63	22	-	6	4,9	3	7	•	•	•
10	1	63	20	-	7	5,5	4	9	•	•	•
10	1,25	70	24	-	7	5,5	3	8,8	•	•	•
11	1	63	20	-	8	6,2	4	10	•	•	•
12	1	70	22	-	9	7	4	11	•	•	•
12	1,25	70	22	-	9	7	4	10,8	•	•	•
12	1,5	70	22	-	9	7	4	10,5	•	•	•
14	1,5	70	22	-	11	9	4	12,5	•	•	•
16	1,5	70	22	-	12	9	4	14,5	•	•	•
18	1,5	80	22	-	14	11	4	16,5	•	•	•
20	1,5	80	22	-	16	12	4	18,5	•	•	•

• = standard execution

See price list on page 17 17 17

A

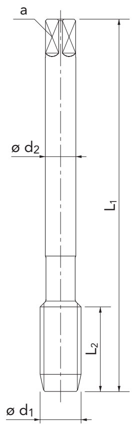
1,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

	A23 FC BRIGHT	A23 FC TiN	A23 FC LH BRIGHT
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	LH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A23 FC BRIGHT	A23 FC TiN	A23 FC LH BRIGHT
P	P.1		● 20-25	
	P.2	● 10-12	● 15-20	● 10-12
	P.3	● 8-10	● 12-15	● 8-10
K	K.2	● 8-10	● 12-15	● 8-10
N	N.1		● 20-25	
	N.5		● 15-20	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A23 FC BRIGHT	A23 FC TiN	A23 FC LH BRIGHT
M 3	0,35	56	8	-	2,2	-	3	2,65	•		
3,5	0,35	56	9	-	2,5	2,1	3	3,15	•		
4	0,5	63	10	-	2,8	2,1	3	3,5	•		
5	0,5	70	12	-	3,5	2,7	3	4,5	•		
6	0,5	80	14	-	4,5	3,4	3	5,5	•	•	
6	0,75	80	14	-	4,5	3,4	3	5,2	•	•	•
7	0,75	80	14	-	5,5	4,3	3	6,2	•	•	
8	0,75	80	16	-	6	4,9	3	7,2	•		
8	1	90	16	-	6	4,9	3	7	•	•	•
9	1	90	16	-	7	5,5	3	8	•		
10	0,5	90	18	-	7	5,5	4	9,5	•	•	
10	0,75	90	18	-	7	5,5	3	9,2	•		
10	1	90	18	-	7	5,5	3	9	•	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•	•
11	1	90	20	-	8	6,2	3	10	•		
12	0,75	100	22	-	9	7	4	11,2	•	•	
12	1	100	22	-	9	7	4	11	•	•	
12	1,25	100	22	-	9	7	3	10,8	•	•	•
12	1,5	100	22	-	9	7	3	10,5	•	•	•
14	1	100	22	-	11	9	4	13	•	•	
14	1,25	100	22	-	11	9	3	12,8	•	•	
14	1,5	100	22	-	11	9	3	12,5	•	•	•
15	1	100	22	-	12	9	4	14	•		
15	1,5	100	22	-	12	9	3	13,5	•		
16	1	100	22	-	12	9	4	15	•	•	
16	1,25	100	22	-	12	9	4	14,8	•	•	
16	1,5	100	22	-	12	9	3	14,5	•	•	•
17	1	100	22	-	12	9	4	16	•		
17	1,5	100	22	-	12	9	4	15,5	•		
18	1	110	25	-	14	11	4	17	•		
18	1,5	110	25	-	14	11	4	16,5	•	•	•
18	2	125	28	-	14	11	4	16	•		
								See price list on page	18	18	18

• = standard execution

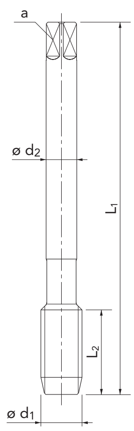
1,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A23 FC BRIGHT	A23 FC TiN	A23 FC LH BRIGHT
P	P.1		● 20-25	
	P.2	● 10-12	● 15-20	● 10-12
	P.3	● 8-10	● 12-15	● 8-10
K	K.2	● 8-10	● 12-15	● 8-10
N	N.1		● 20-25	
	N.5		● 15-20	

TOOL CODE

	A23 FC BRIGHT	A23 FC TiN	A23 FC LH BRIGHT
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	LH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A23 FC	A23 FC TiN	A23 FC LH
M 20	1	125	25	-	16	12	4	19	•		
20	1,5	125	25	-	16	12	4	18,5	•	•	•
20	2	140	28	-	16	12	4	18	•		
22	1	125	25	-	18	14,5	4	21	•		
22	1,5	125	25	-	18	14,5	4	20,5	•	•	
22	2	140	28	-	18	14,5	4	20	•		
24	1	140	25	-	18	14,5	4	23	•		
24	1,5	140	25	-	18	14,5	4	22,5	•		
24	2	140	28	-	18	14,5	4	22	•		
25	1	140	25	-	18	14,5	4	24	•		
25	1,5	140	25	-	18	14,5	4	23,5	•		
25	2	140	28	-	18	14,5	4	23	•		
26	1	140	25	-	18	14,5	4	25	•		
26	1,5	140	25	-	18	14,5	4	24,5	•		
26	2	140	28	-	18	14,5	4	24	•		
27	1,5	140	28	-	20	16	4	25,5	•		
27	2	140	28	-	20	16	4	25	•		
28	1,5	140	28	-	20	16	4	26,5	•		
28	2	140	28	-	20	16	4	26	•		
30	1	150	25	-	22	18	5	29	•		
30	1,5	150	28	-	22	18	4	28,5	•		
30	2	150	28	-	22	18	4	28	•		
32	1,5	150	28	-	22	18	5	30,5	•		
32	2	150	28	-	22	18	4	30	•		
33	1,5	160	30	-	25	20	5	31,5	•		
33	2	160	30	-	25	20	4	31	•		
35	1,5	170	30	-	28	22	5	33,5	•		
35	2	170	30	-	28	22	5	33	•		
36	1,5	170	30	-	28	22	5	34,5	•		
36	2	170	30	-	28	22	5	34	•		
36	3	200	56	-	28	22	4	33	•		
39	3	200	60	-	32	24	5	36	•		

• = standard execution

See price list on page 18 | 18 | 18

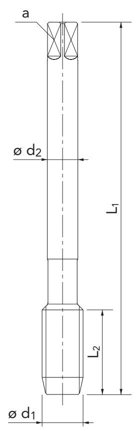
1,5 x D · DIN 13 · HSSE

VERGNANO

MACHINE TAPS - Straight flutes
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

A23 FC
BRIGHT

	A23 FC BRIGHT
Tolerance	ISO2 6H
Chamfer form	C (2-3)
Hole type	1,5 x D
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A23 FC BRIGHT			
P	P.1				
	P.2	● 10-12			
	P.3	● 8-10			
K	K.2	● 8-10			
N	N.1				
	N.5				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A23 FC
M 40	1,5	170	30	-	32	24	5	38,5	•
40	2	170	30	-	32	24	5	38	•
40	3	200	60	-	32	24	5	37	•
42	1,5	170	30	-	32	24	6	40,5	•
42	2	170	30	-	32	24	5	40	•
42	3	200	60	-	32	24	5	39	•
45	1,5	180	32	-	36	29	6	43,5	•
45	2	180	32	-	36	29	5	43	•
45	3	200	50	-	36	29	5	42	•
48	1,5	190	32	-	36	29	6	46,5	•
48	2	190	32	-	36	29	6	46	•
48	3	225	50	-	36	29	5	45	•
52	1,5	190	32	-	40	32	6	50,5	•
52	2	190	32	-	40	32	6	50	•
52	3	225	50	-	40	32	5	49	•

• = standard execution

See price list on page 18

1,5xD | DIN 13 | HSSE

VERGNANO

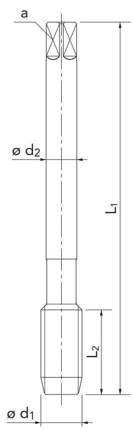
MF

MACHINE TAPS - Straight flutes
For through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 374



TOOL CODE

	A23 FP BRIGHT	A23 FP TiN	A23 FP LH BRIGHT
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	A (5-6)	A (5-6)
Hole type	1,5xD	1,5xD	1,5xD
Direction of cut	RH	RH	LH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A23 FP BRIGHT	A23 FP TiN	A23 FP LH BRIGHT
P	P.1		• 20-25	
P	P.2	• 10-12	• 15-20	• 10-12
P	P.3	• 8-10	• 12-15	• 8-10
K	K.2	• 8-10	• 12-15	• 8-10
N	N.1		• 20-25	
N	N.5		• 15-20	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A23 FP BRIGHT	A23 FP TiN	A23 FP LH BRIGHT
M 3	0,35	56	8	-	2,2	-	3	2,65	•		
3,5	0,35	56	9	-	2,5	2,1	3	3,15	•		
4	0,5	63	10	-	2,8	2,1	3	3,5	•		
5	0,5	70	12	-	3,5	2,7	3	4,5	•		
6	0,5	80	14	-	4,5	3,4	3	5,5	•	•	
6	0,75	80	14	-	4,5	3,4	3	5,2	•	•	•
7	0,75	80	14	-	5,5	4,3	3	6,2	•	•	
8	0,75	80	16	-	6	4,9	3	7,2	•		
8	1	90	16	-	6	4,9	3	7	•	•	•
9	1	90	16	-	7	5,5	3	8	•		
10	0,5	90	18	-	7	5,5	4	9,5	•	•	
10	0,75	90	18	-	7	5,5	3	9,2	•		
10	1	90	18	-	7	5,5	3	9	•	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•	•
11	1	90	20	-	8	6,2	3	10	•		
12	0,75	100	22	-	9	7	4	11,2	•	•	
12	1	100	22	-	9	7	4	11	•	•	
12	1,25	100	22	-	9	7	3	10,8	•	•	•
12	1,5	100	22	-	9	7	3	10,5	•	•	•
14	1	100	22	-	11	9	4	13	•	•	
14	1,25	100	22	-	11	9	3	12,8	•	•	
14	1,5	100	22	-	11	9	3	12,5	•	•	•
15	1	100	22	-	12	9	4	14	•		
15	1,5	100	22	-	12	9	3	13,5	•		
16	1	100	22	-	12	9	4	15	•	•	
16	1,25	100	22	-	12	9	4	14,8	•	•	
16	1,5	100	22	-	12	9	3	14,5	•	•	•
17	1	100	22	-	12	9	4	16	•		
17	1,5	100	22	-	12	9	4	15,5	•		
18	1	110	25	-	14	11	4	17	•		
18	1,5	110	25	-	14	11	4	16,5	•	•	•
18	2	125	28	-	14	11	4	16	•		
See price list on page									19	19	19

• = standard execution

1,5 x D | DIN 13 | HSSE

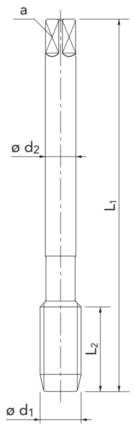
VERGNANO

MACHINE TAPS - Straight flutes
For through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 374



TOOL CODE

	A23 FP BRIGHT	A23 FP TiN	A23 FP LH BRIGHT
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	A (5-6)	A (5-6)	A (5-6)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	LH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A23 FP BRIGHT	A23 FP TiN	A23 FP LH BRIGHT
P	P.1		● 20-25	
	P.2	● 10-12	● 15-20	● 10-12
	P.3	● 8-10	● 12-15	● 8-10
K	K.2	● 8-10	● 12-15	● 8-10
N	N.1		● 20-25	
	N.5		● 15-20	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A23 FP BRIGHT	A23 FP TiN	A23 FP LH BRIGHT
M 20	1	125	25	-	16	12	4	19	•		
20	1,5	125	25	-	16	12	4	18,5	•	•	•
20	2	140	28	-	16	12	4	18	•		
22	1	125	25	-	18	14,5	4	21	•		
22	1,5	125	25	-	18	14,5	4	20,5	•	•	
22	2	140	28	-	18	14,5	4	20	•		
24	1	140	25	-	18	14,5	4	23	•		
24	1,5	140	25	-	18	14,5	4	22,5	•		
24	2	140	28	-	18	14,5	4	22	•		
25	1	140	25	-	18	14,5	4	24	•		
25	1,5	140	25	-	18	14,5	4	23,5	•		
25	2	140	28	-	18	14,5	4	23	•		
26	1	140	25	-	18	14,5	4	25	•		
26	1,5	140	25	-	18	14,5	4	24,5	•		
26	2	140	28	-	18	14,5	4	24	•		
27	1,5	140	28	-	20	16	4	25,5	•		
27	2	140	28	-	20	16	4	25	•		
28	1,5	140	28	-	20	16	4	26,5	•		
28	2	140	28	-	20	16	4	26	•		
30	1	150	25	-	22	18	5	29	•		
30	1,5	150	28	-	22	18	4	28,5	•		
30	2	150	28	-	22	18	4	28	•		
32	1,5	150	28	-	22	18	5	30,5	•		
32	2	150	28	-	22	18	4	30	•		
33	1,5	160	30	-	25	20	5	31,5	•		
33	2	160	30	-	25	20	4	31	•		
35	1,5	170	30	-	28	22	5	33,5	•		
35	2	170	30	-	28	22	5	33	•		
36	1,5	170	30	-	28	22	5	34,5	•		
36	2	170	30	-	28	22	5	34	•		
36	3	200	56	-	28	22	4	33	•		
39	3	200	60	-	32	24	5	36	•		

• = standard execution

See price list on page 19 19 19

1,5 x D | DIN 13 | HSSE

VERGNANO

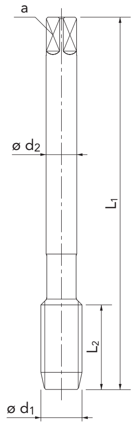
MF

MACHINE TAPS - Straight flutes
For through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A23 FP BRIGHT			
P	P.2	● 10-12			
	P.3	● 8-10			
K	K.2	● 8-10			

TOOL CODE

A23 FP
BRIGHT

	A23 FP BRIGHT
Tolerance	ISO2 6H
Chamfer form	A (5-6)
Hole type	1,5 x D
Direction of cut	RH
Through coolant	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A23 FP
M 40	1,5	170	30	-	32	24	5	38,5	•
40	2	170	30	-	32	24	5	38	•
40	3	200	60	-	32	24	5	37	•
42	1,5	170	30	-	32	24	6	40,5	•
42	2	170	30	-	32	24	5	40	•
42	3	200	60	-	32	24	5	39	•
45	1,5	180	32	-	36	29	6	43,5	•
45	2	180	32	-	36	29	5	43	•
45	3	200	50	-	36	29	5	42	•
48	1,5	190	32	-	36	29	6	46,5	•
48	2	190	32	-	36	29	6	46	•
48	3	225	50	-	36	29	5	45	•
52	1,5	190	32	-	40	32	6	50,5	•
52	2	190	32	-	40	32	6	50	•
52	3	225	50	-	40	32	5	49	•

• = standard execution

See price list on page 19

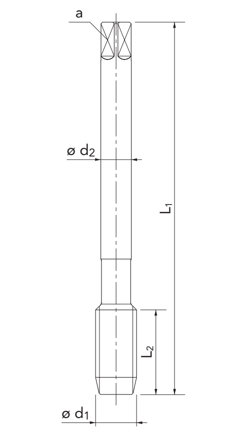
2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes / for cast iron
For blind and through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A45 NITRIDED	A45 TiCN	A45 ACE
K	K.1	● 15-20	● 40-45	● 40-45
N	N.4	● 15-20	● 40-45	● 40-45
	N.7	● 15-20	● 40-45	● 40-45
	N.9-10	● 20-25	● 45-50	● 45-50

TOOL CODE

	A45 NITRIDED	A45 TiCN	A45 ACE
Tolerance	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A45 NITRIDED	A45 TiCN	A45 ACE
M 4	0,5	63	12	-	2,8	2,1	3	3,5	•	•	•
5	0,5	70	14	-	3,5	2,7	3	4,5	•	•	•
6	0,75	80	16	-	4,5	3,4	3	5,2	•	•	•
8	1	90	16	-	6	4,9	4	7	•	•	•
9	1	90	16	-	7	5,5	4	8	•		
10	1	90	18	-	7	5,5	4	9	•	•	•
10	1,25	100	18	-	7	5,5	4	8,8	•	•	•
11	1	90	20	-	8	6,2	4	10	•		
12	1	100	22	-	9	7	4	11	•		
12	1,25	100	22	-	9	7	4	10,8	•	•	•
12	1,5	100	22	-	9	7	4	10,5	•	•	•
14	1	100	22	-	11	9	4	13	•		
14	1,25	100	22	-	11	9	4	12,8	•	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•	•
16	1	100	22	-	12	9	4	15	•		
16	1,5	100	22	-	12	9	4	14,5	•	•	•
18	1,5	110	25	-	14	11	4	16,5	•	•	•
20	1,5	125	25	-	16	12	4	18,5	•	•	•
22	1,5	125	25	-	18	14,5	4	20,5	•		
24	1,5	140	25	-	18	14,5	5	22,5	•		
24	2	140	28	-	18	14,5	5	22	•		
27	1,5	140	28	-	20	16	5	25,5	•		
27	2	140	28	-	20	16	5	25	•		
30	1,5	150	28	-	22	18	5	28,5	•		
30	2	150	28	-	22	18	5	28	•		

• = standard execution

See price list on page 20 | 20 | 20

MF

MACHINE TAPS - Straight flutes / for cast iron

For blind and through holes

ISO Metric fine thread - DIN 13

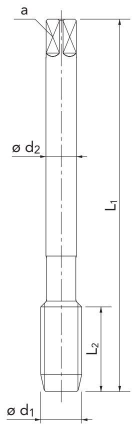
2,5 x D | DIN 13 | HSSK

VERGNANO

A

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A45 K NITRIDED	A45 K TiCN	A45 K ACE
K	K.1	● 15-20	● 40-45	● 40-45
N	N.4	● 15-20	● 40-45	● 40-45
	N.7	● 15-20	● 40-45	● 40-45
	N.9-10	● 20-25	● 45-50	● 45-50

TOOL CODE

	A45 K NITRIDED	A45 K TiCN	A45 K ACE
			
Tolerance	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A45 K NITRIDED	A45 K TiCN	A45 K ACE
M 8	1	90	16	-	6	4,9	4	7	•	•	•
10	1	90	18	-	7	5,5	4	9	•	•	•
10	1,25	100	18	-	7	5,5	4	8,8	•	•	•
12	1,25	100	22	-	9	7	4	10,8	•	•	•
12	1,5	100	22	-	9	7	4	10,5	•	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•	•
16	1,5	100	22	-	12	9	4	14,5	•	•	•
18	1,5	110	25	-	14	11	4	16,5	•	•	•
20	1,5	125	25	-	16	12	4	18,5	•	•	•

• = standard execution

See price list on page 20 | 20 | 20

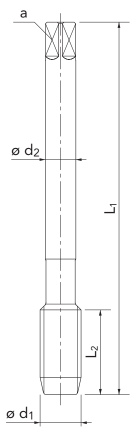
2,5 x D DIN 13 HSSE

VERGNANO

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A17 BRIGHT	A17 VAP	A17 TiN
P	P.1	● 18-20	● 18-20	● 30-35
	P.2	● 15-18	● 15-18	● 25-30
N	N.1	● 18-20	● 18-20	
	N.2	● 15-18	● 15-18	● 25-30
	N.5	● 15-18	● 15-18	
	N.6	● 12-15	● 12-15	● 20-25

TOOL CODE

	A17 BRIGHT	A17 VAP	A17 TiN
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A17 BRIGHT	A17 VAP	A17 TiN
M 4	0,5	63	10	-	2,8	2,1	3	3,5	•		
5	0,5	70	12	-	3,5	2,7	3	4,5	•		
6	0,75	80	14	-	4,5	3,4	3	5,2	•	•	•
7	0,75	80	14	-	5,5	4,3	3	6,2	•		
8	0,75	80	16	-	6	4,9	3	7,2	•		
8	1	90	16	-	6	4,9	3	7	•	•	•
9	1	90	16	-	7	5,5	3	8	•		
10	0,75	90	18	-	7	5,5	4	9,2	•		
10	1	90	18	-	7	5,5	4	9	•	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•	•
11	1	90	20	-	8	6,2	4	10	•		
12	1	100	22	-	9	7	4	11	•	•	•
12	1,25	100	22	-	9	7	4	10,8	•	•	•
12	1,5	100	22	-	9	7	3	10,5	•	•	•
14	1	100	22	-	11	9	4	13	•		
14	1,25	100	22	-	11	9	4	12,8	•	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•	•
15	1	100	22	-	12	9	4	14	•		
15	1,5	100	22	-	12	9	4	13,5	•		
16	1	100	22	-	12	9	4	15	•		
16	1,5	100	22	-	12	9	4	14,5	•	•	•
18	1	110	25	-	14	11	4	17	•		
18	1,5	110	25	-	14	11	4	16,5	•	•	•
20	1	125	25	-	16	12	4	19	•		
20	1,5	125	25	-	16	12	4	18,5	•	•	•
22	1	125	25	-	18	14,5	4	21	•		
22	1,5	125	25	-	18	14,5	4	20,5	•		
24	1	140	25	-	18	14,5	5	23	•		
24	1,5	140	25	-	18	14,5	4	22,5	•		
24	2	140	28	-	18	14,5	4	22	•		
25	1,5	140	25	-	18	14,5	4	23,5	•		
25	2	140	28	-	18	14,5	4	23			
See price list on page									20	20	20

• = standard execution

2,5 x D

DIN 13

HSSE

VERGNANO

MF

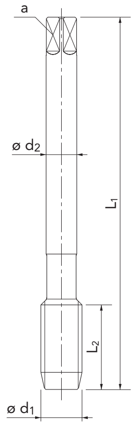
MACHINE TAPS - Straight flutes with spiral point

For through holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

A17
BRIGHT

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A17 BRIGHT			
P	P.1	● 18-20			
	P.2	● 15-18			
N	N.1	● 18-20			
	N.2	● 15-18			
	N.5	● 15-18			
	N.6	● 12-15			

	A17 BRIGHT
Tolerance	ISO2 6H
Chamfer form	B (4-5)
Hole type	2,5 x D
Direction of cut	RH
Through coolant	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A17
M 26	1,5	140	25	-	18	14,5	4	24,5	•
26	2	140	28	-	18	14,5	4	24	•
27	1,5	140	28	-	20	16	4	25,5	•
27	2	140	28	-	20	16	4	25	•
28	1,5	140	28	-	20	16	4	26,5	•
28	2	140	28	-	20	16	4	26	•
30	1,5	150	28	-	22	18	4	28,5	•
30	2	150	28	-	22	18	4	28	•
32	1,5	150	28	-	22	18	5	30,5	•
32	2	150	28	-	22	18	4	30	•
36	1,5	170	30	-	28	22	5	34,5	•
36	2	170	30	-	28	22	5	34	•
36	3	200	56	-	28	22	4	33	•
40	1,5	170	30	-	32	24	5	38,5	•
40	2	170	30	-	32	24	5	38	•
40	3	200	60	-	32	24	4	37	•
42	1,5	170	30	-	32	24	5	40,5	•
42	2	170	30	-	32	24	5	40	•
42	3	200	60	-	32	24	5	39	•
45	1,5	180	32	-	36	29	6	43,5	•
45	2	180	32	-	36	29	5	43	•
45	3	200	50	-	36	29	5	42	•
48	1,5	190	32	-	36	29	6	46,5	•
48	2	190	32	-	36	29	5	46	•
48	3	225	50	-	36	29	5	45	•

• = standard execution

See price list on page 20

A

MF

2,5 x D | DIN 13 | HSSE

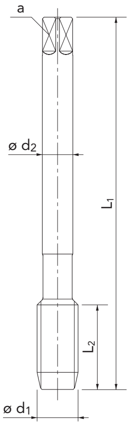
VERGNANO

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 374



TOOL CODE

	A17 S BRIGHT	A17 S VAP	A17 S TiN	A17 S TiCN
				
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A17 S BRIGHT	A17 S VAP	A17 S TiN	A17 S TiCN
P	P.2	• 20-25	• 20-25	• 30-35	• 30-35
	P.3	• 15-20	• 15-20	• 25-30	• 25-30
	P.4	• 12-15	• 12-15	• 20-25	• 20-25
	P.5			• 10-15	• 10-15
	P.7			• 10-15	• 10-15
M	M.1			• 10-15	• 10-15
K	K.2	• 15-20	• 15-20	• 25-30	• 25-30
N	N.2-3	• 20-25	• 20-25	• 30-35	• 30-35
	N.6	• 15-18	• 15-18	• 25-30	• 25-30

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A17 S BRIGHT	A17 S VAP	A17 S TiN	A17 S TiCN
M 4	0,5	63	10	-	2,8	2,1	3	3,5	•			
5	0,5	70	12	-	3,5	2,7	3	4,5	•			
6	0,75	80	14	-	4,5	3,4	3	5,2	•	•	•	•
7	0,75	80	14	-	5,5	4,3	3	6,2	•			
8	0,75	80	16	-	6	4,9	3	7,2	•			
8	1	90	16	-	6	4,9	3	7	•	•	•	•
9	1	90	16	-	7	5,5	3	8	•			
10	0,75	90	18	-	7	5,5	4	9,2	•			
10	1	90	18	-	7	5,5	4	9	•	•	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•	•	•
11	1	90	20	-	8	6,2	4	10	•			
12	1	100	22	-	9	7	4	11	•	•	•	•
12	1,25	100	22	-	9	7	4	10,8	•	•	•	•
12	1,5	100	22	-	9	7	3	10,5	•	•	•	•
14	1	100	22	-	11	9	4	13	•			
14	1,25	100	22	-	11	9	4	12,8	•	•	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•	•	•
15	1	100	22	-	12	9	4	14	•			
15	1,5	100	22	-	12	9	4	13,5	•			
16	1	100	22	-	12	9	4	15	•			
16	1,5	100	22	-	12	9	4	14,5	•	•	•	•
18	1	110	25	-	14	11	4	17	•			
18	1,5	110	25	-	14	11	4	16,5	•	•	•	•
20	1	125	25	-	16	12	4	19	•			
20	1,5	125	25	-	16	12	4	18,5	•	•	•	•
22	1	125	25	-	18	14,5	4	21	•			
22	1,5	125	25	-	18	14,5	4	20,5	•		•	
24	1	140	25	-	18	14,5	5	23	•			
24	1,5	140	25	-	18	14,5	4	22,5	•		•	
24	2	140	28	-	18	14,5	4	22	•			
25	1,5	140	25	-	18	14,5	4	23,5	•			
25	2	140	28	-	18	14,5	4	23	•			

• = standard execution

See price list on page 21 | 21 | 21 | 21

2,5 x D | DIN 13 | HSSE

VERGNANO

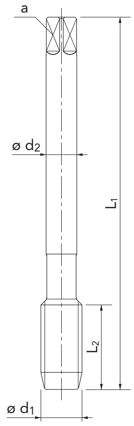
MF

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 374



TOOL CODE

	A17 S BRIGHT	A17 S TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A17 S BRIGHT	A17 S TiN		
P	P.2	● 20-25	● 30-35		
	P.3	● 15-20	● 25-30		
	P.4	● 12-15	● 20-25		
	P.5		● 10-15		
	P.7		● 10-15		
M	M.1		● 10-15		
K	K.2	● 15-20	● 25-30		
N	N.2-3	● 20-25	● 30-35		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A17 S BRIGHT	A17 S TiN
M 26	1,5	140	25	-	18	14,5	4	24,5	•	
26	2	140	28	-	18	14,5	4	24	•	
27	1,5	140	28	-	20	16	4	25,5	•	•
27	2	140	28	-	20	16	4	25	•	
28	1,5	140	28	-	20	16	4	26,5	•	
28	2	140	28	-	20	16	4	26	•	
30	1,5	150	28	-	22	18	4	28,5	•	•
30	2	150	28	-	22	18	4	28	•	
32	1,5	150	28	-	22	18	5	30,5	•	
32	2	150	28	-	22	18	4	30	•	
36	1,5	170	30	-	28	22	5	34,5	•	
36	2	170	30	-	28	22	5	34	•	
36	3	200	56	-	28	22	4	33	•	
40	1,5	170	30	-	32	24	5	38,5	•	
40	2	170	30	-	32	24	5	38	•	
40	3	200	60	-	32	24	4	37	•	
42	1,5	170	30	-	32	24	5	40,5	•	
42	2	170	30	-	32	24	5	40	•	
42	3	200	60	-	32	24	5	39	•	
45	1,5	180	32	-	36	29	6	43,5	•	
45	2	180	32	-	36	29	5	43	•	
45	3	200	50	-	36	29	5	42	•	
48	1,5	190	32	-	36	29	6	46,5	•	
48	2	190	32	-	36	29	5	46	•	
48	3	225	50	-	36	29	5	45	•	

• = standard execution

See price list on page 21 21

MF

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric fine thread - DIN 13

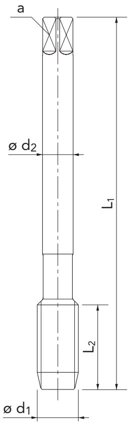
2,5 x D | DIN 13 | HSSE

VERGNANO

A

TAP DIMENSIONS

DIN 374



TOOL CODE

	A17 S 6G BRIGHT	A17 S 6G TiN
		
Tolerance	ISO3 6G	ISO3 6G
Chamfer form	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A17 S 6G BRIGHT	A17 S 6G TiN
P	P.2	● 20-25	● 30-35
	P.3	● 15-20	● 25-30
	P.4	● 12-15	● 20-25
	P.5		● 10-15
	P.7		● 10-15
M	M.1		● 10-15
K	K.2	● 15-20	● 25-30
N	N.2-3	● 20-25	● 30-35
	N.6	● 15-18	● 25-30

$Ød_1$ [mm]	P [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	$Ød_2$ h9 [mm]	a h12 [mm]	z [-]	[mm]	A17 S 6G BRIGHT	A17 S 6G TiN
M 6	0,75	80	14	-	4,5	3,4	3	5,2	•	•
8	1	90	16	-	6	4,9	3	7	•	•
10	1	90	18	-	7	5,5	4	9	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•
12	1,5	100	22	-	9	7	3	10,5	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•

• = standard execution

See price list on page 21 21

R15 | 1,5 x D | DIN 13 | HSSE

VERGNANO

MF

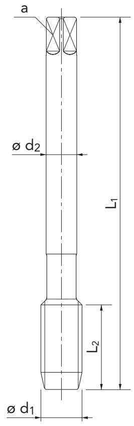
MACHINE TAPS - 15° Spiral flutes

For blind holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

	A30 BRIGHT	A30 TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

A

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A30 BRIGHT	A30 TiN		
P	P.1	• 18-20	• 30-35		
	P.2	• 15-18	• 25-30		
	P.3	• 12-15	• 20-25		
	P.4	• 10-12	• 15-20		
	P.5		• 5-10		
K	K.2	• 12-15	• 20-25		
N	N.1	• 18-20			
	N.2-3	• 15-18	• 25-30		
	N.5	• 15-18			
	N.6	• 12-15	• 20-25		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A30 BRIGHT	A30 TiN		
M 3	0,35	56	8	-	2,2	-	3	2,65	•			
3,5	0,35	56	9	-	2,5	2,1	3	3,15	•			
4	0,5	63	10	-	2,8	2,1	3	3,5	•			
5	0,5	70	12	-	3,5	2,7	3	4,5	•			
6	0,75	80	14	-	4,5	3,4	3	5,2	•	•		
7	0,75	80	14	-	5,5	4,3	3	6,2	•			
8	0,75	80	16	-	6	4,9	3	7,2	•			
8	1	90	16	-	6	4,9	3	7	•	•		
9	1	90	16	-	7	5,5	3	8	•			
10	0,75	90	18	-	7	5,5	3	9,2	•			
10	1	90	18	-	7	5,5	3	9	•	•		
10	1,25	100	18	-	7	5,5	3	8,8	•	•		
11	1	90	20	-	8	6,2	3	10	•			
12	1	100	22	-	9	7	3	11	•	•		
12	1,25	100	22	-	9	7	3	10,8	•	•		
12	1,5	100	22	-	9	7	3	10,5	•	•		
14	1	100	22	-	11	9	3	13	•			
14	1,25	100	22	-	11	9	3	12,8	•	•		
14	1,5	100	22	-	11	9	3	12,5	•	•		
15	1	100	22	-	12	9	4	14	•			
15	1,5	100	22	-	12	9	3	13,5	•			
16	1	100	22	-	12	9	4	15	•			
16	1,25	100	22	-	12	9	4	14,8	•			
16	1,5	100	22	-	12	9	4	14,5	•	•		
17	1	100	22	-	12	9	4	16	•			
17	1,5	100	22	-	12	9	4	15,5	•			
18	1	110	25	-	14	11	4	17	•			
18	1,5	110	25	-	14	11	4	16,5	•	•		
20	1	125	25	-	16	12	4	19	•			
20	1,5	125	25	-	16	12	4	18,5	•	•		
22	1	125	25	-	18	14,5	4	21	•			
22	1,5	125	25	-	18	14,5	4	20,5	•	•		

• = standard execution

See price list on page 22 | 22

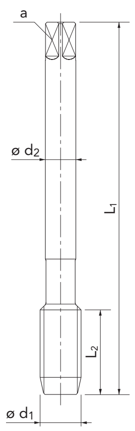
R15 | 1,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - 15° Spiral flutes
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A30 BRIGHT	A30 TiN		
P	P.1	● 18-20	● 30-35		
	P.2	● 15-18	● 25-30		
	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
K	K.2	● 12-15	● 20-25		
N	N.1	● 18-20			
	N.2-3	● 15-18	● 25-30		
	N.5	● 15-18			
	N.6	● 12-15	● 20-25		

TOOL CODE

	A30 BRIGHT	A30 TiN		
				
Tolerance	ISO2 6H	ISO2 6H		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

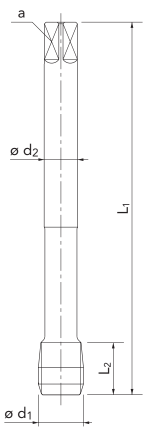
Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A30 BRIGHT	A30 TiN
M 24	1	140	25	-	18	14,5	4	23	•	
24	1,5	140	25	-	18	14,5	4	22,5	•	•
24	2	140	28	-	18	14,5	4	22	•	
25	1	140	25	-	18	14,5	4	24	•	
25	1,5	140	25	-	18	14,5	4	23,5	•	
25	2	140	28	-	18	14,5	4	23	•	
26	1	140	25	-	18	14,5	4	25	•	
26	1,5	140	25	-	18	14,5	4	24,5	•	
26	2	140	28	-	18	14,5	4	24	•	
27	1,5	140	28	-	20	16	4	25,5	•	•
27	2	140	28	-	20	16	4	25	•	
28	1,5	140	28	-	20	16	4	26,5	•	
28	2	140	28	-	20	16	4	26	•	
30	1	150	25	-	22	18	5	29	•	
30	1,5	150	28	-	22	18	4	28,5	•	•
30	2	150	28	-	22	18	4	28	•	
32	1,5	150	28	-	22	18	5	30,5	•	
32	2	150	28	-	22	18	4	30	•	
36	1,5	170	30	-	28	22	5	34,5	•	
36	2	170	30	-	28	22	5	34	•	
36	3	200	56	-	28	22	4	33	•	
40	1,5	170	30	-	32	24	5	38,5	•	
40	2	170	30	-	32	24	5	38	•	
40	3	200	60	-	32	24	5	37	•	
42	1,5	170	30	-	32	24	6	40,5	•	
42	2	170	30	-	32	24	5	40	•	
42	3	200	60	-	32	24	5	39	•	
45	1,5	180	32	-	36	29	6	43,5	•	
45	2	180	32	-	36	29	5	43	•	
45	3	200	50	-	36	29	5	42	•	
48	1,5	190	32	-	36	29	6	46,5	•	
48	2	190	32	-	36	29	6	46	•	
48	3	225	50	-	36	29	5	45	•	
								See price list on page	22	22

• = standard execution

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

	A71 BRIGHT	A71 TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A71 BRIGHT	A71 TiN
P	P.1	● 12-15	● 25-30
	P.2	● 10-15	● 20-25
N	N.1	● 12-15	
	N.2	● 12-15	● 25-30
	N.5	● 10-12	
	N.6	● 10-12	● 20-25

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A71 BRIGHT	A71 TiN
M 6	0,75	80	7,5	-	4,5	3,4	3	5,2	•	•
8	1	90	10	-	6	4,9	3	7	•	•
10	1	90	10	-	7	5,5	3	9	•	•
10	1,25	100	11,5	-	7	5,5	3	8,8	•	•
12	1	100	13	-	9	7	4	11	•	•
12	1,25	100	13,5	-	9	7	4	10,8	•	•
12	1,5	100	14	-	9	7	4	10,5	•	•
14	1,5	100	15,5	-	11	9	4	12,5	•	•
16	1,5	100	15,5	-	12	9	4	14,5	•	•
18	1,5	110	16	-	14	11	4	16,5	•	•
20	1	125	15	-	16	12	4	19	•	
20	1,5	125	17	-	16	12	4	18,5	•	•
22	1,5	125	19	-	18	14,5	4	20,5	•	
24	1,5	140	21	-	18	14,5	4	22,5	•	
24	2	140	26	-	18	14,5	4	22	•	
26	1,5	140	23	-	18	14,5	4	24,5	•	
27	1,5	140	23	-	20	16	4	25,5	•	
27	2	140	28	-	20	16	4	25	•	
28	1,5	140	23	-	20	16	4	26,5	•	
30	1,5	150	25	-	22	18	5	28,5	•	
30	2	150	29	-	22	18	4	28	•	
36	3	200	46	-	28	22	4	33	•	
42	3	200	51	-	32	24	5	39	•	

• = standard execution

See price list on page 22 22

MF

R40 | 2,5 x D | DIN 13 | HSSE

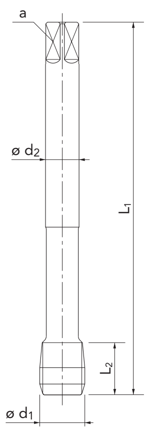
VERGNANO

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A71 S BRIGHT	A71 S VAP	A71 S TiN	A71 S TiCN
P	P.3	● 12-15	● 12-15	● 20-25	● 20-25
	P.4	● 10-12	● 10-12	● 15-20	● 15-20
	P.5			● 5-10	● 5-10
	P.7			● 8-10	● 8-10
M	M.1			● 8-10	● 8-10
K	K.2	● 12-15	● 12-15	● 20-25	● 20-25
N	N.3	● 15-18	● 15-18	● 25-30	● 25-30
	N.6	● 15-18	● 15-18	● 25-30	● 25-30

TOOL CODE

	A71 S BRIGHT	A71 S VAP	A71 S TiN	A71 S TiCN
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A71 S BRIGHT	A71 S VAP	A71 S TiN	A71 S TiCN
M 6	0,75	80	7,5	-	4,5	3,4	3	5,2	•	•	•	•
8	1	90	10	-	6	4,9	3	7	•	•	•	•
10	1	90	10	-	7	5,5	3	9	•	•	•	•
10	1,25	100	11,5	-	7	5,5	3	8,8	•	•	•	•
12	1	100	13	-	9	7	4	11	•	•	•	•
12	1,25	100	13,5	-	9	7	4	10,8	•	•	•	•
12	1,5	100	14	-	9	7	4	10,5	•	•	•	•
14	1,5	100	15,5	-	11	9	4	12,5	•	•	•	•
16	1,5	100	15,5	-	12	9	4	14,5	•	•	•	•
18	1,5	110	16	-	14	11	4	16,5	•	•	•	•
20	1	125	15	-	16	12	4	19	•			
20	1,5	125	17	-	16	12	4	18,5	•	•	•	•
22	1,5	125	19	-	18	14,5	4	20,5	•	•	•	•
24	1,5	140	21	-	18	14,5	4	22,5	•		•	
24	2	140	26	-	18	14,5	4	22	•			
26	1,5	140	23	-	18	14,5	4	24,5	•			
27	1,5	140	23	-	20	16	4	25,5	•		•	
27	2	140	28	-	20	16	4	25	•			
28	1,5	140	23	-	20	16	4	26,5	•			
30	1,5	150	25	-	22	18	5	28,5	•		•	
30	2	150	29	-	22	18	4	28	•			
36	3	200	46	-	28	22	5	33	•			
42	3	200	51	-	32	24	6	39	•			

