

HV Series

Excellent chip ejection, stable tapping and long life

9.2025

■ HVSP blind hole - HVPO through hole ■

Z-PRO
Ultimate Machine Tap Series



HVSP - HVSP LH - HVSP ZP



Spiral fluted taps for excellent chip evacuation

Parameters

Recommended tapping conditions for the HVSP tap series.

Workpiece materials	Vc (m/min)
P1 Low carbon steel	3 ÷ 12
P2 Medium carbon steel	3 ÷ 12
P3 High carbon and medium alloy steel	3 ÷ 12

Workpiece materials	Vc (m/min)
P4 Alloy steel	3 ÷ 12
M1 Stainless steel	<5

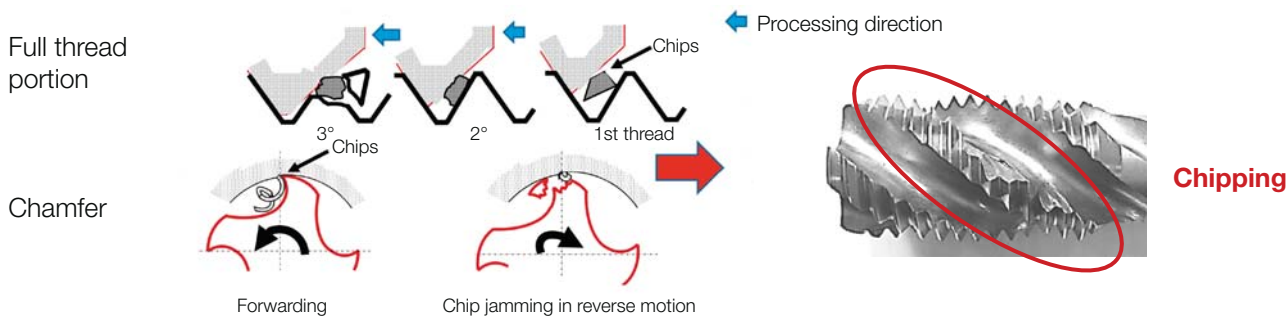
Product features

HVSP are designed to avoid chipping problems and provide smooth chip ejection, by combining the unique Yamawa BLF thread geometry, a special geometry of the cutting edge, and a unique flute design.

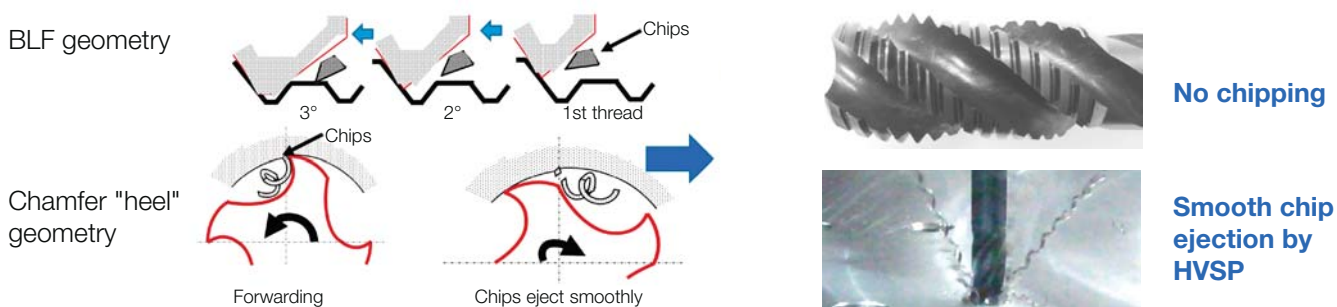
HVSP LH are designed for left hand threads.

HVSP ZP are manufactured with 3 types of oversized classes (ISO2X(6HX)+100, +200, +300) mainly used for the production of internal threads on parts of large metal structures (building, bridges...) before the protective Hot-Dip galvanizing treatment, necessary to resist rust and corrosion.

