

SPIRAL POINTED TAPS



PO - DIN **212**
PO - JIS **234**
PO - ANSI **248**

Selection Chart

Intro

SP

SL

PO

ST

ROLL

CARBIDE

LONG

HAND TAPS

EG (STI)


SPECIAL THREADS, GAUGES

THREAD MILLS













DIES

CENTER DRILLS

Technical info

	Z-PRO		GP General Purpose							MS Material Specific
	VUPO	PO	PO ISO3(6G)	PO ISO2(6H)+100	PO LH	PO OX	PO V	PM-PO		
	HSS-P COATING	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E OX	HSS-E COATING	HSS-P		
										
										
										
	DIN	DIN	JIS	ANSI	DIN	DIN	JIS	DIN	DIN	DIN
M	213	215	235		215	215	242	221	223	225
MF	213	216	236				243		223	225
UNC/UNF		217	239	249			243			
UNS, 8, 12, 20, 32UN			240							
UNEF			240							
G (BSP)		218						221	223	
Rp (BSPP)										
Rc (BSPT)										
NPT										
NPTF										
NPSC, NPSM, NPSF										
BSW			241				243			
EG(STI), M, MF, UNC/UNF										
Pg										
Tr										
S miniature										
Special threads										
	Vc (m/min)									
P1	★ 10÷30	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	★ 5÷10	★ 10÷20	
P2	★ 10÷30	★ 5÷10	★ 5÷10	★ 5÷10	★ 5÷10	★ 5÷10	★ 5÷10	★ 5÷10	★ 10÷20	
P3	★ 10÷30	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	★ 10÷20	★ 2÷10
P4	★ 10÷25	☆ 5÷8	☆ 5÷8	☆ 5÷8	☆ 5÷8	☆ 5÷8	☆ 5÷8	☆ 5÷8	★ 10÷15	★ 2÷7
P5								☆ 4÷7		★ 2÷7
P6										★ 2÷5
P7	★ 5÷15							☆ 4÷8	☆ 6÷12	
P8										
M1	★ 5÷15							☆ 4÷8	☆ 6÷12	
M2	☆ 5÷10									
M3										
K1	☆ 10÷20									
K2	☆ 10÷20									
K3										
K4										
N1	★ 10÷40	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10		☆ 10÷20	
N2	★ 10÷40	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10		☆ 10÷20	
N3	☆ 10÷25	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10		☆ 10÷20	
N4	☆ 10÷20	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10	☆ 5÷10		☆ 10÷20	
N5										
S1 (<25 HRC)										
S2 (<35 HRC)										
S3 (35 ÷ 45 HRC)										
S5										
H (45 ÷ 55 HRC)										
H (55 ÷ 63 HRC)										

★ 1st choice ☆ suitable

MS Material Specific							
EH-PO	PO-VA	SU+PO/SU-PO	ZELX SS PO	PO-VA TiCN	ZELX AL PO	ZEN-P	ZELX NI PO
HSS-Co	HSS-E OX	HSS-E OX	HSS-E OX	HSS-E COATING	HSS-E NI	HSS-P NX	HSS-P NX
							
							

DIN	DIN	JIS	ANSI	DIN	ANSI	DIN	ANSI	
227	229	244		231		232		M
227	229	246				233		MF
	229	246	253		257	233	259	UNC/UNF UNS, 8, 12, 20, 32UN UNEF
	230							G (BSP) Rp (BSPP) Rc (BSPT)
								NPT NPTF
		247						NPSC, NPSM, NPSF BSW
								EG(STI), M, MF, UNC/UNF
								Pg
								Tr
								S miniature
								Special threads
Vc (m/min)								
	★ ≤10	★ ≤10	★ ≤10	★ ≤15				P1
	★ ≤10	★ ≤10	★ ≤10	★ ≤15				P2
	★ ≤10	★ ≤10	★ ≤10	★ ≤10		★ 5÷15	★ 5÷15	P3
	☆ ≤10	☆ ≤10	☆ ≤10	☆ ≤10		★ 5÷15	★ 5÷15	P4
★ ≤5						☆ 5÷10	☆ 5÷10	P5
★ ≤5								P6
	★ ≤10	★ ≤10	★ ≤10	★ ≤10		★ 5÷15	★ 5÷15	P7
						★ 4÷8	★ 4÷8	P8
	★ ≤10	★ ≤10	★ ≤10	★ ≤10		★ 5÷15	★ 5÷15	M1
	☆ ≤10	★ ≤10	★ ≤10	☆ ≤10		★ 5÷15	★ 5÷15	M2
						★ 4÷8	★ 4÷8	M3
								K1
								K2
								K3
								K4
					★ 5÷15			N1
					★ 5÷15			N2
					★ 5÷15			N3
								N4
								N5
						★ 5÷10	★ 5÷10	S1 (<25 HRC)
						★ 5÷10	★ 5÷10	S2 (<35 HRC)
						☆ 3÷6	☆ 3÷6	S3 (35 ÷ 45 HRC)
								S5
								H (45 ÷ 55 HRC)
								H (55 ÷ 63 HRC)