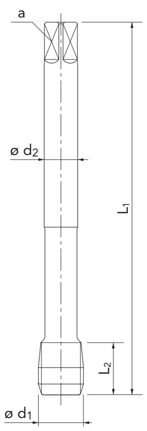
• = standard execution

See price list on page	23	23	23	23

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

	A71 S 6G BRIGHT	A71 S 6G TiN		
				
Tolerance	ISO3 6G	ISO3 6G		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A71 S 6G BRIGHT	A71 S 6G TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

Ød1 [mm]	P [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A71 S 6G BRIGHT	A71 S 6G TiN		
M 6	0,75	80	7,5	-	4,5	3,4	3	5,2	•	•		
8	1	90	10	-	6	4,9	3	7	•	•		
10	1	90	10	-	7	5,5	3	9	•	•		
10	1,25	100	11,5	-	7	5,5	3	8,8	•	•		
12	1	100	13	-	9	7	4	11	•	•		
12	1,25	100	13,5	-	9	7	4	10,8	•	•		
12	1,5	100	14	-	9	7	4	10,5	•	•		
14	1,5	100	15,5	-	11	9	4	12,5	•	•		

• = standard execution

See price list on page 23 23

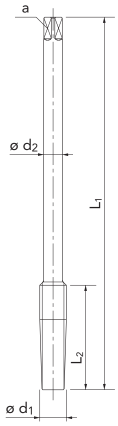
MACHINE NUT TAPS - Straight flutes
ISO Metric fine thread - DIN 13

DIN 13 HSSE

VERGNANO

A

TAP DIMENSIONS



TOOL CODE

	A10 BRIGHT			
				
Tolerance	ISO2 6H			
Chamfer form	–			
Hole type				
Direction of cut	RH			
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A10 BRIGHT			
P	P.1	● 18-20			
	P.2	● 15-18			
	P.3	● 12-15			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A10
M 4	0,5	80	20	-	2,8	2,1	3	3,5	•
5	0,5	85	22	-	3,5	2,7	3	4,5	•
8	1	115	30	-	6	4,9	3	7	•
10	1	130	35	-	7	5,5	3	9	•
10	1,25	140	45	-	7	5,5	3	8,8	•
12	1,25	160	45	-	9	7	3	10,5	•
12	1,5	160	45	-	9	7	3	10,5	•
14	1,5	180	45	-	11	9	3	12,5	•
16	1,5	190	48	-	12	9	3	14,5	•
18	1,5	200	48	-	14	11	3	16,5	•
20	1,5	220	50	-	16	12	3	18,5	•

• = standard execution

See price list on page 23

1,5 x D | DIN 13 | HSSE

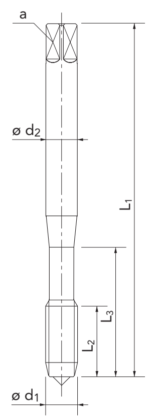
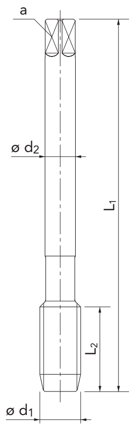
VERGNANO

MF

COLD FORMING TAPS
For blind and through holes
ISO Metric fine thread - DIN 13

A

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10	DIN 2174 DIN 374 ≥M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A81 VAP	A81 TiN	A81 TiCN	
P	P.1-2	● 20-25	● 40-45	● 40-45	
	P.3	● 15-20	● 35-40	● 35-40	
N	N.1	● 20-25	● 40-45	● 40-45	
	N.2		● 40-45	● 40-45	
	N.3		● 35-40	● 35-40	
	N.5	● 20-25	● 40-45	● 40-45	
	N.6		● 40-45	● 40-45	

TOOL CODE

	A81 VAP	A81 TiN	A81 TiCN	
				
Tolerance	6HX	6HX	6HX	
Chamfer form	C (2-3)	C (2-3)	C (2-3)	
Hole type	1,5 x D	1,5 x D	1,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A81 VAP	A81 TiN	A81 TiCN
M 3	0,35	56	10	18	3,5	2,7	4	2,85	•	•	•
4	0,5	63	12	21	4,5	3,4	5	3,8	•	•	•
5	0,5	70	14	24,5	6	4,9	5	4,8	•	•	•
6	0,75	80	16	29	6	4,9	5	5,65	•	•	•
8	1	90	18	33	8	6,2	5	7,55	•	•	•
10	1	90	18	34	10	8	6	9,55	•	•	•
10	1,25	100	20	36	10	8	6	9,4	•	•	•
12	1	100	22	-	9	7	6	11,55	•	•	•
12	1,25	100	22	-	9	7	6	11,4	•	•	•
12	1,5	100	22	-	9	7	6	11,3	•	•	•
14	1,25	100	22	-	11	9	6	13,4	•	•	•
14	1,5	100	22	-	11	9	6	13,3	•	•	•
16	1,5	100	22	-	12	9	6	15,3	•	•	•

• = standard execution

See price list on page	24	24	24

MF

DIN 13 HSSE 1,5 x D

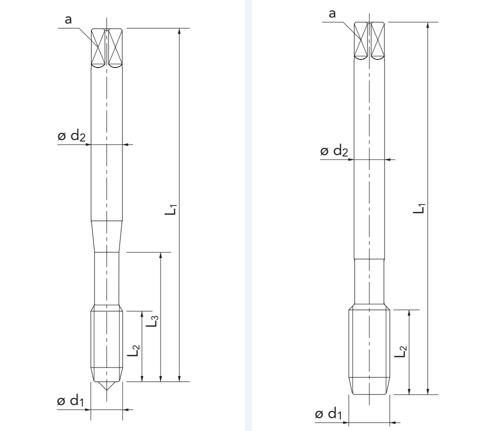
COLD FORMING TAPS
For blind and through holes
ISO Metric fine thread - DIN 13

VERGNANO

A

TAP DIMENSIONS

DIN 2174 DIN 371 ≤ M10 | DIN 2174 DIN 374 ≥ M12



TOOL CODE

	A81 6GX VAP	A81 6GX TiN	A81 6GX TiCN

	A81 6GX VAP	A81 6GX TiN	A81 6GX TiCN
Tolerance	6GX	6GX	6GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A81 6GX VAP	A81 6GX TiN	A81 6GX TiCN
P	P.1-2	● 20-25	● 40-45	● 40-45
	P.3	● 15-20	● 35-40	● 35-40
N	N.1	● 20-25	● 40-45	● 40-45
	N.2		● 40-45	● 40-45
	N.3		● 35-40	● 35-40
	N.5	● 20-25	● 40-45	● 40-45
	N.6		● 40-45	● 40-45

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A81 6GX VAP	A81 6GX TiN	A81 6GX TiCN
M 3	0,35	56	10	18	3,5	2,7	4	2,85	•	•	•
4	0,5	63	12	21	4,5	3,4	5	3,8	•	•	•
5	0,5	70	14	24,5	6	4,9	5	4,8	•	•	•
6	0,75	80	16	29	6	4,9	5	5,65	•	•	•
8	1	90	18	33	8	6,2	5	7,55	•	•	•
10	1	90	18	34	10	8	6	9,55	•	•	•
10	1,25	100	20	36	10	8	6	9,4	•	•	•
12	1	100	22	-	9	7	6	11,55	•	•	•
12	1,25	100	22	-	9	7	6	11,4	•	•	•
12	1,5	100	22	-	9	7	6	11,3	•	•	•
14	1,25	100	22	-	11	9	6	13,4	•	•	•
14	1,5	100	22	-	11	9	6	13,3	•	•	•
16	1,5	100	22	-	12	9	6	15,3	•	•	•

• = standard execution

See price list on page 24 24 24

2,5 x D | DIN 13 | HSSE

VERGNANO

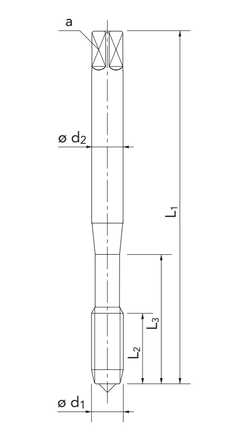
MF

COLD FORMING TAPS - Oil grooves
For blind and through holes
ISO Metric fine thread - DIN 13

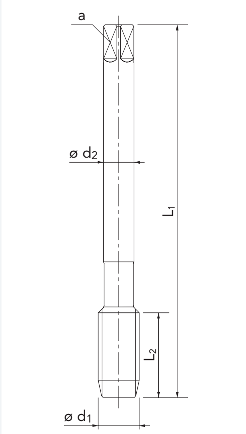
A

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10



DIN 2174 DIN 374 ≥M12



TOOL CODE

	A81 N VAP	A81 N TiN	A81 N TiCN	
				
Tolerance	6HX	6HX	6HX	
Chamfer form	C (2-3)	C (2-3)	C (2-3)	
Hole type	2,5 x D	2,5 x D	2,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A81 N VAP	A81 N TiN	A81 N TiCN	
P	P.1-2	● 20-25	● 40-45	● 40-45	
	P.3	● 15-20	● 35-40	● 35-40	
N	N.1	● 20-25	● 40-45	● 40-45	
	N.2		● 40-45	● 40-45	
	N.3		● 35-40	● 35-40	
	N.5	● 20-25	● 40-45	● 40-45	
	N.6		● 40-45	● 40-45	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A81 N VAP	A81 N TiN	A81 N TiCN
M 3	0,35	56	10	18	3,5	2,7	4	2,85	•	•	•
4	0,5	63	12	21	4,5	3,4	5	3,8	•	•	•
5	0,5	70	14	24,5	6	4,9	5	4,8	•	•	•
6	0,75	80	16	29	6	4,9	5	5,65	•	•	•
8	1	90	18	33	8	6,2	5	7,55	•	•	•
10	1	90	18	34	10	8	6	9,55	•	•	•
10	1,25	100	20	36	10	8	6	9,4	•	•	•
12	1	100	22	-	9	7	6	11,55	•	•	•
12	1,25	100	22	-	9	7	6	11,4	•	•	•
12	1,5	100	22	-	9	7	6	11,3	•	•	•
14	1,25	100	22	-	11	9	6	13,4	•	•	•
14	1,5	100	22	-	11	9	6	13,3	•	•	•
16	1,5	100	22	-	12	9	6	15,3	•	•	•
18	1,5	110	22	-	14	11	8	17,3	•	•	•
20	1,5	125	25	-	16	12	8	19,3	•	•	•
See price list on page									24	24	24

• = standard execution

2,5 x D

DIN 13

HSSE

VERGNANO

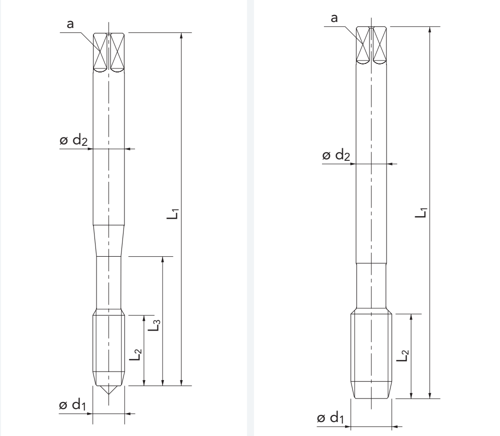
COLD FORMING TAPS - Oil grooves

For blind and through holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10 — DIN 2174 DIN 374 ≥M12



TOOL CODE

A81 N 6GX	A81 N 6GX	A81 N 6GX
VAP	TiN	TiCN

	A81 N 6GX VAP	A81 N 6GX TiN	A81 N 6GX TiCN
Tolerance	6GX	6GX	6GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A81 N 6GX VAP	A81 N 6GX TiN	A81 N 6GX TiCN	
P	P.1-2	● 20-25	● 40-45	● 40-45	
	P.3	● 15-20	● 35-40	● 35-40	
N	N.1	● 20-25	● 40-45	● 40-45	
	N.2		● 40-45	● 40-45	
	N.3		● 35-40	● 35-40	
	N.5	● 20-25	● 40-45	● 40-45	
	N.6		● 40-45	● 40-45	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A81 N 6GX VAP	A81 N 6GX TiN	A81 N 6GX TiCN
M 3	0,35	56	10	18	3,5	2,7	4	2,85	•	•	•
4	0,5	63	12	21	4,5	3,4	5	3,8	•	•	•
5	0,5	70	14	24,5	6	4,9	5	4,8	•	•	•
6	0,75	80	16	29	6	4,9	5	5,65	•	•	•
8	1	90	18	33	8	6,2	5	7,55	•	•	•
10	1	90	18	34	10	8	6	9,55	•	•	•
10	1,25	100	20	36	10	8	6	9,4	•	•	•
12	1	100	22	-	9	7	6	11,55	•	•	•
12	1,25	100	22	-	9	7	6	11,4	•	•	•
12	1,5	100	22	-	9	7	6	11,3	•	•	•
14	1,25	100	22	-	11	9	6	13,4	•	•	•
14	1,5	100	22	-	11	9	6	13,3	•	•	•
16	1,5	100	22	-	12	9	6	15,3	•	•	•
18	1,5	110	22	-	14	11	8	17,3	•	•	•
20	1,5	125	25	-	16	12	8	19,3	•	•	•

• = standard execution

See price list on page 24 24 24

2,5 x D ASME B1.1 HSS

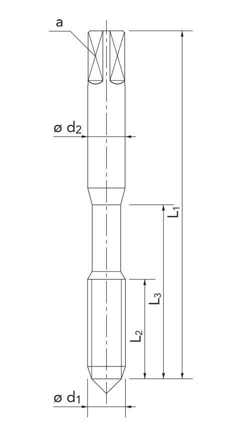
VERGNANO

UNC

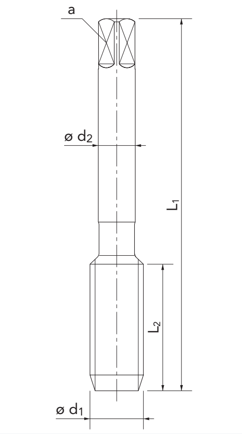
HAND TAPS in sets of three pieces
For blind and through holes
Unified coarse thread - UNC ASME B1.1

TAP DIMENSIONS

DIN 2184-2 ≤ ø 1/4"



DIN 2184-2 ≥ ø 5/16"



TOOL CODE

	A7 ROUGHING	A7 SECOND	A7 FINISHING	A7 SET
				
Tolerance	–	–	2B	2B
Chamfer form	A (5-6)	D (4-5)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE

ISO	MG	A7 ROUGHING	A7 SECOND	A7 FINISHING	A7 SET
P	P.1-4	•	•	•	•
P	P.7	•	•	•	•
K	K.2	•	•	•	•
N	N.1-3	•	•	•	•
N	N.5-7	•	•	•	•

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A7 ROUGHING	A7 SECOND	A7 FINISHING	A7 SET
Nr.1	64	1,854	36	7,5	12	2,8	2,1	3	1,55	•	•	•	•
Nr.2	56	2,184	36	8,5	13,5	2,8	2,1	3	1,85	•	•	•	•
Nr.3	48	2,515	40	8,5	14,5	2,8	2,1	3	2,1	•	•	•	•
Nr.4	40	2,845	40	10	18	3,5	2,7	3	2,35	•	•	•	•
Nr.5	40	3,175	40	10	18	3,5	2,7	3	2,65	•	•	•	•
Nr.6	32	3,505	45	11	20	4	3	3	2,85	•	•	•	•
Nr.8	32	4,166	45	12	21	4,5	3,4	3	3,5	•	•	•	•
Nr.10	24	4,826	50	14	23	6	4,9	3	3,9	•	•	•	•
Nr.12	24	5,486	56	16	28	6	4,9	3	4,5	•	•	•	•
1/4"	20	6,350	56	16	28	6	4,9	3	5,1	•	•	•	•
5/16"	18	7,938	63	22	-	6	4,9	3	6,6	•	•	•	•
3/8"	16	9,525	70	24	-	7	5,5	3	8	•	•	•	•
7/16"	14	11,113	70	24	-	8	6,2	3	9,4	•	•	•	•
1/2"	13	12,700	75	28	-	9	7	3	10,8	•	•	•	•
9/16"	12	14,288	80	28	-	11	9	4	12,2	•	•	•	•
5/8"	11	15,875	80	30	-	12	9	4	13,5	•	•	•	•
3/4"	10	19,050	95	32	-	14	11	4	16,5	•	•	•	•
7/8"	9	22,225	100	32	-	18	14,5	4	19,5	•	•	•	•
1"	8	25,400	110	36	-	18	14,5	4	22,25	•	•	•	•
1 1/8"	7	28,575	125	40	-	22	18	4	25	•	•	•	•
1 1/4"	7	31,750	125	40	-	22	18	4	28	•	•	•	•

• = standard execution

See price list on page 25 25 25 25

UNC

1,5 x D | 1,5 x D | ASME B1.1 | HSSE

MACHINE TAPS - Straight flutes

FC = for blind holes - FP = for through holes

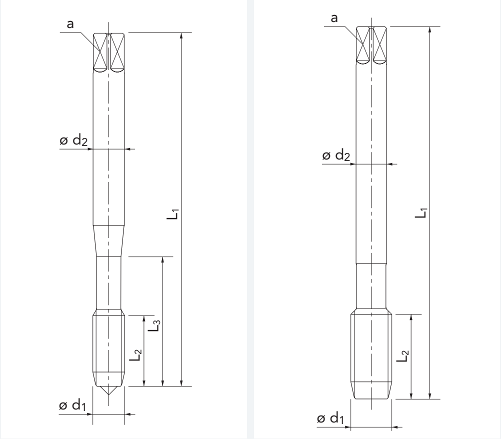
Unified coarse thread - UNC ASME B1.1

VERGNANO

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4" | DIN 2184-1 ≥ ø 5/16"



TOOL CODE

	A27 FC BRIGHT	A27 FC TiN	A27 FP BRIGHT	A27 FP TiN
Tolerance	2B	2B	2B	2B
Chamfer form	C (2-3)	C (2-3)	A (5-6)	A (5-6)
Hole type	1,5 x D	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A27 FC BRIGHT	A27 FC TiN	A27 FP BRIGHT	A27 FP TiN
P	P.1		● 20-25		● 20-25
	P.2	● 10-12	● 15-20	● 10-12	● 15-20
	P.3	● 8-10	● 12-15	● 8-10	● 12-15
K	K.2	● 8-10	● 12-15	● 8-10	● 12-15
N	N.1		● 20-25		● 20-25
	N.5		● 15-20		● 15-20

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A27 FC BRIGHT	A27 FC TiN	A27 FP BRIGHT	A27 FP TiN
Nr.2	56	2,184	45	9	13	2,8	2,1	3	1,85	•	•	•	•
Nr.3	48	2,515	50	9	15	2,8	2,1	3	2,1	•	•	•	•
Nr.4	40	2,845	56	10	18	3,5	2,7	3	2,35	•	•	•	•
Nr.5	40	3,175	56	10	18	3,5	2,7	3	2,65	•	•	•	•
Nr.6	32	3,505	56	11	20	4	3	3	2,85	•	•	•	•
Nr.8	32	4,166	63	13	22	4,5	3,4	3	3,5	•	•	•	•
Nr.10	24	4,826	70	16	26,5	6	4,9	3	3,9	•	•	•	•
Nr.12	24	5,486	80	16	26,5	6	4,9	3	4,5	•	•	•	•
1/4"	20	6,350	80	17	30	7	5,5	3	5,1	•	•	•	•
5/16"	18	7,938	90	18	-	6	4,9	3	6,6	•	•	•	•
3/8"	16	9,525	100	22	-	7	5,5	3	8	•	•	•	•
7/16"	14	11,113	100	24	-	8	6,2	3	9,4	•	•	•	•
1/2"	13	12,700	110	26	-	9	7	3	10,8	•	•	•	•
9/16"	12	14,288	110	28	-	11	9	3	12,2	•	•	•	•
5/8"	11	15,875	110	28	-	12	9	3	13,5	•	•	•	•
3/4"	10	19,050	125	32	-	14	11	4	16,5	•	•	•	•
7/8"	9	22,225	140	32	-	18	14,5	4	19,5	•	•	•	•
1"	8	25,400	160	36	-	18	14,5	4	22,25	•	•	•	•
1 1/8"	7	28,575	180	40	-	22	18	4	25	•		•	
1 1/4"	7	31,750	180	40	-	22	18	4	28	•		•	
1 3/8"	6	34,925	200	50	-	28	22	4	30,75	•		•	
1 1/2"	6	38,100	200	50	-	28	22	4	34	•		•	

• = standard execution

See price list on page 25 | 25 | 25 | 25

2,5 x D ASME B1.1 HSSE

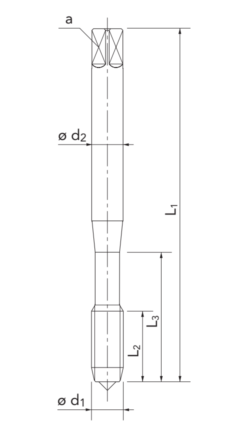
VERGNANO

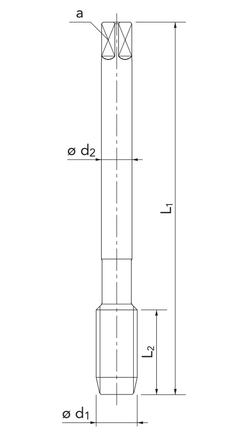
UNC

MACHINE TAPS - Straight flutes / for cast iron
For blind and through holes
Unified coarse thread - UNC ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"





APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A49 NITRIDED	A49 TiCN		
K	K.1	● 15-20	● 40-45		
N	N.4	● 15-20	● 40-45		
	N.7	● 15-20	● 40-45		
	N.9-10	● 20-25	● 45-50		

TOOL CODE

	A49 NITRIDED	A49 TiCN		
				
Tolerance	2BX	2BX		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A49 NITRIDED	A49 TiCN
Nr.2	56	2,184	45	9	13	2,8	2,1	3	1,85	•	•
Nr.3	48	2,515	50	9	15	2,8	2,1	3	2,1	•	•
Nr.4	40	2,845	56	10	18	3,5	2,7	3	2,35	•	•
Nr.5	40	3,175	56	10	18	3,5	2,7	3	2,65	•	•
Nr.6	32	3,505	56	11	20	4	3	3	2,85	•	•
Nr.8	32	4,166	63	13	22	4,5	3,4	3	3,5	•	•
Nr.10	24	4,826	70	16	26,5	6	4,9	3	3,9	•	•
Nr.12	24	5,486	80	16	26,5	6	4,9	3	4,5	•	•
1/4"	20	6,350	80	17	30	7	5,5	3	5,1	•	•
5/16"	18	7,938	90	18	-	6	4,9	4	6,6	•	•
3/8"	16	9,525	100	22	-	7	5,5	4	8	•	•
7/16"	14	11,113	100	24	-	8	6,2	4	9,4	•	•
1/2"	13	12,700	110	26	-	9	7	4	10,8	•	•
9/16"	12	14,288	110	28	-	11	9	4	12,2	•	•
5/8"	11	15,875	110	28	-	12	9	4	13,5	•	•
3/4"	10	19,050	125	32	-	14	11	4	16,5	•	•
7/8"	9	22,225	140	32	-	18	14,5	4	19,5	•	•
1"	8	25,400	160	36	-	18	14,5	5	22,25	•	•
1 1/8"	7	28,575	180	40	-	22	18	5	25	•	
1 1/4"	7	31,750	180	40	-	22	18	5	28	•	
1 3/8"	6	34,925	200	50	-	28	22	5	30,75	•	
1 1/2"	6	38,100	200	50	-	28	22	5	34	•	

• = standard execution

See price list on page 26 26

A

UNC

2,5 x D | ASME B1.1 | HSSE

VERGNANO

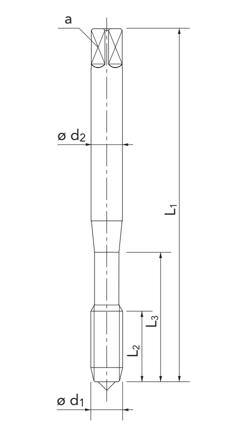
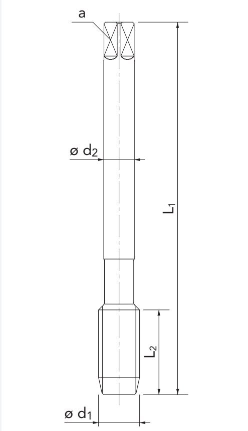
MACHINE TAPS - Straight flutes with spiral point

For through holes

Unified coarse thread - UNC ASME B1.1

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"
	

TOOL CODE

A19 S BRIGHT	A19 S TiN	A19 S TiCN	A19 S 3B BRIGHT
			

	A19 S BRIGHT	A19 S TiN	A19 S TiCN	A19 S 3B BRIGHT
Tolerance	2B	2B	2B	3B
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A19 S BRIGHT	A19 S TiN	A19 S TiCN	A19 S 3B BRIGHT
P	P.2	● 20-25	● 30-35	● 30-35	● 20-25
	P.3	● 15-20	● 25-30	● 25-30	● 15-20
	P.4	● 12-15	● 20-25	● 20-25	● 12-15
	P.5		● 10-15	● 10-15	
	P.7		● 10-15	● 10-15	
M	M.1		● 10-15	● 10-15	
K	K.2	● 15-20	● 25-30	● 25-30	● 15-20
N	N.2-3	● 20-25	● 30-35	● 30-35	● 20-25
	N.6	● 15-18	● 25-30	● 25-30	● 15-18

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A19 S BRIGHT	A19 S TiN	A19 S TiCN	A19 S 3B BRIGHT
Nr.2	56	2,184	45	8	13	2,8	2,1	2	1,85	•	•	•	
Nr.3	48	2,515	50	9	15	2,8	2,1	3	2,1	•	•	•	
Nr.4	40	2,845	56	10	18	3,5	2,7	3	2,35	•	•	•	
Nr.5	40	3,175	56	10	18	3,5	2,7	3	2,65	•	•	•	
Nr.6	32	3,505	56	11	20	4	3	3	2,85	•	•	•	•
Nr.8	32	4,166	63	13	22	4,5	3,4	3	3,5	•	•	•	•
Nr.10	24	4,826	70	16	26,5	6	4,9	3	3,9	•	•	•	•
Nr.12	24	5,486	80	16	26,5	6	4,9	3	4,5	•	•	•	•
1/4"	20	6,350	80	17	30	7	5,5	3	5,1	•	•	•	•
5/16"	18	7,938	90	18	-	6	4,9	3	6,6	•	•	•	•
3/8"	16	9,525	100	22	-	7	5,5	3	8	•	•	•	•
7/16"	14	11,113	100	24	-	8	6,2	3	9,4	•	•	•	•
1/2"	13	12,700	110	26	-	9	7	3	10,8	•	•	•	•
9/16"	12	14,288	110	28	-	11	9	3	12,2	•	•	•	•
5/8"	11	15,875	110	28	-	12	9	3	13,5	•	•	•	•
3/4"	10	19,050	125	32	-	14	11	4	16,5	•	•	•	•
7/8"	9	22,225	140	32	-	18	14,5	4	19,5	•	•	•	
1"	8	25,400	160	36	-	18	14,5	4	22,25	•	•	•	

• = standard execution

See price list on page 26 26 26 26

R15 | 1,5 x D | ASME B1.1 | HSSE

VERGNANO

UNC

MACHINE TAPS - 15° Spiral flutes

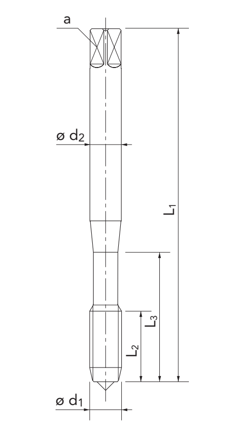
For blind holes

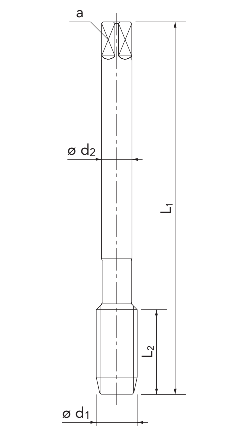
Unified coarse thread - UNC ASME B1.1

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"





TOOL CODE

	A33 BRIGHT	A33 TiN	A33 3B BRIGHT
Tolerance	2B	2B	3B
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A33 BRIGHT	A33 TiN	A33 3B BRIGHT
P	P.1	• 18-20	• 30-35	• 18-20
	P.2	• 15-18	• 25-30	• 15-18
	P.3	• 12-15	• 20-25	• 12-15
	P.4	• 10-12	• 15-20	• 10-12
	P.5		• 5-10	
K	K.2	• 12-15	• 20-25	• 12-15
N	N.1	• 18-20		• 18-20
	N.2-3	• 15-18	• 25-30	• 15-18
	N.5	• 15-18		• 15-18
	N.6	• 12-15	• 20-25	• 12-15

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A33 BRIGHT	A33 TiN	A33 3B BRIGHT
Nr.2	56	2,184	45	8	13	2,8	2,1	3	1,85	•	•	
Nr.3	48	2,515	50	9	15	2,8	2,1	3	2,1	•	•	
Nr.4	40	2,845	56	10	18	3,5	2,7	3	2,35	•	•	
Nr.5	40	3,175	56	10	18	3,5	2,7	3	2,65	•	•	
Nr.6	32	3,505	56	11	20	4	3	3	2,85	•	•	•
Nr.8	32	4,166	63	13	20	4,5	3,4	3	3,5	•	•	•
Nr.10	24	4,826	70	16	26,5	6	4,9	3	3,9	•	•	•
Nr.12	24	5,486	80	16	29	6	4,9	3	4,5	•	•	•
1/4"	20	6,350	80	17	30	7	5,5	3	5,1	•	•	•
5/16"	18	7,938	90	18	-	6	4,9	3	6,6	•	•	•
3/8"	16	9,525	100	22	-	7	5,5	3	8	•	•	•
7/16"	14	11,113	100	24	-	8	6,2	3	9,4	•	•	•
1/2"	13	12,700	110	26	-	9	7	3	10,8	•	•	•
9/16"	12	14,288	110	28	-	11	9	3	12,2	•	•	•
5/8"	11	15,875	110	28	-	12	9	3	13,5	•	•	•
3/4"	10	19,050	125	32	-	14	11	4	16,5	•	•	•
7/8"	9	22,225	140	32	-	18	14,5	4	19,5	•	•	
1"	8	25,400	160	36	-	18	14,5	4	22,25	•	•	
1 1/8"	7	28,575	180	40	-	22	18	4	25	•		
1 1/4"	7	31,750	180	40	-	22	18	4	28	•		
1 3/8"	6	34,925	200	50	-	28	22	4	30,75	•		
1 1/2"	6	38,100	200	50	-	28	22	4	34	•		

• = standard execution

See price list on page 27 27 27

R40 | 2,5 x D | ASME B1.1 | HSSE

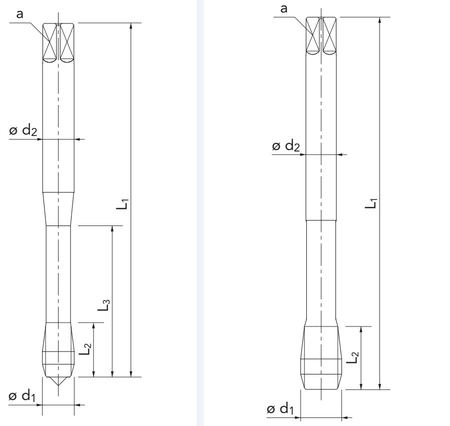
MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

Unified coarse thread - UNC ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"



TOOL CODE

	A60 BRIGHT	A60 TiN		
				
Tolerance	2B	2B		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A60 BRIGHT	A60 TiN		
P	P.1	● 12-15	● 25-30		
	P.2	● 10-15	● 20-25		
N	N.1	● 12-15			
	N.2	● 12-15	● 25-30		
	N.5	● 10-12			
	N.6	● 10-12	● 20-25		

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A60 BRIGHT	A60 TiN
Nr.2	56	2,184	45	6	13	2,8	2,1	3	1,85	•	•
Nr.3	48	2,515	50	6	15	2,8	2,1	3	2,1	•	•
Nr.4	40	2,845	56	6,5	21	3,5	2,7	3	2,35	•	•
Nr.5	40	3,175	56	6,5	21	3,5	2,7	3	2,65	•	•
Nr.6	32	3,505	56	7,5	22,5	4	3	3	2,85	•	•
Nr.8	32	4,166	63	7,5	26	4,5	3,4	3	3,5	•	•
Nr.10	24	4,826	70	10	28,5	6	4,9	3	3,9	•	•
Nr.12	24	5,486	80	10	28,5	6	4,9	3	4,5	•	•
1/4"	20	6,350	80	11,5	32	7	5,5	3	5,1	•	•
5/16"	18	7,938	90	13	-	6	4,9	3	6,6	•	•
3/8"	16	9,525	100	14	-	7	5,5	3	8	•	•
7/16"	14	11,112	100	17	-	8	6,2	3	9,4	•	•
1/2"	13	12,700	110	19	-	9	7	4	10,8	•	•
9/16"	12	14,288	110	21	-	11	9	4	12,2	•	•
5/8"	11	15,875	110	22,5	-	12	9	4	13,5	•	•
3/4"	10	19,050	125	26	-	14	11	4	16,5	•	•
7/8"	9	22,225	140	30	-	18	14,5	4	19,5	•	•
1"	8	25,400	160	36,5	-	18	14,5	4	22,25	•	•

• = standard execution

See price list on page 27 27

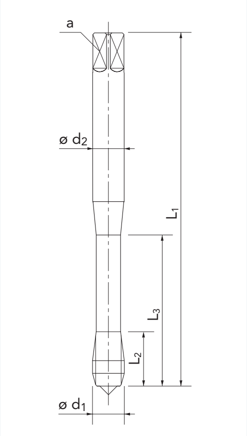
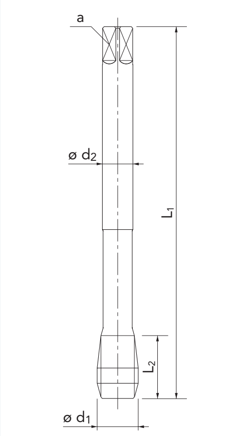
R40 | 2,5 x D | ASME B1.1 | HSSE

VERGNANO

UNC

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
Unified coarse thread - UNC ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A60 S BRIGHT	A60 S TiN	A60 S TiCN	A60 S TiX2
P	P.3	● 12-15	● 20-25	● 20-25	
	P.4	● 10-12	● 15-20	● 15-20	
	P.5		● 5-10	● 5-10	
	P.7		● 8-10	● 8-10	● 8-10
M	M.1		● 8-10	● 8-10	● 8-10
	M.2				● 5-7
K	K.2	● 12-15	● 20-25	● 20-25	
N	N.3	● 15-18	● 25-30	● 25-30	
	N.6	● 15-18	● 25-30	● 25-30	

TOOL CODE

	A60 S BRIGHT	A60 S TiN	A60 S TiCN	A60 S TiX2
				
Tolerance	2B	2B	2B	2B
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A60 S BRIGHT	A60 S TiN	A60 S TiCN	A60 S TiX2
Nr.2	56	2,184	45	6	13	2,8	2,1	3	1,85	•	•	•	•
Nr.3	48	2,515	50	6	15	2,8	2,1	3	2,1	•	•	•	•
Nr.4	40	2,845	56	6,5	21	3,5	2,7	3	2,35	•	•	•	•
Nr.5	40	3,175	56	6,5	21	3,5	2,7	3	2,65	•	•	•	•
Nr.6	32	3,505	56	7,5	22,5	4	3	3	2,85	•	•	•	•
Nr.8	32	4,166	63	7,5	26	4,5	3,4	3	3,5	•	•	•	•
Nr.10	24	4,826	70	10	28,5	6	4,9	3	3,9	•	•	•	•
Nr.12	24	5,486	80	10	28,5	6	4,9	3	4,5	•	•	•	•
1/4"	20	6,350	80	11,5	32	7	5,5	3	5,1	•	•	•	•
5/16"	18	7,938	90	13	-	6	4,9	3	6,6	•	•	•	•
3/8"	16	9,525	100	14	-	7	5,5	3	8	•	•	•	•
7/16"	14	11,112	100	17	-	8	6,2	3	9,4	•	•	•	•
1/2"	13	12,700	110	19	-	9	7	4	10,8	•	•	•	•
9/16"	12	14,288	110	21	-	11	9	4	12,2	•	•	•	•
5/8"	11	15,875	110	22,5	-	12	9	4	13,5	•	•	•	•
3/4"	10	19,050	125	26	-	14	11	4	16,5	•	•	•	•
7/8"	9	22,225	140	30	-	18	14,5	4	19,5	•	•	•	•
1"	8	25,400	160	36,5	-	18	14,5	4	22,25	•	•	•	•

• = standard execution

See price list on page 27 | 27 | 27 | 27

A

R40 2 | 2,5 x D | ASME B1.1 | HSSE

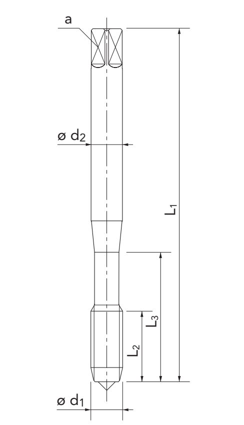
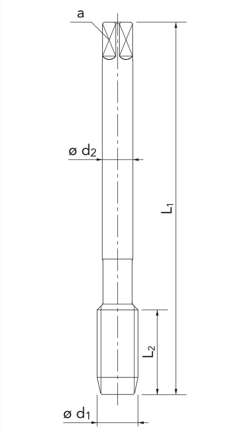
VERGNANO

MACHINE TAPS - Two 40° spiral flutes / for light alloys

For blind holes

Unified coarse thread - UNC ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"
	

TOOL CODE

A65 BRIGHT

	A65
Tolerance	2B
Chamfer form	C (2-3)
Hole type	2,5 x D
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A65 BRIGHT			
N	N.1-2	● 12-15			
	N.5-6	● 10-12			
S	S.1	● 6-8			
	S.3	● 6-8			

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A65
Nr.3	48	2,515	50	9	15	2,8	2,1	2	2,1	•
Nr.4	40	2,845	56	10	18	3,5	2,7	2	2,35	•
Nr.5	40	3,175	56	10	18	3,5	2,7	2	2,65	•
Nr.6	32	3,505	56	11	20	4	3	2	2,85	•
Nr.8	32	4,166	63	13	20	4,5	3,4	2	3,5	•
Nr.10	24	4,826	70	16	26,5	6	4,9	2	3,9	•
Nr.12	24	5,486	80	16	29	6	4,9	2	4,5	•
1/4"	20	6,350	80	17	30	7	5,5	2	5,1	•
5/16"	18	7,938	90	18	-	6	4,9	2	6,6	•
3/8"	16	9,525	100	22	-	7	5,5	2	8	•

• = standard execution

See price list on page 27

2,5 x D ASME B1.1 HSS

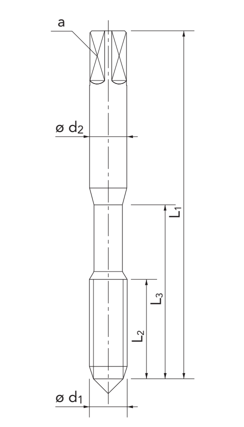
VERGNANO

UNF

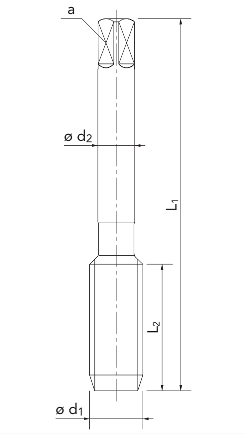
HAND TAPS in sets of two pieces
For blind and through holes
Unified fine thread - UNF ASME B1.1

TAP DIMENSIONS

DIN 2184-2 ≤ ø 1/4"



DIN 2184-2 ≥ ø 5/16"



APPLICATION RANGE

ISO	MG	A8 ROUGHING	A8 FINISHING	A8 SET
P	P.1-4	●	●	●
P	P.7	●	●	●
K	K.2	●	●	●
N	N.1-3	●	●	●
N	N.5-7	●	●	●

TOOL CODE

	A8 ROUGHING	A8 FINISHING	A8 SET
			
Tolerance	–	2B	2B
Chamfer form	A (5-6)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