Tapping with standard SP - Chipping happens on thread portion



Tapping with HVSP - No chipping

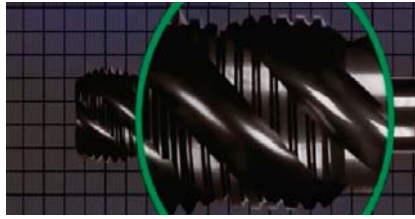


Designed to avoid chipping problems



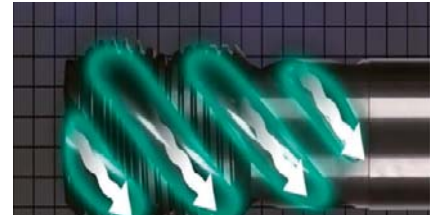
Advanced cutting edge

Specially designed "heel" geometry in cutting edge prevents chip incursion from the back side of chamfer thread portion during reverse motion



BLF shape on full thread portion

The BLF shape produces excellent cutting performances enabling the prevention of flute chipping problems

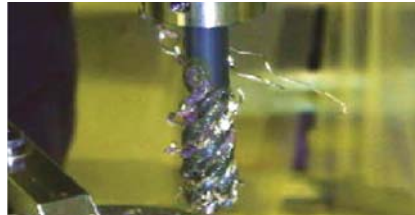


Unique flute design

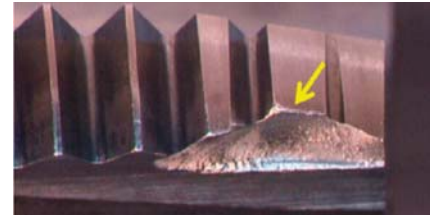
Unique flute design for smooth chip ejection



Ejected chips by large size taps



Entangled chips



Chipping

Soft Structural steel such as St44-2 and low carbon steels are widely used in large size parts. Chips created by large size taps are thick and long becoming difficult to eject, resulting in high risk of chip tangling and cutting edge chipping.

Combination with straight oil

Large diameter taps are more effective with an oxidation treatment enabling flutes to retain more oil during tapping helping to avoid welding problems on the thread portion of the tap and galling on tapped thread surface.

Straight tapping oil +



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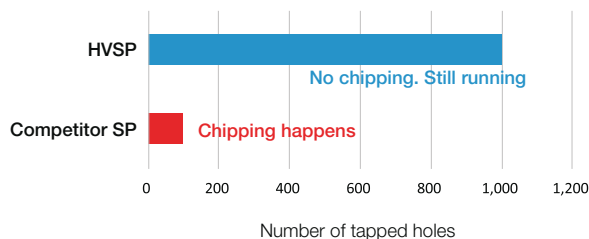


Excellent internal thread surface!

Process data

Case 1

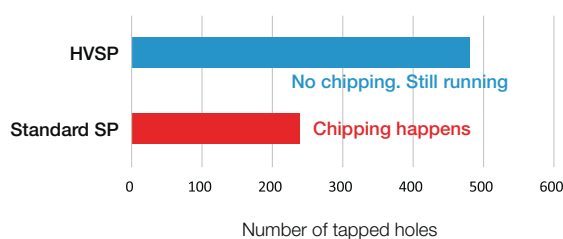
Comparison with other brand SP



Item	HVSP M16X2
	Other brand SP M16X2
Workpiece material	St44-2 / 1.0044 / Fe430B
Hole shape (depth)	Blind hole (42 mm)
Direction	Horizontal
Bored hole dia. (mm)	14.20
Machine	Special machine (non rigid)
Cutting speed (m/min)	7.8
Lubrication	Straight oil

Case 2

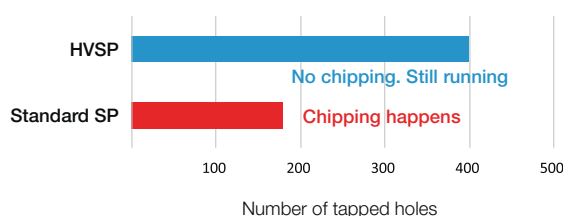
Comparison with standard SP



Item	HVSP M30
	Standard SP M30
Workpiece material	42CrMo4 / 1.7218
Hole shape (depth)	Blind hole (60 mm)
Direction	Horizontal
Bored hole dia. (mm)	26.50
Machine	Machining center (non rigid)
Cutting speed (m/min)	4.7
Lubrication	Straight oil