Intro

SP

SL

PO

ST

ROLL

CARBIDE

LONG

HAND TAPS

EG (STI)

SPECIAL THREADS, GAUGES

THREAD MILLS

DIES

CENTER DRILLS

Technical info

Intro

VUPO

Z-PRO Series

SP HSSP Spiral Pointed Taps, Coated

SL



FEATURES

Longer Life - Great improvement thanks to the new premium grade of powder high speed steel and new special coating.

New Flute Shape - Improved chip ejection, reduced cutting resistance and excellent internal threads finishing thanks to unique flute shape.

For wide range of workpiece materials: steel, alloy steel, stainless steel and aluminium.

PO

Recommended Tapping Speeds Depending On Materials

DIN

ISO	Vc (m/min)	ISO	Vc (m/min)	ISO	Vc (m/min)	ISO	Vc (m/min)
P1	10÷30 ★	M1	5÷15 ★	K1	10÷20 ☆	N1	10÷40 ★
P2	10÷30 ★	M2	5÷10 ☆	K2	10÷20 ☆	N2	10÷40 ★
P3	10÷30 ★					N3	10÷25 ☆
P4	10÷25 ★					N4	10÷20 ☆
P7	5÷15 ★						

★ 1st choice ☆ suitable



WATCH THE VIDEO

ST

ROLL

Product Features

Lubricant	Hole shape	Hand tapping	Drilling machine	Low speed	Middle speed
Emulsion					VUSP
					VUPO Vc ≤ 30 m/min
Oil		HTset	ISP	SP	SP V
		IHT	IPO	PO	PO V
					AU+SP
					AU+SL

CARBIDE

LONG

HAND TAPS

EG (STI)

M10x1.5

Work-material	Ck50 - 1.1213
Thread length	20 mm
Tapping speed	20 m/min
Machine	Vertical machining center
Lubricant	Water soluble oil