UNF	P [T.P.I.]	$Ød_1$ [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	$Ød_2$ h9 [mm]	a h12 [mm]	z [-]	[mm]	A8 ROUGHING	A8 FINISHING	A8 SET
Nr.2	64	2,184	36	9	15	2,8	2,1	3	1,85	•	•	•
Nr.3	56	2,515	40	9	15	2,8	2,1	3	2,15	•	•	•
Nr.4	48	2,845	40	10	18	3,5	2,7	3	2,4	•	•	•
Nr.5	44	3,175	40	10	18	3,5	2,7	3	2,7	•	•	•
Nr.6	40	3,505	45	11	20	4	3	3	2,95	•	•	•
Nr.8	36	4,166	45	12	21	4,5	3,4	3	3,5	•	•	•
Nr.10	32	4,826	50	14	23	6	4,9	3	4,1	•	•	•
Nr.12	28	5,486	56	16	28	6	4,9	3	4,6	•	•	•
1/4"	28	6,350	56	16	28	6	4,9	3	5,5	•	•	•
5/16"	24	7,938	63	18	-	6	4,9	3	6,9	•	•	•
3/8"	24	9,525	63	18	-	7	5,5	3	8,5	•	•	•
7/16"	20	11,113	70	20	-	8	6,2	3	9,9	•	•	•
1/2"	20	12,700	70	20	-	9	7	4	11,5	•	•	•
9/16"	18	14,288	70	22	-	11	9	4	12,9	•	•	•
5/8"	18	15,875	70	22	-	12	9	4	14,5	•	•	•
3/4"	16	19,050	80	22	-	14	11	4	17,5	•	•	•
7/8"	14	22,225	80	22	-	18	14,5	4	20,4	•	•	•
1"	12	25,400	90	22	-	18	14,5	4	23,25	•	•	•
1 1/8"	12	28,575	90	22	-	22	18	4	26,5	•	•	•
1 1/4"	12	31,750	90	22	-	22	18	4	29,5	•	•	•

• = standard execution

See price list on page 28 28 28

A

UNF

1,5 x D 1,5 x D ASME B1.1 HSSE

VERGNANO

MACHINE TAPS - Straight flutes

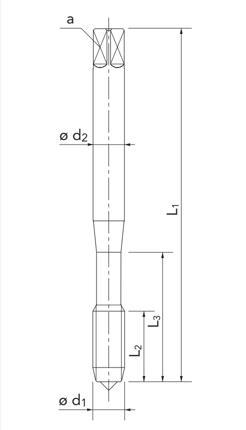
FC = for blind holes - FP = for through holes

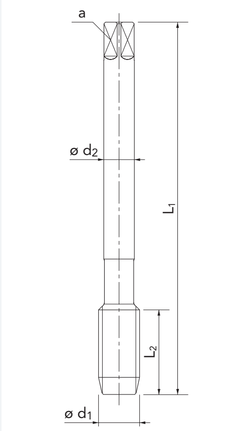
Unified fine thread - UNF ASME B1.1

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"





TOOL CODE

A28 FC BRIGHT	A28 FC TiN	A28 FP BRIGHT	A28 FP TiN

	A28 FC BRIGHT	A28 FC TiN	A28 FP BRIGHT	A28 FP TiN
Tolerance	2B	2B	2B	2B
Chamfer form	C (2-3)	C (2-3)	A (5-6)	A (5-6)
Hole type	1,5 x D	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A28 FC BRIGHT	A28 FC TiN	A28 FP BRIGHT	A28 FP TiN
P	P.1		● 20-25		● 20-25
	P.2	● 10-12	● 15-20	● 10-12	● 15-20
	P.3	● 8-10	● 12-15	● 8-10	● 12-15
K	K.2	● 8-10	● 12-15	● 8-10	● 12-15
N	N.1		● 20-25		● 20-25
	N.5		● 15-20		● 15-20

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A28 FC BRIGHT	A28 FC TiN	A28 FP BRIGHT	A28 FP TiN
Nr.2	64	2,184	45	9	13	2,8	2,1	3	1,85	•	•	•	•
Nr.3	56	2,515	50	9	15	2,8	2,1	3	2,15	•	•	•	•
Nr.4	48	2,845	56	10	18	3,5	2,7	3	2,4	•	•	•	•
Nr.5	44	3,175	56	10	18	3,5	2,7	3	2,7	•	•	•	•
Nr.6	40	3,505	56	11	20	4	3	3	2,95	•	•	•	•
Nr.8	36	4,166	63	12	21	4,5	3,4	3	3,5	•	•	•	•
Nr.10	32	4,826	70	14	24,5	6	4,9	3	4,1	•	•	•	•
Nr.12	28	5,486	80	16	26,5	6	4,9	3	4,6	•	•	•	•
1/4"	28	6,350	80	16	30	7	5,5	3	5,5	•	•	•	•
5/16"	24	7,938	90	18	-	6	4,9	3	6,9	•	•	•	•
3/8"	24	9,525	90	18	-	7	5,5	3	8,5	•	•	•	•
7/16"	20	11,113	100	20	-	8	6,2	3	9,9	•	•	•	•
1/2"	20	12,700	100	22	-	9	7	3	11,5	•	•	•	•
9/16"	18	14,288	100	22	-	11	9	3	12,9	•	•	•	•
5/8"	18	15,875	100	22	-	12	9	3	14,5	•	•	•	•
3/4"	16	19,050	110	25	-	14	11	4	17,5	•	•	•	•
7/8"	14	22,225	125	25	-	18	14,5	4	20,4	•	•	•	•
1"	12	25,400	140	28	-	18	14,5	4	23,25	•	•	•	•
1 1/8"	12	28,575	150	28	-	22	18	4	26,5	•		•	
1 1/4"	12	31,750	150	28	-	22	18	4	29,5	•		•	
1 3/8"	12	34,925	170	30	-	28	22	4	32,75	•		•	
1 1/2"	12	38,100	170	30	-	28	22	5	36	•		•	

• = standard execution

See price list on page 28 28 28 28

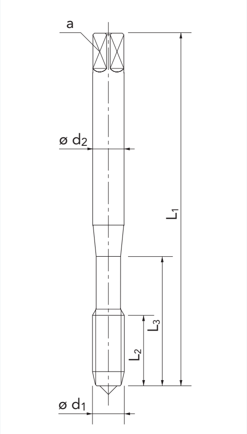
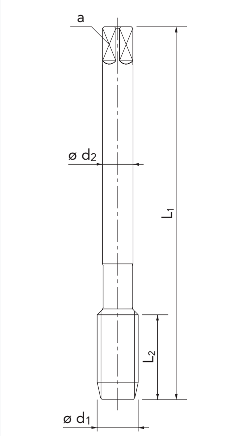
2,5 x D | ASME B1.1 | HSSE

VERGNANO

UNF

MACHINE TAPS - Straight flutes / for cast iron
For blind and through holes
Unified fine thread - UNF ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"
	

TOOL CODE

	A50 NITRIDED	A50 TiCN		
				
Tolerance	2BX	2BX		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A50 NITRIDED	A50 TiCN		
K	K.1	● 15-20	● 40-45		
N	N.4	● 15-20	● 40-45		
	N.7	● 15-20	● 40-45		
	N.9-10	● 20-25	● 45-50		

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A50 NITRIDED	A50 TiCN
Nr.8	36	4,166	63	12	21	4,5	3,4	3	3,5	•	•
Nr.10	32	4,826	70	14	24,5	6	4,9	3	4,1	•	•
Nr.12	28	5,486	80	16	26,5	6	4,9	3	4,6	•	•
1/4"	28	6,350	80	16	30	7	5,5	3	5,5	•	•
5/16"	24	7,938	90	18	-	6	4,9	4	6,9	•	•
3/8"	24	9,525	90	18	-	7	5,5	4	8,5	•	•
7/16"	20	11,113	100	20	-	8	6,2	4	9,9	•	•
1/2"	20	12,700	100	22	-	9	7	4	11,5	•	•
9/16"	18	14,288	100	22	-	11	9	4	12,9	•	•
5/8"	18	15,875	100	22	-	12	9	4	14,5	•	•
3/4"	16	19,050	110	25	-	14	11	4	17,5	•	•
7/8"	14	22,225	125	25	-	18	14,5	4	20,4	•	•
1"	12	25,400	140	28	-	18	14,5	5	23,25	•	•
1 1/8"	12	28,575	150	28	-	22	18	5	26,5	•	
1 1/4"	12	31,750	150	28	-	22	18	5	29,5	•	
1 3/8"	12	34,925	170	30	-	28	22	5	32,75	•	
1 1/2"	12	38,100	170	30	-	28	22	5	36	•	

• = standard execution

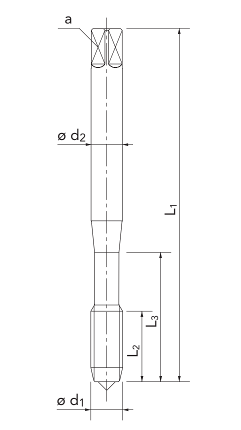
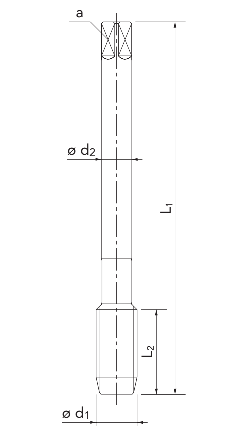
See price list on page 29 29

VERGNANO

2,5 x D | ASME B1.1 | HSSE

MACHINE TAPS - Straight flutes with spiral point
For through holes
Unified fine thread - UNF ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"
	

TOOL CODE

	A20 S BRIGHT	A20 S TiN	A20 S TiCN	A20 S 3B BRIGHT
				
Tolerance	2B	2B	2B	3B
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A20 S BRIGHT	A20 S TiN	A20 S TiCN	A20 S 3B BRIGHT
P	P.2	● 20-25	● 30-35	● 30-35	● 20-25
	P.3	● 15-20	● 25-30	● 25-30	● 15-20
	P.4	● 12-15	● 20-25	● 20-25	● 12-15
	P.5		● 10-15	● 10-15	
	P.7		● 10-15	● 10-15	
M	M.1		● 10-15	● 10-15	
K	K.2	● 15-20	● 25-30	● 25-30	● 15-20
N	N.2-3	● 20-25	● 30-35	● 30-35	● 20-25
	N.6	● 15-18	● 25-30	● 25-30	● 15-18

UNF	P [T.P.I.]	Ød_1 [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	Ød_2 h9 [mm]	a h12 [mm]	z [-]	▯ [mm]	A20 S BRIGHT	A20 S TiN	A20 S TiCN	A20 S 3B BRIGHT
Nr.2	64	2,184	45	9	13	2,8	2,1	2	1,85	•	•	•	
Nr.3	56	2,515	50	9	15	2,8	2,1	3	2,15	•	•	•	
Nr.4	48	2,845	56	10	18	3,5	2,7	3	2,4	•	•	•	
Nr.5	44	3,175	56	10	18	3,5	2,7	3	2,7	•	•	•	
Nr.6	40	3,505	56	11	20	4	3	3	2,95	•	•	•	•
Nr.8	36	4,166	63	12	21	4,5	3,4	3	3,5	•	•	•	•
Nr.10	32	4,826	70	14	24,5	6	4,9	3	4,1	•	•	•	•
Nr.12	28	5,486	80	16	26,5	6	4,9	3	4,6	•	•	•	•
1/4"	28	6,350	80	16	30	7	5,5	3	5,5	•	•	•	•
5/16"	24	7,938	90	18	-	6	4,9	3	6,9	•	•	•	•
3/8"	24	9,525	90	18	-	7	5,5	3	8,5	•	•	•	•
7/16"	20	11,113	100	20	-	8	6,2	3	9,9	•	•	•	•
1/2"	20	12,700	100	22	-	9	7	4	11,5	•	•	•	•
9/16"	18	14,288	100	22	-	11	9	4	12,9	•	•	•	•
5/8"	18	15,875	100	22	-	12	9	4	14,5	•	•	•	•
3/4"	16	19,050	110	25	-	14	11	4	17,5	•	•	•	•
7/8"	14	22,225	125	25	-	18	14,5	4	20,4	•	•	•	
1"	12	25,400	140	28	-	18	14,5	4	23,25	•	•	•	

• = standard execution

See price list on page 29 | 29 | 29 | 29

R15 | 1,5 x D | ASME B1.1 | HSSE

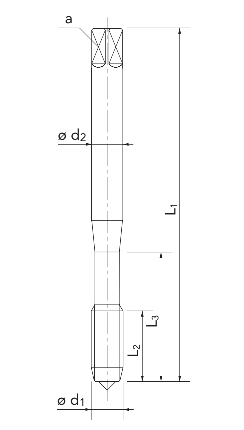
VERGNANO

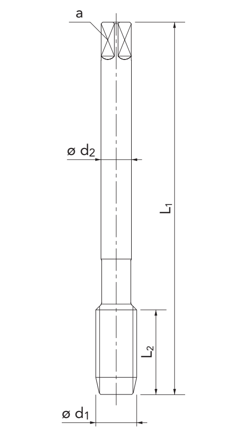
UNF

MACHINE TAPS - 15° Spiral flutes
For blind holes
Unified fine thread - UNF ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"





APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A34 BRIGHT	A34 TiN	A34 3B BRIGHT	
P	P.1	● 18-20	● 30-35	● 18-20	
	P.2	● 15-18	● 25-30	● 15-18	
	P.3	● 12-15	● 20-25	● 12-15	
	P.4	● 10-12	● 15-20	● 10-12	
	P.5		● 5-10		
K	K.2	● 12-15	● 20-25	● 12-15	
N	N.1	● 18-20		● 18-20	
	N.2-3	● 15-18	● 25-30	● 15-18	
	N.5	● 15-18		● 15-18	
	N.6	● 12-15	● 20-25	● 12-15	

TOOL CODE

	A34 BRIGHT	A34 TiN	A34 3B BRIGHT	
				
Tolerance	2B	2B	3B	
Chamfer form	C (2-3)	C (2-3)	C (2-3)	
Hole type	1,5 x D	1,5 x D	1,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A34 BRIGHT	A34 TiN	A34 3B BRIGHT
Nr.2	64	2,184	45	9	13	2,8	2,1	3	1,85	•	•	
Nr.3	56	2,515	50	9	15	2,8	2,1	3	2,15	•	•	
Nr.4	48	2,845	56	10	18	3,5	2,7	3	2,4	•	•	
Nr.5	44	3,175	56	10	18	3,5	2,7	3	2,7	•	•	
Nr.6	40	3,505	56	11	20	4	3	3	2,95	•	•	•
Nr.8	36	4,166	63	12	21	4,5	3,4	3	3,5	•	•	•
Nr.10	32	4,826	70	14	24,5	6	4,9	3	4,1	•	•	•
Nr.12	28	5,486	80	16	26,5	6	4,9	3	4,6	•	•	•
1/4"	28	6,350	80	16	30	7	5,5	3	5,5	•	•	•
5/16"	24	7,938	90	18	-	6	4,9	3	6,9	•	•	•
3/8"	24	9,525	90	18	-	7	5,5	3	8,5	•	•	•
7/16"	20	11,113	100	20	-	8	6,2	3	9,9	•	•	•
1/2"	20	12,700	100	22	-	9	7	3	11,5	•	•	•
9/16"	18	14,288	100	22	-	11	9	3	12,9	•	•	•
5/8"	18	15,875	100	22	-	12	9	3	14,5	•	•	•
3/4"	16	19,050	110	25	-	14	11	4	17,5	•	•	•
7/8"	14	22,225	125	25	-	18	14,5	4	20,4	•	•	
1"	12	25,400	140	28	-	18	14,5	4	23,25	•	•	
1 1/8"	12	28,575	150	28	-	22	18	4	26,5	•		
1 1/4"	12	31,750	150	28	-	22	18	4	29,5	•		
1 3/8"	12	34,925	170	30	-	28	22	5	32,75	•		
1 1/2"	12	38,100	170	30	-	28	22	5	36	•		

• = standard execution

See price list on page 30 30 30

A

UNF

R40 | 2,5 x D | ASME B1.1 | HSSE

VERGNANO

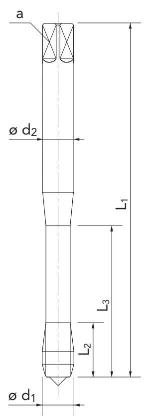
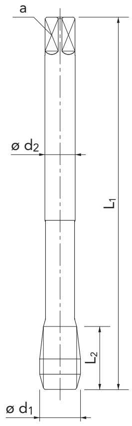
MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

Unified fine thread - UNF ASME B1.1

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"
	

TOOL CODE

	A61 BRIGHT	A61 TiN		
				
Tolerance	2B	2B		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A61 BRIGHT	A61 TiN		
P	P.1	● 12-15	● 25-30		
	P.2	● 10-15	● 20-25		
N	N.1	● 12-15			
	N.2	● 12-15	● 25-30		
	N.5	● 10-12			
	N.6	● 10-12	● 20-25		

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	drill [mm]	A61 BRIGHT	A61 TiN
Nr.2	64	2,184	45	5,5	13	2,8	2,1	3	1,85	•	•
Nr.3	56	2,515	50	6	18	2,8	2,1	3	2,15	•	•
Nr.4	48	2,845	56	6	18	3,5	2,7	3	2,4	•	•
Nr.5	44	3,175	56	6	18	3,5	2,7	3	2,7	•	•
Nr.6	40	3,505	56	6,5	22	4	3	3	2,95	•	•
Nr.8	36	4,166	63	7	26,5	4,5	3,4	3	3,5	•	•
Nr.10	32	4,826	70	8	29	6	4,9	3	4,1	•	•
Nr.12	28	5,486	80	9	29,5	6	4,9	3	4,6	•	•
1/4"	28	6,350	80	10	32	7	5,5	3	5,5	•	•
5/16"	24	7,938	90	11	-	6	4,9	3	6,9	•	•
3/8"	24	9,525	90	12	-	7	5,5	3	8,5	•	•
7/16"	20	11,113	100	13,5	-	8	6,2	3	9,9	•	•
1/2"	20	12,700	100	14,5	-	9	7	4	11,5	•	•
9/16"	18	14,288	100	15,5	-	11	9	4	12,9	•	•
5/8"	18	15,875	100	16	-	12	9	4	14,5	•	•
3/4"	16	19,050	110	18	-	14	11	4	17,5	•	•
7/8"	14	22,225	125	23,5	-	18	14,5	4	20,4	•	•
1"	12	25,400	140	26	-	18	14,5	4	23,25	•	•

• = standard execution

See price list on page 30 30

R40 | 2,5 x D | ASME B1.1 | HSSE

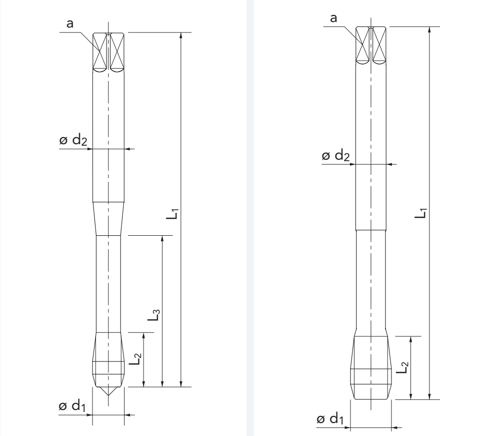
VERGNANO

UNF

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
Unified fine thread - UNF ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4" | DIN 2184-1 ≥ ø 5/16"



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A61 S BRIGHT	A61 S TiN	A61 S TiCN
P	P.3	● 12-15	● 20-25	● 20-25
	P.4	● 10-12	● 15-20	● 15-20
	P.5		● 5-10	● 5-10
	P.7		● 8-10	● 8-10
M	M.1		● 8-10	● 8-10
K	K.2	● 12-15	● 20-25	● 20-25
N	N.3	● 15-18	● 25-30	● 25-30
	N.6	● 15-18	● 25-30	● 25-30

TOOL CODE

	A61 S BRIGHT	A61 S TiN	A61 S TiCN
			
Tolerance	2B	2B	2B
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A61 S BRIGHT	A61 S TiN	A61 S TiCN
Nr.2	64	2,184	45	5,5	13	2,8	2,1	3	1,85	•	•	•
Nr.3	56	2,515	50	6	18	2,8	2,1	3	2,15	•	•	•
Nr.4	48	2,845	56	6	18	3,5	2,7	3	2,4	•	•	•
Nr.5	44	3,175	56	6	18	3,5	2,7	3	2,7	•	•	•
Nr.6	40	3,505	56	6,5	22	4	3	3	2,95	•	•	•
Nr.8	36	4,166	63	7	26,5	4,5	3,4	3	3,5	•	•	•
Nr.10	32	4,826	70	8	29	6	4,9	3	4,1	•	•	•
Nr.12	28	5,486	80	9	29,5	6	4,9	3	4,6	•	•	•
1/4"	28	6,350	80	10	32	7	5,5	3	5,5	•	•	•
5/16"	24	7,938	90	11	-	6	4,9	3	6,9	•	•	•
3/8"	24	9,525	90	12	-	7	5,5	3	8,5	•	•	•
7/16"	20	11,113	100	13,5	-	8	6,2	3	9,9	•	•	•
1/2"	20	12,700	100	14,5	-	9	7	4	11,5	•	•	•
9/16"	18	14,288	100	15,5	-	11	9	4	12,9	•	•	•
5/8"	18	15,875	100	16	-	12	9	4	14,5	•	•	•
3/4"	16	19,050	110	18	-	14	11	4	17,5	•	•	•
7/8"	14	22,225	125	23,5	-	18	14,5	4	20,4	•	•	•
1"	12	25,400	140	26	-	18	14,5	4	23,25	•	•	•

• = standard execution

See price list on page 30 | 30 | 30

A

UNF

R40/2 | 2,5 x D | ASME B1.1 | HSSE

VERGNANO

MACHINE TAPS - Two 40° spiral flutes / for light alloys

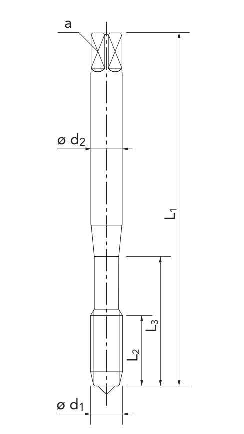
For blind holes

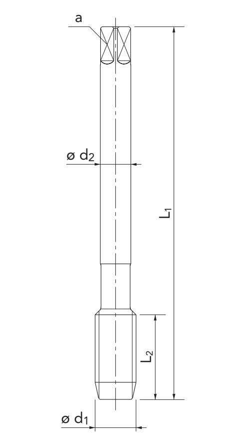
Unified fine thread - UNF ASME B1.1

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4"	DIN 2184-1 ≥ ø 5/16"





TOOL CODE

A66 BRIGHT

	A66 BRIGHT			
Tolerance	2B			
Chamfer form	C (2-3)			
Hole type	2,5 x D			
Direction of cut	RH			
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A66 BRIGHT			
N	N.1-2	● 12-15			
	N.5-6	● 10-12			
S	S.1	● 6-8			
	S.3	● 6-8			

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A66
Nr.2	64	2,184	45	9	13	2,8	2,1	2	1,85	•
Nr.3	56	2,515	50	9	15	2,8	2,1	2	2,15	•
Nr.4	48	2,845	56	10	18	3,5	2,7	2	2,4	•
Nr.5	44	3,175	56	10	18	3,5	2,7	2	2,7	•
Nr.6	40	3,505	56	11	20	4	3	2	2,95	•
Nr.8	36	4,166	63	12	21	4,5	3,4	2	3,5	•
Nr.10	32	4,826	70	14	24,5	6	4,9	2	4,1	•
Nr.12	28	5,486	80	16	26,5	6	4,9	2	4,6	•
1/4"	28	6,350	80	16	30	7	5,5	2	5,5	•
5/16"	24	7,938	90	18	-	6	4,9	2	6,9	•
3/8"	24	9,525	90	18	-	7	5,5	2	8,5	•

• = standard execution

See price list on page 30

2,5 x D ASME B1.1 HSSE

VERGNANO

8-UN

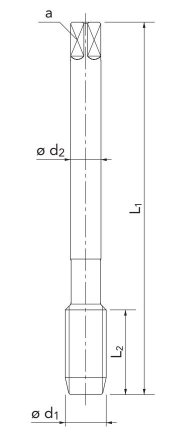
MACHINE TAPS - Straight flutes with spiral point

For through holes

8-UN thread - ASME B1.1

A

TAP DIMENSIONS



TOOL CODE

	A119 BRIGHT	A119 TiN
		
Tolerance	2B	2B
Chamfer form	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A119 BRIGHT	A119 TiN		
P	P.2	• 20-25	• 30-35		
	P.3	• 15-20	• 25-30		
	P.4	• 12-15	• 20-25		
	P.5		• 10-15		
	P.7		• 10-15		
M	M.1		• 10-15		
K	K.2	• 15-20	• 25-30		
N	N.2-3	• 20-25	• 30-35		
	N.6	• 15-18	• 25-30		

8-UN	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A119 BRIGHT	A119 TiN
1 1/8"	8	28,575	180	40	-	22	18	4	25,4	•	•
1 1/4"	8	31,750	180	40	-	25	20	4	28,6	•	•
1 3/8"	8	34,925	200	50	-	28	22	4	31,8	•	•
1 1/2"	8	38,100	200	50	-	32	24	4	35	•	•
1 5/8"	8	41,275	200	50	-	32	24	5	38,1	•	•
1 3/4"	8	44,450	200	50	-	36	29	5	41,3	•	•
1 7/8"	8	47,625	225	60	-	36	29	5	44,5	•	•
2"	8	50,800	225	60	-	40	32	5	47,7	•	•

• = standard execution

See price list on page 31 31

R40 | 2,5 x D | ASME B1.1 | HSSE

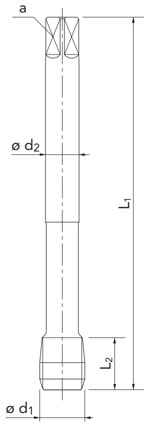
VERGNANO

MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

8-UN thread - ASME B1.1

TAP DIMENSIONS



TOOL CODE

	A160 BRIGHT	A160 TiN		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A160 BRIGHT	A160 TiN		
P	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
	P.7		● 8-10		
M	M.1		● 8-10		
K	K.2	● 12-15	● 20-25		
N	N.3	● 15-18	● 25-30		
	N.6	● 15-18	● 25-30		

	A160 BRIGHT	A160 TiN		
Tolerance	2B	2B		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

8-UN	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A160 BRIGHT	A160 TiN		
1 1/8"	8	28,575	180	40	-	22	18	4	25,4	•	•		
1 1/4"	8	31,750	180	41,5	-	25	20	4	28,6	•	•		
1 3/8"	8	34,925	200	50	-	28	22	4	31,1	•	•		
1 1/2"	8	38,100	200	50	-	32	24	5	35	•	•		
1 5/8"	8	41,275	200	52	-	32	24	5	38,1	•	•		
1 3/4"	8	44,450	200	52	-	36	29	5	41,3	•	•		
1 7/8"	8	47,625	225	53,5	-	36	29	5	44,5	•	•		
2"	8	50,800	225	61,5	-	40	32	5	47,7	•	•		

• = standard execution

See price list on page 31 31

HSS

HAND TAPS in sets of two pieces
For blind and through holes
Whitworth pipe thread - EN ISO 228

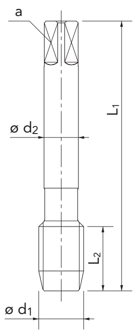
VERGNANO

G

A

TAP DIMENSIONS

DIN 5157



TOOL CODE

	A5 ROUGHING	A5 FINISHING	A5 SET
			
Tolerance	–	ISO 5969	ISO 5969
Chamfer form	A (5-6)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE

ISO	MG	A5 ROUGHING	A5 FINISHING	A5 SET
P	P.1-4	•	•	•
P	P.7	•	•	•
K	K.2	•	•	•
N	N.1-3	•	•	•
N	N.5-7	•	•	•

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A5 ROUGHING	A5 FINISHING	A5 SET
1/8"	28	9,728	63	18	-	7	5,5	3	8,8	•	•	•
1/4"	19	13,157	70	20	-	11	9	4	11,8	•	•	•
3/8"	19	16,662	70	20	-	12	9	4	15,25	•	•	•
1/2"	14	20,955	80	22	-	16	12	4	19	•	•	•
5/8"	14	22,911	80	22	-	18	14,5	4	21	•	•	•
3/4"	14	26,441	90	22	-	20	16	4	24,5	•	•	•
7/8"	14	30,201	90	22	-	22	18	4	28,25	•	•	•
1"	11	33,249	100	25	-	25	20	4	30,75	•	•	•
1 1/8"	11	37,897	125	32	-	28	22	5	35,5	•	•	•
1 1/4"	11	41,910	125	32	-	32	24	5	39,5	•	•	•
1 1/2"	11	47,803	140	32	-	36	29	6	45,25	•	•	•
1 3/4"	11	53,746	140	36	-	40	32	6	51	•	•	•
2"	11	59,614	160	36	-	45	35	6	57	•	•	•

• = standard execution

See price list on page	31	31	31

G

1,5 x D | 1,5 x D | EN ISO 228 | HSSE

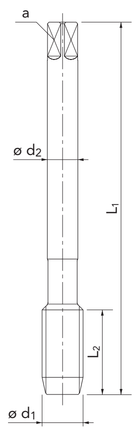
VERGNANO

MACHINE TAPS - Straight flutes
FC = for blind holes - FP = for through holes
Whitworth pipe thread - EN ISO 228

A

TAP DIMENSIONS

DIN 5156



TOOL CODE

A26 FC BRIGHT	A26 FP BRIGHT

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A26 FC BRIGHT	A26 FP BRIGHT
P	P.2	• 10-12	• 10-12
P	P.3	• 8-10	• 8-10
K	K.2	• 8-10	• 8-10

	A26 FC	A26 FP
Tolerance	ISO 5969	ISO 5969
Chamfer form	C (2-3)	A (5-6)
Hole type	1,5 x D	1,5 x D
Direction of cut	RH	RH
Through coolant		

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A26 FC	A26 FP
1/8"	28	9,728	90	18	-	7	5,5	3	8,8	•	•
1/4"	19	13,157	100	22	-	11	9	3	11,8	•	•
3/8"	19	16,662	100	22	-	12	9	3	15,25	•	•
1/2"	14	20,955	125	25	-	16	12	4	19	•	•
5/8"	14	22,911	125	25	-	18	14,5	4	21	•	•
3/4"	14	26,441	140	28	-	20	16	4	24,5	•	•
7/8"	14	30,201	150	28	-	22	18	4	28,25	•	•
1"	11	33,249	160	30	-	25	20	4	30,75	•	•
1 1/8"	11	37,897	170	30	-	28	22	5	35,5	•	•
1 1/4"	11	41,910	170	30	-	32	24	5	39,5	•	•
1 1/2"	11	47,803	190	32	-	36	29	6	45,25	•	•
1 3/4"	11	53,746	190	32	-	40	32	6	51	•	•
2"	11	59,614	220	40	-	45	35	6	57	•	•
2 1/2"	11	75,184	250	50	-	45	35	8	72,8	•	•

• = standard execution

See price list on page 32 32

G

MACHINE TAPS - Straight flutes / for cast iron
For blind and through holes
Whitwirth pipe thread - EN ISO 228

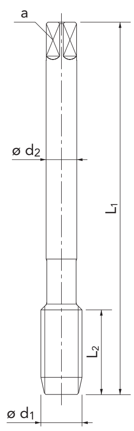
2,5 x D | EN ISO 228 | HSSE

VERGNANO

A

TAP DIMENSIONS

DIN 5156



TOOL CODE

	A48 NITRIDED	A48 TiCN
		
Tolerance	ISO 5969 X	ISO 5969 X
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A48 NITRIDED	A48 TiCN		
K	K.1	● 15-20	● 40-45		
N	N.4	● 15-20	● 40-45		
	N.7	● 15-20	● 40-45		
	N.9-10	● 20-25	● 45-50		

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A48 NITRIDED	A48 TiCN
1/8"	28	9,728	90	18	-	7	5,5	4	8,8	•	•
1/4"	19	13,157	100	22	-	11	9	4	11,8	•	•
3/8"	19	16,662	100	22	-	12	9	4	15,25	•	•
1/2"	14	20,955	125	25	-	16	12	4	19	•	•
5/8"	14	22,911	125	25	-	18	14,5	4	21	•	•
3/4"	14	26,441	140	28	-	20	16	5	24,5	•	•
7/8"	14	30,201	150	28	-	22	18	5	28,25	•	•
1"	11	33,249	160	30	-	25	20	5	30,75	•	•
1 1/8"	11	37,897	170	30	-	28	22	6	35,5	•	
1 1/4"	11	41,910	170	30	-	32	24	6	39,5	•	
1 1/2"	11	47,803	190	32	-	36	29	6	45,25	•	

• = standard execution

See price list on page 32 32

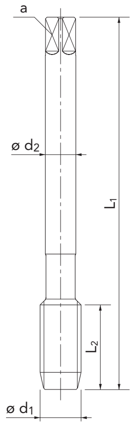
2,5 x D · EN ISO 228 · HSSE

VERGNANO

MACHINE TAPS - Straight flutes with spiral point
For through holes
Whitworth pipe thread - EN ISO 228

TAP DIMENSIONS

DIN 5156



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A18 S BRIGHT	A18 S VAP	A18 S TiCN	A18 S TiX2
P	P.2	● 20-25	● 20-25	● 30-35	
	P.3	● 15-20	● 15-20	● 25-30	
	P.4	● 12-15	● 12-15	● 20-25	
	P.5			● 10-15	
	P.7			● 10-15	● 10-15
M	M.1			● 10-15	● 10-15
K	K.2	● 15-20	● 15-20	● 25-30	
N	N.2-3	● 20-25	● 20-25	● 30-35	
	N.6	● 15-18	● 15-18	● 25-30	

TOOL CODE

	A18 S BRIGHT	A18 S VAP	A18 S TiCN	A18 S TiX2
				
Tolerance	ISO 5969	ISO 5969	ISO 5969	ISO 5969
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A18 S BRIGHT	A18 S VAP	A18 S TiCN	A18 S TiX2
1/8"	28	9,728	90	18	-	7	5,5	4	8,8	•	•	•	•
1/4"	19	13,157	100	22	-	11	9	4	11,8	•	•	•	•
3/8"	19	16,662	100	22	-	12	9	4	15,25	•	•	•	•
1/2"	14	20,955	125	25	-	16	12	4	19	•	•	•	•
5/8"	14	22,911	125	25	-	18	14,5	4	21	•	•	•	•
3/4"	14	26,441	140	28	-	20	16	4	24,5	•	•	•	•
7/8"	14	30,201	150	28	-	22	18	4	28,25	•	•	•	•
1"	11	33,249	160	30	-	25	20	4	30,75	•	•	•	•
1 1/8"	11	37,897	170	30	-	28	22	5	35,5	•			
1 1/4"	11	41,910	170	30	-	32	24	5	39,5	•			
1 1/2"	11	47,803	190	32	-	36	29	5	45,25	•			

• = standard execution

See price list on page 32 | 32 | 32 | 32

HSSE

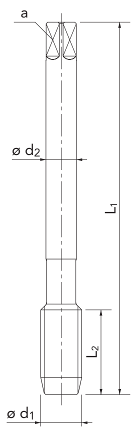
MACHINE TAPS - 15° Spiral flutes
For blind holes
Whitworth pipe thread - EN ISO 228

G

A

TAP DIMENSIONS

DIN 5156



TOOL CODE

	A32 BRIGHT	A32 TiN
		
Tolerance	ISO 5969	ISO 5969
Chamfer form	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A32 BRIGHT	A32 TiN
P	P.1	• 18-20	• 30-35
	P.2	• 15-18	• 25-30
	P.3	• 12-15	• 20-25
	P.4	• 10-12	• 15-20
	P.5		• 5-10
K	K.2	• 12-15	• 20-25
N	N.1	• 18-20	
	N.2-3	• 15-18	• 25-30
	N.5	• 15-18	
	N.6	• 12-15	• 20-25

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A32 BRIGHT	A32 TiN
1/8"	28	9,728	90	18	-	7	5,5	3	8,8	•	•
1/4"	19	13,157	100	22	-	11	9	3	11,8	•	•
3/8"	19	16,662	100	22	-	12	9	3	15,25	•	•
1/2"	14	20,955	125	25	-	16	12	4	19	•	•
5/8"	14	22,911	125	25	-	18	14,5	4	21	•	•
3/4"	14	26,441	140	28	-	20	16	4	24,5	•	•
7/8"	14	30,201	150	28	-	22	18	4	28,25	•	•
1"	11	33,249	160	30	-	25	20	4	30,75	•	•
1 1/8"	11	37,897	170	30	-	28	22	5	35,5	•	
1 1/4"	11	41,910	170	30	-	32	24	5	39,5	•	
1 1/2"	11	47,803	190	32	-	36	29	6	45,25	•	
1 3/4"	11	53,746	190	32	-	40	32	6	51	•	
2"	11	59,614	220	40	-	45	35	6	57	•	
2 1/2"	11	75,184	250	50	-	45	35	8	72,8	•	

• = standard execution

See price list on page 33 33

G

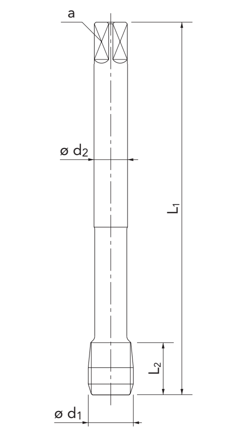
R40 | 2,5 x D | EN ISO 228 | HSSE

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
Whitworth pipe thread - EN ISO 228

A

TAP DIMENSIONS

DIN 5156



TOOL CODE

	A59 BRIGHT	A59 TiN
		
Tolerance	ISO 5969	ISO 5969
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A59 BRIGHT	A59 TiN
P	P.1	● 12-15	● 25-30
	P.2	● 10-15	● 20-25
N	N.1	● 12-15	
	N.2	● 12-15	● 25-30
	N.5	● 10-12	
	N.6	● 10-12	● 20-25

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A59 BRIGHT	A59 TiN
1/8"	28	9,728	90	17	-	7	5,5	3	8,8	•	•
1/4"	19	13,157	100	23	-	11	9	4	11,8	•	•
3/8"	19	16,662	100	23	-	12	9	4	15,25	•	•
1/2"	14	20,955	125	29	-	16	12	4	19	•	•
5/8"	14	22,911	125	29	-	18	14,5	4	21	•	•
3/4"	14	26,441	140	29	-	20	16	4	24,5	•	•
7/8"	14	30,201	150	32	-	22	18	4	28,25	•	•
1"	11	33,249	160	34,5	-	25	20	4	30,75	•	•
1 1/8"	11	37,897	170	34,5	-	28	22	5	35,5	•	
1 1/4"	11	41,910	170	34,5	-	32	24	5	39,5	•	
1 1/2"	11	47,803	190	37,5	-	36	29	6	45,25	•	

• = standard execution

See price list on page 33 33

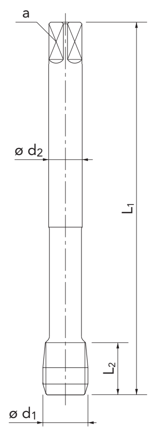
MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

Whitworth pipe thread - EN ISO 228

TAP DIMENSIONS

DIN 5156



TOOL CODE

	A59 S BRIGHT	A59 S VAP	A59 S TiN	A59 S TiCN
				
Tolerance	ISO 5969	ISO 5969	ISO 5969	ISO 5969
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A59 S BRIGHT	A59 S VAP	A59 S TiN	A59 S TiCN
P	P.3	● 12-15	● 12-15	● 20-25	● 20-25
	P.4	● 10-12	● 10-12	● 15-20	● 15-20
	P.5			● 5-10	● 5-10
	P.7			● 8-10	● 8-10
M	M.1			● 8-10	● 8-10
K	K.2	● 12-15	● 12-15	● 20-25	● 20-25
N	N.3	● 15-18	● 15-18	● 25-30	● 25-30
	N.6	● 15-18	● 15-18	● 25-30	● 25-30

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A59 S BRIGHT	A59 S VAP	A59 S TiN	A59 S TiCN
1/8"	28	9,728	90	17	-	7	5,5	3	8,8	•	•	•	•
1/4"	19	13,157	100	23	-	11	9	4	11,8	•	•	•	•
3/8"	19	16,662	100	23	-	12	9	4	15,25	•	•	•	•
1/2"	14	20,955	125	29	-	16	12	5	19	•	•	•	•
5/8"	14	22,911	125	29	-	18	14,5	5	21	•	•	•	•
3/4"	14	26,441	140	29	-	20	16	5	24,5	•	•	•	•
7/8"	14	30,201	150	32	-	22	18	5	28,25	•	•	•	•
1"	11	33,249	160	34,5	-	25	20	5	30,75	•	•	•	•
1 1/8"	11	37,897	170	34,5	-	28	22	5	35,5	•	•		
1 1/4"	11	41,910	170	34,5	-	32	24	5	39,5	•	•		
1 1/2"	11	47,803	190	37,5	-	36	29	6	45,25	•	•		