Case 3

Comparison with standard SP



Item	HVSP M36
	Standard SP M36
Workpiece material	Ck55 / 1.1203 / C55
Hole shape (depth)	Blind hole (42 mm)
Direction	Vertical
Bored hole dia. (mm)	32.50
Machine	Drilling machine (non rigid)
Cutting speed (m/min)	5.0
Lubrication	Straight oil

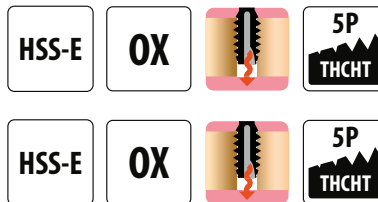
HVPO - HVPO ZP



HVPO



HVPO ZP
ISO2X (6HX) +100/+200/+300



Spiral pointed taps for excellent chip evacuation

Parameters

Recommended tapping conditions for the HVPO tap series.

Workpiece materials	Vc (m/min)
P1 Low carbon steel	3 ÷ 12
P2 Medium carbon steel	3 ÷ 12
P3 High carbon and medium alloy steel	3 ÷ 12
P4 Alloy steel	3 ÷ 12
M1 Stainless steel	<5



WATCH THE VIDEO

Product features

HVPO is designed with unique flute shape to achieve excellent internal threads and long tool life thanks to smooth chip ejection and reduced cutting resistance.

HVPO ZP are manufactured with 3 types of oversized classes (ISO2X(6HX)+100, +200, +300) mainly used for the production of internal threads on parts of large metal structures (building, bridges...) before the protective Hot-Dip galvanizing treatment, necessary to resist rust and corrosion.

HVPO



Unique spiral pointed shape

PO

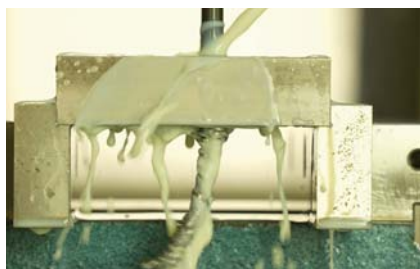


Conventional

Process data

HVPO M10x1.5

Workpiece material	1.0116 (St 37-3)	Machine type	Vertical M/C
Tapping speed	10 m/min	Tapping fluid	Water-soluble cutting fluid
Tapping Length	24 mm		



Excellent machining conditions

Thanks to the unique flute shape and semi-long overall length of the tap, water-soluble cutting fluid is sufficiently supplied.



Excellent ejected chips

Chips keep an acceptable form and length, also with ductile materials that tend to produce long chips.



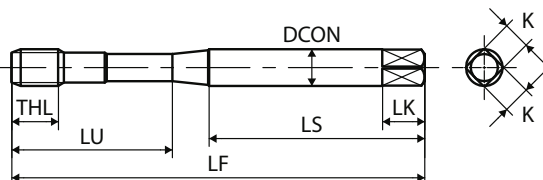
Excellent internal threads

In 1.0116 (St 37-3) tapping, an excellent internal thread surface can be obtained even using water-soluble cutting fluid.