Enlarged photo after 560 threads



SPECIAL THREADS, GAUGES

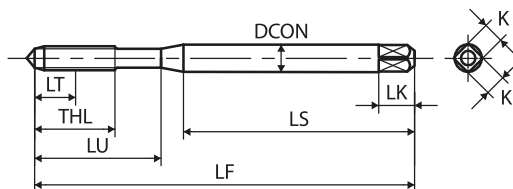
THREAD MILLS

DIES

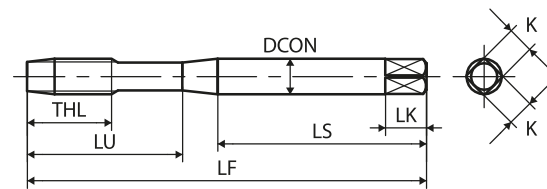
CENTER DRILLS

Technical info

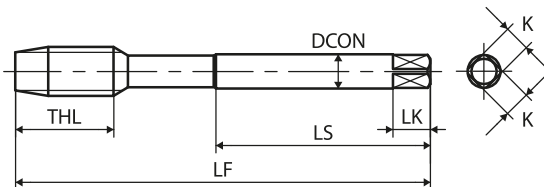
TYPE: VU_001





TYPE: VU_002





TYPE: VU_003



M	TCTR (tolerance)	 Hole Ø (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN 371															
M2X0.4	ISO2X(6HX)	1.6	1.65	3102101021	5P	45	8	-	32	2.8	2.1	5	2	001	●
M2.2X0.45	ISO2X(6HX)	1.75	1.81	3102101024	5P	45	9	-	32	2.8	2.1	5	2	001	●
M2.3X0.4	ISO2X(6HX)	1.9	1.95	3102101026	5P	45	9	-	32	2.8	2.1	5	2	001	●
M2.5X0.45	ISO2X(6HX)	2.1	2.11	3102101029	5P	50	8	15	33	2.8	2.1	5	2	001	●
M2.6X0.45	ISO2X(6HX)	2.2	2.21	3102101032	5P	50	8	15	33	2.8	2.1	5	2	001	●
M3X0.5	ISO2X(6HX)	2.5	2.56	3102101035	5P	56	9	18	34	3.5	2.7	6	3	001	●
M4X0.7	ISO2X(6HX)	3.3	3.38	3102101042	5P	63	13	21	38	4.5	3.4	6	3	001	●
M5X0.8	ISO2X(6HX)	4.2	4.28	3102101049	5P	70	14	25	39	6	4.9	8	3	001	●
M6X1	ISO2X(6HX)	5	5.09	3102101055	5P	80	15	30	45	6	4.9	8	3	001	●
M8X1.25	ISO2X(6HX)	6.8	6.85	3102101064	5P	90	19	35	47	8	6.2	9	3	002	●
M10X1.5	ISO2X(6HX)	8.5	8.6	3102101078	5P	100	23	39	52.5	10	8	11	3	002	●

M	TCTR (tolerance)	 Hole Ø (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN 376															
M12X1.75	ISO2X(6HX)	10.3	10.36	3102101088	5P	110	26	-	56	9	7	10	3	003	●
M14X2	ISO2X(6HX)	12	12.12	3102101100	5P	110	26	-	56	11	9	12	3	003	●
M16X2	ISO2X(6HX)	14	14.12	3102101114	5P	110	26	-	56	12	9	12	3	003	●
M18X2.5	ISO2X(6HX)	15.5	15.63	3102101128	5P	125	33	-	64	14	11	14	3	003	●
M20X2.5	ISO2X(6HX)	17.5	17.63	3102101141	5P	140	33	-	71	16	12	15	3	003	●
M22X2.5	ISO2X(6HX)	19.5	19.63	3102101156	5P	140	33	-	71	18	14.5	17	3	003	●
M24X3	ISO2X(6HX)	21	21.13	3102101167	5P	160	37	-	82	18	14.5	17	3	003	●

MF	TCTR (tolerance)	 Hole Ø (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN 371															
M3X0.35	ISO2X(6HX)	2.65	2.7	3102101036	5P	56	6.5	18	34	3.5	2.7	6	3	001	●
M4X0.5	ISO2X(6HX)	3.5	3.56	3102101043	5P	63	9	21	38	4.5	3.4	6	3	001	●
M5X0.5	ISO2X(6HX)	4.5	4.56	3102101051	5P	70	9	25	39	6	4.9	8	3	001	●
M6X0.75	ISO2X(6HX)	5.25	5.33	3102101056	5P	80	15	30	45	6	4.9	8	3	001	●
M6X0.5	ISO2X(6HX)	5.5	5.56	3102101057	5P	80	9	30	45	6	4.9	8	3	001	●

MF	TCTR (tolerance)	 Hole Ø (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN 374															
M8X1	ISO2X(6HX)	7	7.09	3102101065	5P	90	19	-	46	6	4.9	8	3	003	●
M10X1.25	ISO2X(6HX)	8.8	8.85	3102101079	5P	100	23	-	51	7	5.5	8	3	003	●
M10X1	ISO2X(6HX)	9	9.09	3102101080	5P	90	19	-	46	7	5.5	8	3	003	●
M12X1.5	ISO2X(6HX)	10.5	10.6	3102101089	5P	100	21	-	51	9	7	10	3	003	●
M12X1.25	ISO2X(6HX)	10.8	10.85	3102101090	5P	100	21	-	51	9	7	10	3	003	●
M14X1.5	ISO2X(6HX)	12.5	12.6	3102101102	5P	100	21	-	51	11	9	12	3	003	●
M16X1.5	ISO2X(6HX)	14.5	14.6	3102101116	5P	100	21	-	51	12	9	12	3	003	●
M18X1.5	ISO2X(6HX)	16.5	16.6	3102101130	5P	110	24	-	56	14	11	14	3	003	●
M20X1.5	ISO2X(6HX)	18.5	18.6	3102101144	5P	125	24	-	64	16	12	15	3	003	●
M22X1.5	ISO2X(6HX)	20.5	20.6	3102101158	5P	125	24	-	64	18	14.5	17	3	003	●
M24X1.5	ISO2X(6HX)	22.5	22.6	3102101170	5P	140	27	-	71	18	14.5	17	3	003	●

Intro

SP

SL

PO

DIN

ST

ROLL

CARBIDE

LONG

HAND TAPS

EG (STI)

SPECIAL THREADS, GAUGES

THREAD MILLS

DIES

CENTER DRILLS

Technical info