• = standard execution

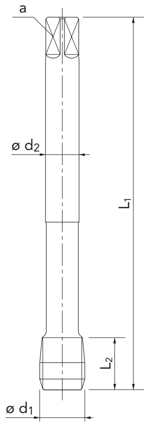
See price list on page 33 | 33 | 33 | 33

VERGNANO

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
Whitworth pipe thread - EN ISO 228

TAP DIMENSIONS

DIN 5156



TOOL CODE

A59 S
TiX2

	A59 S TiX2
Tolerance	ISO 5969
Chamfer form	C (2-3)
Hole type	2,5 x D
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A59 S TiX2
P	P.7	● 8-10
M	M.1	● 8-10
	M.2	● 5-7

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A59 S
1/8"	28	9,728	90	17	-	7	5,5	3	8,8	•
1/4"	19	13,157	100	23	-	11	9	4	11,8	•
3/8"	19	16,662	100	23	-	12	9	4	15,25	•
1/2"	14	20,955	125	29	-	16	12	5	19	•
5/8"	14	22,911	125	29	-	18	14,5	5	21	•
3/4"	14	26,441	140	29	-	20	16	5	24,5	•
7/8"	14	30,201	150	32	-	22	18	5	28,25	•
1"	11	33,249	160	34,5	-	25	20	5	30,75	•

• = standard execution

See price list on page 33

2,5 x D | EN ISO 228 | HSSE

VERGNANO

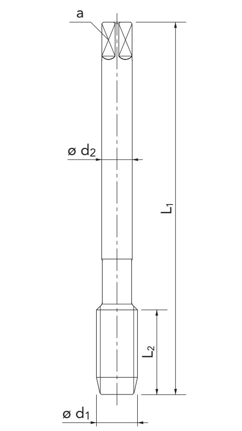
G

COLD FORMING TAPS - Oil grooves
For blind and through holes
Whitworth pipe thread - EN ISO 228

A

TAP DIMENSIONS

DIN 2189



TOOL CODE

A82 N VAP	A82 N TiN	A82 N TiCN

	A82 N VAP	A82 N TiN	A82 N TiCN
Tolerance	ISO 5969 X	ISO 5969 X	ISO 5969 X
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A82 N VAP	A82 N TiN	A82 N TiCN
P	P.1-2	● 20-25	● 40-45	● 40-45
P	P.3	● 15-20	● 35-40	● 35-40
N	N.1	● 20-25	● 40-45	● 40-45
N	N.2		● 40-45	● 40-45
N	N.3		● 35-40	● 35-40
N	N.5	● 20-25	● 40-45	● 40-45
N	N.6		● 40-45	● 40-45

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A82 N VAP	A82 N TiN	A82 N TiCN
1/8"	28	9,728	90	18	-	7	5,5	6	9,25	•	•	•
1/4"	19	13,157	100	22	-	11	9	6	12,5	•	•	•
3/8"	19	16,662	100	22	-	12	9	6	16	•	•	•
1/2"	14	20,955	125	25	-	16	12	6	20	•	•	•
3/4"	14	26,441	140	28	-	20	16	6	25,5	•	•	•

• = standard execution

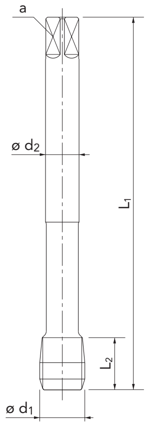
See price list on page 34 34 34

R40 | 2,5 x D | DIN EN 10226-1 | HSSE

MACHINE TAPS - 40° Spiral flutes / Back tapered
For blind holes
Rp thread (BSPP) - DIN EN 10226-1

TAP DIMENSIONS

DIN 5156



TOOL CODE

	A159 S BRIGHT	A159 S TiN
		
Tolerance	–	–
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A159 S BRIGHT	A159 S TiN
P	P.3	● 12-15	● 20-25
	P.4	● 10-12	● 15-20
	P.5		● 5-10
	P.7		● 8-10
M	M.1		● 8-10
K	K.2	● 12-15	● 20-25
N	N.3	● 15-18	● 25-30
	N.6	● 15-18	● 25-30

Rp	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A159 S BRIGHT	A159 S TiN
1/8"	28	9,728	90	17	-	7	5,5	3	8,6	•	•
1/4"	19	13,157	100	23	-	11	9	4	11,5	•	•
3/8"	19	16,662	100	23	-	12	9	4	15	•	•
1/2"	14	20,955	125	29	-	16	12	5	18,5	•	•
3/4"	14	26,441	140	29	-	20	16	5	24	•	•

• = standard execution

See price list on page 34 34

DIN EN 10226-2 HSSE

VERGNANO

Rc (BSPT)

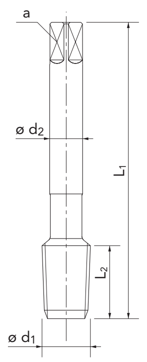
MACHINE TAPS - Straight flutes

For blind holes

Conical gas thread Rc (BSPT) taper 1:16 - BS 21 and DIN EN 10226-2

A

TAP DIMENSIONS



TOOL CODE

A6
BRIGHT

	A6
Tolerance	–
Chamfer form	C (2-3)
Hole type	
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A6 BRIGHT			
P	P.2	● 10-15			
	P.3	● 10-12			
	P.4	● 8-10			
K	K.2	● 10-12			

Rc	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A6
1/8"	28	9,728	63	17,5	-	7	5,5	4	8,2 (a)	•
1/4"	19	13,157	63	23,5	-	11	9	4	11 (a)	•
3/8"	19	16,662	70	24	-	12	9	4	14,5 (a)	•
1/2"	14	20,955	80	29	-	16	12	4	18 (a)	•
3/4"	14	26,441	100	32	-	20	16	5	23,5 (a)	•
1"	11	33,249	110	36	-	25	20	5	29,5 (a)	•
1 1/4"	11	41,910	125	44	-	32	24	5	38 (a)	•
1 1/2"	11	47,803	140	46	-	36	29	6	44 (a)	•
2"	11	59,614	160	50	-	45	35	6	55,5 (a)	•

• = standard execution
(a)= cylindrical hole (see page 216)

See price list on page 34

BSW

2,5 x D | BS 84 | HSS

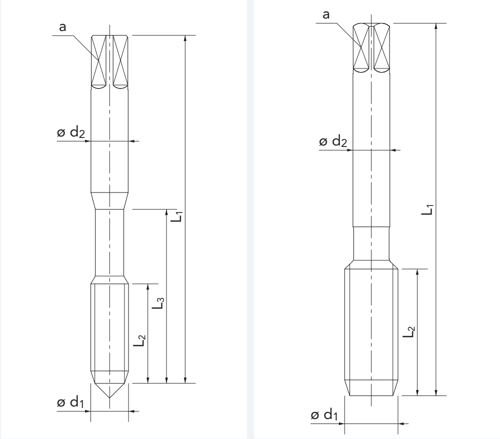
VERGNANO

HAND TAPS in sets of three pieces
For blind and through holes
Whitworth thread - BS 84

A

TAP DIMENSIONS

DIN 2184-2 ≤ ø 1/4" | DIN 2184-2 ≥ ø 5/16"



APPLICATION RANGE

ISO	MG	A4 ROUGHING	A4 SECOND	A4 FINISHING	A4 SET
P	P.1-4	•	•	•	•
	P.7	•	•	•	•
K	K.2	•	•	•	•
N	N.1-3	•	•	•	•
	N.5-7	•	•	•	•

TOOL CODE

	A4 ROUGHING	A4 SECOND	A4 FINISHING	A4 SET
				
Tolerance	–	–	mc	mc
Chamfer form	A (5-6)	D (4-5)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

BSW	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A4 ROUGHING	A4 SECOND	A4 FINISHING	A4 SET
3/32"	48	2,381	40	9	15	2,8	2,1	3	1,9	•	•	•	•
1/8"	40	3,175	40	10	18	3,5	2,7	3	2,55	•	•	•	•
5/32"	32	3,969	45	12	21	4,5	3,4	3	3,2	•	•	•	•
3/16"	24	4,763	50	14	23	6	4,9	3	3,7	•	•	•	•
7/32"	24	5,556	56	16	28	6	4,9	3	4,5	•	•	•	•
1/4"	20	6,350	56	16	28	6	4,9	3	5,1	•	•	•	•
5/16"	18	7,938	63	22	-	6	4,9	3	6,5	•	•	•	•
3/8"	16	9,525	70	24	-	7	5,5	3	7,9	•	•	•	•
7/16"	14	11,113	70	24	-	8	6,2	3	9,25	•	•	•	•
1/2"	12	12,700	75	28	-	9	7	4	10,5	•	•	•	•
9/16"	12	14,288	80	28	-	11	9	4	12	•	•	•	•
5/8"	11	15,875	80	30	-	12	9	4	13,5	•	•	•	•
3/4"	10	19,050	95	32	-	14	11	4	16,4	•	•	•	•
7/8"	9	22,225	100	32	-	18	14,5	4	19,25	•	•	•	•
1"	8	25,400	110	36	-	18	14,5	4	22	•	•	•	•
1 1/8"	7	28,575	125	40	-	22	18	4	24,75	•	•	•	•
1 1/4"	7	31,750	125	40	-	22	18	4	27,75	•	•	•	•

• = standard execution

See price list on page 35 35 35 35

BS 84 HSSE

MACHINE TAPS - Straight flutes
FC = for blind holes - FP = for through holes
Whitworth thread - BS 84

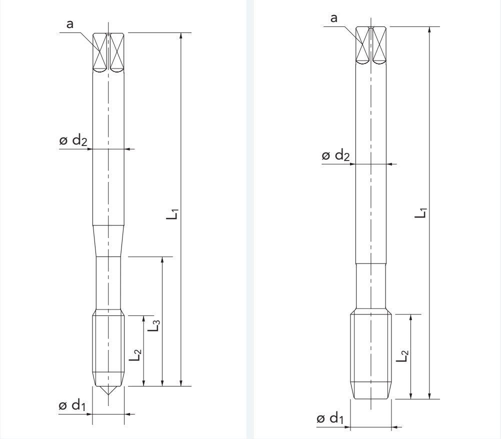
VERGNANO

BSW

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 3/8"	DIN 2184-1 ≥ ø 7/16"



TOOL CODE

A24 FC BRIGHT	A24 FP BRIGHT

	A24 FC	A24 FP
Tolerance	mc	mc
Chamfer form	C (2-3)	A (5-6)
Hole type	1,5 x D	1,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A24 FC BRIGHT	A24 FP BRIGHT		
P	P.2	● 10-12	● 10-12		
	P.3	● 8-10	● 8-10		
K	K.2	● 8-10	● 8-10		

BSW	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A24 FC	A24 FP
3/32"	48	2,381	50	9	15	2,8	2,1	3	1,9	•	•
1/8"	40	3,175	56	11	17	3,5	2,7	3	2,55	•	•
5/32"	32	3,969	63	12	21	4,5	3,4	3	3,2	•	•
3/16"	24	4,763	70	14	24	6	4,9	3	3,7	•	•
7/32"	24	5,556	80	15	28	6	4,9	3	4,5	•	•
1/4"	20	6,350	80	16	29	7	5,5	3	5,1	•	•
5/16"	18	7,938	90	18	33	8	6,2	3	6,5	•	•
3/8"	16	9,525	100	20	36	10	8	3	7,9	•	•
7/16"	14	11,113	100	22	-	8	6,2	3	9,25	•	•
1/2"	12	12,700	110	25	-	9	7	3	10,5	•	•
9/16"	12	14,288	110	27	-	11	9	3	12	•	•
5/8"	11	15,875	110	28	-	12	9	3	13,5	•	•
3/4"	10	19,050	125	32	-	14	11	4	16,4	•	•
7/8"	9	22,225	140	32	-	18	14,5	4	19,25	•	•
1"	8	25,400	160	36	-	18	14,5	4	22	•	•
1 1/8"	7	28,575	180	40	-	22	18	4	24,75	•	•
1 1/4"	7	31,750	180	40	-	22	18	4	27,75	•	•

• = standard execution

See price list on page 35 35

BSW

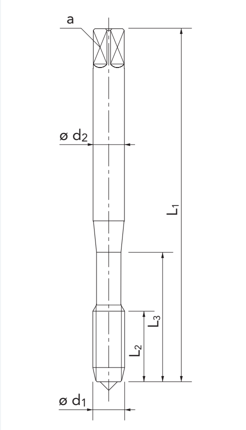
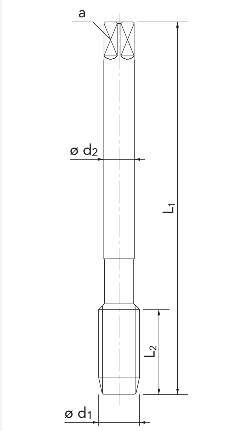
R15 | 1,5 x D | BS 84 | HSSE

VERGNANO

MACHINE TAPS - 15° Spiral flutes
For blind holes
Whitworth thread - BS 84

A

TAP DIMENSIONS

DIN 2184-1 ≤ ø 3/8"	DIN 2184-1 ≥ ø 7/16"
	

TOOL CODE

	A31 BRIGHT	A31 TiN		
				
Tolerance	mc	mc		
Chamfer form	C (2-3)	C (2-3)		
Hole type	1,5 x D	1,5 x D		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A31 BRIGHT	A31 TiN		
P	P.1	● 18-20	● 30-35		
	P.2	● 15-18	● 25-30		
	P.3	● 12-15	● 20-25		
	P.4	● 10-12	● 15-20		
	P.5		● 5-10		
K	K.2	● 12-15	● 20-25		
N	N.1	● 18-20			
	N.2-3	● 15-18	● 25-30		
	N.5	● 15-18			
	N.6	● 12-15	● 20-25		

BSW	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A31 BRIGHT	A31 TiN		
3/32"	48	2,381	50	9	15	2,8	2,1	3	1,9	•	•		
1/8"	40	3,175	56	11	17	3,5	2,7	3	2,55	•	•		
5/32"	32	3,969	63	12	21	4,5	3,4	3	3,2	•	•		
3/16"	24	4,763	70	14	24	6	4,9	3	3,7	•	•		
7/32"	24	5,556	80	15	28	6	4,9	3	4,5	•	•		
1/4"	20	6,350	80	16	29	7	5,5	3	5,1	•	•		
5/16"	18	7,938	90	18	33	8	6,2	3	6,5	•	•		
3/8"	16	9,525	100	20	36	10	8	3	7,9	•	•		
7/16"	14	11,113	100	22	-	8	6,2	3	9,25	•	•		
1/2"	12	12,700	110	25	-	9	7	3	10,5	•	•		
9/16"	12	14,288	110	27	-	11	9	3	12	•	•		
5/8"	11	15,875	110	28	-	12	9	3	13,5	•	•		
3/4"	10	19,050	125	32	-	14	11	4	16,4	•	•		
7/8"	9	22,225	140	32	-	18	14,5	4	19,25	•	•		
1"	8	25,400	160	36	-	18	14,5	4	22	•	•		
1 1/8"	7	28,575	180	40	-	22	18	4	24,75	•			
1 1/4"	7	31,750	180	40	-	22	18	4	27,75	•			

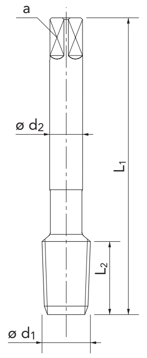
• = standard execution

See price list on page 35 35

ASME B1.20.1 HSSE

MACHINE TAPS - Straight flutes
For blind holes
National pipe thread, taper 1:16 - ASME/ANSI B1.20.1

TAP DIMENSIONS



TOOL CODE

A6 B
BRIGHT

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A6 B BRIGHT			
P	P.2	● 10-15			
	P.3	● 10-12			
	P.4	● 8-10			
K	K.2	● 10-12			

	A6 B BRIGHT
Tolerance	–
Chamfer form	C (2-3)
Hole type	
Direction of cut	RH
Through coolant	

NPT	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A6 B
1/16″	27	7,938	63	12	-	6	4,9	4	6,15 (a)	•
1/8″	27	10,287	63	12	-	7	5,5	4	8,5 (a)	•
1/4″	18	13,716	63	18	-	11	9	4	11 (a)	•
3/8″	18	17,145	70	18	-	12	9	4	14,5 (a)	•
1/2″	14	21,336	80	23	-	16	12	4	17,85 (a)	•
3/4″	14	26,670	100	24	-	20	16	5	23,2 (a)	•
1″	11 1/2	33,401	110	30	-	25	20	5	29 (a)	•
1 1/4″	11 1/2	42,164	125	32	-	32	24	5	37,8 (a)	•
1 1/2″	11 1/2	48,260	140	32	-	36	29	6	44 (a)	•
2″	11 1/2	60,325	160	34	-	45	35	6	56 (a)	•

• = standard execution
(a)= cylindrical hole (see page 216)

See price list on page 36

NPT

MACHINE TAPS - Straight flutes / interrupted thread
For blind holes
National pipe thread, taper 1:16 - ASME/ANSI B1.20.1

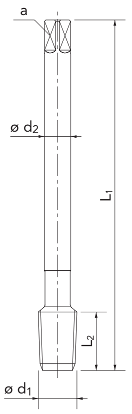
ASME B1.20.1 HSSE

VERGNANO

A

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A6 BZ BRIGHT			
P	P.1	● 12-15			
	P.7	● 2-3			
M	M.1	● 2-3			
N	N.1-2	● 12-15			
	N.5	● 10-12			
	N.6	● 6-8			

TOOL CODE

A6 BZ
BRIGHT

	A6 BZ BRIGHT
Tolerance	–
Chamfer form	C (2-3)
Hole type	blind
Direction of cut	RH
Through coolant	

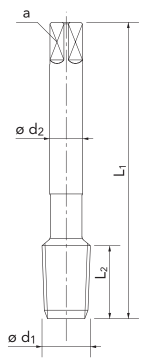
NPT	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A6 BZ
1/16"	27	7,938	90	12	-	6	4,9	3	6,15 (a)	•
1/8"	27	10,287	100	12	-	7	5,5	5	8,5 (a)	•
1/4"	18	13,716	100	18	-	11	9	5	11 (a)	•
3/8"	18	17,145	110	18	-	12	9	5	14,5 (a)	•
1/2"	14	21,336	140	23	-	16	12	5	17,85 (a)	•
3/4"	14	26,670	150	24	-	20	16	5	23,2 (a)	•
1"	11 1/2	33,401	170	30	-	25	20	5	29 (a)	•

• = standard execution
(a)= cylindrical hole (see page 216)

See price list on page 36

MACHINE TAPS - Straight flutes
For blind holes
Dryseal National pipe thread, taper 1:16 - ASME/ANSI B1.20.3

TAP DIMENSIONS



TOOL CODE

A6 F
BRIGHT

	A6 F BRIGHT
Tolerance	–
Chamfer form	C (2-3)
Hole type	
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A6 F BRIGHT
P	P.2	● 10-15
	P.3	● 10-12
	P.4	● 8-10
K	K.2	● 10-12

NPTF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A6 F
1/16"	27	7,938	63	12	-	6	4,9	4	6,15 (a)	•
1/8"	27	10,287	63	12	-	7	5,5	4	8,5 (a)	•
1/4"	18	13,716	63	18	-	11	9	4	11 (a)	•
3/8"	18	17,145	70	18	-	12	9	4	14,5 (a)	•
1/2"	14	21,336	80	23	-	16	12	4	17,8 (a)	•
3/4"	14	26,670	100	24	-	20	16	5	23 (a)	•
1"	11 1/2	33,401	110	30	-	25	20	5	29 (a)	•
1 1/4"	11 1/2	42,164	125	32	-	32	24	5	37,8 (a)	•
1 1/2"	11 1/2	48,260	140	32	-	36	29	6	43,8 (a)	•
2"	11 1/2	60,325	160	34	-	45	35	6	56 (a)	•

• = standard execution
(a)= cylindrical hole (see page 216)

See price list on page 36

ASME B1.20.3 HSSE

VERGNANO

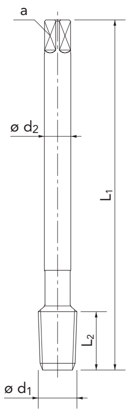
MACHINE TAPS - Straight flutes / interrupted thread

For blind holes

Dryseal National pipe thread, taper 1:16 - ASME/ANSI B1.20.3

TAP DIMENSIONS

DIN 374



TOOL CODE

A6 FZ
BRIGHT

	A6 FZ BRIGHT
Tolerance	–
Chamfer form	C (2-3)
Hole type	
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	A6 FZ BRIGHT			
P	P.1	● 12-15			
	P.7	● 2-3			
M	M.1	● 2-3			
N	N.1-2	● 12-15			
	N.5	● 10-12			
	N.6	● 6-8			

NPTF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A6 FZ
1/16″	27	7,938	90	12	-	6	4,9	3	6,15 (a)	•
1/8″	27	10,287	100	12	-	7	5,5	5	8,5 (a)	•
1/4″	18	13,716	100	18	-	11	9	5	11 (a)	•
3/8″	18	17,145	110	18	-	12	9	5	14,5 (a)	•
1/2″	14	21,336	140	23	-	16	12	5	17,8 (a)	•
3/4″	14	26,670	150	24	-	20	16	5	23 (a)	•
1″	11 1/2	33,401	170	30	-	25	20	5	29 (a)	•

• = standard execution

(a)= cylindrical hole (see page 216)

See price list on page 36

P

"P" SERIES

High Performance Taps

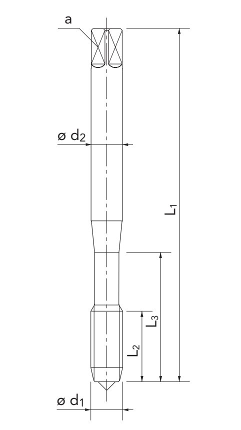
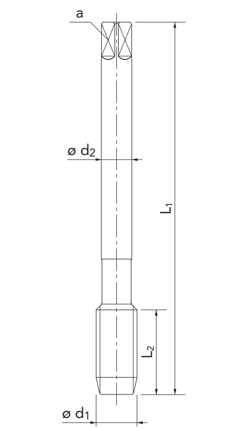
P-Series comprises high performance taps for the highest demands in terms of productivity. To enhance wear resistance, all P-Series taps are produced in powder metallurgy high speed steel and are available with advanced PVD coatings. These taps can be used on a wide range of applications, including difficult-to-machine materials. P-Series are available both as cutting taps and forming taps.

3xD 3xD DIN 13 HSSP

VERGNANO

High Performance MACHINE TAPS - Straight flutes / for cast iron
For blind and through holes
ISO Metric coarse thread - DIN 13

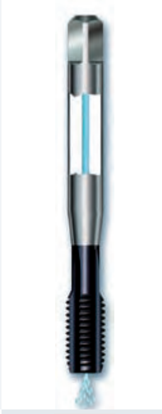
TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P43 TiCN	P43 ACE	BP43 ACE	P43 E ACE
K	K.1	• 40-50	• 40-50	• 40-50	• 40-50
N	N.4	• 40-50	• 40-50	• 40-50	• 40-50
	N.7	• 40-50	• 40-50	• 40-50	• 40-50
	N.9-10	• 45-55	• 45-55	• 45-55	• 45-55

TOOL CODE

	P43 TiCN	P43 ACE	BP43 ACE	P43 E ACE
				
Tolerance	6HX	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	E(1,5-2)
Hole type	3xD	3xD	3xD	3xD
Direction of cut	RH	RH	RH	RH
Through coolant			✓	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P43 TiCN	P43 ACE	BP43 ACE	P43 E ACE
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•		
4	0,7	63	12	21	4,5	3,4	4	3,3	•	•		•
5	0,8	70	14	24,5	6	4,9	4	4,2	•	•	•	•
6	1	80	16	29	6	4,9	4	5	•	•	•	•
8	1,25	90	18	33	8	6,2	4	6,8	•	•	•	•
10	1,5	100	20	36	10	8	4	8,5	•	•	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•	•	•
14	2	110	25	-	11	9	4	12	•	•	•	
16	2	110	28	-	12	9	4	14	•	•	•	
18	2,5	125	32	-	14	11	4	15,5	•	•	•	
20	2,5	140	32	-	16	12	4	17,5	•	•	•	

• = standard execution

See price list on page 37 37 37 37

VERGNANO

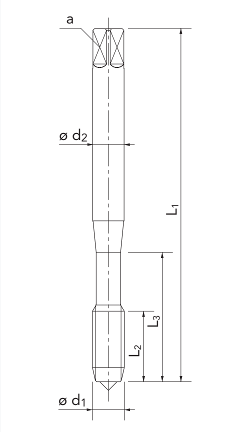
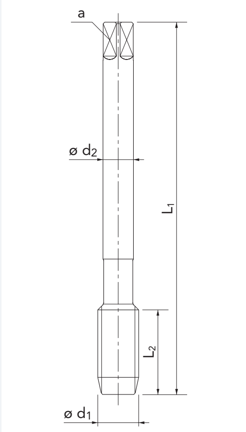
DIN 13

HSSP

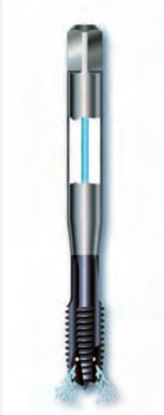
3xD

High Performance MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	P15 TiN	P15 TiH1	P15 6GX TiN	BP15 TiH1
				
Tolerance	6HX	6HX	6GX	6HX
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	3xD	3xD	3xD	3xD
Direction of cut	RH	RH	RH	RH
Through coolant				✓

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P15 TiN	P15 TiH1	P15 6GX TiN	BP15 TiH1
P	P.3	• 25-35	• 25-35	• 25-35	• 25-35
	P.4	• 20-30	• 20-30	• 20-30	• 20-30
	P.5	• 10-20	• 10-20	• 10-20	• 10-20
	P.6	• 8-10	• 8-10	• 8-10	• 8-10
	P.7	• 10-20	• 10-20	• 10-20	• 10-20
M	M.1	• 10-20	• 10-20	• 10-20	• 10-20
	M.2	• 6-8	• 6-8	• 6-8	• 6-8
K	K.2	• 25-35	• 25-35	• 25-35	• 25-35
N	N.2-3	• 30-40	• 30-40	• 30-40	• 30-40
	N.6	• 25-35	• 25-35	• 25-35	• 25-35

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P15 TiN	P15 TiH1	P15 6GX TiN	BP15 TiH1
(*) 1	0,25	40	5,5	7,5	2,5	2,1	2	0,75	•	•		
(*) 1,2	0,25	40	5,5	7,5	2,5	2,1	2	0,95	•	•		
(*) 1,4	0,3	40	7	10	2,5	2,1	2	1,1	•	•		
1,6	0,35	40	8	11	2,5	2,1	2	1,25	•	•		
1,7	0,35	40	8	11	2,5	2,1	2	1,35	•	•		
1,8	0,35	40	8	11	2,5	2,1	2	1,45	•	•		
2	0,4	45	7	11	2,8	2,1	3	1,6	•	•		
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•		
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•		
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•	
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•	•
12	1,75	110	24	-	9	7	4	10,2	•	•	•	•
14	2	110	25	-	11	9	4	12	•	•	•	•
16	2	110	28	-	12	9	4	14	•	•	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•		
20	2,5	140	32	-	16	12	4	17,5	•	•		
24	3	160	36	-	18	14,5	4	21	•	•		
27	3	160	36	-	20	16	4	24	•	•		
30	3,5	180	40	-	22	18	4	26,5	•	•		
33	3,5	180	40	-	25	20	5	29,5	•	•		
36	4	200	55	-	28	22	5	32	•	•		
See price list on page									37	37	37	37

• = standard execution
(*) = Tolerance 5HX

M

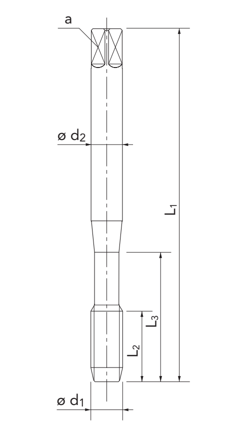
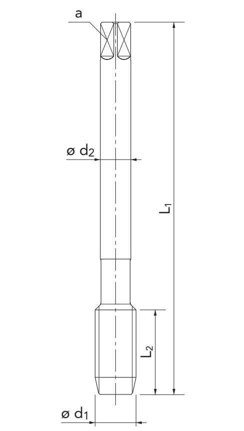
R15 · 2xD · DIN 13 · HSSP

VERGNANO

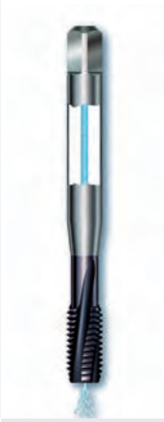
High Performance MACHINE TAPS - 15° Spiral flutes
For blind holes
ISO Metric coarse thread - DIN 13

P

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

TOOL CODE

	P29 BRIGHT	P29 TiN	P29 TiH1	BP29 TiH1
				
Tolerance	6HX	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2xD	2xD	2xD	2xD
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P29 BRIGHT	P29 TiN	P29 TiH1	BP29 TiH1
P	P.3	• 15-18	• 25-30	• 25-30	• 25-30
	P.4	• 12-15	• 20-25	• 20-25	• 20-25
	P.5	• 8-10	• 10-15	• 10-15	• 10-15
	P.6	• 3-5	• 5-10	• 5-10	• 5-10
	P.7	• 8-10	• 10-15	• 10-15	• 10-15
K	K.2	• 15-18	• 25-30	• 25-30	• 25-30
N	N.3	• 15-18	• 25-30	• 25-30	• 25-30
	N.6	• 15-18	• 25-30	• 25-30	• 25-30
	N.7	• 12-15	• 20-25	• 20-25	• 20-25
S	S.2	• 2-3		• 2-3	• 2-3
	S.4	• 2-3	• 2-3	• 2-3	• 2-3

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P29 BRIGHT	P29 TiN	P29 TiH1	BP29 TiH1
M 3	0,5	56	5	18	3,5	2,7	3	2,5	•	•	•	
4	0,7	63	7	21	4,5	3,4	3	3,3	•	•	•	
5	0,8	70	9	25	6	4,9	3	4,2	•	•	•	•
6	1	80	11	30	6	4,9	3	5	•	•	•	•
8	1,25	90	12	35	8	6,2	3	6,8	•	•	•	•
10	1,5	100	13	39	10	8	3	8,5	•	•	•	•
12	1,75	110	15	-	9	7	3	10,2	•	•	•	•
14	2	110	18	-	11	9	3	12	•	•	•	•
16	2	110	18	-	12	9	3	14	•	•	•	•
18	2,5	125	20	-	14	11	4	15,5	•	•	•	•
20	2,5	140	20	-	16	12	4	17,5	•	•	•	•

• = standard execution

See price list on page 38 38 38 38

R45 | 3xD | DIN 13 | HSSZ

VERGNANO

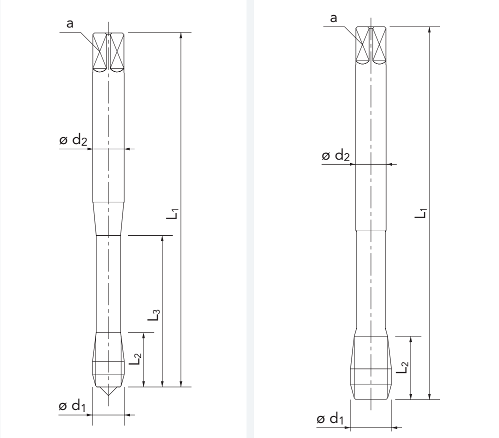
M

High Performance MACHINE TAPS - 45° Spiral flutes / back tapered
For blind holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M12



TOOL CODE

	P70 VAP	P70 TiN	P70 TiH1	BP70 TiH1
Tolerance	6HX	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	3xD	3xD	3xD	3xD
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P70 VAP	P70 TiN	P70 TiH1	BP70 TiH1
P	P.2	• 15-25			
	P.3	• 10-20	• 20-30	• 20-30	• 20-30
	P.4	• 10-15	• 15-25	• 15-25	• 15-25
	P.5		• 5-15	• 5-15	• 5-15
	P.7		• 10-15	• 10-15	• 10-15
M	M.1		• 10-15	• 10-15	• 10-15
	M.2		• 5-7	• 5-7	• 5-7
K	K.2	• 10-20	• 20-30	• 20-30	• 20-30
N	N.2	• 20-30			
	N.3	• 15-25	• 25-35	• 25-35	• 25-35
	N.6	• 15-25	• 25-35	• 25-35	• 25-35
S	S.1			• 10-15	• 10-15
	S.3		• 10-15	• 10-15	• 10-15

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P70 VAP	P70 TiN	P70 TiH1	BP70 TiH1
M 2	0,4	45	6	12	2,8	2,1	3	1,6	•	•	•	
2,5	0,45	50	6,5	15	2,8	2,1	3	2,05	•	•	•	
3	0,5	56	7	15	3,5	2,7	3	2,5	•	•	•	
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•	•	
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•	•	•
6	1	80	12	29	6	4,9	3	5	•	•	•	•
8	1,25	90	14	33	8	6,2	3	6,8	•	•	•	•
10	1,5	100	17	39	10	8	3	8,5	•	•	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•	•	•
14	2	110	20,5	-	11	9	4	12	•	•	•	•
16	2	110	20,5	-	12	9	4	14	•	•	•	•
18	2,5	125	25,5	-	14	11	4	15,5	•	•	•	
20	2,5	140	25,5	-	16	12	4	17,5	•	•	•	
24	3	160	32	-	18	14,5	4	21	•	•	•	
27	3	160	32	-	20	16	5	24	•	•	•	
30	3,5	180	37	-	22	18	5	26,5	•	•	•	
33	3,5	180	37	-	25	20	5	29,5	•	•	•	
36	4	200	42	-	28	22	5	32	•	•	•	

• = standard execution

See price list on page 38 38 38 38

P

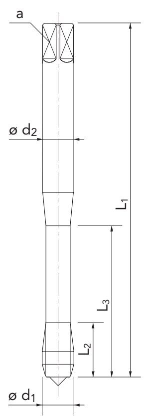
R45 | 3xD | DIN 13 | HSSZ

VERGNANO

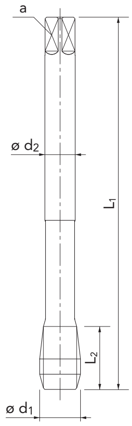
High Performance MACHINE TAPS - 45° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



TOOL CODE

P70 6GX
TiN

	P70 6GX			
Tolerance	6GX			
Chamfer form	C (2-3)			
Hole type	3xD			
Direction of cut	RH			
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P70 6GX TiN			
P	P.3	● 20-30			
	P.4	● 15-25			
	P.5	● 5-15			
	P.7	● 10-15			
M	M.1	● 10-15			
	M.2	● 5-7			
K	K.2	● 20-30			
N	N.3	● 25-35			
	N.6	● 25-35			
S	S.3	● 10-15			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P70 6GX
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•
6	1	80	12	29	6	4,9	3	5	•
8	1,25	90	14	33	8	6,2	3	6,8	•
10	1,5	100	17	39	10	8	3	8,5	•
12	1,75	110	18	-	9	7	4	10,2	•
14	2	110	20,5	-	11	9	4	12	•
16	2	110	20,5	-	12	9	4	14	•
18	2,5	125	25,5	-	14	11	4	15,5	•
20	2,5	140	25,5	-	16	12	4	17,5	•

• = standard execution

See price list on page 38

R45 | 3xD | DIN 13 | HSSZ | E(1,5-2)

VERGNANO

M

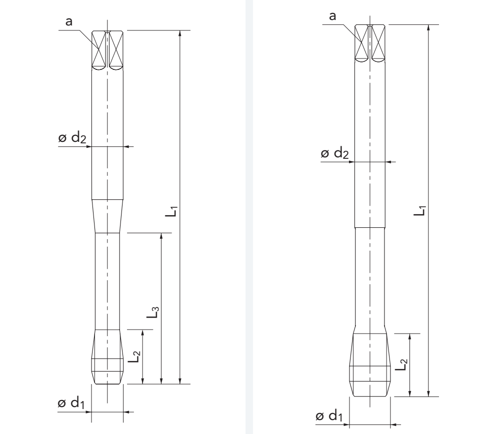
High Performance MACHINE TAPS - 45° Spiral flutes / back tapered / chamfer form E

For blind holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12



TOOL CODE

	P70 E TiN	P70 E TiH1		
				
Tolerance	6HX	6HX		
Chamfer form	E(1,5-2)	E(1,5-2)		
Hole type	3xD	3xD		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P70 E TiN	P70 E TiH1		
P	P.3	● 20-30	● 20-30		
	P.4	● 15-25	● 15-25		
	P.5	● 5-15	● 5-15		
	P.7	● 10-15	● 10-15		
M	M.1	● 10-15	● 10-15		
	M.2	● 5-7	● 5-7		
K	K.2	● 20-30	● 20-30		
N	N.3	● 25-35	● 25-35		
	N.6	● 25-35	● 25-35		
S	S.1		● 10-15		
	S.3	● 10-15	● 10-15		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P70 E TiN	P70 E TiH1		
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•		
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•		
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•		
6	1	80	12	29	6	4,9	3	5	•	•		
8	1,25	90	14	33	8	6,2	4	6,8	•	•		
10	1,5	100	17	39	10	8	4	8,5	•	•		
12	1,75	110	18	-	9	7	4	10,2	•	•		
14	2	110	20,5	-	11	9	5	12	•	•		
16	2	110	20,5	-	12	9	5	14	•	•		
20	2,5	140	25,5	-	16	12	5	17,5	•	•		
								See price list on page	39	39		

• = standard execution

P

M

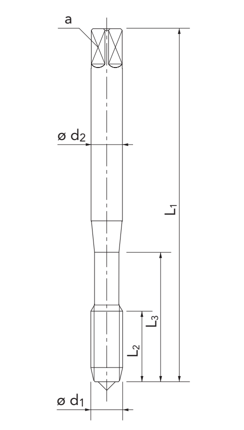
High Performance COLD FORMING TAPS
For blind and through holes
ISO Metric coarse thread - DIN 13

1,5 x D | DIN 13 | HSSK

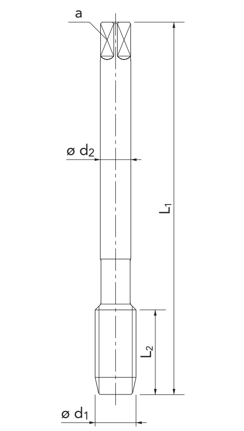
VERGNANO

TAP DIMENSIONS

DIN 2174 DIN 371 ≤ M10



DIN 2174 DIN 376 ≥ M12



TOOL CODE

	P80 TiN	P80 6GX TiN	P80 7GX TiN
			
Tolerance	6HX	6GX	7GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P80 TiN	P80 6GX TiN	P80 7GX TiN
P	P.1-2	● 40-45	● 40-45	● 40-45
	P.3	● 35-40	● 35-40	● 35-40
	P.4	● 30-35	● 30-35	● 30-35
	P.5	● 15-20	● 15-20	● 15-20
	P.7	● 15-20	● 15-20	● 15-20
M	M.1	● 15-20	● 15-20	● 15-20
N	N.1-2	● 40-45	● 40-45	● 40-45
	N.3	● 35-40	● 35-40	● 35-40
	N.5-6	● 40-45	● 40-45	● 40-45
S	S.3	● 10-15	● 10-15	● 10-15

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P80	P80 6GX	P80 7GX
M 2	0,4	45	7	11	2,8	2,1	3	1,85	•	•	
2,5	0,45	50	9	15	2,8	2,1	3	2,3	•	•	
3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•
3,5	0,6	56	11	20	4	3	4	3,25	•	•	•
4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•
5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•	•
12	1,75	110	24	-	9	7	5	11,2	•	•	•
14	2	110	25	-	11	9	6	13,1	•	•	•
16	2	110	28	-	12	9	6	15,1	•	•	•