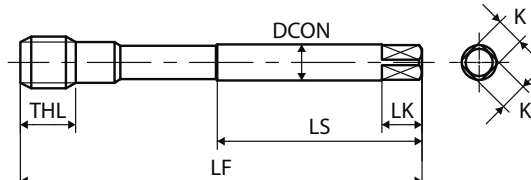


Dimensions and sizes

TYPE: 025



TYPE: 023



● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ● check stock EU

M	TCTR (tolerance)	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
DIN371															
M2X0.4	ISO2X(6HX)	1.6	1.65	SD2.0EBEEXJ	2.5P	45	8	10	32	2.8	2.1	5	2	025	●
M2.3X0.4	ISO2X(6HX)	1.9	1.95	SD2.3EBEEXJ	2.5P	45	9	11	32	2.8	2.1	5	2	025	●
M2.5X0.45	ISO2X(6HX)	2.1	2.11	SD2.5FBEEXJ	2.5P	50	8	15	33	2.8	2.1	5	2	025	●
M2.6X0.45	ISO2X(6HX)	2.2	2.21	SD2.6FBEEXJ	2.5P	50	8	15	33	2.8	2.1	5	2	025	●
M3X0.5	ISO2X(6HX)	2.50	2.56	SD3.0GYEEXJ	2.5P	56	9	18	34	3.5	2.7	6	3	025	●
M4X0.7	ISO2X(6HX)	3.30	3.38	SD4.0IYEEXJ	2.5P	45	13	21	38	4.5	3.4	6	3	025	●
M5X0.8	ISO2X(6HX)	4.20	4.28	SD5.0KYEEXJ	2.5P	70	14	25	39	6	4.9	8	3	025	●
M6X1	ISO2X(6HX)	5.00	5.09	SD6.0MYEEXJ	2.5P	80	15	30	45	6	4.9	8	3	025	●
M7X1	ISO2X(6HX)	6.00	6.09	SD7.0MBEEXJ	2.5P	80	15	30	45	7	5.5	8	3	025	●
M8X1.25	ISO2X(6HX)	6.80	6.85	SD8.0NYEEXJ	2.5P	90	19	35	47	8	6.2	9	3	025	●
M10X1.5	ISO2X(6HX)	8.50	8.60	SD0100YEEXJ	2.5P	100	23	39	52	10	8	11	3	025	●
DIN376															
M12X1.75	ISO2X(6HX)	10.30	10.36	SG012PSEEXJ	2.5P	110	26	-	56	9	7	10	3	023	●
M14X2	ISO2X(6HX)	12.00	12.12	SG014QSEEXJ	2.5P	110	26	-	56	11	9	12	3	023	●
M16X2	ISO2X(6HX)	14.00	14.12	SG016QSEEXJ	2.5P	110	26	-	56	12	9	12	3	023	●
M18X2.5	ISO2X(6HX)	15.50	15.63	SG018RTEEXJ	2.5P	125	33	-	64	14	11	14	4	023	●
M20X2.5	ISO2X(6HX)	17.50	17.63	SG020RTEEXJ	2.5P	140	33	-	71	16	12	15	4	023	●
M22X2.5	ISO2X(6HX)	19.50	19.63	SG022RTEEXJ	2.5P	140	33	-	71	18	14.5	17	4	023	●
M24X3	ISO2X(6HX)	21.00	21.13	SG024STEEXJ	2.5P	160	37	-	82	18	14.5	17	4	023	●
M27X3	ISO2X(6HX)	24.00	24.13	SG027STEEXJ	2.5P	160	37	-	82	20	16	19	4	023	●
M30X3.5	ISO2X(6HX)	26.50	26.63	SG030TBEEEXJ	2.5P	180	44	-	92	22	18	21	4	023	●
M33X3.5	ISO2X(6HX)	29.50	29.63	SG033TBEEEXJ	2.5P	180	46	-	92	25	20	23	4	023	●
M36X4	ISO2X(6HX)	32.00	32.12	SG036UBEEEXJ	2.5P	200	52	-	102	28	22	25	4	023	●
M39X4	ISO2X(6HX)	35.00	35.12	SG039UBEEEXJ	2.5P	200	52	-	102	32	24	27	4	023	●
M42X4.5	ISO2X(6HX)	37.50	37.63	SG042VBEEEXJ	2.5P	200	59	-	102	32	24	27	4	023	●
M45X4.5	ISO2X(6HX)	40.5	40.63	SG045VBEEEXJ	2.5P	220	59	-	112	36	29	32	4	023	●
M48X5	ISO2X(6HX)	43.00	43.12	SG048WBEEEXJ	2.5P	250	65	-	128	36	29	32	4	023	●
MF	TCTR (tolerance)	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
DIN371															
M3X0.35	ISO2X(6HX)	2.65	2.7	SD3.0DREEXJ	2.5P	56	6.5	18	34	3.5	2.7	6	3	025	●
M4X0.5	ISO2X(6HX)	3.5	3.56	SD4.0GSEEXJ	2.5P	63	9	21	38	4.5	3.4	6	3	025	●
M5X0.5	ISO2X(6HX)	4.5	4.56	SD5.0GSEEXJ	2.5P	70	9	25	39	6	4.9	8	3	025	●