• = standard execution

See price list on page 39 39 39

P

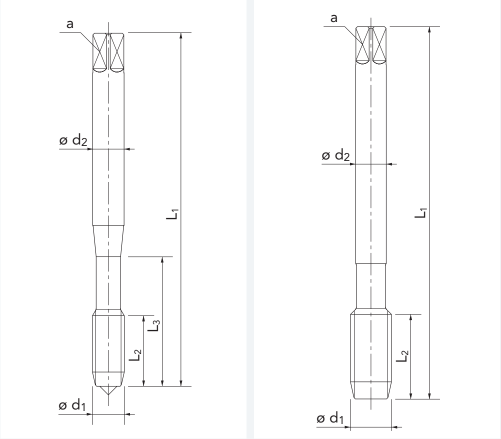
VERGNANO

M

High Performance COLD FORMING TAPS - Oil grooves
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10 | DIN 2174 DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P80 N TiN	P80 N TiH1	P80 N 6GX TiN	P80 N 7GX TiN
P	P.1-2	● 40-45	● 40-45	● 40-45	● 40-45
	P.3	● 35-40	● 35-40	● 35-40	● 35-40
	P.4	● 30-35	● 30-35	● 30-35	● 30-35
	P.5	● 15-20	● 15-20	● 15-20	● 15-20
	P.7	● 15-20	● 15-20	● 15-20	● 15-20
M	M.1	● 15-20	● 15-20	● 15-20	● 15-20
N	N.1-2	● 40-45	● 40-45	● 40-45	● 40-45
	N.3	● 35-40	● 35-40	● 35-40	● 35-40
	N.5-6	● 40-45	● 40-45	● 40-45	● 40-45
S	S.1		● 10-15		
	S.3	● 10-15	● 10-15	● 10-15	● 10-15

TOOL CODE

	P80 N TiN	P80 N TiH1	P80 N 6GX TiN	P80 N 7GX TiN
				
Tolerance	6HX	6HX	6GX	7GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	3xD	3xD	3xD	3xD
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P80 N TiN	P80 N TiH1	P80 N 6GX TiN	P80 N 7GX TiN
M 2	0,4	45	7	11	2,8	2,1	3	1,85	•	•	•	
2,5	0,45	50	9	15	2,8	2,1	3	2,3	•	•	•	
3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•	•
3,5	0,6	56	11	20	4	3	4	3,25	•	•	•	•
4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•	•
5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•	•	•
12	1,75	110	24	-	9	7	5	11,2	•	•	•	•
14	2	110	25	-	11	9	6	13,1	•	•	•	•
16	2	110	28	-	12	9	6	15,1	•	•	•	•
18	2,5	125	28	-	14	11	8	16,9	•	•	•	
20	2,5	140	30	-	16	12	8	18,9	•	•	•	

• = standard execution

See price list on page 39 39 39 39

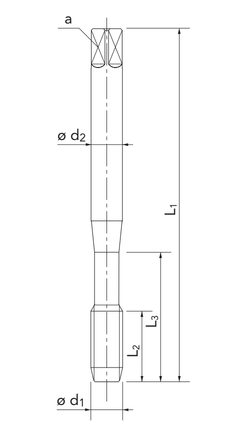
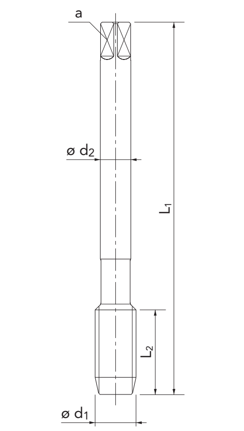
P

1,5 x D | 3 x D | DIN 13 | HSSK | E(1,5-2)

VERGNANO

High Performance COLD FORMING TAPS - Chamfer form E
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 / DIN 371 ≤ M10	DIN 2174 / DIN 376 ≥ M12
	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P80 E TiN	P80 N E TiN	P80 N E 6GX TiN	
P	P.1-2	● 40-45	● 40-45	● 40-45	
	P.3	● 35-40	● 35-40	● 35-40	
	P.4	● 30-35	● 30-35	● 30-35	
	P.5	● 15-20	● 15-20	● 15-20	
	P.7	● 15-20	● 15-20	● 15-20	
M	M.1	● 15-20	● 15-20	● 15-20	
N	N.1-2	● 40-45	● 40-45	● 40-45	
	N.3	● 35-40	● 35-40	● 35-40	
	N.5-6	● 40-45	● 40-45	● 40-45	
S	S.3	● 10-15	● 10-15	● 10-15	

TOOL CODE

	P80 E TiN	P80 N E TiN	P80 N E 6GX TiN	
				
Tolerance	6HX	6HX	6GX	
Chamfer form	E(1,5-2)	E(1,5-2)	E(1,5-2)	
Hole type	1,5 x D	3 x D	3 x D	
Direction of cut	RH	RH	RH	
Through coolant				

Ød_1 [mm]	P [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	Ød_2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P80 E	P80 N E	P80 N E 6GX
M 3	0,5	56	10	18	3,5	2,7	4	2,8	•	•	•
3,5	0,6	56	11	20	4	3	4	3,25	•	•	•
4	0,7	63	12	21	4,5	3,4	5	3,7	•	•	•
5	0,8	70	14	24,5	6	4,9	5	4,65	•	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•	•
12	1,75	110	24	-	9	7	5	11,2		•	
16	2	110	28	-	12	12	6	15,1		•	

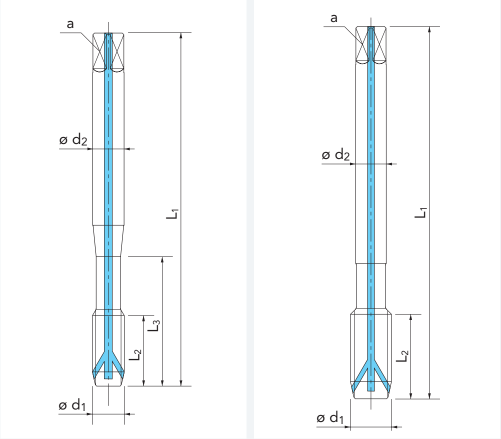
• = standard execution

See price list on page 39 | 39 | 39

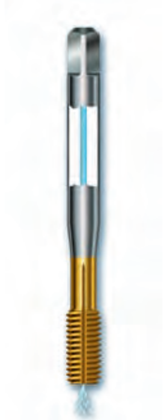
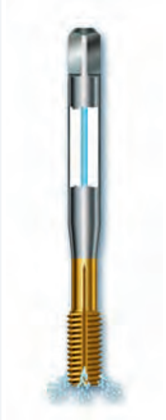
High Performance COLD FORMING TAPS - Oil grooves / internal coolant
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10 | DIN 2174 DIN 376 ≥M12



TOOL CODE

	BP80 N TiN	BP80 NR TiN		
				
Tolerance	6HX	6HX		
Chamfer form	C (2-3)	C (2-3)		
Hole type	3xD	3xD		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	BP80 N TiN	BP80 NR TiN		
P	P.1-2	● 40-45	● 40-45		
	P.3	● 35-40	● 35-40		
	P.4	● 30-35	● 30-35		
	P.5	● 15-20	● 15-20		
	P.7	● 15-20	● 15-20		
M	M.1	● 15-20	● 15-20		
N	N.1-2	● 40-45	● 40-45		
	N.3	● 35-40	● 35-40		
	N.5-6	● 40-45	● 40-45		
S	S.3	● 10-15	● 10-15		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	BP80 N	BP80 NR
M 5	0,8	70	14	24,5	6	4,9	5	4,65	•	•
6	1	80	16	29	6	4,9	5	5,55	•	•
8	1,25	90	18	33	8	6,2	5	7,4	•	•
10	1,5	100	20	36	10	8	5	9,3	•	•
12	1,75	110	24	-	9	7	5	11,2		•
16	2	110	28	-	12	9	6	15,1		•
20	2,5	140	30	-	16	12	8	18,9		•
24	3	160	35	-	18	14,5	8	22,7		•
27	3	160	35	-	20	16	8	25,7		•
30	3,5	180	40	-	22	18	8	28,45		•

• = standard execution

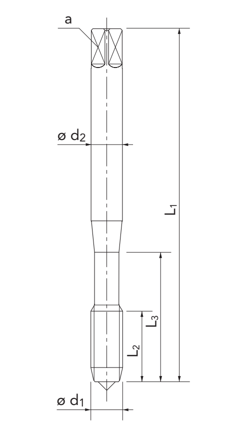
See price list on page 40 40

3xD | DIN 13 | HSSK

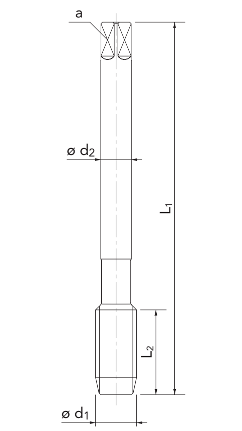
High Performance COLD FORMING TAPS - Oil grooves / for stainless steel
For blind and through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤M10



DIN 2174 DIN 376 ≥M12



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P180 N TiN			
P	P.7	● 25-35			
M	M.1	● 25-35			
	M.2	● 15-25			

TOOL CODE

	P180 N TiN			
				
Tolerance	6HX			
Chamfer form	C (2-3)			
Hole type	3xD			
Direction of cut	RH			
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P180 N
M 4	0,7	70	7	18	4,5	3,4	5	3,7	•
5	0,8	70	8	23	6	4,9	5	4,65	•
6	1	80	10	29	6	4,9	5	5,55	•
8	1,25	90	11	33	8	6,2	5	7,4	•
10	1,5	100	13	36	10	8	5	9,3	•
12	1,75	110	16	42	9	7	5	11,2	•

• = standard execution

See price list on page 40

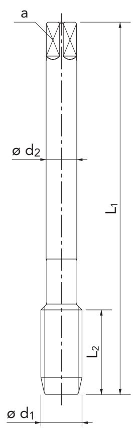
High Performance MACHINE TAPS - Straight flutes with spiral point

For through holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

	P17 TiN	P17 TiH1	P17 6GX TiN
			
Tolerance	6HX	6HX	6GX
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	3xD	3xD	3xD
Direction of cut	RH	RH	RH
Through coolant			

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P17 TiN	P17 TiH1	P17 6GX TiN
P	P.3	● 25-35	● 25-35	● 25-35
	P.4	● 20-30	● 20-30	● 20-30
	P.5	● 10-20	● 10-20	● 10-20
	P.6	● 8-10	● 8-10	● 8-10
	P.7	● 10-20	● 10-20	● 10-20
M	M.1	● 10-20	● 10-20	● 10-20
	M.2	● 6-8	● 6-8	● 6-8
K	K.2	● 25-35	● 25-35	● 25-35
N	N.2-3	● 30-40	● 30-40	● 30-40
	N.6	● 25-35	● 25-35	● 25-35

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P17 TiN	P17 TiH1	P17 6GX TiN
M 8	1	90	16	-	6	4,9	3	7	•	•	•
10	1	90	18	-	7	5,5	3	9	•	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•	•
12	1	100	22	-	9	7	4	11	•	•	•
12	1,25	100	22	-	9	7	4	10,8	•	•	•
12	1,5	100	22	-	9	7	4	10,5	•	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•	•
16	1,5	100	22	-	12	9	4	14,5	•	•	•
18	1,5	110	25	-	14	11	4	16,5	•	•	•
20	1,5	125	25	-	16	12	4	18,5	•	•	•
								See price list on page	40	40	40

• = standard execution

P

MF

R15 | 2xD | DIN 13 | HSSP

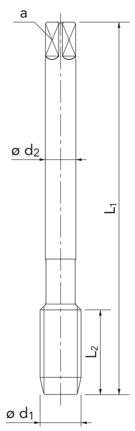
VERGNANO

High Performance MACHINE TAPS - 15° Straight flutes
For blind holes
ISO Metric fine thread - DIN 13

P

TAP DIMENSIONS

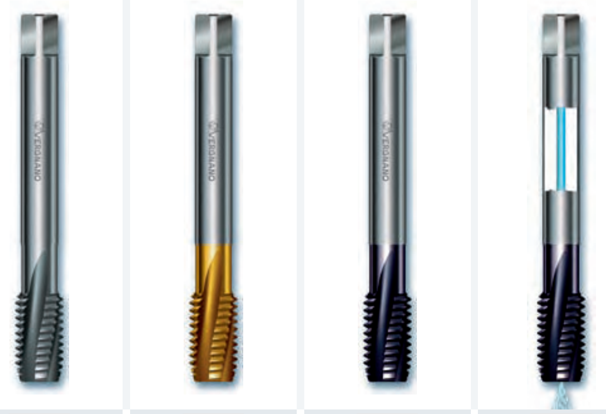
DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P30 BRIGHT	P30 TiN	P30 TiH1	BP30 TiH1
P	P.3	• 15-18	• 25-30	• 25-30	• 25-30
	P.4	• 12-15	• 20-25	• 20-25	• 20-25
	P.5	• 8-10	• 10-15	• 10-15	• 10-15
	P.6	• 3-5	• 5-10	• 5-10	• 5-10
	P.7	• 8-10	• 10-15	• 10-15	• 10-15
K	K.2	• 15-18	• 25-30	• 25-30	• 25-30
N	N.3	• 15-18	• 25-30	• 25-30	• 25-30
	N.6	• 15-18	• 25-30	• 25-30	• 25-30
	N.7	• 12-15	• 20-25	• 20-25	• 20-25
S	S.2	• 2-3		• 2-3	• 2-3
	S.4	• 2-3	• 2-3	• 2-3	• 2-3

TOOL CODE



	P30 BRIGHT	P30 TiN	P30 TiH1	BP30 TiH1
Tolerance	6HX	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2xD	2xD	2xD	2xD
Direction of cut	RH	RH	RH	RH
Through coolant				•

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P30 BRIGHT	P30 TiN	P30 TiH1	BP30 TiH1
M 8	1	90	10	-	6	4,9	3	7	•	•	•	
10	1	90	11	-	7	5,5	3	9	•	•	•	
10	1,25	100	12	-	7	5,5	3	8,8	•	•	•	•
12	1,25	100	14	-	9	7	3	10,8	•	•	•	•
12	1,5	100	15	-	9	7	3	10,5	•	•	•	•
14	1,5	100	16	-	11	9	3	12,5	•	•	•	•
16	1,5	100	16	-	12	9	3	14,5	•	•	•	•
18	1,5	110	18	-	14	11	4	16,5	•	•	•	•
20	1,5	125	18	-	16	12	4	18,5	•	•	•	•

• = standard execution

See price list on page	40	40	40	40

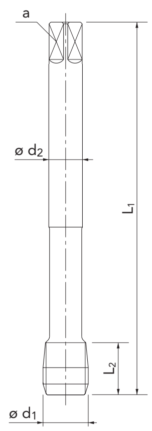
R45 | 3xD | DIN 13 | HSSZ

MF

High Performance MACHINE TAPS - 45° Spiral flutes / back tapered
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P71 TiN	P71 TiH1	P71 6GX TiN
P	P.3	• 20-30	• 20-30	• 20-30
	P.4	• 15-25	• 15-25	• 15-25
	P.5	• 5-15	• 5-15	• 5-15
	P.7	• 10-15	• 10-15	• 10-15
M	M.1	• 10-15	• 10-15	• 10-15
	M.2	• 5-7	• 5-7	• 5-7
K	K.2	• 20-30	• 20-30	• 20-30
N	N.3	• 25-35	• 25-35	• 25-35
	N.6	• 25-35	• 25-35	• 25-35
S	S.1		• 10-15	
	S.3	• 10-15	• 10-15	• 10-15

TOOL CODE

	P71 TiN	P71 TiH1	P71 6GX TiN
			
Tolerance	6HX	6HX	6GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	3xD	3xD	3xD
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P71 TiN	P71 TiH1	P71 6GX TiN
M 8	1	90	12	-	6	4,9	3	7	•	•	•
10	1	90	12	-	7	5,5	3	9	•	•	•
10	1,25	100	14	-	7	5,5	3	8,8	•	•	•
12	1	100	14	-	9	7	4	11	•	•	•
12	1,25	100	14	-	9	7	4	10,8	•	•	•
12	1,5	100	15	-	9	7	4	10,5	•	•	•
14	1,5	100	16	-	11	9	4	12,5	•	•	•
16	1,5	100	16	-	12	9	4	14,5	•	•	•
18	1,5	110	18	-	14	11	4	16,5	•	•	•
20	1,5	125	18	-	16	12	4	18,5	•	•	•

• = standard execution

See price list on page 41 41 41

P

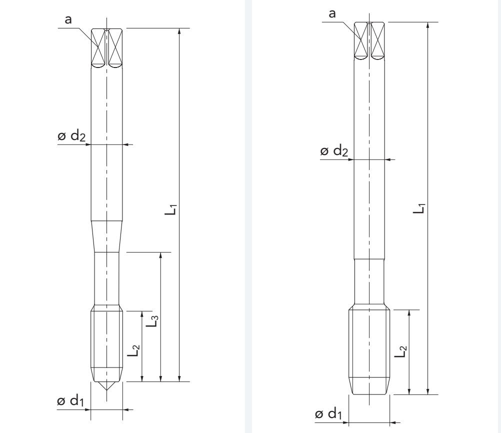
1,5 x D | 3 x D | DIN 13 | HSSK

VERGNANO

High Performance COLD FORMING TAPS
For blind and through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 2174 DIN 371 ≤ M10 | DIN 2174 DIN 374 ≥ M12



TOOL CODE

	P81 TiN	P81 6GX TiN	P81 N TiN	P81 N 6GX TiN
Tolerance	6HX	6GX	6HX	6GX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	3 x D	3 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P81 TiN	P81 6GX TiN	P81 N TiN	P81 N 6GX TiN
P	P.1-2	● 40-45	● 40-45	● 40-45	● 40-45
	P.3	● 35-40	● 35-40	● 35-40	● 35-40
	P.4	● 30-35	● 30-35	● 30-35	● 30-35
	P.5	● 15-20	● 15-20	● 15-20	● 15-20
	P.7	● 15-20	● 15-20	● 15-20	● 15-20
M	M.1	● 15-20	● 15-20	● 15-20	● 15-20
N	N.1-2	● 40-45	● 40-45	● 40-45	● 40-45
	N.3	● 35-40	● 35-40	● 35-40	● 35-40
	N.5-6	● 40-45	● 40-45	● 40-45	● 40-45
S	S.3	● 10-15	● 10-15	● 10-15	● 10-15

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P81	P81 6GX	P81 N	P81 N 6GX
M 4	0,5	63	12	21	4,5	3,4	5	3,8	•	•	•	•
5	0,5	70	14	24,5	6	4,9	5	4,8	•	•	•	•
6	0,75	80	16	29	6	4,9	5	5,65	•	•	•	•
8	1	90	18	33	8	6,2	5	7,55	•	•	•	•
10	1	90	18	34	10	8	6	9,55	•	•	•	•
10	1,25	100	20	36	10	8	6	9,4	•	•	•	•
12	1	100	22	-	9	7	6	11,55	•	•	•	•
12	1,25	100	22	-	9	7	6	11,4	•	•	•	•
12	1,5	100	22	-	9	7	6	11,3	•	•	•	•
14	1,25	100	22	-	11	9	6	13,4	•	•	•	•
14	1,5	100	22	-	11	9	6	13,3	•	•	•	•
16	1,5	100	22	-	12	9	6	15,3	•	•	•	•
18	1,5	110	22	-	14	11	8	17,3			•	•
20	1,5	125	25	-	16	12	8	19,3			•	•

• = standard execution

See price list on page 41 | 41 | 41 | 41

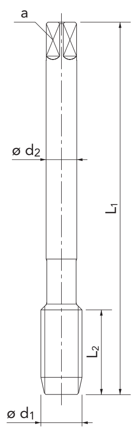
High Performance MACHINE TAPS - Straight flutes with spiral point

For through holes

Whitworth pipe thread - EN ISO 228

TAP DIMENSIONS

DIN 5156



TOOL CODE

	P18 TiN	P18 TiH1		
				
Tolerance	ISO 5969 X	ISO 5969 X		
Chamfer form	B (4-5)	B (4-5)		
Hole type	3xD	3xD		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P18 TiN	P18 TiH1		
P	P.3	● 25-35	● 25-35		
	P.4	● 20-30	● 20-30		
	P.5	● 10-20	● 10-20		
	P.6	● 8-10	● 8-10		
	P.7	● 10-20	● 10-20		
M	M.1	● 10-20	● 10-20		
	M.2	● 6-8	● 6-8		
K	K.2	● 25-35	● 25-35		
N	N.2-3	● 30-40	● 30-40		
	N.6	● 25-35	● 25-35		

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P18 TiN	P18 TiH1
1/8"	28	9,728	90	18	-	7	5,5	3	8,8	•	•
1/4"	19	13,157	100	22	-	11	9	4	11,8	•	•
3/8"	19	16,662	100	22	-	12	9	4	15,25	•	•
1/2"	14	20,955	125	25	-	16	12	4	19	•	•
5/8"	14	22,911	125	25	-	18	14,5	4	21	•	•
3/4"	14	26,441	140	28	-	20	16	5	24,5	•	•
1"	11	33,249	160	30	-	25	20	5	30,75	•	•

• = standard execution

See price list on page 41 41

G

R45 | 3xD | EN ISO 228 | HSSZ

High Performance MACHINE TAPS - 45° Spiral flutes / Back tapered

For blind holes

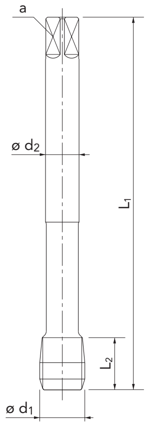
Whitworth pipe thread - EN ISO 228

VERGNANO

P

TAP DIMENSIONS

DIN 5156



TOOL CODE

	P59 TiN	P59 TiH1		
				
Tolerance	ISO 5969 X	ISO 5969 X		
Chamfer form	C (2-3)	C (2-3)		
Hole type	3xD	3xD		
Direction of cut	RH	RH		
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P59 TiN	P59 TiH1		
P	P.3	● 20-30	● 20-30		
	P.4	● 15-25	● 15-25		
	P.5	● 5-15	● 5-15		
	P.7	● 10-15	● 10-15		
M	M.1	● 10-15	● 10-15		
	M.2	● 5-7	● 5-7		
K	K.2	● 20-30	● 20-30		
N	N.3	● 25-35	● 25-35		
	N.6	● 25-35	● 25-35		
S	S.1		● 10-15		
	S.3	● 10-15	● 10-15		

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P59 TiN	P59 TiH1		
1/8"	28	9,728	90	13	-	7	5,5	3	8,8	•	•		
1/4"	19	13,157	100	16	-	11	9	4	11,8	•	•		
3/8"	19	16,662	100	16,5	-	12	9	4	15,25	•	•		
1/2"	14	20,955	125	20,5	-	16	12	5	19	•	•		
5/8"	14	22,911	125	20,5	-	18	14,5	5	21	•	•		
3/4"	14	26,441	140	21,5	-	20	16	5	24,5	•	•		
1"	11	33,249	160	25,5	-	25	20	5	30,75	•	•		

• = standard execution

See price list on page 42 42

3xD | EN ISO 228 | HSSK

VERGNANO

G

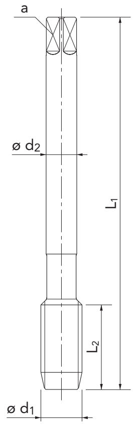
High Performance COLD FORMING TAPS - Oil grooves

For blind and through holes

Whitworth pipe thread - EN ISO 228

TAP DIMENSIONS

DIN 2189



TOOL CODE

	P82 N TiN			
				
Tolerance	ISO 5969X			
Chamfer form	C (2-3)			
Hole type	3xD			
Direction of cut	RH			
Through coolant				

P

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	P82 N TiN			
P	P.1-2	● 40-45			
P	P.3	● 35-40			
P	P.4	● 30-35			
P	P.5	● 15-20			
P	P.7	● 15-20			
M	M.1	● 15-20			
N	N.1-2	● 40-45			
N	N.3	● 35-40			
N	N.5-6	● 40-45			
S	S.3	● 10-15			

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	P82 N
1/8"	28	9,728	90	18	-	7	5,5	6	9,25	•
1/4"	19	13,157	100	22	-	11	9	6	12,5	•
3/8"	19	16,662	100	22	-	12	9	6	16	•
1/2"	14	20,955	125	25	-	16	12	6	20	•
3/4"	14	26,441	140	28	-	20	16	6	25,5	•

• = standard execution

See price list on page 42

A150 TiX2

"S" SERIES

Synchronous Taps

Driven by the trend towards modern CNC machines with synchronous spindles, S-Series taps have been specifically designed for synchronous/rigid tapping and high speed machining. Powder metallurgy high speed steel and advanced PVD coatings convey excellent performance charateristics on a wide range of applications. S-Series taps must be used only in combination with synchronous/rigid tapping attachments (also available from Vergnano).

3xD 3xD DIN 13 HSSK S

VERGNANO

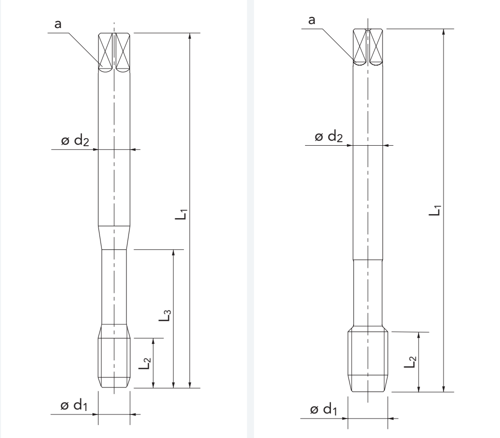
MACHINE TAPS for Synchronous Tapping - Straight flutes / for cast iron

For blind and through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

~ DIN 371 ≤ M12(*) ~ DIN 376 ≥ M16(*)



(*) DIN 1835-B on request

TOOL CODE

	S43 ACE	BS43 ACE	S43 E ACE	BS43 E ACE

	S43 ACE	BS43 ACE	S43 E ACE	BS43 E ACE
Tolerance	6HX	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	E(1,5-2)	E(1,5-2)
Hole type	3xD	3xD	3xD	3xD
Direction of cut	RH	RH	RH	RH
Through coolant		✓		✓

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S43 ACE	BS43 ACE	S43 E ACE	BS43 E ACE
K	K.1	• 55-65	• 55-65	• 55-65	• 55-65
N	N.4	• 55-65	• 55-65	• 55-65	• 55-65
	N.7	• 55-65	• 55-65	• 55-65	• 55-65
	N.9-10	• 55-65	• 55-65	• 55-65	• 55-65

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	S43	BS43	S43 E	BS43 E
M 3	0,5	70	5	15	6	4,9	3	2,5	•			
4	0,7	70	7	18	6	4,9	3	3,3	•		•	
5	0,8	70	8	23	6	4,9	3	4,2	•	•	•	•
6	1	80	10	29	6	4,9	4	5	•	•	•	•
8	1,25	90	11	33	8	6,2	4	6,8	•	•	•	•
10	1,5	100	13	36	10	8	4	8,5	•	•	•	•
12	1,75	110	16	42	12	9	4	10,2	•	•	•	
16	2	110	18	-	12	9	4	14	•	•		

• = standard execution

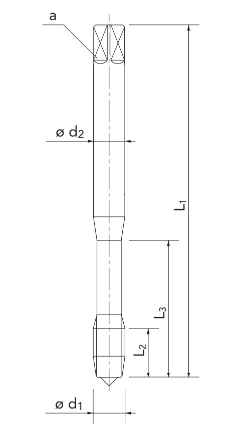
See price list on page 43 43 43 43

MACHINE TAPS for Synchronous Tapping - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

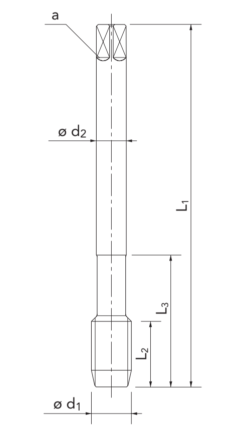
3xD · DIN 13 · HSSK · VERGNANO · M

TAP DIMENSIONS

~ DIN 371 ≤ M12(*)



~ DIN 376 ≥ M14(*)



(*) DIN 1835-B on request

TOOL CODE

	S15 TiN	S15 TiH1	BS15 TiH1
			
Tolerance	6HX	6HX	6HX
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	3xD	3xD	3xD
Direction of cut	RH	RH	RH
Through coolant			•

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S15 TiN	S15 TiH1	BS15 TiH1
P	P.1-2	● 50-60	● 50-60	● 50-60
	P.3	● 45-55	● 45-55	● 45-55
	P.4	● 40-50	● 40-50	● 40-50
	P.5	● 15-25	● 15-25	● 15-25
	P.7	● 15-25	● 15-25	● 15-25
M	M.1	● 15-25	● 15-25	● 15-25
	M.2	● 10-20	● 10-20	● 10-20
K	K.2	● 45-55	● 45-55	● 45-55
N	N.1	● 50-60	● 50-60	● 50-60
	N.2-3	● 45-55	● 45-55	● 45-55
	N.5	● 40-50	● 40-50	● 40-50
	N.6	● 35-45	● 35-45	● 35-45
S	S.1		● 15-25	● 15-25
	S.3	● 15-25	● 15-25	● 15-25

$Ød_1$ [mm]	P [mm]	L_1 js 16 [mm]	L_2 [mm]	L_3 [mm]	$Ød_2$ h6 [mm]	a h12 [mm]	z [-]	[mm]	S15 TiN	S15 TiH1	BS15 TiH1
M 3	0,5	70	5	15	6	4,9	3	2,5	•	•	
4	0,7	70	7	18	6	4,9	3	3,3	•	•	
5	0,8	70	8	25	6	4,9	3	4,2	•	•	•
6	1	80	10	30	6	4,9	3	5	•	•	•
8	1,25	90	12,5	35	8	6,2	3	6,8	•	•	•
10	1,5	100	15	39	10	8	3	8,5	•	•	•
12	1,75	110	17,5	42	12	9	3	10,2	•	•	•
14	2	110	20	-	12	9	3	12	•	•	
16	2	110	20	-	12	9	4	14	•	•	•

• = standard execution

See price list on page 43 43 43

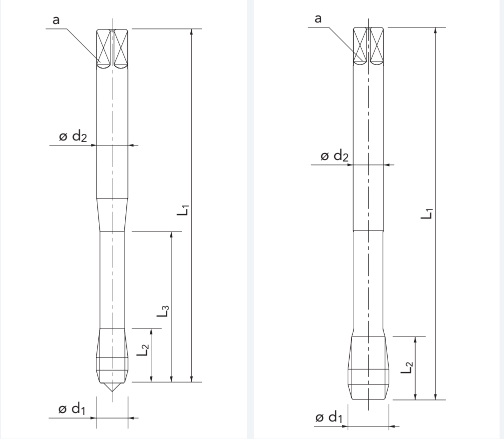
S

R40 | 3xD | DIN 13 | HSSK | S

MACHINE TAPS for Synchronous Tapping - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

~ DIN 371 ≤ M12(*) | ~ DIN 376 ≥ M14(*)



(*) DIN 1835-B on request

TOOL CODE

	S70 TiN	S70 TiH1	BS70 TiH1

	S70 TiN	S70 TiH1	BS70 TiH1
Tolerance	6HX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	3xD	3xD	3xD
Direction of cut	RH	RH	RH
Through coolant			✓

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S70 TiN	S70 TiH1	BS70 TiH1
P	P.1-2	• 45-55	• 45-55	• 45-55
	P.3	• 40-50	• 40-50	• 40-50
	P.4	• 35-45	• 35-45	• 35-45
	P.5	• 15-20	• 15-20	• 15-20
	P.7	• 15-20	• 15-20	• 15-20
M	M.1	• 15-20	• 15-20	• 15-20
K	K.2	• 40-50	• 40-50	• 40-50
N	N.1	• 45-55	• 45-55	• 45-55
	N.2-3	• 40-50	• 40-50	• 40-50
	N.5	• 35-45	• 35-45	• 35-45
	N.6	• 30-40	• 30-40	• 30-40
S	S.1		• 15-20	• 15-20
	S.3	• 15-20	• 15-20	• 15-20

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	Drill [mm]	S70 TiN	S70 TiH1	BS70 TiH1
M 3	0,5	70	5,5	14	6	4,9	3	2,5	•	•	
4	0,7	70	7,5	18	6	4,9	3	3,3	•	•	
5	0,8	70	8,5	25	6	4,9	3	4,2	•	•	•
6	1	80	10,5	30	6	4,9	3	5	•	•	•
8	1,25	90	11,5	35	8	6,2	3	6,8	•	•	•
10	1,5	100	14	40	10	8	3	8,5	•	•	•
12	1,75	110	16,5	42	12	9	3	10,2	•	•	•
14	2	110	19	-	12	9	3	12	•	•	
16	2	110	19	-	12	9	4	14	•	•	•

• = standard execution

See price list on page 43 43 43

COLD FORMING TAPS for Synchronous Tapping - Oil grooves

For blind and through holes

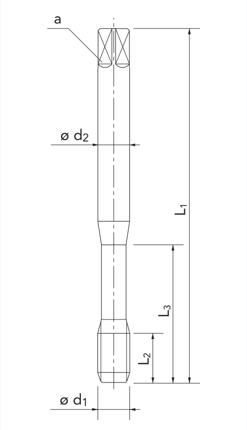
ISO Metric coarse thread - DIN 13

VERGNANO

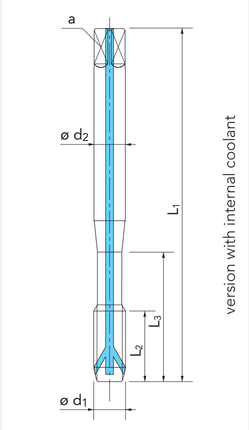
M

TAP DIMENSIONS

~ DIN 371



~ DIN 371



version with internal coolant

(*) DIN 1835-B on request

TOOL CODE

S80 N	S80 N 6GX	BS80 NR	BS80 NRE
TiN	TiN	TiN	TiH1

	S80 N	S80 N 6GX	BS80 NR	BS80 NRE
Tolerance	6HX	6GX	6HX	6HX
Chamfer form	C (2-3)	C (2-3)	C (2-3)	E(1,5-2)
Hole type	3xD	3xD	3xD	3xD
Direction of cut	RH	RH	RH	RH
Through coolant			●	●

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S80 N TiN	S80 N 6GX TiN	BS80 NR TiN	BS80 NRE TiH1
P	P.1-2	● 50-60	● 50-60	● 50-60	● 50-60
	P.3	● 45-55	● 45-55	● 45-55	● 45-55
	P.4	● 40-50	● 40-50	● 40-50	● 40-50
	P.5	● 20-30	● 20-30	● 20-30	● 20-30
	P.7	● 25-35	● 25-35	● 25-35	● 25-35
M	M.1	● 25-35	● 25-35	● 25-35	● 25-35
	M.2	● 15-25	● 15-25	● 15-25	● 15-25
N	N.1-2	● 50-60	● 50-60	● 50-60	● 50-60
	N.3	● 45-55	● 45-55	● 45-55	● 45-55
	N.5-6	● 50-60	● 50-60	● 50-60	● 50-60
S	S.1				● 10-20
	S.3	● 10-20	● 10-20	● 10-20	● 10-20

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	S80 N	S80 N 6GX	BS80 NR	BS80 NRE
M 4	0,7	70	7	18	6	4,9	5	3,7	•	•	•	
5	0,8	70	8	23	6	4,9	5	4,65	•	•	•	•
6	1	80	10	29	6	4,9	5	5,55	•	•	•	•
8	1,25	90	11	33	8	6,2	5	7,4	•	•	•	•
10	1,5	100	13	36	10	8	5	9,3	•	•	•	•
12	1,75	110	16	42	12	9	5	11,2	•	•	•	•

• = standard execution

See price list on page 44 44 44 44

S

MF

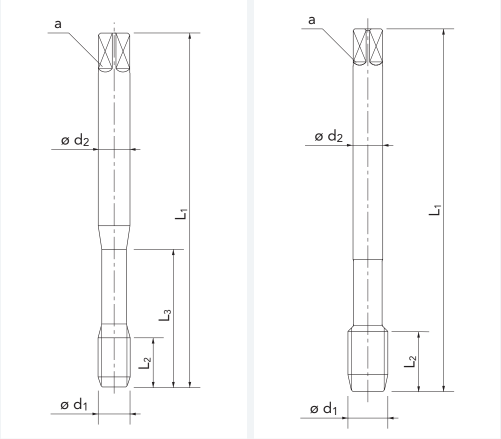
3xD | DIN 13 | HSSK

VERGNANO

MACHINE TAPS for Synchronous Tapping - Straight flutes / for cast iron
For blind and through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

~ DIN 371 ≤M12(*) | ~ DIN 374 ≥M14(*)



(*) DIN 1835-B on request

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S45 ACE			
K	K.1	● 55-65			
N	N.4	● 55-65			
	N.7	● 55-65			
	N.9-10	● 55-65			

TOOL CODE

	S45 ACE			
				
Tolerance	6HX			
Chamfer form	C (2-3)			
Hole type	3xD			
Direction of cut	RH			
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	S45 ACE
M 8	1	90	10	33	8	6,2	4	7	•
10	1	90	10	33	10	8	4	9	•
10	1,25	100	12,5	33	10	8	4	8,8	•
12	1,25	100	12,5	33	12	9	4	10,8	•
12	1,5	100	15	37	12	9	4	10,5	•
14	1,5	100	15	-	12	9	4	12,5	•
16	1,5	100	15	-	12	9	4	14,5	•

• = standard execution

See price list on page 44

S

3xD | DIN 13 | HSSK | S

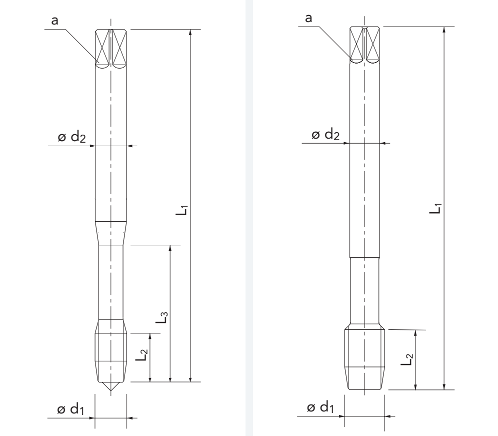
VERGNANO

MF

MACHINE TAPS for Synchronous Tapping - Straight flutes with spiral point
For through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

~ DIN 371 ≤ M12(*) | ~ DIN 374 ≥ M14(*)



(*) DIN 1835-B on request

TOOL CODE

S17
TiN

	S17 TiN			
Tolerance	6HX			
Chamfer form	B (4-5)			
Hole type	3xD			
Direction of cut	RH			
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S17 TiN			
P	P.1-2	● 50-60			
	P.3	● 45-55			
	P.4	● 40-50			
	P.5	● 15-25			
	P.7	● 15-25			
M	M.1	● 15-25			
	M.2	● 10-20			
K	K.2	● 45-55			
N	N.1	● 50-60			
	N.2-3	● 45-55			
	N.5	● 40-50			
	N.6	● 35-45			
S	S.3	● 15-25			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	S17
M 8	1	90	10	35	8	6,2	3	7	•
10	1	90	10	39	10	8	3	9	•
10	1,25	100	12,5	39	10	8	3	8,8	•
12	1,25	100	12,5	42	12	9	3	10,8	•
12	1,5	100	15	42	12	9	3	10,5	•
14	1,5	100	15	-	12	9	3	12,5	•
16	1,5	100	15	-	12	9	4	14,5	•

• = standard execution

See price list on page 44

S

VERGNANO

R40 | 3xD | DIN 13 | HSSK | S

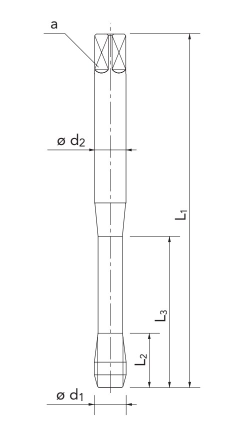
MACHINE TAPS for Synchronous Tapping - 40° Spiral flutes / back tapered

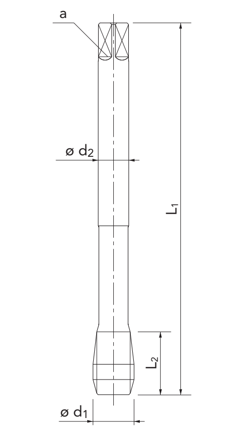
For blind holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

~ DIN 371 ≤ M12(*) | ~ DIN 374 ≥ M14(*)





(*) DIN 1835-B on request

TOOL CODE

	S71 TiN			
				
Tolerance	6HX			
Chamfer form	C (2-3)			
Hole type	3xD			
Direction of cut	RH			
Through coolant				

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	S71 TiN			
P	P.1-2	● 45-55			
	P.3	● 40-50			
	P.4	● 35-45			
	P.5	● 15-20			
	P.7	● 15-20			
M	M.1	● 15-20			
K	K.2	● 40-50			
N	N.1	● 45-55			
	N.2-3	● 40-50			
	N.5	● 35-45			
	N.6	● 30-40			
S	S.3	● 15-20			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	S71			
M 8	1	90	10	35	8	6,2	3	7	•			
10	1	90	10	40	10	8	3	9	•			
10	1,25	100	11,5	40	10	8	3	8,8	•			
12	1,25	100	11,5	40	12	9	3	10,8	•			
12	1,5	100	14	42	12	9	3	10,5	•			
14	1,5	100	14	-	12	9	4	12,5	•			
16	1,5	100	14	-	12	9	4	14,5	•			

• = standard execution

See price list on page 44

"H" SERIES

Solid Carbide Taps

Vergnano H-Series taps are produced in the highest quality ultra-fine grained solid carbide. In specific tapping applications, such as heat-treated steels, grey cast iron and cast aluminium, solid carbide offers extremely high productivity both in terms of tool life and cutting speeds. Likewise in many forming tap applications, for example low/medium resistance steel, stainless steel and wrought aluminium alloys, the use of solid carbide taps is highly competitive compared to high speed steel.

M

2,5 x D

DIN 13

HM

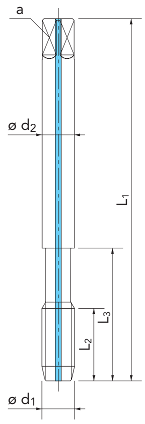
SOLID CARBIDE TAPS - Straight flutes / internal axial coolant / for cast iron

For blind holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	HB43 BRIGHT	HB43 TiAlN		
K	K.1	● 15-40	● 40-80		
	K.2	● 10-20	● 15-40		
N	N.3	● 20-30	● 30-50		
	N.4	● 15-20	● 25-40		

TOOL CODE

	HB43 BRIGHT	HB43 TiAlN		
				
Tolerance	6HX	6HX		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	HB43 BRIGHT	HB43 TiAlN
M 3 (*)	0,5	56	8	18	3,5	2,7	3	2,5	•	•
4 (*)	0,7	63	10	21	4,5	3,4	3	3,3	•	•
5	0,8	70	10	25	6	4,9	4	4,2	•	•
6	1	80	12	30	6	4,9	4	5	•	•
8	1,25	90	16	35	8	6,2	4	6,8	•	•
10	1,5	100	18	39	10	8	4	8,5	•	•

• = standard execution

(*)= Taps without through coolant

See price list on page 45 45

H

R15 | 2,5 x D | DIN 13 | HM

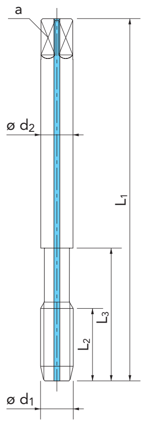
VERGNANO

M

SOLID CARBIDE TAPS - 15° Spiral flutes / internal axial coolant
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371



TOOL CODE

HB29 BRIGHT	HB29 TiCN

	HB29 BRIGHT	HB29 TiCN
Tolerance	6HX	6HX
Chamfer form	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	HB29 BRIGHT	HB29 TiCN		
N	N.1-2	● 15-30	● 25-50		
	N.3	● 20-30	● 30-50		
	N.4	● 15-20	● 25-40		
	N.7	● 20-25	● 30-40		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	HB29 BRIGHT	HB29 TiCN
M 3 (*)	0,5	56	8	18	3,5	2,7	3	2,5	•	•
4 (*)	0,7	63	10	21	4,5	3,4	3	3,3	•	•
5	0,8	70	10	25	6	4,9	3	4,2	•	•
6	1	80	12	30	6	4,9	3	5	•	•
8	1,25	90	16	35	8	6,2	3	6,8	•	•
10	1,5	100	18	39	10	8	3	8,5	•	•

• = standard execution
(*)= Taps without through coolant

See price list on page 45 45

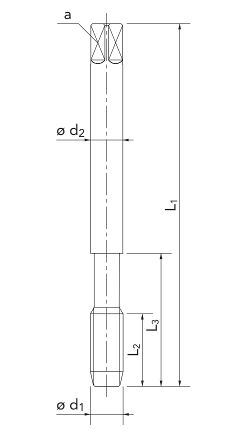
H

SOLID CARBIDE TAPS - Straight flutes / for hardened steels
For blind and through holes
ISO Metric coarse thread - DIN 13

1,5 x D | DIN 13 | HM

VERGNANO

TAP DIMENSIONS



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	H130 BRIGHT	H130 TiCN
H	H.1	● 2-3	● 3-6
H	H.2	● 1-2	● 2-4

TOOL CODE

	H130 BRIGHT	H130 TiCN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	D (4-5)	D (4-5)
Hole type	1,5 x D	1,5 x D
Direction of cut	RH	RH
Through coolant		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	H130 BRIGHT	H130 TiCN
M 3	0,5	56	12	17	3,5	2,7	3	2,6 (*)	•	•
4	0,7	63	14	19	4,5	3,4	4	3,4 (*)	•	•
5	0,8	70	17	22	6	4,9	4	4,3 (*)	•	•
6	1	80	20	-	6	4,9	4	5,1 (*)	•	•
8	1,25	90	20	-	8	6,2	5	6,9 (*)	•	•
10	1,5	100	24	-	10	8	5	8,6 (*)	•	•
12	1,75	110	28	-	12	9	5	10,4 (*)	•	•

• = standard execution

See price list on page 44 44

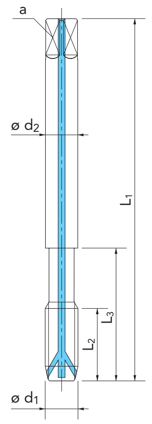
(*)= The hole diameters are oversized. For hardened steel it is recommended to use twist drill type HP900 (page 171)

SOLID CARBIDE COLD FORMING TAPS - Oil grooves / internal coolant
For blind and through holes
ISO Metric coarse thread - DIN 13

M

TAP DIMENSIONS

DIN 371



TOOL CODE

HB80 NR
TiCN

	HB80 NR TiCN
Tolerance	6HX
Chamfer form	C (2-3)
Hole type	2,5 x D
Direction of cut	RH
Through coolant	

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	HB80 NR TiCN
P	P.1-2	● 40-50
	P.3	● 35-45
	P.4	● 30-40
	P.5	● 15-25
	P.7	● 15-25
M	M.1	● 15-25
N	N.1-2	● 40-50
	N.3	● 35-45
	N.5-6	● 40-50
S	S.3	● 10-20

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	HB80 NR
M 3 (*)	0,5	56	6	18	3,5	2,7	4	2,8	•
4 (*)	0,7	63	7,5	21	4,5	3,4	4	3,7	•
5	0,8	70	8,5	25	6	4,9	4	4,65	•
6	1	80	11	30	6	4,9	5	5,55	•
8	1,25	90	14	35	8	6,2	5	7,4	•
10	1,5	100	16	39	10	8	5	9,3	•

• = standard execution
(*)= Taps without through coolant

See price list on page 45

H

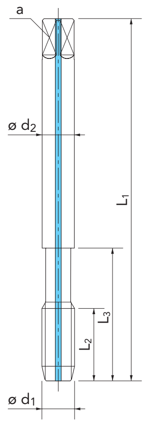
DIN 13 HM 2,5 x D

VERGNANO

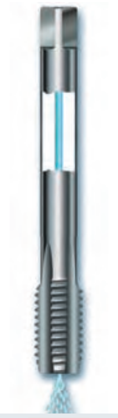
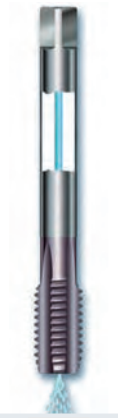
SOLID CARBIDE TAPS - Straight flutes / internal axial coolant / for cast iron
For blind holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



TOOL CODE

	HB45 BRIGHT	HB45 TiAlN		
				
Tolerance	6HX	6HX		
Chamfer form	C (2-3)	C (2-3)		
Hole type	2,5 x D	2,5 x D		
Direction of cut	RH	RH		
Through coolant	✓	✓		

APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	HB45 BRIGHT	HB45 TiAlN		
K	K.1	● 15-40	● 40-80		
	K.2	● 10-20	● 15-40		
N	N.3	● 20-30	● 30-50		
	N.4	● 15-20	● 25-40		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h6 [mm]	a h12 [mm]	z [-]	[mm]	HB45 BRIGHT	HB45 TiAlN
M 12	1,5	100	22	-	9	7	4	10,5	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•
16	1,5	100	22	-	12	9	4	14,5	•	•

• = standard execution

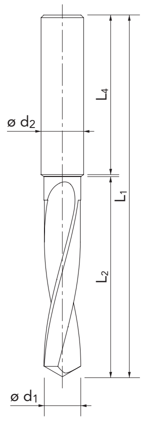
See price list on page 46 46

SOLID CARBIDE TWIST DRILL - Straight shank

For hardened steels up to 62 HRC

TAP DIMENSIONS

DIN 6537K



APPLICATION RANGE - CUTTING SPEED m/min

ISO	MG	HP900 TiAlN			
P	P.6	● 40-f1			
H	H.1-2	● 30-f2			

TOOL CODE

	HP900 TiAlN
	
Tolerance	m7
Shank	DIN 6535HA
Hole type	3xD
Direction of cut	RH
Through coolant	

Ød1 [mm]	Ød2 h6 [mm]	L1 [mm]	L2 [mm]	L4 [mm]	z [-]	HP900
2,600	6	62	20	36	2	•
3,400	6	62	20	36	2	•
4,300	6	66	24	36	2	•
5,100	6	66	28	36	2	•
6,900	8	79	34	36	2	•
8,600	10	89	47	40	2	•
10,400	12	102	55	45	2	•

TWIST DRILL **HP900** SHOULD BE USED ON HARDENED STEELS FOR THE PREPARATION OF THE DRILL HOLE BEFORE TAPPING WITH TAP **H130**.

• = standard execution

See price list on page 46

P180 N TiN

E

"E"

Discontinued Taps

This section includes discontinued taps which have been substituted with new articles having superior performance.

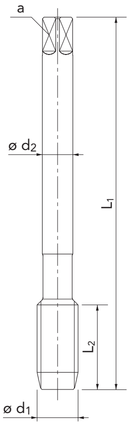
2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



ARTICLE REPLACED BY
A16 S
(page 46)

TOOL CODE

	A16 BRIGHT	A16 TiN	A16 TiCN
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A16 BRIGHT	A16 TiN	A16 TiCN
M 4	0,7	63	12	-	2,8	2,1	3	3,3	•	•	•
5	0,8	70	14	-	3,5	2,7	3	4,2	•	•	•
6	1	80	16	-	4,5	3,4	3	5	•	•	•
7	1	80	16	-	5,5	4,3	3	6	•	•	•
8	1,25	90	18	-	6	4,9	3	6,8	•	•	•
9	1,25	90	18	-	7	5,5	3	7,8	•	•	•
10	1,5	100	20	-	7	5,5	3	8,5	•	•	•

• = standard execution

See price list on page 47 47 47

2,5 x D | DIN 13 | HSSK

VERGNANO

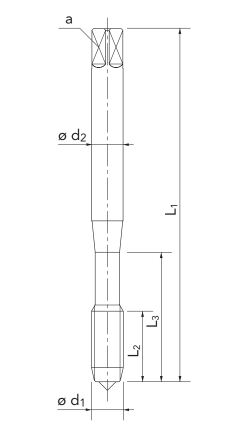
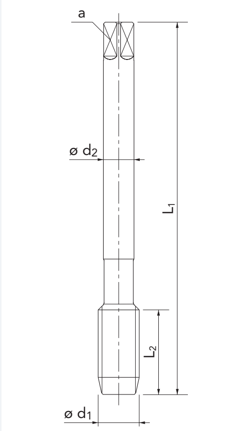
M

MACHINE TAPS - Straight flutes with spiral point

For through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M12
	

ARTICLE REPLACED BY
P15
(page 139)

TOOL CODE

	A15 K BRIGHT	A15 K TiN	A15 K TiCN
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A15 K BRIGHT	A15 K TiN	A15 K TiCN
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	3	12	•	•	•
16	2	110	28	-	12	9	3	14	•	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•
								See price list on page	47	47	47

• = standard execution

E

M

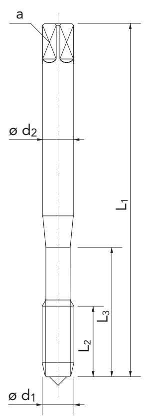
2,5 x D | DIN 13 | HSSZ

VERGNANO

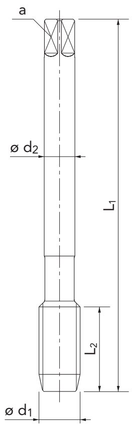
MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10



DIN 376 ≥M12



ARTICLE REPLACED BY
P15
(page 139)

TOOL CODE

	A115 BRIGHT	A115 TiN	A115 TiCN
			
Tolerance	6HX	6HX	6HX
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A115 BRIGHT	A115 TiN	A115 TiCN
M 3	0,5	56	10	18	3,5	2,7	3	2,5	•	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	4	12	•	•	•
16	2	110	28	-	12	9	4	14	•	•	•
18	2,5	125	32	-	14	11	4	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•

• = standard execution

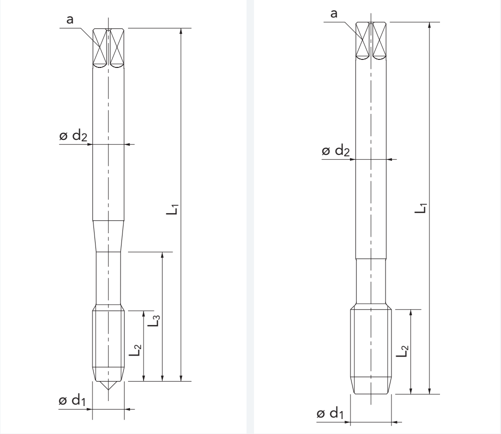
See price list on page: 47 | 47 | 47

E

MACHINE TAPS - 15° Left-hand spiral flutes
For through holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10 | DIN 376 ≥M11



ARTICLE REPLACED BY

A15 S

(page 42)

TOOL CODE

	A35 BRIGHT	A35 TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	D (4-5)	D (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A35 BRIGHT	A35 TiN
M 2	0,4	45	7	11	2,8	2,1	3	1,6	•	•
2,2	0,45	45	8	13	2,8	2,1	3	1,75	•	•
2,3	0,4	45	9	10	2,8	2,1	3	1,9	•	•
2,5	0,45	50	9	15	2,8	2,1	3	2,05	•	•
2,6	0,45	50	9	15	2,8	2,1	3	2,1	•	•
3	0,5	56	10	18	3,5	2,7	3	2,5	•	•
3,5	0,6	56	11	16	4	3	3	2,9	•	•
4	0,7	63	12	21	4,5	3,4	3	3,3	•	•
5	0,8	70	14	24,5	6	4,9	3	4,2	•	•
6	1	80	16	29	6	4,9	3	5	•	•
7	1	80	16	29	7	5,5	3	6	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•
9	1,25	90	18	33	9	7	3	7,8	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•
11	1,5	100	22	-	8	6,2	3	9,5	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•
14	2	110	25	-	11	9	3	12	•	•
16	2	110	28	-	12	9	3	14	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•
22	2,5	140	32	-	18	14,5	4	19,5	•	•
24	3	160	36	-	18	14,5	4	21	•	•
27	3	160	36	-	20	16	4	24	•	•
30	3,5	180	40	-	22	18	4	26,5	•	•
33	3,5	180	40	-	25	20	4	29,5	•	•

• = standard execution

See price list on page 47 47

E

L15 | 2,5 x D | DIN 13 | HSSE

VERGNANO

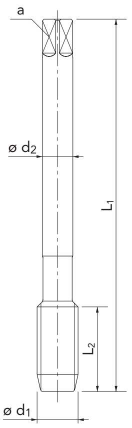
MACHINE TAPS - 15° Left-hand spiral flutes

For through holes

ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 376



ARTICLE REPLACED BY

A16 S

(page 46)

TOOL CODE

	A36 BRIGHT	A36 TiN
		
Tolerance	ISO2 6H	ISO2 6H
Chamfer form	D (4-5)	D (4-5)
Hole type	2,5 x D	2,5 x D
Direction of cut	RH	RH
Through coolant		

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A36 BRIGHT	A36 TiN
M 4	0,7	63	13	-	2,8	2,1	3	3,3	•	•
5	0,8	70	14	-	3,5	2,7	3	4,2	•	•
6	1	80	16	-	4,5	3,4	3	5	•	•
7	1	80	16	-	5,5	4,3	3	6	•	•
8	1,25	90	18	-	6	4,9	3	6,8	•	•
9	1,25	90	18	-	7	5,5	3	7,8	•	•
10	1,5	100	20	-	7	5,5	3	8,5	•	•

• = standard execution

See price list on page 48 48

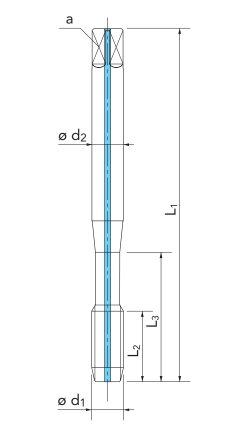
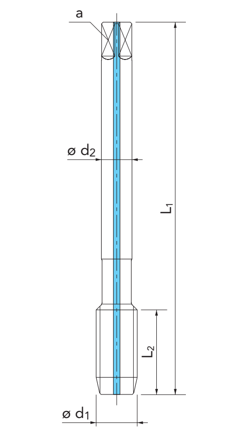
R15 | 1,5 x D | DIN 13 | HSSK

VERGNANO

M

MACHINE TAPS - 15° Spiral flutes / internal axial coolant
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

ARTICLE REPLACED BY
BP29
(page 140)

TOOL CODE

	B29 K BRIGHT	B29 K TiN	B29 K TiCN
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	1,5 x D	1,5 x D	1,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	B29 K BRIGHT	B29 K TiN	B29 K TiCN
M 5	0,8	70	14	24,5	6	4,9	3	4,2	•	•	•
6	1	80	16	29	6	4,9	3	5	•	•	•
8	1,25	90	18	33	8	6,2	3	6,8	•	•	•
10	1,5	100	20	36	10	8	3	8,5	•	•	•
12	1,75	110	24	-	9	7	3	10,2	•	•	•
14	2	110	25	-	11	9	3	12	•	•	•
16	2	110	28	-	12	9	3	14	•	•	•
18	2,5	125	32	-	14	11	3	15,5	•	•	•
20	2,5	140	32	-	16	12	4	17,5	•	•	•

• = standard execution

See price list on page	48	48	48

E

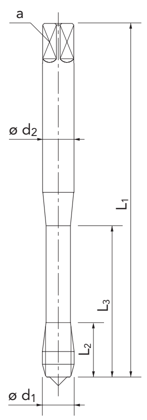
R40 | 2,5 x D | DIN 13 | HSSK

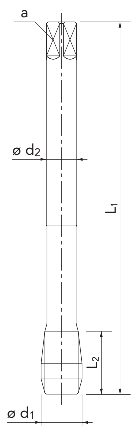
VERGNANO

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤ M10 | DIN 376 ≥ M12





ARTICLE REPLACED BY
P70
(page 141)

TOOL CODE

	A70 KS BRIGHT	A70 KS TiN	A70 KS TiCN
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

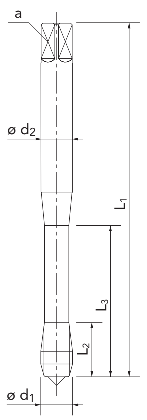
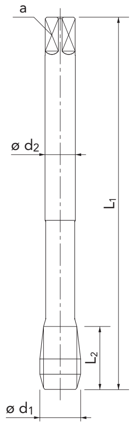
Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A70 KS BRIGHT	A70 KS TiN	A70 KS TiCN
M 3	0,5	56	7	15	3,5	2,7	3	2,5	•	•	•
4	0,7	63	8,5	21	4,5	3,4	3	3,3	•	•	•
5	0,8	70	10	24,5	6	4,9	3	4,2	•	•	•
6	1	80	12	29	6	4,9	3	5	•	•	•
8	1,25	90	15	33	8	6,2	3	6,8	•	•	•
10	1,5	100	17,5	38	10	8	3	8,5	•	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•	•
14	2	110	20,5	-	11	9	4	12	•	•	•
16	2	110	20,5	-	12	9	4	14	•	•	•
18	2,5	125	25,5	-	14	11	4	15,5	•	•	•
20	2,5	140	29,5	-	16	12	4	17,5	•	•	•

• = standard execution

See price list on page	48	48	48

MACHINE TAPS - 40° Spiral flutes / back tapered
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤M10	DIN 376 ≥M12
	

ARTICLE REPLACED BY
A70 S
(page 58)

TOOL CODE

	A120 BRIGHT	A120 VAP	A120 TiN	A120 TiCN
				
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A120 BRIGHT	A120 VAP	A120 TiN	A120 TiCN
M 2	0,4	45	5	14	2,8	2,1	3	1,6	•	•	•	•
2,5	0,45	50	5	18	2,8	2,1	3	2,05	•	•	•	•
3	0,5	56	5	21	3,5	2,7	3	2,5	•	•	•	•
4	0,7	63	5	27	4,5	3,4	3	3,3	•	•	•	•
5	0,8	70	6,5	30	6	4,9	3	4,2	•	•	•	•
6	1	80	7	34,5	6	4,9	3	5	•	•	•	•
8	1,25	90	9	38,5	8	6,2	3	6,8	•	•	•	•
10	1,5	100	11	43	10	8	3	8,5	•	•	•	•
12	1,75	110	13	-	9	7	3	10,2	•	•	•	•
14	2	110	16,5	-	11	9	3	12	•	•	•	•
16	2	110	19,5	-	12	9	3	14	•	•	•	•
18	2,5	125	24	-	14	11	3	15,5	•	•	•	•
20	2,5	140	25,5	-	16	12	3	17,5	•	•	•	•
22	2,5	140	25,5	-	18	14,5	3	19,5	•	•	•	•
24	3	160	32	-	18	14,5	3	21	•	•	•	•

• = standard execution

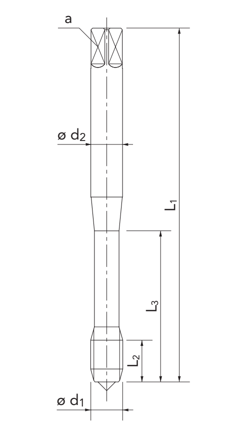
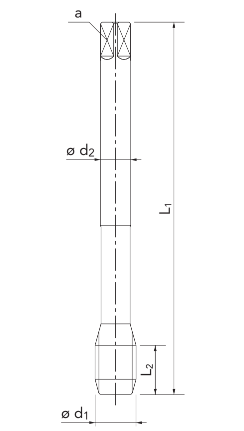
See price list on page 48 48 48 48

R25 | 2,5 x D | DIN 13 | HSSZ

VERGNANO

MACHINE TAPS - 25° Spiral flutes
For blind holes
ISO Metric coarse thread - DIN 13

TAP DIMENSIONS

DIN 371 ≤ M10	DIN 376 ≥ M12
	

ARTICLE REPLACED BY
P29
(page 140)

TOOL CODE

	A125 BRIGHT	A125 TiN	A125 TiCN	
				
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H	
Chamfer form	C (2-3)	C (2-3)	C (2-3)	
Hole type	2,5 x D	2,5 x D	2,5 x D	
Direction of cut	RH	RH	RH	
Through coolant				

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A125 BRIGHT	A125 TiN	A125 TiCN
M 3	0,5	56	6	17	3,5	2,7	3	2,5	•	•	•
4	0,7	63	7	20	4,5	3,4	3	3,3	•	•	•
5	0,8	70	8	23	6	4,9	3	4,2	•	•	•
6	1	80	10	28	6	4,9	3	5	•	•	•
8	1,25	90	13	34	8	6,2	3	6,8	•	•	•
10	1,5	100	15	38,5	10	8	4	8,5	•	•	•
12	1,75	110	18	-	9	7	4	10,2	•	•	•
14	2	110	20	-	11	9	4	12	•	•	•
16	2	110	20	-	12	9	4	14	•	•	•
18	2,5	125	25	-	14	11	4	15,5	•	•	•
20	2,5	140	25	-	16	12	5	17,5	•	•	•

• = standard execution

See price list on page	49	49	49

2,5 x D | DIN 13 | HSSK

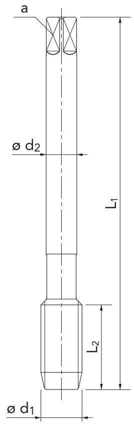
VERGNANO

MF

MACHINE TAPS - Straight flutes with spiral point
For through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



ARTICLE REPLACED BY
P17
(page 149)

TOOL CODE



	A17 K BRIGHT	A17 K TiN	A17 K TiCN
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A17 K BRIGHT	A17 K TiN	A17 K TiCN
M 8	1	90	16	-	6	4,9	3	7	•	•	•
10	1	90	18	-	7	5,5	4	9	•	•	•
10	1,25	100	18	-	7	5,5	3	8,8	•	•	•
12	1,25	100	22	-	9	7	4	10,8	•	•	•
12	1,5	100	22	-	9	7	3	10,5	•	•	•
14	1,5	100	22	-	11	9	4	12,5	•	•	•
16	1,5	100	22	-	12	9	4	14,5	•	•	•
18	1,5	110	25	-	14	11	4	16,5	•	•	•
20	1,5	125	25	-	16	12	4	18,5	•	•	•

• = standard execution

See price list on page 49 | 49 | 49

E

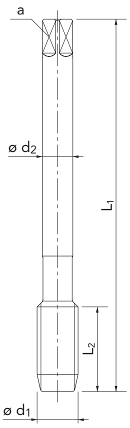
L 15 | 2,5 x D | DIN 13 | HSSE

VERGNANO

MACHINE TAPS - 15° Left-hand spiral flutes
For through holes
ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



ARTICLE REPLACED BY
A17 S
(page 88)

TOOL CODE

A37
BRIGHT

	A37
Tolerance	ISO2 6H
Chamfer form	D (4-5)
Hole type	2,5 x D
Direction of cut	RH
Through coolant	

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A37
M 5	0,5	70	12	-	3,5	2,7	3	4,5	•
6	0,75	80	14	-	4,5	3,4	3	5,2	•
7	0,75	80	14	-	5,5	4,3	3	6,2	•
8	0,75	80	16	-	6	4,9	3	7,2	•
8	1	90	16	-	6	4,9	3	7	•
10	1	90	18	-	7	5,5	3	9	•
10	1,25	100	18	-	7	5,5	3	8,8	•
12	1	100	22	-	9	7	3	11	•
12	1,25	100	22	-	9	7	3	10,8	•
12	1,5	100	22	-	9	7	3	10,5	•
14	1	100	22	-	11	9	3	13	•
14	1,5	100	22	-	11	9	3	12,5	•
16	1	100	22	-	12	9	4	15	•
16	1,5	100	22	-	12	9	3	14,5	•
18	1,5	110	25	-	14	11	3	16,5	•
20	1,5	125	25	-	16	12	4	18,5	•
22	1,5	125	25	-	18	14,5	4	20,5	•
24	1,5	140	25	-	18	14,5	4	22,5	•
24	2	140	28	-	18	14,5	4	22	•
27	2	140	28	-	20	16	4	25	•
30	1,5	150	28	-	22	18	4	28,5	•
30	2	150	28	-	22	18	4	28	•
32	1,5	150	28	-	22	18	5	30,5	•
32	2	150	28	-	22	18	4	30	•

• = standard execution

See price list on page 49

R40 | 2,5 x D | DIN 13 | HSSK

VERGNANO

MF

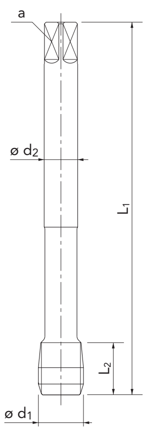
MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



ARTICLE REPLACED BY

P71

(page 151)

TOOL CODE

	A71 K BRIGHT	A71 K TiN	A71 K TiCN
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A71 K BRIGHT	A71 K TiN	A71 K TiCN
M 8	1	90	10	-	6	4,9	3	7	•	•	•
10	1	90	10	-	7	5,5	3	9	•	•	•
10	1,25	100	11,5	-	7	5,5	3	8,8	•	•	•
12	1,25	100	13,5	-	9	7	4	10,8	•	•	•
12	1,5	100	14	-	9	7	4	10,5	•	•	•
14	1,5	100	15,5	-	11	9	4	12,5	•	•	•
16	1,5	100	15,5	-	12	9	4	14,5	•	•	•
18	1,5	110	16	-	14	11	4	16,5	•	•	•
20	1,5	125	17	-	16	12	4	18,5	•	•	•

• = standard execution

See price list on page	50	50	50

E

R40 | 2,5 x D | DIN 13 | HSSK

VERGNANO

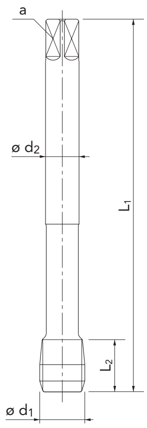
MACHINE TAPS - 40° Spiral flutes / back tapered

For blind holes

ISO Metric fine thread - DIN 13

TAP DIMENSIONS

DIN 374



ARTICLE REPLACED BY

P71

(page 151)

TOOL CODE

	A71 KS BRIGHT	A71 KS TiN	A71 KS TiCN
			
Tolerance	ISO2 6H	ISO2 6H	ISO2 6H
Chamfer form	C (2-3)	C (2-3)	C (2-3)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

Ød1 [mm]	P [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A71 KS BRIGHT	A71 KS TiN	A71 KS TiCN
M 8	1	90	10	-	6	4,9	3	7	•	•	•
10	1	90	10	-	7	5,5	3	9	•	•	•
10	1,25	100	11,5	-	7	5,5	3	8,8	•	•	•
12	1,25	100	13,5	-	9	7	4	10,8	•	•	•
12	1,5	100	14	-	9	7	4	10,5	•	•	•
14	1,5	100	15,5	-	11	9	4	12,5	•	•	•
16	1,5	100	15,5	-	12	9	4	14,5	•	•	•
18	1,5	110	16	-	14	11	4	16,5	•	•	•
20	1,5	125	17	-	16	12	4	18,5	•	•	•
								See price list on page	50	50	50

• = standard execution

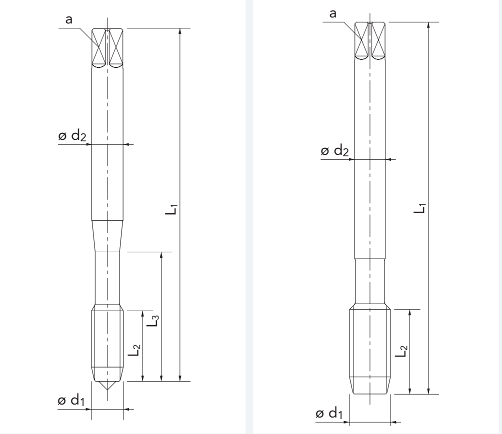
MACHINE TAPS - Straight flutes with spiral point

For through holes

Unified coarse thread - UNC ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4″ | DIN 2184-1 ≥ ø 5/16″



ARTICLE REPLACED BY

A19 S

(page 104)

TOOL CODE

	A19 BRIGHT	A19 TiN	A19 TiCN	A19 3B BRIGHT
Tolerance	2B	2B	2B	3B
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

UNC	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A19 BRIGHT	A19 TiN	A19 TiCN	A19 3B BRIGHT
Nr.2	56	2,184	45	8	13	2,8	2,1	2	1,85	•	•	•	
Nr.3	48	2,515	50	9	15	2,8	2,1	3	2,1	•	•	•	
Nr.4	40	2,845	56	10	18	3,5	2,7	3	2,35	•	•	•	
Nr.5	40	3,175	56	11	17	3,5	2,7	3	2,65	•	•	•	
Nr.6	32	3,505	56	12	18	4	3	3	2,85	•	•	•	•
Nr.8	32	4,166	63	13	22	4,5	3,4	3	3,5	•	•	•	•
Nr.10	24	4,826	70	16	26,5	6	4,9	3	3,9	•	•	•	•
Nr.12	24	5,486	80	16	26,5	6	4,9	3	4,5	•	•	•	•
1/4″	20	6,350	80	17	30	7	5,5	3	5,1	•	•	•	•
5/16″	18	7,938	90	18	-	6	4,9	3	6,6	•	•	•	•
3/8″	16	9,525	100	22	-	7	5,5	3	8	•	•	•	•
7/16″	14	11,113	100	24	-	8	6,2	3	9,4	•	•	•	•
1/2″	13	12,700	110	26	-	9	7	3	10,8	•	•	•	•
9/16″	12	14,288	110	28	-	11	9	3	12,2	•	•	•	•
5/8″	11	15,875	110	28	-	12	9	3	13,5	•	•	•	•
3/4″	10	19,050	125	32	-	14	11	4	16,5	•	•	•	•
7/8″	9	22,225	140	32	-	18	14,5	4	19,5	•	•	•	
1″	8	25,400	160	36	-	18	14,5	4	22,25	•	•	•	
1 1/8″	7	28,575	180	40	-	22	18	4	25	•			
1 1/4″	7	31,750	180	40	-	22	18	4	28	•			
1 3/8″	6	34,925	200	50	-	28	22	4	30,75	•			
1 1/2″	6	38,100	200	50	-	28	22	4	34	•			
See price list on page										50	50	50	50

• = standard execution

UNF

2,5 x D · ASME B1.1 · HSSE

VERGNANO

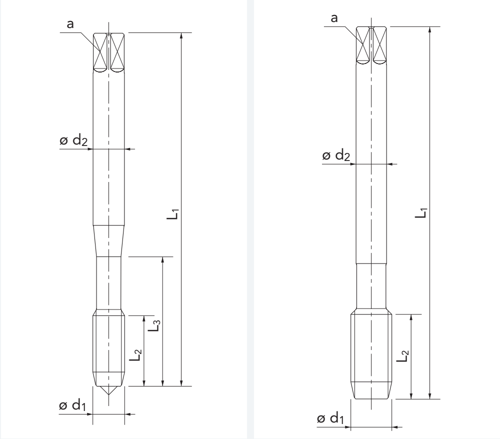
MACHINE TAPS - Straight flutes with spiral point

For through holes

Unified fine thread - UNF ASME B1.1

TAP DIMENSIONS

DIN 2184-1 ≤ ø 1/4" | DIN 2184-1 ≥ ø 5/16"



ARTICLE REPLACED BY

A20 S

(page 112)

TOOL CODE

	A20 BRIGHT	A20 TiN	A20 TiCN	A20 3B BRIGHT
Tolerance	2B	2B	2B	3B
Chamfer form	B (4-5)	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH	RH
Through coolant				

UNF	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A20 BRIGHT	A20 TiN	A20 TiCN	A20 3B BRIGHT
Nr.2	64	2,184	50	10	15,5	2,8	2,1	2	1,85	•	•	•	
Nr.3	56	2,515	50	10	15	2,8	2,1	3	2,15	•	•	•	
Nr.4	48	2,845	56	11	17	3,5	2,7	3	2,4	•	•	•	
Nr.5	44	3,175	56	12	18	3,5	2,7	3	2,7	•	•	•	
Nr.6	40	3,505	56	12	18	4	3	3	2,95	•	•	•	•
Nr.8	36	4,166	63	12	21	4,5	3,4	3	3,5	•	•	•	•
Nr.10	32	4,826	70	14	24,5	6	4,9	3	4,1	•	•	•	•
Nr.12	28	5,486	80	16	26,5	6	4,9	3	4,6	•	•	•	•
1/4"	28	6,350	80	16	30	7	5,5	3	5,5	•	•	•	•
5/16"	24	7,938	90	18	-	6	4,9	3	6,9	•	•	•	•
3/8"	24	9,525	90	18	-	7	5,5	3	8,5	•	•	•	•
7/16"	20	11,113	100	20	-	8	6,2	3	9,9	•	•	•	•
1/2"	20	12,700	100	22	-	9	7	4	11,5	•	•	•	•
9/16"	18	14,288	100	22	-	11	9	4	12,9	•	•	•	•
5/8"	18	15,875	100	22	-	12	9	4	14,5	•	•	•	•
3/4"	16	19,050	110	25	-	14	11	4	17,5	•	•	•	•
7/8"	14	22,225	125	25	-	18	14,5	4	20,4	•	•	•	
1"	12	25,400	140	28	-	18	14,5	4	23,25	•	•	•	
1 1/8"	12	28,575	150	28	-	22	18	4	26,5	•			
1 1/4"	12	31,750	150	28	-	22	18	4	29,5	•			
1 1/2"	12	38,100	170	30	-	28	22	5	36	•			

• = standard execution	See price list on page	51	51	51	51

E

G

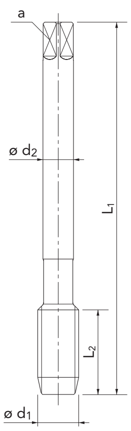
MACHINE TAPS - Straight flutes with spiral point
For through holes
Whitworth pipe thread - EN ISO 228

2,5 x D | EN ISO 228 | HSSE

VERGNANO

TAP DIMENSIONS

DIN 5156



ARTICLE REPLACED BY
A18 S
(page 122)

TOOL CODE

	A18 BRIGHT	A18 TiN	A18 TiCN
			
Tolerance	ISO 5969	ISO 5969	ISO 5969
Chamfer form	B (4-5)	B (4-5)	B (4-5)
Hole type	2,5 x D	2,5 x D	2,5 x D
Direction of cut	RH	RH	RH
Through coolant			

G	P [T.P.I.]	Ød1 [mm]	L1 js 16 [mm]	L2 [mm]	L3 [mm]	Ød2 h9 [mm]	a h12 [mm]	z [-]	[mm]	A18 BRIGHT	A18 TiN	A18 TiCN
1/8"	28	9,728	90	18	-	7	5,5	4	8,8	•	•	•
1/4"	19	13,157	100	22	-	11	9	4	11,8	•	•	•
3/8"	19	16,662	100	22	-	12	9	4	15,25	•	•	•
1/2"	14	20,955	125	25	-	16	12	4	19	•	•	•
5/8"	14	22,911	125	25	-	18	14,5	4	21	•	•	•
3/4"	14	26,441	140	28	-	20	16	4	24,5	•	•	•
7/8"	14	30,201	150	28	-	22	18	4	28,25	•	•	•
1"	11	33,249	160	30	-	25	20	4	30,75	•	•	•
1 1/8"	11	37,897	170	30	-	28	22	5	35,5	•		
1 1/4"	11	41,910	170	30	-	32	24	5	39,5	•		
1 1/2"	11	47,803	190	32	-	36	29	5	45,25	•		

• = standard execution

See price list on page	51	51	51

E

P30 TiN

"F"

Dies

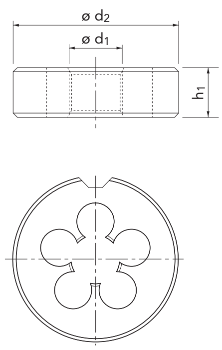
DIN 13
HSS

VERGNANO

DIES with spiral point
ISO Metric coarse thread - DIN 13

DIE DIMENSIONS

DIN EN 22568



TOOL CODE

	X200 BRIGHT	X200 LH BRIGHT
		
Tolerance	ISO 6g	ISO 6g
Chamfer length	1,75xP	1,75xP
Direction of cut	RH	LH

APPLICATION RANGE

ISO	MG	X200 BRIGHT	X200 LH BRIGHT		
P	P.1-4	•	•		
	P.7	•	•		
M	M.1	•	•		
K	K.2	•	•		
N	N.1-3	•	•		
	N.5-7	•	•		

Ød1 [mm]	P [mm]	Ød2 [mm]	h1 [mm]	X200	X200 LH
M 2	0,4	16	5	•	
2,2	0,45	16	5	•	
2,5	0,45	16	5	•	
3	0,5	20	5	•	•
3,5	0,6	20	5	•	
4	0,7	20	5	•	•
5	0,8	20	7	•	•
6	1	20	7	•	•
7	1	25	9	•	
8	1,25	25	9	•	•
9	1,25	25	9	•	
10	1,5	30	11	•	•
11	1,5	30	11	•	
12	1,75	38	14	•	•
14	2	38	14	•	•
16	2	45	18	•	
18	2,5	45	18	•	
20	2,5	45	18	•	
22	2,5	55	22	•	
24	3	55	22	•	
27	3	65	25	•	
30	3,5	65	25	•	
33	3,5	65	25	•	
36	4	65	25	•	
39	4	75	30	•	
See price list on page				52	52