MF	TCTR (tolerance)	 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
DIN371															
M6X0.75	ISO2X(6HX)	5.3	5.33	SD6.0JSEEXJ	2.5P	80	15	30	45	6	4.9	8	3	025	●
M6X0.5	ISO2X(6HX)	5.5	5.56	SD6.0GSEEXJ	2.5P	80	9	30	45	6	4.9	8	3	025	●
DIN374															
M7X0.75	ISO2X(6HX)	6.3	6.33	SM7.0JBEEEXJ	2.5P	80	13	-	41	5.5	4.3	7	3	023	●
M7X0.5	ISO2X(6HX)	6.5	6.56	SM7.0GBEEEXJ	2.5P	80	13	-	41	5.5	4.3	7	3	023	●
M8X1	ISO2X(6HX)	7	7.09	SM8.0MSEEXJ	2.5P	90	19	-	46	6	4.9	8	3	023	●
M8X0.75	ISO2X(6HX)	7.3	7.33	SM8.0JBEEEXJ	2.5P	80	19	-	41	6	4.9	8	3	023	●
M8X0.5	ISO2X(6HX)	7.5	7.56	SM8.0GBEEEXJ	2.5P	80	19	-	41	6	4.9	8	3	023	●
M10X1.25	ISO2X(6HX)	8.8	8.85	SM010NSEEXJ	2.5P	100	23	-	51	7	5.5	8	3	023	●
M10X1	ISO2X(6HX)	9	9.09	SM010MSEEXJ	2.5P	90	19	-	46	7	5.5	8	3	023	●
M11X1.25	ISO2X(6HX)	9.8	9.85	SM011NBEEEXJ	2.5P	100	23	-	51	8	6.2	9	3	023	●
M11X1	ISO2X(6HX)	10	10.1	SM011MBEEEXJ	2.5P	90	19	-	46	8	6.2	9	3	023	●
M12X1.5	ISO2X(6HX)	10.5	10.6	SM0120SEEXJ	2.5P	100	21	-	51	9	7	10	3	023	●
M12X1.25	ISO2X(6HX)	10.8	10.85	SM012NSEEXJ	2.5P	100	21	-	51	9	7	10	3	023	●
M12X1	ISO2X(6HX)	11	11.09	SM012MBEEEXJ	2.5P	100	21	-	51	9	7	10	3	023	●
M14X1.5	ISO2X(6HX)	12.5	12.6	SM0140SEEXJ	2.5P	100	21	-	51	11	9	12	3	023	●
M14X1.25	ISO2X(6HX)	12.8	12.85	SM014NBEEEXJ	2.5P	100	21	-	51	11	9	12	3	023	●
M15X1.5	ISO2X(6HX)	13.5	13.6	SM0150BEEEXJ	2.5P	100	21	-	51	12	9	12	3	023	●
M16X1.5	ISO2X(6HX)	14.5	14.6	SM0160SEEXJ	2.5P	100	21	-	51	12	9	12	3	023	●
M16X1.25	ISO2X(6HX)	14.8	14.85	SM016NBEEEXJ	2.5P	100	21	-	51	12	9	12	3	023	●
M16X1	ISO2X(6HX)	15	15.09	SM016MBEEEXJ	2.5P	100	21	-	51	12	9	12	3	023	●
M18X2	ISO2X(6HX)	16	16.12	SM018QBEEEXJ	2.5P	125	33	-	64	14	11	14	4	023	●
M18X1.5	ISO2X(6HX)	16.5	16.6	SM0180TEEXJ	2.5P	110	24	-	56	14	11	14	4	023	●
M18X1.25	ISO2X(6HX)	16.8	16.85	SM018NBEEEXJ	2.5P	110	24	-	56	14	11	14	4	023	●
M18X1	ISO2X(6HX)	17	17.09	SM018MBEEEXJ	2.5P	110	24	-	56	14	11	14	4	023	●
M19X1.5	ISO2X(6HX)	17.5	17.6	SM0190BEEEXJ	2.5P	110	24	-	56	14	11	14	4	023	●