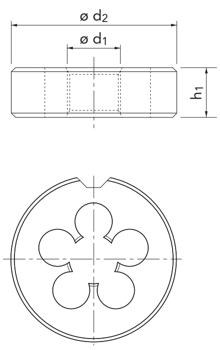
• = standard execution

VERGNANO

DIES with spiral point
ISO Metric fine thread - DIN 13

DIE DIMENSIONS

DIN EN 22568



TOOL CODE

X201
BRIGHT

	X201 BRIGHT
Tolerance	ISO 6g
Chamfer length	1,75xP
Direction of cut	RH

APPLICATION RANGE

ISO	MG	X201 BRIGHT			
P	P.1-4	●			
	P.7	●			
M	M.1	●			
K	K.2	●			
N	N.1-3	●			
	N.5-7	●			

Ød1 [mm]	P [mm]	Ød2 [mm]	h1 [mm]	X201
M 2	0,25	16	5	•
2,2	0,25	16	5	•
2,5	0,35	16	5	•
3	0,35	20	5	•
4	0,5	20	5	•
5	0,5	20	5	•
6	0,75	20	7	•
7	0,75	25	9	•
8	0,75	25	9	•
8	1	25	9	•
9	1	25	9	•
10	0,75	30	11	•
10	1	30	11	•
10	1,25	30	11	•
11	1	30	11	•
12	1	38	10	•
12	1,25	38	10	•
12	1,5	38	10	•
14	1	38	10	•
14	1,25	38	10	•
14	1,5	38	10	•
15	1	38	10	•
15	1,5	38	10	•
16	1	45	14	•
16	1,5	45	14	•
18	1	45	14	•
18	1,5	45	14	•
18	2	45	14	•
20	1	45	14	•
20	1,5	45	14	•
20	2	45	14	•

• = standard execution

See price list on page 52

MF

DIN 13

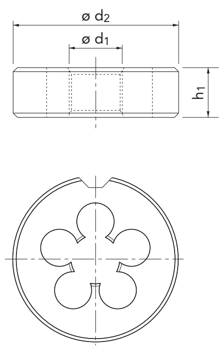
HSS

VERGNANO

DIES with spiral point
ISO Metric fine thread - DIN 13

DIE DIMENSIONS

DIN EN 22568



TOOL CODE

X201 BRIGHT

	X201 BRIGHT
Tolerance	ISO 6g
Chamfer length	1,75xP
Direction of cut	RH

APPLICATION RANGE

ISO	MG	X201 BRIGHT			
P	P.1-4	●			
	P.7	●			
M	M.1	●			
K	K.2	●			
N	N.1-3	●			
	N.5-7	●			

Ød1 [mm]	P [mm]	Ød2 [mm]	h1 [mm]	X201
M 22	1	55	16	•
22	1,5	55	16	•
22	2	55	16	•
24	1	55	16	•
24	1,5	55	16	•
24	2	55	16	•
25	1	55	16	•
25	1,5	55	16	•
25	2	55	16	•
26	1,5	55	16	•
27	1,5	65	18	•
27	2	65	18	•
28	1,5	65	18	•
28	2	65	18	•
30	1	65	18	•
30	1,5	65	18	•
30	2	65	18	•
32	1,5	65	18	•
32	2	65	18	•
33	2	65	18	•
35	1,5	65	18	•
36	1,5	65	18	•
36	2	65	18	•
36	3	65	25	•

• = standard execution See price list on page 52

F

ASME B1.1 HSS

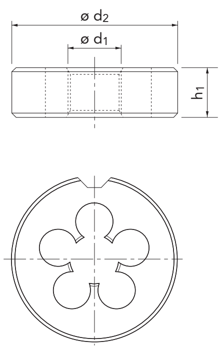
VERGNANO

UNC

DIES with spiral point
Unified coarse thread - UNC ASME B1.1

DIE DIMENSIONS

DIN EN 22568



TOOL CODE

X204
BRIGHT

APPLICATION RANGE

ISO	MG	X204 BRIGHT			
P	P.1-4	•			
	P.7	•			
M	M.1	•			
K	K.2	•			
N	N.1-3	•			
	N.5-7	•			

	X204
Tolerance	2A
Chamfer length	1,75xP
Direction of cut	RH

UNC	P [T.P.I.]	Ød1 [mm]	Ød2 [mm]	h1 [mm]	X204
Nr. 2	56	2,184	16	5	•
Nr. 4	40	2,845	20	5	•
Nr. 5	40	3,175	20	5	•
Nr. 6	32	3,505	20	7	•
Nr. 8	32	4,166	20	7	•
Nr. 10	24	4,826	20	7	•
Nr. 12	24	5,486	20	7	•
1/4”	20	6,350	20	7	•
5/16”	18	7,938	25	9	•
3/8”	16	9,525	30	11	•
7/16”	14	11,113	30	11	•
1/2”	13	12,700	38	14	•
9/16”	12	14,288	38	14	•
5/8”	11	15,875	45	18	•
3/4”	10	19,050	45	18	•
7/8”	9	22,225	55	22	•
1”	8	25,400	55	22	•

• = standard execution

See price list on page 53

F

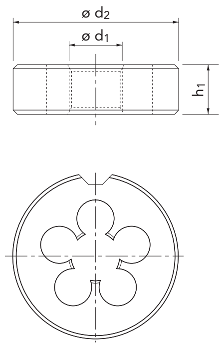
ASME B1.1 HSS

VERGNANO

DIES with spiral point
Unified fine thread - UNF ASME B1.1

DIE DIMENSIONS

DIN EN 22568



TOOL CODE

X205
BRIGHT

	X205 BRIGHT
Tolerance	2A
Chamfer length	1,75xP
Direction of cut	RH

APPLICATION RANGE

ISO	MG	X205 BRIGHT			
P	P.1-4	●			
	P.7	●			
M	M.1	●			
K	K.2	●			
N	N.1-3	●			
	N.5-7	●			

UNF	P [T.P.I.]	Ød1 [mm]	Ød2 [mm]	h1 [mm]	X205
Nr. 3	56	2,515	16	5	•
Nr. 4	48	2,845	20	5	•
Nr. 5	44	3,175	20	5	•
Nr. 6	40	3,505	20	5	•
Nr. 8	36	4,166	20	7	•
Nr. 10	32	4,826	20	7	•
Nr. 12	28	5,486	20	7	•
1/4”	28	6,350	20	7	•
5/16”	24	7,938	25	9	•
3/8”	24	9,525	30	11	•
7/16”	20	11,113	30	11	•
1/2”	20	12,700	38	10	•
9/16”	18	14,288	38	10	•
5/8”	18	15,875	45	14	•
3/4”	16	19,050	45	14	•
7/8”	14	22,225	55	16	•
1”	12	25,400	55	16	•

• = standard execution

See price list on page 53

DIES with spiral point
Whitworth pipe thread - EN ISO 228

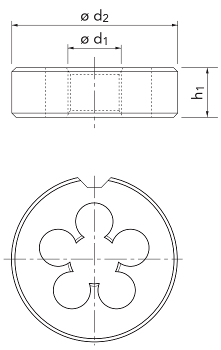
EN ISO 228 | HSS

VERGNANO

G

DIE DIMENSIONS

DIN EN 24231



TOOL CODE

X203
BRIGHT

APPLICATION RANGE

ISO	MG	X203 BRIGHT
P	P.1-4	●
	P.7	●
M	M.1	●
K	K.2	●
N	N.1-3	●
	N.5-7	●

	X203 BRIGHT
Tolerance	A
Chamfer length	1,75xP
Direction of cut	RH

G	P [T.P.I.]	Ød1 [mm]	Ød2 [mm]	h1 [mm]	X203
1/8"	28	9,728	30	11	•
1/4"	19	13,157	38	10	•
3/8"	19	16,662	45	14	•
1/2"	14	20,955	45	14	•
5/8"	14	22,911	55	16	•
3/4"	14	26,441	55	16	•
7/8"	14	30,201	65	18	•
1"	11	33,249	65	18	•
1 1/4"	11	41,910	75	20	•
1 1/2"	11	47,803	90	22	•
2"	11	59,614	105	22	•

• = standard execution

See price list on page 53

F

BS 84

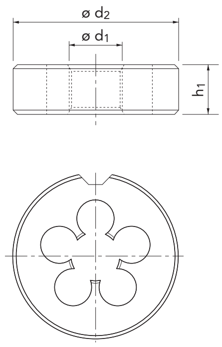
HSS

VERGNANO

DIES with spiral point
Whitworth thread - BS 84

DIE DIMENSIONS

DIN EN 22568



TOOL CODE

X202
BRIGHT

	X202 BRIGHT
Tolerance	mc
Chamfer length	1,75xP
Direction of cut	RH

APPLICATION RANGE

ISO	MG	X202 BRIGHT
P	P.1-4	•
P	P.7	•
M	M.1	•
K	K.2	•
N	N.1-3	•
N	N.5-7	•

BSW	P [T.P.I.]	Ød1 [mm]	Ød2 [mm]	h1 [mm]	X202
3/32"	48	2,381	20	5	•
1/8"	40	3,175	20	5	•
3/16"	24	4,763	20	7	•
1/4"	20	6,350	25	9	•
5/16"	18	7,938	25	9	•
3/8"	16	9,525	30	11	•
7/16"	14	11,113	30	11	•
1/2"	12	12,700	38	14	•
5/8"	11	15,875	45	18	•
3/4"	10	19,050	45	18	•
7/8"	9	22,225	55	22	•
1"	8	25,400	55	22	•

• = standard execution

See price list on page 54

F

ASME B1.20.1 HSS

VERGNANO

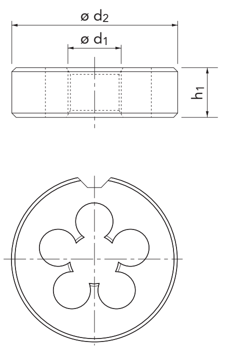
NPT

DIES with spiral point

National pipe thread - taper 1:16 - ASME/ANSI B1.20.1

DIE DIMENSIONS

DIN EN 22568



APPLICATION RANGE

ISO	MG	X206 BRIGHT			
P	P.1-4	●			
	P.7	●			
M	M.1	●			
K	K.2	●			
N	N.1-3	●			
	N.5-7	●			

TOOL CODE

X206
BRIGHT

Tolerance: –

Chamfer length: 1,75xP

Direction of cut: RH

NPT	P [T.P.I.]	Ød1 [mm]	Ød2 [mm]	h1 [mm]	X206
1/16"	27	7,938	25	10	•
1/8"	27	10,287	30	10	•
1/4"	18	13,716	38	15	•
3/8"	18	17,145	45	15,3	•
1/2"	14	21,336	45	20	•
3/4"	14	26,670	55	20,2	•
1"	11 1/2	33,401	65	25	•

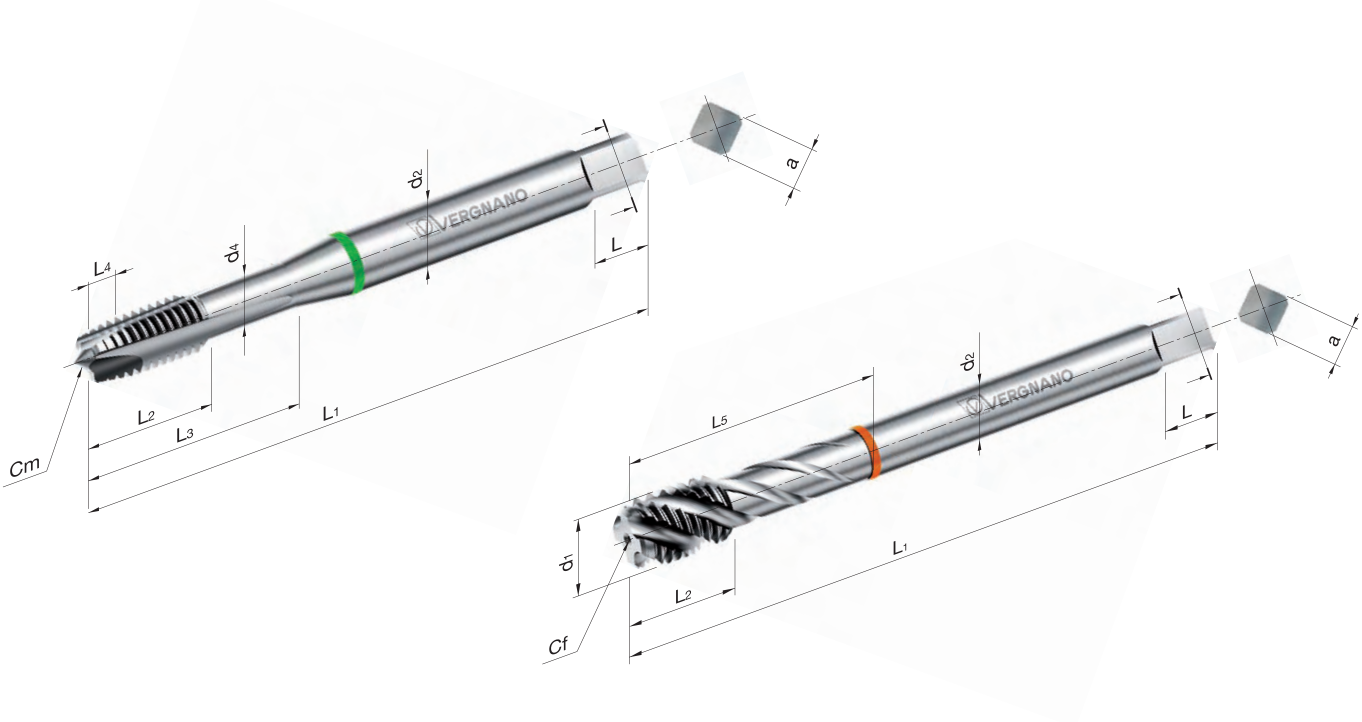
• = standard execution

See price list on page 54

BP43 ACE

“i”

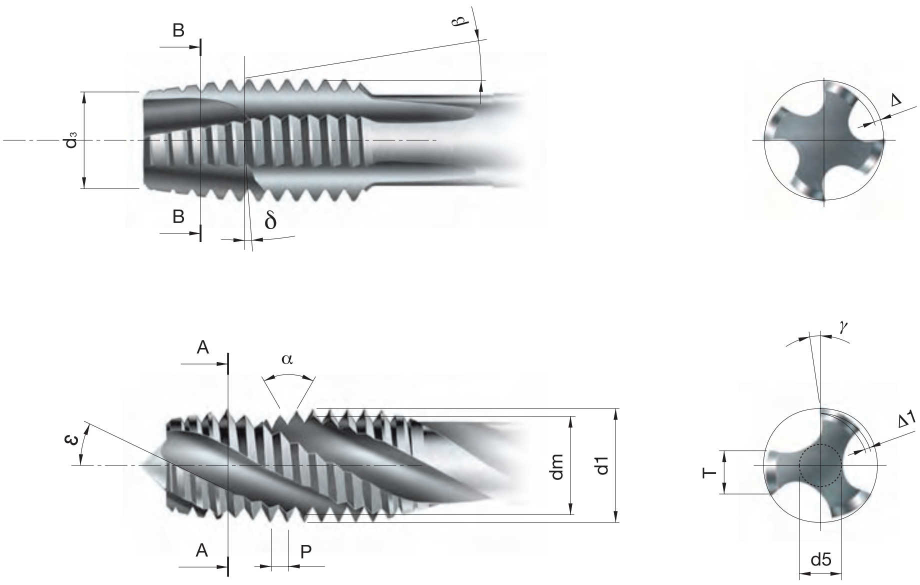
Technical Information



TAP TERMINOLOGY

Nominal diameter (d_1): the diameter used for the purpose of general identification.
Pitch diameter (d_m): the diameter measured where the width of the thread is equal to half the pitch.
Shank diameter (d_2): the diameter of the shank, important for the tapping attachment.
Chamfer diameter (d_3): the diameter at the leading end of the chamfer.
Neck diameter (d_4): the diameter of the reduced section between the thread and shank of the tap.
Core diameter (d_5): the diameter of a circle tangent to the bottom of the flutes.
Chamfer: the taper on the threads at the front end of the tap made by grinding and relieving the crests of the first few teeth.
Square (a): the square with rounded corners formed by four flats parallel to the tap axis. The square serves to drive the tap.
Square length (L): the length of the flats that form the square.
Total length (L_1): the complete length of the tap from end to end, excluding external centres.
Thread length (L_2): the length of the threaded section of the tap.
Usable length (L_3): the length measured from the front end of the tap to the end of the neck section. This length determines the maximum threadable depth on taps with reinforced shank.
Chamfer length (L_4): the length of the chamfer measured parallel to the tap axis, excluding the chamfer bevel.
Flute length (L_5): the axial length of the flute including the cutter sweep.
External center (C_m): the pointed end of the tap.
Internal center (C_f): the countersink in one or both ends of the tap.

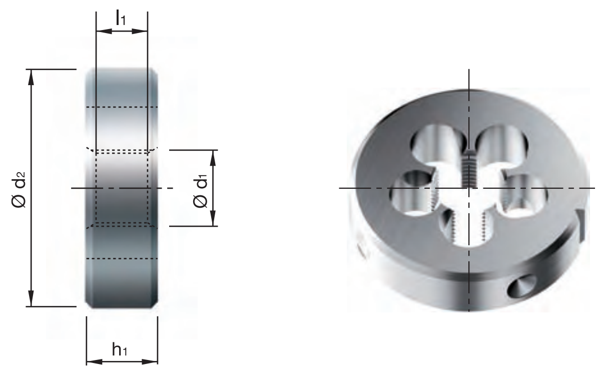
Tap and Die Terminology



Pitch (P): the distance, measured parallel to the tap axis, between two corresponding and successive points on the thread profile.
Angle of thread (α)**:** the angle between the flanks of the thread (measured in an axial plane).
Thread lead angle (δ)**:** the angle made by the spiral of the thread and a plane perpendicular to the tap axis, measured on the pitch diameter line.
Chamfer angle (β)**:** the angle between the chamfer and the tap axis, measured in an axial plane.
Rake angle (γ)**:** the angle between the cutting face of the tap and a radial line passing through the crest of the tooth at the cutting edge.
Land width (T): the chordal width of material between two successive flutes.
Flute: the longitudinal channels in a tap which create cutting edges. The flutes provide space for chips and passage for coolant/lubricant.
Spiral flute angle (ε)**:** the angle formed by the flutes and the tap axis.
Pitch diameter relief (Δ1)**:** the radial reduction of the pitch and/or major diameter behind the cutting edge of the tap. The relief confers cutting properties and provides clearance between the part being threaded and the tap threads.
Chamfer relief (Δ)**:** the radial reduction of the major diameter on the tap chamfer behind the cutting edge. The chamfer relief confers cutting properties to the tap.

DIE TERMINOLOGY

d_1: nominal diameter
d_2: outside diameter
h_1: thickness
l_1: length of full thread



VERGNANO

The types of chamfer are defined in standards DIN 2175 and DIN 2197 for forming taps and cutting taps, respectively.

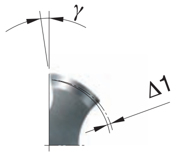
	Form A	Form B	Form C							Form D	Form E		
Chamfer form and length	A (5-6)	B (4-5)	C (2-3)							D (4-5)	E(1,5-2)		
Flute type				R15	R25	R40	R45			L15	R40	R45	

The tap manufacturer, according to the diameter and the application, defines the types of centres. Types of centre and chamfer are generally combined together as in the following table, but for specific applications exceptions are possible.

		Form A	Form B	Form C	Form D	Form E
Male centre	M	M2 ≤ Ø ≤ M8	M2 ≤ Ø ≤ M8	M2 ≤ Ø ≤ M8	M2 ≤ Ø ≤ M8	-
	MF	M2 ≤ Ø ≤ M6	M4 ≤ Ø ≤ M6	M2 ≤ Ø ≤ M6	M5 ≤ Ø ≤ M6	-
	UNC	Nr.2-56 ≤ Ø ≤ 1/4"-18	Nr.2-56 ≤ Ø ≤ 1/4"-18	Nr.2-56 ≤ Ø ≤ 1/4"-18	Nr.2-56 ≤ Ø ≤ 1/4"-18	-
	UNF	Nr.2-64 ≤ Ø ≤ 1/4"-28	Nr.2-64 ≤ Ø ≤ 1/4"-28	Nr.2-64 ≤ Ø ≤ 1/4"-28	-	-
	G	-	-	-	-	-
Half centre	M	M8 < Ø ≤ M10	M8 < Ø ≤ M10	M8 < Ø ≤ M10	M8 < Ø ≤ M10	-
	MF	M6 < Ø ≤ M10	M6 < Ø ≤ M10	M6 < Ø ≤ M10	M6 < Ø ≤ M10	-
	UNC	5/16"-18 ≤ Ø ≤ 3/8"-16	5/16"-18 ≤ Ø ≤ 3/8"-16	5/16"-18 ≤ Ø ≤ 3/8"-16	-	-
	UNF	5/16"-24 ≤ Ø ≤ 3/8"-24	5/16"-24 ≤ Ø ≤ 3/8"-24	5/16"-24 ≤ Ø ≤ 3/8"-24	-	-
	G	Ø = 1/8"-28	Ø = 1/8"-28	Ø = 1/8"-28	-	-
Female centre	M, MF	Ø > M10	Ø > M10	Ø > M10	Ø > M10	Ø > M10
	UNC	Ø ≥ 7/16"-14	Ø ≥ 7/16"-14	Ø ≥ 7/16"-14	Ø ≥ 5/16"-18	-
	UNF	Ø ≥ 7/16"-20	Ø ≥ 7/16"-20	Ø ≥ 7/16"-20	-	-
	G	Ø ≥ 1/4"-19	Ø ≥ 1/4"-19	Ø ≥ 1/4"-19	-	-
Removed centre	M, MF	-	-	-	-	Ø ≤ M10
	UNC	-	-	-	-	-
	UNF	-	-	-	-	-
	G	-	-	-	-	-

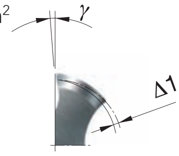
While the chamfer and flutes of the tap depend on the type of hole (blind or through) to machine, other geometrical aspects such as number of flutes, rake angle, and relief of the tap are determined by the material to be machined.
In order to simplify the choice of the correct tap, some Vergnano taps have coloured rings.

MACHINE TAPS for LIGHT ALLOYS
Spiral flutes with 40° right hand spiral for blind holes (Vergnano A72)



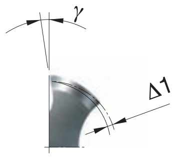
γ = increased
Δ1 = normal

MACHINE TAPS for STEEL WITH TENSILE STRENGTH from 500 N/mm² to 1200 N/mm²
Straight flutes with spiral point for through holes
(Vergnano A15S - A16S - A17S - A18S - A19S - A20S)
Spiral flutes with 40° right hand spiral for blind holes
(Vergnano A59S - A60S - A61S - A70S - A70SE - A71S - A76S - A159S - A701S)



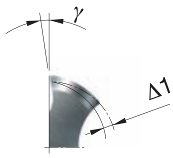
γ = normal
Δ1 = increased

MACHINE TAPS for STAINLESS STEELS
Straight flutes with spiral point for through holes (Vergnano A150)
Spiral flutes with 40° right hand spiral for blind holes (Vergnano A170)



γ = increased
Δ1 = increased

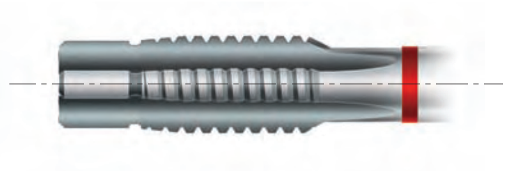
MACHINE TAPS for TITANIUM and TITANIUM ALLOYS
Straight flutes for blind and through holes (Vergnano A110)

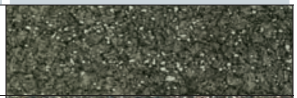
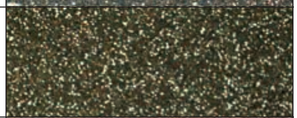
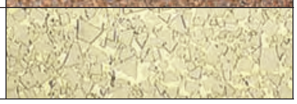


γ = normal
Δ1 = highly increased

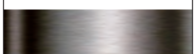
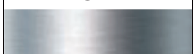
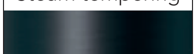
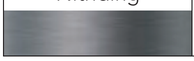
HAND TAPS in sets of three pieces for STEEL WITH TENSILE STRENGTH up to 1200 N/mm²
A red ring is used for these hand taps which differ from other sets because of the superior base material, HSSE instead of HSS, and the cylindrical guide on the roughing tap (Vergnano A100).
These characteristics make this tap particularly suitable for hand tapping high resistance steels.

Cylindrical guide on the roughing tap



Vergnano Designation	Designation according to ISO 11054	Properties	Applications	Structure (500x)
HSS	HSS	Conventional steel with normal hardness and toughness.	Used exclusively for hand taps (except A100).	
HSSE	HSS-E	Conventional steel with good hardness, toughness and wear resistance.	For general applications.	
HSSK	HSS-E-PM	Powder metallurgy steel with excellent mechanical properties. Excellent substrate for coatings.	Used in applications where a compromise between high hardness and high toughness is needed.	
HSSZ	HSS-E-PM	Powder metallurgy steel with very high hardness and wear resistance. Excellent substrate for advanced coatings.	For applications where extremely high performance and productivity are requested.	
HSSP	HSS-E-PM	Powder metallurgy steel with high alloy content and excellent mechanical properties. Excellent substrate for coatings.	For tough materials and extreme applications.	
HM	-	Grade K solid carbide with ultra-fine carbide grain size.	For heat-treated steels and abrasive materials.	

Coatings - Properties

Type of coating / treatment	Structure	Hardness HV (0,05)	Friction coefficient on steel (dry conditions)	Radial thickness [μm]	Oxidation temperature [°C]	Features
TiN 	Mono-layer	2300	0,40	1 ÷ 5	600	Wear resistance
TiCN 	Mono-layer	3000	0,40	1 ÷ 5	400	Wear resistance
TiX2 	Multi-layer	3000	0,20	2 ÷ 6	500	Oxidation and wear resistance, chip evacuation
TiH1 	Multi-layer	3000	0,20	2 ÷ 6	800	Oxidation and wear resistance, chip evacuation
CrN 	Mono-layer	1750	0,50	1 ÷ 4	700	Oxidation and wear resistance
TiAlN 	Nano structured	3300	0,30	1 ÷ 6	900	Oxidation and wear resistance
ACE 	Mono-layer	3200	0,35	1 ÷ 5	1100	Oxidation and wear resistance
Steam tempering 	Surface oxidation	400	-	-	550	Chip evacuation
Nitriding 	Surface hardening	1300	-	-	550	Wear resistance

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COATINGS RECOMMENDED FOR CUTTINGS TAPS

ISO	Material	Group	Application	TiN	TiCN	TiX2	TiH1	CrN	TiAlN	ACE	VAP	NITR
P	Steel	P.1	Mild / magnetic steel	❍			❍				●	
		P.2	Construction steel, case hardening steel	●			❍				❍	
		P.3	Carbon steel	●			❍					
		P.4	Alloyed steel / tempered steel	❍	❍		●					
		P.5	Alloyed steel / tempered steel	❍	❍		●					
		P.6	Alloyed steel / high strength steel	❍	❍		●					
		P.7	Ferritic stainless steel, martensitic stainless steel, precipitation hardening	❍		●					❍	
M	Stainless Steel	M.1	Austenitic stainless steel			●	❍				❍	
		M.2	Ferritic+austenitic (Duplex)			●	❍				❍	
K	Cast iron	K.1	Grey cast iron		❍					●		❍
		K.2	Nodular cast iron, malleable cast iron, tempered cast iron	●			❍					
		K.3	Austempered ductile iron (ADI)							●		
N	Aluminium Aluminium alloys	N.1	Pure aluminium				●				❍	
		N.2	Aluminium wrought and die cast alloys with Si < 0,5% (long chipping)	❍			●				❍	
		N.3	Aluminium wrought and die cast alloys with Si > 10% (medium chipping)	❍			●				❍	
		N.4	Aluminium die cast alloys with Si > 10% (short chipping)		❍					●		❍
	Copper Copper alloys Brass Bronze	N.5	Pure copper				●				❍	
		N.6	Copper alloys (long chipping), soft brass	❍			●				❍	
		N.7	Copper alloys (short chipping), hard brass		●							❍
		N.8	High strength bronze		❍					●		❍
	Magnesium Magnesium alloys	N.9	Pure magnesium, magnesium alloys		❍							●
		N.10	High strength magnesium alloy		❍							●
S	Titanium Titanium alloys	S.1	Pure titanium				❍	●				
		S.2	Titanium alloys				❍	●				
	Nickel Nickel alloys	S.3	Pure nickel	❍			●					
		S.4	Nickel alloys	❍			●					
H	Hardened materials	H.1	Alloyed steel, hardness HRC 44-55						●	❍		
		H.2	Alloyed steel, hardness HRC 56-63						●	❍		

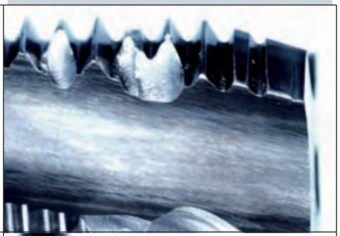
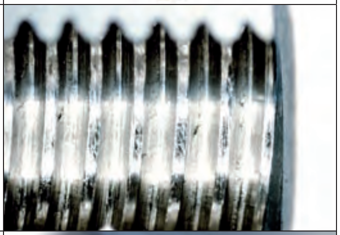
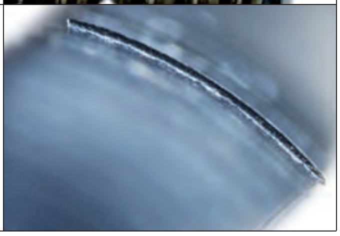
COATINGS RECOMMENDED FOR COLD FORMING TAPS

ISO	Material	Group	Application	TiN	TiCN	TiH1	VAP
P	Steel	P.1	Mild / magnetic steel	❍			●
		P.2	Construction steel, case hardening steel	●			❍
		P.3	Carbon steel	●	❍		
		P.4	Alloyed steel / tempered steel	●	❍		
		P.5	Alloyed steel / tempered steel	●	❍		
		P.7	Ferritic stainless steel, martensitic stainless steel, precipitation hardening	❍		●	
M	Stainless Steel	M.1	Austenitic stainless steel	❍		●	
		M.2	Ferritic+austenitic (Duplex)	❍		●	
N	Aluminium Aluminium alloys	N.1	Pure aluminium	❍			●
		N.2	Aluminium wrought and die cast alloys with Si < 0,5% (long chipping)	●	❍		❍
		N.3	Aluminium wrought and die cast alloys with Si < 10 % (medium chipping)	●	❍		❍
	Copper Copper alloys Brass Bronze	N.5	Pure copper	❍		●	
		N.6	Copper alloys (long chipping), soft brass	●	❍		❍
S	Titanium Titanium alloys	S.1	Pure titanium			●	
		S.2	Titanium alloys			●	
	Nickel Nickel alloys	S.3	Pure nickel	❍		●	
		S.4	Nickel alloys	❍		●	

● Ideal tap ❍ Suitable tap

Tapping is a complex process and often the last machining operation performed on the workpiece. Therefore, incorrect or faulty tapping can compromise the quality of the entire workpiece.
Numerous factors influence the process: cutting parameters, drilling parameters, lubrication, machine conditions. The choice of the correct tool is paramount in order to obtain high quality threads.

The following table summarises the most common problems encountered during tapping and their possible solutions.

Problem	Solution	
Chipped teeth on tap	• Choose correct tap, with lower rake angle or longer chamfer. • Reduce cutting speed. • Check drilled hole size is not too small. • Check tap alignment and run-out of tap on tapping attachment. • For deep blind holes (≥ 2,5xD) use taps with back-tapering.	
Excessive tap wear	• Improve quality (richer emulsion, neat oil) and quantity (higher pressure) of lubrication. • Use correct tap, with more relief or longer chamfer if possible. • Choose coating suitable for specific application. • Use recommended cutting parameters for specific application.	
Chips clogging flutes	• Use tap with lower spiral flute angle. • Choose correct tap with suitable rake angle and relief for specific application. • Use tap with sharp cutting edge (bright tap or vapourised tap).	
Poor finish on threaded workpiece	• Check wear on tap. If necessary, resharpen or change tap. • Improve quality and quantity of lubrication. • Choose correct tap with suitable rake angle and relief for specific application. • Use recommended cutting parameters for specific application.	
Built-up-edge	• Choose correct tap with lower rake angle and/or higher relief. • Choose coating suitable for specific application. • Increase cutting speed. • Improve quality and quantity of lubrication.	

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Problem	Solution	
Tap sticking	• Choose correct tap with lower rake angle and/or higher relief. • Choose coating suitable for specific application. • Increase cutting speed. • Improve quality and quantity of lubrication.	
Crater wear	• Choose suitable tap, with base material in HSSE-PM. • Use coated tap. • Improve quality and quantity of lubrication.	
Tap breakage	• Check drilled hole size. • Check alignment between tap and drilled hole. • Reduce cutting speed. • On blind holes, check that tapping depth is less than hole depth. • Use tapping attachment with slip clutch. • Use compensated tapping attachment.	
Oversized thread	• Check tap tolerance is compatible with requested workpiece (nut) tolerance. • Choose correct tap with suitable rake angle and relief for specific application. • Reduce feed rate (revs x pitch) or use rigid / synchronous tapping attachment. • Reduce cutting speed. • Check tap alignment and that workpiece is fastened steadily. • Remove clogged chips from flutes.	
Undersized thread	• Check drilled hole size is not too small. • Check tap tolerance is compatible with requested workpiece (nut) tolerance. • Use coated tap to avoid tap sticking. • On forming taps, use slightly larger drilled hole size. • Check wear on tap. If necessary, resharpen or change tap. • Choose correct tap with higher rake angle and relief. • Use rigid / synchronous tapping attachment. • Improve quality and quantity of lubrication.	
Excessive power requirement	• On high strength materials, increase drilled hole size. • Check wear on tap. If necessary, resharpen or change tap. • Choose correct tap with higher rake angle and relief. • Improve quality and quantity of lubrication.	

Parameter	Formula	Unit of Measurement
Cutting speed	$V_c = \frac{N \cdot \pi \cdot d_1}{1000}$	$\frac{m}{min}$
Rotational speed	$N = \frac{1000 \cdot V_c}{\pi \cdot d_1}$	rpm
Torque (*)	$M_t = \frac{K_c \cdot p^2 \cdot z^{0,6} \cdot d_1}{10^4}$	N · m
Spindle power	$P = \frac{M_t \cdot 2 \cdot \pi \cdot N}{60}$	W
Nominal diameter	d_1	mm
Feed	$p \cdot N$	$\frac{mm}{min}$
p	Thread pitch	mm
z	Number of flutes	-
K_c	Cutting force coefficient (function of the material and of tap wear)	$\frac{N}{mm^2}$

(*) The torque value is valid for a new cutting tap.
For worn-out taps, the value can increase up to 2-3 times. For forming taps, the value must be multiplied by 1,5-2 times.