M20X2	ISO2X(6HX)	18	18.12	SM020QBEEEXJ	2.5P	140	33	-	71	16	12	15	4	023	●
M20X1.5	ISO2X(6HX)	18.5	18.6	SM0200TEEXJ	2.5P	125	24	-	64	16	12	15	4	023	●
M20X1	ISO2X(6HX)	19	19.09	SM020MBEEEXJ	2.5P	125	24	-	64	16	12	15	4	023	●
M22X2	ISO2X(6HX)	20	20.12	SM022QBEEEXJ	2.5P	140	33	-	71	18	14.5	17	4	023	●
M22X1.5	ISO2X(6HX)	20.5	20.6	SM0220TEEXJ	2.5P	125	24	-	64	18	14.5	17	4	023	●
M22X1	ISO2X(6HX)	21	21.09	SM022MBEEEXJ	2.5P	125	24	-	64	18	14.5	17	4	023	●
M24X2	ISO2X(6HX)	22	22.12	SM024QBEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M24X1.5	ISO2X(6HX)	22.5	22.6	SM0240TEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M24X1	ISO2X(6HX)	23	23.09	SM024MBEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M25X2	ISO2X(6HX)	23	23.12	SM025QBEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M25X1.5	ISO2X(6HX)	23.5	23.6	SM0250BEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M25X1	ISO2X(6HX)	24	24.09	SM025MBEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M26X3	ISO2X(6HX)	23	23.12	SM026SBEEEXJ	2.5P	160	37	-	82	18	14.5	17	4	023	●
M26X1.5	ISO2X(6HX)	24.5	24.6	SM0260BEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M26X1	ISO2X(6HX)	25	25.09	SM026MBEEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
M27X2	ISO2X(6HX)	25	25.12	SM027QBEEEXJ	2.5P	140	27	-	71	20	16	19	4	023	●
M27X1.5	ISO2X(6HX)	25.5	25.6	SM0270TEEXJ	2.5P	140	27	-	71	20	16	19	4	023	●
M28X1.5	ISO2X(6HX)	26.5	26.6	SM0280BEEEXJ	2.5P	140	27	-	71	20	16	19	4	023	●
M28X1	ISO2X(6HX)	27	27.09	SM028MBEEEXJ	2.5P	140	27	-	71	20	16	19	4	023	●
M30X3	ISO2X(6HX)	27	27.13	SM030SUEEXJ	2.5P	180	44	-	92	22	18	21	4	023	●
M30X2	ISO2X(6HX)	28	28.12	SM030QBEEEXJ	2.5P	150	27	-	77	22	18	21	4	023	●
M30X1.5	ISO2X(6HX)	28.5	28.6	SM0300UEEXJ	2.5P	150	27	-	77	22	18	21	4	023	●
M30X1	ISO2X(6HX)	29	29.09	SM030MBEEEXJ	2.5P	150	27	-	77	22	18	21	4	023	●
M33X3	ISO2X(6HX)	30	30.13	SM033SUEEXJ	2.5P	180	46	-	92	25	20	23	4	023	●