M.G.	Kc [N/mm²]
P.1	1300
P.2	1400
P.3	1400
P.4	1600
P.5	1700
P.6	2000
P.7	1400
M.1	1600
M.2	1800
K.1	1100
K.2	1500
K.3	1600
N.1	600
N.2	800
N.3	900
N.4	1000
N.5	700
N.6	850
N.7	900
N.8	2500
N.9	400
N.10	500
S.1	1200
S.2	1900
S.3	1300
S.4	2400

Conversion Table Hardness Vs Tensile Strength

Tensile Strength	Hardness		
R [N/mm²]	HB Brinell	HRC Rockwell C	HV Vickers
3400	700	68	1008
3120	688	67	955
2960	676	66	920
2890	670	65	885
2770	659	64	850
2240	650	63	826
2190	635	62	797
2140	627	61	772
2100	613	60	746
2050	600	59	720
2010	587	58	693
1970	574	57	666
1930	561	56	646
1890	548	55	623
1850	536	54	604
1810	524	53	585
1780	512	52	567
1730	500	51	549
1680	488	50	528
1630	476	49	513
1590	464	48	497
1560	453	47	482
1520	442	46	468
1480	430	45	453
1440	419	44	440

Tensile Strength	Hardness		
R [N/mm²]	HB Brinell	HRC Rockwell C	HV Vickers
1400	408	43	427
1360	398	42	416
1320	389	41	404
1300	377	40	391
1260	367	39	381
1230	357	38	371
1190	347	37	357
1150	337	36	345
1120	327	35	332
1100	319	34	323
1060	309	33	314
1040	301	32	304
1010	294	31	296
980	286	30	288
960	279	29	280
940	272	28	273
910	265	27	266
890	259	26	259
870	253	25	253
850	247	24	247
830	241	23	241
810	235	22	235
790	230	21	230
770	225	20	225

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P Steel	Mild/magnetic	1.1015	RFe60					P.1
		1.1014	RFe80					P.1
		1.1013	RFe100					P.1
	Structural	1.0037	St 37-2	Fe360B	E 24-2	1015	STKM12C	P.2
		1.0044	St 44-2	Fe430B	E 28-2	1020	SM400C	P.2
		1.0050	St 50-2	Fe490	A 50-2	A 570 (50)	SS490	P.2
		1.0060	St 60-2	Fe590	A 60-2	A 572 (65)	SM570	P.2
		1.0570	St 52-3	Fe510B	E 36-3	1024		P.2
	Case hardening	1.0301	C10	C10	C10	1010	S10C	P.2
		1.0401	C15	C15	C18	1015	S15C	P.2
		1.7131	16MnCr5	16MnCr5	16 MC 5	5115		P.2
		1.7147	20MnCr5	20MnCr5	20 MC 5	5120	SMnC420H	P.2
		1.7243	18CrMo4	18CrMo4				P.2
		1.5919	15CrNi6	16CrNi4	16 NC 6			P.2
		1.6523	20NiCrMo2	20NiCrMo2	20 NCD 2	8620		P.2
		1.6587	17CrNiMo6	18NiCrMo7	18 NCD 6			P.2
	Nitriding	1.8515	31CrMo12	31CrMo12	30 CD 12			P.4
		1.8519	31CrMoV9	31CrMoV10				P.5
		1.8507	34CrAlMo7	34CrAlMo7	30 CAD 6.12			P.4
		1.8509	41CrAlMo7	41CrAlMo7	40 CAD 6.12		SACM645	P.5
	Free cutting	1.0711	9S20	9S20		1212		P.1
		1.0715	9SMn28	9SMn28	S 250	1213	SUM22	P.1
		1.0718	9SMnPb28	9SMnPb28	S 250 Pb	12 L 13	SUM22L	P.1
		1.0726	35S20	35S20	35 MF 4	1140		P.2
		1.0736	9SMn36	9SMn36	S 300	1215	SUM25	P.1
		1.0737	9SMnPb36	9SMnPb36	S 300 Pb	12 L 14		P.1
	Heat-treatable	1.0406	C25	C25	AF 50 C 30	1025		P.3
		1.0528	C30	C30		1030		P.3
		1.0501	C35	C35	AF 55 C 35	1035	S35C	P.3
		1.0511	C40	C40	AF 60 C 40	1040		P.3
		1.0503	C45	C45	AF 65 C 45	1045	S45C	P.3
		1.0540	C50	C50		1050		P.3
		1.0535	C55	C55	C54	1055	S55C	P.3
		1.0601	C60	C60	C60	1060	S58C	P.3
		1.7035	41Cr4	41Cr4	41Cr4	5140	SCr440(H)	P.4 (anneal) / P.5 (Q+T)
		1.8159	51CrV4	51CrV4	50 CV 4	6145	SUP10	P.4 (anneal) / P.5 (Q+T)
		1.7218	25CrMo4	25CrMo4	25 CD 4	4130	SCM420	P.4 (anneal) / P.5 (Q+T)
		1.7220	34CrMo4	34CrMo4	35 CD 4	4137	SCM432	P.4 (anneal) / P.5 (Q+T)
		1.7225	42CrMo4	42CrMo4	42 CD 4		SCM440	P.4 (anneal) / P.5 (Q+T)
		1.7228	50CrMo4	50CrMo4	50CrMo4	4150	SCM445(H)	P.4 (anneal) / P.5 (Q+T)
		1.6580	30CrNiMo8	30CrNiMo8	30 NCD 8		SNCM431	P.5 (anneal) / P.6 (Q+T)
		1.6582	34CrNiMo6	34CrNiMo6	35 NCD 6	4337	SNC447	P.5 (anneal) / P.6 (Q+T)
		1.6511	36CrNiMo4	36CrNiMo4	40 NCD 3	4340		P.4 (anneal) / P.5 (Q+T)
		1.6773	36NiCrMo16	36NiCrMo16				P.5 (anneal) / P.6 (Q+T)
	Ball bearing	1.3505	100Cr6	100Cr6	100C6	52100		P.4 (anneal)
		1.3536	100CrMo7-3	100CrMo7				P.4 (anneal)
	Spring	1.1231	Ck67	C67	XC 68			P.3
		1.1248	Ck75	C75		1078		P.3
		1.1269	Ck85	C85	C90			P.3
		1.1274	Ck101	C100	C100		SUP4	P.3
		1.5021		48Si7				P.4 (anneal) / P.5 (Q+T)
		1.5026	55Si7	55Si7	56SC7			P.4 (anneal) / P.5 (Q+T)
		1.5027		60Si7	60Si7			P.4 (anneal) / P.5 (Q+T)
		1.7108	60SiCr7	60SiCr8				P.4 (anneal) / P.5 (Q+T)
		1.8159	50CrV4	50CrV4	50 CV 4		SUP10	P.4 (anneal) / P.6 (Q+T)
		1.7176	55Cr3	55Cr3	55 C 3	5155	SUP9(A)	P.4 (anneal) / P.6 (Q+T)
		1.7701	51CrMoV4	51CrMoV4				P.4 (anneal) / P.6 (Q+T)
	Superficial hardening	1.1183	Cf 35	C36	XC 68 H1TS			P.3
		1.1193	Cf 45	C43	XC 42 H1TS			P.3
		1.1213	Cf 53	C53	XC 48 H1TS	1050		P.3
		1.7005	45Cr2	45Cr2				P.4
		1.7043	38Cr4	38Cr4				P.5
		1.7034	37Cr4	36CrMn4	38 C 4	5135	SCr435H	P.5
		1.7223	41CrMo4	41CrMo4	42 CD 4 TS	4140	SCM440	P.5

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P Steel	Hot-work	1.2767	45NiCrMo16	40NiCrMoV16 KU	Y35NCD16			P.5 (anneal)
		1.2713	55NiCrMoV7	55NiCrMoV7 KU	55NiCrMoV7			P.4 (anneal)
		1.2311		35CrMo8 KU				P.4 (anneal)
		1.2365	32CrMoV12-28	30CrMoV12-27 KU	32CDV12-28	H10		P.4 (anneal)
		1.2343	X38CrMoV5-1	X37CrMoV5-1 KU	Z38CDV5	H11	SKD2	P.4 (anneal)
		1.2344	X40CrMoV5-1	X40CrMoV5-1-1 KU	Z40CDV5	H13	SKD61	P.4 (anneal)
		1.2567	X30WCrV5-3	X30WCrV5-3 KU	Z32WCV5		SKD4	P.4 (anneal)
		1.2581	X30WCrV9-3	X30WCrV9-3 KU	Z30WCV9	H21	SKD5	P.4 (anneal)
	Ferritic stainless steel	1.4002	X6CrAl13	X6CrAl13	Z 8 CA 12	405	SUS405	P.7
		1.4512	X2CrTi12	X6CrTi12	Z 3 CT 12	409	SUS409	P.7
		1.4016	X6Cr17	X8Cr17	Z 8 C 17	430	SUS430	P.7
		1.4104	X14CrMoS17	X10CrS17	Z 13 CF 17	430F	SUS430F	P.7
	Martensitic stainless steel	1.4006	X12Cr13	X12Cr13	Z 10 C 13	410	SUS410	P.7
		1.4005	X12CrS13	X12CrS13	Z 11 CF 13	416	SUS416	P.7
		1.4021	X20Cr13	X20Cr13	Z 20 C 13	420	SUS420J1	P.7
		1.4028	X30Cr13	X30Cr13	Z 30 C 13	420F	SUS420J2	P.7
		1.4057	X17CrNi16-2	X16CrNi16	Z 15 CN 16-02	431	SUS431	P.7
		1.4125	X105CrMo17		Z 100 CD 17	440C	SUS440C	P.7
	Precipitation hardening	1.4542	X5CrNiCuNb16-4		Z 7 CNU 15-05	630	SUS630/SCS24	P.7
M Stainless steel	Austenitic	1.4319	X3CrNiN17-8	X10CrNi1809		302	SUS302	M.1
		1.4305	X8CrNiS18-9	X10CrNiS1809	Z 8 CNF 18-09	303	SUS303	M.1
		1.4301	X5CrNi18-10	X5CrNi1810	Z 4 CN 19-10 FF	304	SUS304	M.1
		1.4306	X2CrNi19-11	X2CrNi1811	Z 1 CN 18-12	304L	SUS304L/SCS19	M.1
		1.4303	X4CrNi18-12	X8CrNi1812	Z 5 CN 18-11 FF	305	SUS305J1	M.1
		1.4828	X15CrNiSi20-12	X16CrNi2314	Z 9 CN 24-13	309	SUH309	M.1
		1.4841	X15CrNiSi25-20	X22CrNiSi2520	Z 15 CNS 25-20	310	SUH310	M.1
		1.4401	X5CrNiMo17-12-2	X5CrNiMo1712	Z 3 CND 17-11-01	316	SUS316	M.1
		1.4404	X2CrNiMo17-12-2	X2CrNiMo1712	Z 2 CND 17-12	316L	SUS316L	M.1
		1.4541	X6CrNiTi18-10	X6CrNiTi1811	Z 6 CNT 18-10	321	SUS321	M.1
		1.4550	X6CrNiNb18-10	X6CrNiNb1811	Z 6 CNNb 18-10	347	SUS347	M.1
	Duplex	1.4462	X2CrNiMoN22-5-3	X2CrNiMoN22-5-3	Z 3 CND 22-05 Az		SUS329J3L	M.2
		1.4501	X2CrNiMoCuWN25-7-4	X2CrNiMoCuWN25-7-4				M.2
K Cast iron	Grey cast iron	0.6010	GG10	G10	Ft10D	A48-20B	FC10	K.1
		0.6015	GG15	G15	Ft15D	A48-25B	FC15	K.1
		0.6020	GG20	G20	Ft20D	A48-30B	FC20	K.1
		0.6025	GG25	G25	Ft25D	A48-40B	FC25	K.1
		0.6030	GG30	G30	Ft30D	A48-45B	FC30	K.1
		0.6035	GG35	G35	Ft35D	A48-50B	FC35	K.1
		0.6040	GG40	G40	Ft40D	A48-60B		K.1
	Nodular cast iron / tempered	0.7040	GGG40	GS400-15	FGS400-12	60-40-18	FCD40	K.2
		0.7050	GGG50	GS500-7	FGS500-7	65-45-12	FCD50	K.2
		0.7060	GGG60	GS600-3	FGS600-3	80-55-06	FCD60	K.2
		0.7070	GGG70	GS700-2	FGS700-2	100-70-03	FCD70	K.2
	Malleable cast iron	0.8035	GTW35-04					K.2
		0.8055	GTS55-05					K.2
	Austempered ductile iron		EN-GJS-800-8					K.3
			EN-GJS-1000-5					K.3
			EN-GJS-1200-2					K.3
			EN-GJS-1400-1					K.3
N Non-ferrous metals	Pure aluminium	3.0205	Al99				A1200	N.1
		3.0305	Al99.9					N.1
	Al wrought alloys	3.0505	AlMn0.5Mg0.5				A3105	N.2
		3.0915	AlFeSi					N.2
		3.3315	AlMg1				A5005	N.2
		3.3525	AlMg2Mn0.3					N.2
		3.3527	AlMg2Mn0.8					N.2
		3.3545	AlMg4Mn				A5086	N.2
		3.3555	AlMg5				A5056	N.2
		3.0615	AlMgSiPb					N.2
		3.1255	AlCuSiMn				A2014	N.2
		3.1325	AlCuMg1				A2017	N.2
		3.1355	AlCuMg2				A2024	N.2
		3.1645	AlCuMgPb					N.2
		3.4335	AlZn4.5Mg1				A7N01	N.2

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N Non-ferrous metals	Al casting alloys	3.1371	G-AlCu4TiMg				AC1B	N.2
		3.2134	G-AlSi5Cu1Mg				AC4D	N.3
		3.3241	G-AlMg3Si					N.2
		3.3261	G-AlMg5Si					N.2
		3.3541	G-AlMg3					N.2
		3.2373	G-AlSi9Mg				AC4A	N.3
		3.2381	G-AlSi10Mg					N.4
		3.2383	G-AlSi10Mg(Cu)				ADC3	N.4
		3.2581	G-AlSi12				AC3A	N.4
		3.2583	G-AlSi12(Cu)				ADC1	N.4
	Pure copper	2.0060	E-Cu57					N.5
		2.0065	E-Cu58					N.5
	Cu wrought alloys	2.1525	CuSi3Mn					N.6
		2.0855	CuNi2Si					N.6
		2.1247	CuBe2					N.6
		2.1285	CuCo2Be					N.6
	Brass	2.0240	CuZn15					N.6
		2.0250	CuZn20					N.6
		2.0265	CuZn30					N.6
		2.0280	CuZn33					N.6
		2.0321	CuZn37					N.6
		2.0360	CuZn40					N.7
		2.0410	CuZn44Pb2					N.7
		2.0550	CuZn40Al2					N.7
	Bronze	2.1016	CuSn4					N.6
		2.1020	CuSn6					N.6
		2.1030	CuSn8					N.6
		2.1086	G-CuSn10Zn					N.7
		2.0978	CuAl11Ni6Fe5					N.8
		2.0940	CuAl10Fe					N.8
		2.0882	CuNi30Mn1Fe					N.8
	Magnesium Magnesium alloys	3.5312	MgAl3Zn					N.9
		3.5632	MgAl6Zn3					N.9
		3.5912	MgAl9Zn1					N.9
		3.5161	MgZn6Zr					N.10
S Superalloys and Titanium	Pure titanium	3.7024	Ti99.5					S.1
		3.7034	Ti99.7					S.1
	Titanium alloys	3.7165	TiAl6V4					S.2
		3.7174	TiAl6V4Sn2					S.2
	Pure Nickel	1.3911	RNi24					S.3
		1.3926	RNi12					S.3
	Nickel alloys	2.4858	NiCr21Mo (Incoloy 825)					S.4
		2.4668	NiCr19Fe19NbMo (Inconel 718)					S.4
		2.4630	Ni-Cr20Ti (Nimonic 75)					S.4
		2.4665	NiCr22Fe18Mo (Hastelloy X)					S.4
H Hardened materials	Ball bearing	1.3505	100Cr6	100Cr6	100C6	52100		H.2 (Q+T)
		1.3536	100CrMo7-3	100CrMo7				H.2 (Q+T)
	Hot-work	1.2767	45NiCrMo16	40NiCrMoV16 KU	Y35NCD16			H.1 (Q+T)
		1.2713	55NiCrMoV7	55NiCrMoV7 KU	55NiCrMoV7			H.1 (Q+T)
		1.2311		35CrMo8 KU				H.1 (Q+T)
		1.2365	32CrMoV12-28	30CrMoV12-27 KU	32CDV12-28	H10		H.1 (Q+T)
		1.2343	X38CrMoV5-1	X37CrMoV5-1 KU	Z38CDV5	H11	SKD2	H.1 (Q+T)
		1.2344	X40CrMoV5-1	X40CrMoV5-1-1 KU	Z40CDV5	H13	SKD61	H.1 (Q+T)
		1.2567	X30WCrV5-3	X30WCrV5-3 KU	Z32WCV5		SKD4	H.1 (Q+T)
		1.2581	X30WCrV9-3	X30WCrV9-3 KU	Z30WCV9	H21	SKD5	H.1 (Q+T)

Drill Sizes Cutting Taps

ISO Metric coarse thread DIN 13			
M	Pitch [mm]	Maximum core diam. (toll. 6H) [mm]	Drill size* [mm]
M1	0,25	0,785 [1]	0,75
1,1	0,25	0,885 [1]	0,85
1,2	0,25	0,985 [1]	0,95
1,4	0,3	1,142 [1]	1,1
1,6	0,35	1,321	1,25
1,7 [3]	0,35	1,421	1,35
1,8	0,35	1,521	1,45
2	0,4	1,679	1,6
2,2	0,45	1,838	1,75
2,3 [3]	0,4	1,938	1,9
2,5	0,45	2,138	2,05
2,6 [3]	0,45	2,238	2,1
3	0,5	2,599	2,5
3,5	0,6	3,010	2,9
4	0,7	3,422	3,3
4,5	0,75	3,878	3,7
5	0,8	4,334	4,2
6	1	5,153	5
7	1	6,153	6
8	1,25	6,912	6,8
9	1,25	7,912	7,8
10	1,5	8,676	8,5
11	1,5	9,676	9,5
12	1,75	10,441	10,2
14	2	12,210	12
16	2	14,210	14
18	2,5	15,744	15,5
20	2,5	17,744	17,5
22	2,5	19,744	19,5
24	3	21,252	21
27	3	24,252	24
30	3,5	26,771	26,5
33	3,5	29,771	29,5
36	4	32,270	32
39	4	35,270	35
42	4,5	37,799	37,5
45	4,5	40,799	40,5
48	5	43,297	43
52	5	47,297	47
56	5,5	50,796	50,5
60 [3]	5,5	54,796	54,5
64 [3]	6	58,305	58
68 [3]	6	62,305	62

ISO Metric fine thread DIN 13							
MF	Pitch [mm]	Maximum core diam. (toll. 6H) [mm]	Drill size* [mm]	MF	Pitch [mm]	Maximum core diam. (toll. 6H) [mm]	Drill size* [mm]
M2 [3]	0,25	1,774 [2]	1,75	M25	1	24,153	24
2,3 [3]	0,25	2,085	2,05	25	1,5	23,676	23,5
2,5	0,35	2,221	2,15	25	2	23,210	23
3	0,35	2,721	2,65	26	1,5	24,676	24,5
3,5	0,35	3,221	3,15	27	1	26,153	26
4	0,5	3,599	3,5	27	1,5	25,676	25,5
4,5	0,5	4,099	4	27	2	25,210	25
5	0,5	4,599	4,5	28	1	27,153	27
5,5	0,5	5,099	5	28	1,5	26,676	26,5
6	0,75	5,378	5,2	28	2	26,210	26
7	0,75	6,378	6,2	30	1	29,153	29
8	0,75	7,378	7,2	30	1,5	28,676	28,5
8	1	7,153	7	30	2	28,210	28
9	0,75	8,378	8,2	30	3	27,252	27
9	1	8,153	8	32	1,5	30,675	30,5
10	0,75	9,378	9,2	32	2	30,210	30
10	1	9,153	9	33	1,5	31,676	31,5
10	1,25	8,912	8,8	33	2	31,210	31
11	0,75	10,378	10,2	33	3	30,252	30
11	1	10,153	10	35	1,5	33,676	33,5
12 [3]	0,75	11,378	11,2	36	1,5	34,676	34,5
12	1	11,153	11	36	2	34,210	34
12	1,25	10,912	10,8	36	3	33,252	33
12	1,5	10,676	10,5	38	1,5	36,676	36,5
14	1	13,153	13	39	1,5	37,676	37,5
14	1,25	12,912	12,8	39	2	37,210	37
14	1,5	12,676	12,5	39	3	36,252	36
15	1	14,153	14	40	1,5	38,676	38,5
15	1,5	13,676	13,5	40	2	38,210	38
16	1	15,153	15	40	3	37,252	37
16	1,5	14,676	14,5	42	1,5	40,676	40,5
17	1	16,153	16	42	2	40,210	40
17	1,5	15,676	15,5	42	3	39,252	39
18	1	17,153	17	45	1,5	43,676	43,5
18	1,5	16,676	16,5	45	2	43,210	43
18	2	16,210	16	45	3	42,252	42
20	1	19,153	19	48	1,5	46,676	46,5
20	1,5	18,676	18,5	48	2	46,210	46
20	2	18,210	18	48	3	45,252	45
22	1	21,153	21	50	1,5	48,676	48,5
22	1,5	20,676	20,5	50	2	48,210	48
22	2	20,210	20	50	3	47,252	47
24	1	23,153	23	52	1,5	50,676	50,5
24	1,5	22,676	22,5	52	2	50,210	50
24	2	22,210	22	52	3	49,252	49

(*) Drill size according to DIN 336

(1) Tolerance 5H

(2) Tolerance 4H

(3) Size not included in DIN 336

VERGNANO

ISO Metric coarse thread DIN 8140 part 2	
EG-M	Drill size* [mm]
3	3,15
4	4,2
5	5,25
6	6,3
8	8,4
10	10,5
12	12,5
14	14,5
16	16,5

Unified coarse thread UNC ASME - B1.1			
UNC	T.P.I.	Maximum core diam. (class 3B) [mm]	Drill size* [mm]
Nr. 1	64	1,582	1,55
Nr. 2	56	1,872	1,85
Nr. 3	48	2,146	2,1
Nr. 4	40	2,385	2,35
Nr. 5	40	2,697	2,65
Nr. 6	32	2,896	2,85
Nr. 8	32	3,528	3,5
Nr. 10	24	3,950	3,9
Nr. 12	24	4,590	4,5
1/4"	20	5,250	5,1
5/16"	18	6,680	6,6
3/8"	16	8,082	8
7/16"	14	9,441	9,4
1/2"	13	10,881	10,8
9/16"	12	12,301	12,2
5/8"	11	13,693	13,5
3/4"	10	16,624	16,5
7/8"	9	19,520	19,5
1"	8	22,344	22,25
1 1/8"	7	25,082	25
1 1/4"	7	28,258	28
1 3/8"	6	30,851	30,75
1 1/2"	6	34,026	34
1 3/4"	5	39,560	39,5
2"	4,5	45,367	45

Unified fine thread UNF ASME - B1.1			
UNF	T.P.I.	Maximum core diam. (class 3B) [mm]	Drill size* [mm]
Nr. 0	80	1,306	1,25
Nr. 1	72	1,613	1,55
Nr. 2	64	1,913	1,85
Nr. 3	56	2,197	2,15
Nr. 4	48	2,459	2,4
Nr. 5	44	2,741	2,7
Nr. 6	40	3,012	2,95
Nr. 8	36	3,597	3,5
Nr. 10	32	4,168	4,1
Nr. 12	28	4,717	4,6
1/4"	28	5,563	5,5
5/16"	24	6,995	6,9
3/8"	24	8,565	8,5
7/16"	20	9,947	9,9
1/2"	20	11,524	11,5
9/16"	18	12,969	12,9
5/8"	18	14,554	14,5
3/4"	16	17,546	17,5
7/8"	14	20,493	20,4
1"	12	23,363	23,25
1 1/8"	12	26,538	26,5
1 1/4"	12	29,713	29,5
1 3/8"	12	32,888	32,75
1 1/2"	12	36,063	36

8-UN thread ASME B1.1			
8-UN	T.P.I.	Maximum core diam. (class 3B) [mm]	Drill size [mm]
1 1/8"	8	25,519	25,4
1 1/4"	8	28,694	28,6
1 3/8"	8	31,869	31,8
1 1/2"	8	35,044	35,0
1 5/8"	8	38,219	38,1
1 3/4"	8	41,394	41,3
1 7/8"	8	44,569	44,5
2"	8	47,744	47,7

Rp thread (BSPP) DIN EN 10226-1			
Rp	T.P.I.	Maximum core diam. [mm]	Drill size* [mm]
1/8"	28	8,637	8,60
1/4"	19	11,549	11,50
3/8"	19	15,054	15,00
1/2"	14	18,773	18,50
3/4"	14	24,259	24,00

(*) Drill size according to DIN 336

Whitworth thread BSW - BS 84			
BSW	T.P.I.	Maximum core diam. [mm]	Drill size [mm]
3/32"	48	1,912	1,9
1/8"	40	2,591	2,55
5/32"	32	3,214	3,2
3/16"	24	3,744	3,7
7/32"	24	4,539	4,5
1/4"	20	5,156	5,1
5/16"	18	6,589	6,5
3/8"	16	7,988	7,9
7/16"	14	9,332	9,25
1/2"	12	10,589	10,5
9/16"	12	12,177	12
5/8"	11	13,559	13,5
3/4"	10	16,485	16,4
7/8"	9	19,355	19,25
1"	8	22,149	22
1 1/8"	7	24,831	24,75
1 1/4"	7	28,006	27,75
1 3/8"	6	30,528	30,3
1 1/2"	6	33,703	33,5
1 5/8"	5	35,961	35,5
1 3/4"	5	39,136	39
1 7/8"	4,5	41,702	41,5
2"	4,5	44,877	44,5
2 1/4"	4	50,465	50
2 1/2"	4	56,815	56,3
2 3/4"	3,5	62,182	61,5
3"	3,5	68,532	68

Whitworth pipe thread EN - ISO 228			
G	T.P.I.	Maximum core diam. [mm]	Drill size* [mm]
1/8"	28	8,848	8,8
1/4"	19	11,890	11,8
3/8"	19	15,395	15,25
1/2"	14	19,172	19
5/8"	14	21,128	21
3/4"	14	24,658	24,5
7/8"	14	28,418	28,25
1"	11	30,931	30,75
1 1/8"	11	35,579	35,5
1 1/4"	11	39,592	39,5
1 3/8"	11	42,005	41,9
1 1/2"	11	45,485	45,25
1 3/4"	11	51,428	51
2"	11	57,296	57
2 1/4"	11	63,392	63,3
2 3/8"	11	67,080	67
2 1/2"	11	72,866	72,8
2 3/4"	11	79,216	79,1
3"	11	85,566	85,5
3 1/4"	11	91,662	91,5
3 1/2"	11	98,012	98
3 3/4"	11	104,362	104
4"	11	110,712	110,5

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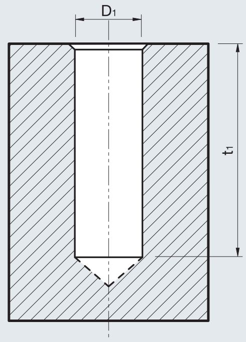
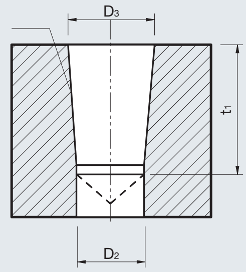
Rc Conical gas thread (BSPT), taper 1:16 - BS 21 e DIN EN 10226-2
NPT National pipe thread, taper 1:16 - ASME/ANSI B1.20.1
NPTF Dryseal National pipe thread, taper 1:16 - ASME/ANSI B1.20.3

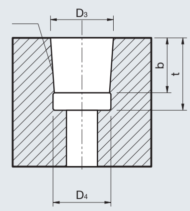
Cylindrical hole, without using a reamer							
Tap sizes	TPI		D1 [mm]			t1 [mm]	
	NPT NPTF	Rc (BSPT)	NPT	NPTF	Rc (BSPT)	NPT NPTF	Rc (BSPT)
1/16"	27	28	6,15	6,15	6,2	12	11,9
1/8"	27	28	8,5	8,5	8,2	12	11,9
1/4"	18	19	11	11	11	17,5	17,7
3/8"	18	19	14,5	14,5	14,5	17,6	18,1
1/2"	14	14	17,85	17,8	18	22,9	24
3/4"	14	14	23,2	23	23,5	23	25,3
1"	11 1/2	11	29	29	29,5	27,4	30,6
1 1/4"	11 1/2	11	37,8	37,8	38	28,1	32,9
1 1/2"	11 1/2	11	44	43,8	44	28,4	32,9
2"	11 1/2	11	56	56	55,5	28,4	37,2



Cylindrical holes with use of tapered reamer										
Tap sizes	TPI		D2 [mm]		D3 [mm]			t1 [mm]	
	NPT NPTF	Rc (BSPT)	NPT NPTF	Rc (BSPT)	NPT	NPTF	Rc (BSPT)	NPT NPTF	Rc (BSPT)
1/16"	27	28	5,95	6,1	6,39	6,41	6,56	12	11,9
1/8"	27	28	8,25	8,1	8,74	8,76	8,57	12	11,9
1/4"	18	19	10,75	10,75	11,36	11,4	11,45	17,5	17,7
3/8"	18	19	14,1	14,25	14,8	14,84	14,95	17,6	18,1
1/2"	14	14	17,5	17,75	18,32	18,33	18,63	22,9	24
3/4"	14	14	22,7	23	23,67	23,68	24,12	23	25,3
1"	11 1/2	11	28,6	29	29,69	29,72	30,29	27,4	30,6
1 1/4"	11 1/2	11	37,3	37,5	38,45	38,48	38,95	28,1	32,9
1 1/2"	11 1/2	11	43,4	43,5	44,52	44,55	44,85	28,4	32,9
2"	11 1/2	11	55,5	55	56,56	56,59	56,66	28,4	37,2



Preparation of tapered blind hole															
Tap sizes	TPI		D3 [mm]			b [mm]			t [mm]			D4 [mm]		
	NPT NPTF	Rc (BSPT)	NPT	NPTF	Rc (BSPT)	NPT	NPTF	Rc (BSPT)	NPT	NPTF	Rc (BSPT)	NPT	NPTF	Rc (BSPT)
1/16"	27	27	6,39	6,41	6,56	7	8	5,6	10	11	9,5	7,6	7,4	7,6
1/8"	27	27	8,74	8,76	8,57	7	8	5,6	10	11	9,5	10	9,8	9,6
1/4"	18	18	11,36	11,4	11,45	10,2	11,6	8,4	14,5	15,5	14	13,1	12,9	13
3/8"	18	18	14,8	14,84	14,95	10,6	12	8,8	15	16	14,4	16,5	16,3	16,5
1/2"	14	14	18,32	18,33	18,63	13,8	15,6	11,4	19	20,5	19	20,5	20,3	20,6
3/4"	14	14	23,67	23,68	24,12	14,2	16	12,7	20	21,5	20,3	25,8	25,6	26
1"	11 1/2	11 1/2	29,69	29,72	30,29	17	19,2	14,5	24	26	24,3	32,2	32	32,8
1 1/4"	11 1/2	11 1/2	38,45	38,48	38,95	17,5	19,7	16,8	24,5	26,5	26,6	41	40,8	40,2
1 1/2"	11 1/2	11 1/2	44,52	44,55	44,85	17,5	19,7	16,8	24,5	26,5	26,6	47,2	47	47,2
2"	11 1/2	11 1/2	56,56	56,59	56,66	18	20,2	21,1	25	27	30,9	59,2	59	58,7



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ISO Metric coarse thread DIN 13		
M	Pitch [mm]	Drill size [mm]
M 2	0,4	1,85 ± 0,03
2,5	0,45	2,30 ± 0,03
3	0,5	2,80 ± 0,03
3,5	0,6	3,25 ± 0,03
4	0,7	3,70 ± 0,03
5	0,8	4,65 ± 0,03
6	1	5,55 ± 0,05
8	1,25	7,40 ± 0,05
10	1,5	9,30 ± 0,05
12	1,75	11,20 ± 0,05
14	2	13,10 ± 0,05
16	2	15,10 ± 0,05
18	2,5	16,90 ± 0,05
20	2,5	18,90 ± 0,05
24	3	22,70 ± 0,05
27	3	25,70 ± 0,05
30	3,5	28,45 ± 0,05

ISO Metric fine thread DIN 13		
MF	Pitch [mm]	Drill size [mm]
M 3	0,35	2,85 ± 0,03
4	0,5	3,80 ± 0,03
5	0,5	4,80 ± 0,03
6	0,75	5,65 ± 0,03
8	1	7,55 ± 0,05
10	1	9,55 ± 0,05
10	1,25	9,40 ± 0,05
12	1	11,55 ± 0,05
12	1,25	11,40 ± 0,05
12	1,5	11,30 ± 0,05
14	1,25	13,40 ± 0,05
14	1,5	13,30 ± 0,05
16	1,5	15,30 ± 0,05
18	1,5	17,30 ± 0,05
20	1,5	19,30 ± 0,05

Whitworth pipe thread EN - ISO 228		
G	T.P.I.	Drill size [mm]
G 1/8"	28	9,25 ± 0,05
1/4"	19	12,50 ± 0,05
3/8"	19	16,00 ± 0,05
1/2"	14	20,00 ± 0,05
3/4"	14	25,50 ± 0,05
1"	11	32,00 ± 0,05

Other drill sizes = theorical flank diameter + pitch/5

In order to obtain the requested tolerance, the formation of a complete internal thread and guarantee the tap tool life, it is important to respect the drill hole diameters and their tight tolerances.
The core diameter of the internal thread obtained by forming is not only a function of the drill hole diameter but also depends on the workpiece material properties. For this reason the tolerance on the core diameter is 7H compared to 6H for cutting taps. For more detailed information see the DIN 13-50 standard.

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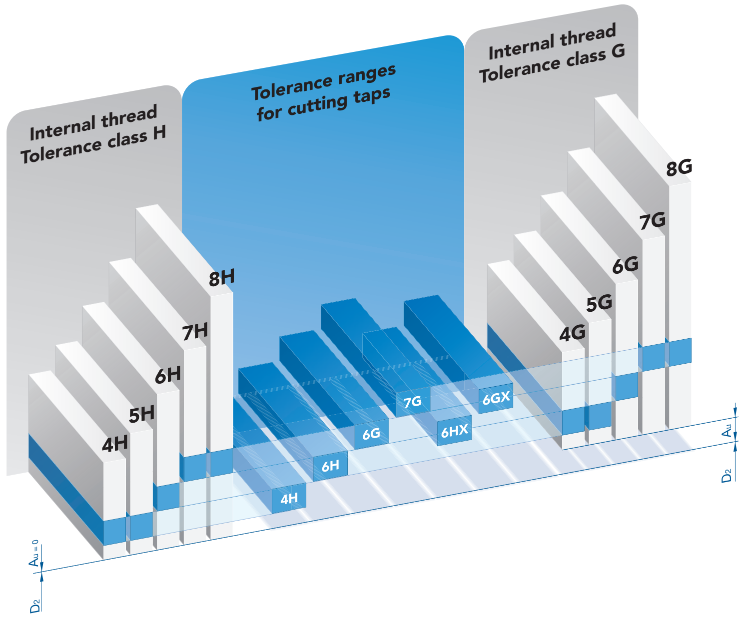
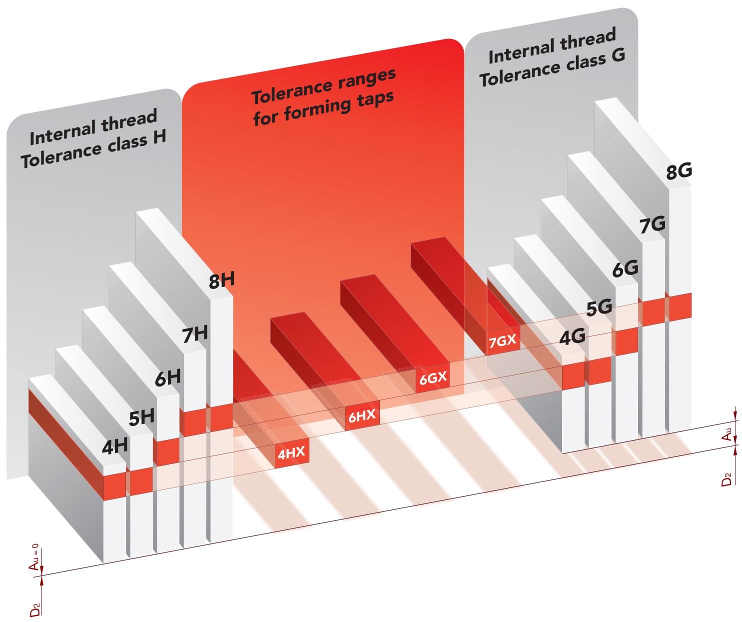
Cutting Tap Tolerance Range



Forming Tap Tolerance Range



Standard fit for a thread corresponds to tolerance class ISO 2/6H. For more precise fits, without allowance on thread flank, tolerance class ISO 1/4H must be chosen. ISO 3/6G is used in case of loose fits, with large allowance, which is often required for subsequent coatings.

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Between classes 6H and 6G, as well as between classes 6G and 7G, tap manufacturers produce taps with tolerance 6HX and 6GX. These taps are used for tapping abrasive materials, such as cast iron or Al-Si alloys, in order to increase their tool life. Another important application is on forming taps, which create the thread by plastic deformation and not by cutting. In this case, due to the elastic return of the material, in order to obtain a thread 6H tolerance, a 6HX tap must be used.

The tolerances described above are collected in the European standard EN 22857.

TAP AND DIE GEOMETRY

	Hand tap
	Tap with straight flutes
	Tap with straight flutes and spiral point
	Tap with straight flutes with interrupted thread
	Tap with straight flutes and spiral point with interrupted thread
R15	Tap with 15° right hand spiral
L15	Tap with 15° left hand spiral
R25	Tap with 25° right hand spiral
R40 2	Tap with 40° right hand spiral and 2 flutes
R40	Tap with 40° right hand spiral
R45	Tap with 45° right hand spiral
	Forming tap without oil grooves
	Forming tap with oil grooves
	Through coolant tap with internal axial hole, for blind holes
	Through coolant tap with internal axial and radial holes, for through holes
	Through coolant tap with internal axial hole, for blind holes
	Through coolant forming tap with internal axial hole, for blind holes
	Through coolant forming tap with internal axial and radial holes, for through holes
	Die
	Back tapering

HOLE TYPE AND DEPTH

1 x D	Through, up to 1 x d_1
1,5 x D	Through, up to 1,5 x d_1
1,5 x D	Blind, up to 1,5 x d_1
1,5 x D	Blind and through, up to 1,5 x d_1
2 x D	Blind, up to 2 x d_1
2 x D	Blind and through, up to 2 x d_1
2,5 x D	Through, up to 2,5 x d_1
2,5 x D	Blind, up to 2,5 x d_1
2,5 x D	Blind and through, up to 2,5 x d_1
3 x D	Through, up to 3 x d_1
3 x D	Blind, up to 3 x d_1
3 x D	Blind and through, up to 3 x d_1
	Tapered hole
	Nut

TAP DIMENSIONS

- DIN 352 — Dimensions according to DIN 352
- DIN 357 — Dimensions according to DIN 357
- DIN 371 — Dimensions according to DIN 371
- DIN 374 — Dimensions according to DIN 374
- DIN 376 — Dimensions according to DIN 376
- DIN 2174 — Dimensions according to DIN 2174
- DIN 2181 — Dimensions according to DIN 2181
- DIN 2184-1 — Dimensions according to DIN 2184-1
- DIN 2184-2 — Dimensions according to DIN 2184-2
- DIN 2189 — Dimensions according to DIN 2189
- DIN 5156 — Dimensions according to DIN 5156
- DIN 5157 — Dimensions according to DIN 5157
- DIN EN 22568 — Dimensions according to DIN EN 22568
- DIN EN 24231 — Dimensions according to DIN EN 24231
- DIN 40435 — Dimensions according to DIN 40435
- Dimensions according to internal Vergnano standard
- Tap with long shank

DIRECTION OF CUT

- RH — Right hand cut
- LH — Left hand cut

TYPE OF CHIP

- Short chipping
- Medium chipping
- Medium to long chipping
- Long chipping
- Plastic deformation without chip formation

COLOURED RINGS

- Orange ring - Taps for tough materials
- Blue ring - Taps for titanium and titanium alloys
- Yellow ring - Taps for light alloys
- Red ring - Hand taps A100
- Green ring - Taps for stainless steel

TAP AND DIE TOLERANCE

ISO1 4H	Tolerance 4H / ISO1
ISO2 6H	Tolerance 6H / ISO2
ISO3 6G	Tolerancea 6G / ISO3
7G	Tolerance 7G
6HX	Tolerance 6HX
6GX	Tolerance 6GX
7GX	Tolerance 7GX
6H +0,1 mm	Tolerance 6H + 0,1 mm
6H MOD	Modified 6H Tolerance
3B	Tolerance 3B
2B	Tolerance 2B
2BX	Tolerance 2BX
ISO 5969	Tolerance ISO 5969
ISO 5969X	Tolerance ISO 5969X
mc	Medium Tolerance
ISO 6g	Tolerance ISO 6g
2A	Tolerance 2A
A	Tolerance Class A

MATERIAL

HM	Material: solid carbide
HSS	Material: conventional high speed steel
HSSE	Material: conventional high speed steel
HSSK	Material: powder metallurgy high speed steel
HSSZ	Material: high performance powder metallurgy high speed steel
HSSP	Material: high performance powder metallurgy high speed steel

THREAD TYPE

DIN 13	Thread type: DIN 13
DIN 8140 part 2	Thread type: DIN 8140 part 2
ASME B1.1	Thread type: ASME - B1.1
EN ISO 228	Thread type: GAS Whitworth EN ISO 228
DIN EN 10226-1	Thread type: Rp (BSPP)
DIN EN 10226-2	Thread type: conical gas thread Rc (BSPT)
BS 84	Thread type: Whitworth BSW BS 84
ASME B1.20.1	Thread type: ASME - B1.20.1
ASME B1.20.3	Thread type: ASME - B1.20.3

CHAMFER FORM

A (5-6) Chamfer form A: 5 - 6 threads for through holes

B (4-5) Chamfer form B: 4 - 5 threads for through holes

C (2-3) Chamfer form C: 2 - 3 threads for blind and through holes

D (4-5) Chamfer form D: 4 - 5 threads for through holes

E(1,5-2) Chamfer form E: 1,5 - 2 threads for blind holes

1,75xP Die chamfer form: 1,75 x P

APPLICATION INFORMATION

S Tap only for rigid tapping attachment (synchronous)

High recommended cutting speed

High tool life

TWIST DRILL HP900

Drill geometry

120° Point angle 120°

DIN 6537K Dimension according to DIN 6537K

DIN 6535HA Shank according to DIN 6535HA

H Drill type

m7 Tolerance m7

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VERGNANO

TAP REQUEST FORM

CUSTOMER NAME		DATE	
ADDRESS		EMAIL ID	
CONTACT PERSON		PHONE NO.	

WORKPIECE

		MATERIAL NAME				MATERIAL GROUP			
COMPONENT		TYPE OF HOLE				CHIP TYPE			
			through		blind		long	medium	short
RESISTANCE [N/mm²]	HARDNESS	HOLE DEPTH		THREAD DEPTH					

MACHINE

	ATTACHMENT			MACHINING DIRECTION			
	compensated	rigid		vertical	horizontal		
TYPE / NAME	COOLANT						
	none	external	internal	air	oil	MQL	emulsion
PRESSURE	LUBRICATION						
	IKZ	IKZ - R					

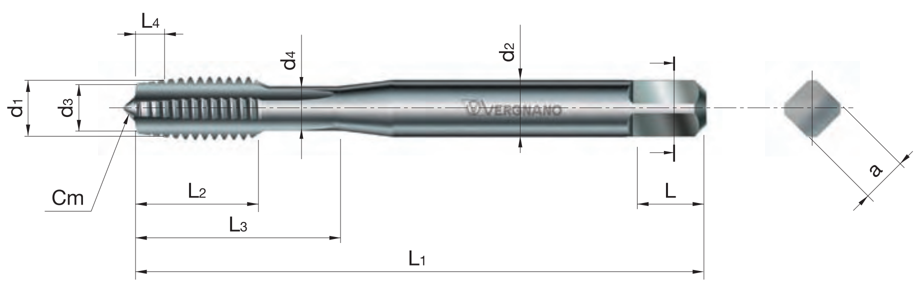
TAP DATA

	Consumption - PIECES / MONTH	Consumption - QUANTITIES INQUIRED
Thread - TYPE	Thread - TAP SIZE	Thread - TOLERANCE

GEOMETRY				TOOL MATERIAL			
spiral point	40°/45° spiral flute	15° spiral flute	15° left spiral flute	HSS	HSSE	HSSK	HSSZ
straight flutes	forming tap without oil grooves	forming tap with oil grooves		solid carbide			

TOOL DIMENSIONS - std tap required						
DIN 371	DIN 374	DIN 376	DIN 357	DIN	ISO	other

L_1	
L_2	
L_3	
d_1	
a	
z	



CHAMFER				
A (5 - 6 X P)	B/D (4 - 5 X P)	C (2 - 3 X P)	E (1,5 - 2 X P)	other

SPECIAL GEOMETRY				COATING
Back Tapering	Interrupted Thread	Removed Point	other	no coating

NOTES

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A71 S 6G	MF	95
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P30 TiN	MF	150
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A19 TiN	UNC	187
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A20 TiN	UNF	188
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A71 K	MF	185
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