MF	TCTR (tolerance)	 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
DIN376															
M32X2	ISO2X(6HX)	30	30.12	SM032QBEEJ	2.5P	150	27	-	77	22	18	21	4	023	●
M32X1.5	ISO2X(6HX)	30.5	30.6	SM0320BEEJ	2.5P	150	27	-	77	22	18	21	4	023	●
M33X2	ISO2X(6HX)	31	31.12	SM033QBEEJ	2.5P	160	29	-	82	25	20	23	4	023	●
M33X1.5	ISO2X(6HX)	31.5	31.6	SM0330BEEJ	2.5P	160	29	-	82	25	20	23	4	023	●
M35X2	ISO2X(6HX)	33	33.12	SM035QBEEJ	2.5P	170	29	-	87	28	22	25	4	023	●
M35X1.5	ISO2X(6HX)	33.5	33.6	SM0350BEEJ	2.5P	170	29	-	87	28	22	25	4	023	●
M36X3	ISO2X(6HX)	33	33.13	SM036SUEEJ	2.5P	200	52	-	102	28	22	25	4	023	●
M36X2	ISO2X(6HX)	34	34.12	SM036QBEEJ	2.5P	170	29	-	87	28	22	25	4	023	●
M36X1.5	ISO2X(6HX)	34.5	34.6	SM0360BEEJ	2.5P	170	29	-	87	28	22	25	4	023	●
M39X3	ISO2X(6HX)	36	36.13	SM039SUEEJ	2.5P	200	52	-	102	32	24	27	4	023	●
M42X3	ISO2X(6HX)	39	39.13	SM042SUEEJ	2.5P	200	59	-	102	32	24	27	4	023	●
M42X1.5	ISO2X(6HX)	40.5	40.6	SM0420BEEJ	2.5P	170	29	-	87	32	24	27	4	023	●
M45X3	ISO2X(6HX)	42	42.13	SM045SBEEJ	2.5P	200	49	-	102	36	29	32	4	023	●
M48X3	ISO2X(6HX)	45	45.13	SM048SUEEJ	2.5P	225	49	-	115	36	29	32	4	023	●
UNC	TCTR (tolerance)	 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
DIN371															
No.2-56UNC	2BX	1.8	1.83	SDUN2EYEEJ	2.5P	45	4	11	32	2.8	2.1	5	2	025	●
No.3-48UNC	2BX	2.09	2.1	SDUN3FYEEJ	2.5P	50	4	15	33	2.8	2.1	5	2	025	●
No.4-40UNC	2BX	2.3	2.33	SDUN4HYEEJ	2.5P	56	5	18	34	3.5	2.7	6	2	025	●
No.5-40UNC	2BX	2.6	2.64	SDUN5HYEEJ	2.5P	56	5	18	34	3.5	2.7	6	3	025	●
No.6-32UNC	2BX	2.8	2.83	SDUN6JYEEJ	2.5P	56	7	19	32	4	3	6	3	025	●
No.8-32UNC	2BX	3.4	3.47	SDUN8JYEEJ	2.5P	63	7	21	38	4.5	3.4	6	3	025	●
No.10-24UNC	2BX	3.89	3.9	SDUNAMYEEJ	2.5P	70	9	24	39	6	4.9	8	3	025	●
1/4-20UNC	2BX	5.1	5.19	SDU04NYEEJ	2.5P	80	11	30	42	7	5.5	8	3	025	●
5/16-18UNC	2BX	6.6	6.65	SDU05OYEEJ	2.5P	90	19	-	47	8	6.2	9	3	025	●
3/8-16UNC	2BX	8	8.07	SDU06PYEEJ	2.5P	100	23	-	54	9	7	10	3	025	●
DIN376															
7/16-14UNC	2BX	9.4	9.45	SGU07QYEEJ	2.5P	100	23	-	51	8	6.2	9	3	023	●
1/2-13UNC	2BX	10.9	10.91	SGU08RYEEJ	2.5P	110	26	-	56	9	7	10	3	023	●
9/16-12UNC	2BX	12.2	12.33	SGU09SYEEJ	2.5P	110	26	-	56	11	9	12	3	023	●
5/8-11UNC	2BX	13.6	13.75	SGU10UYEEJ	2.5P	110	26	-	56	12	9	12	3	023	●
3/4-10UNC	2BX	16.6	16.7	SGU12VYEEJ	2.5P	125	33	-	64	14	11	14	4	023	●
7/8-9UNC	2BX	19.6	19.61	SGU14WYEEJ	2.5P	140	33	-	71	18	14.5	17	4	023	●
1 -8UNC	2BX	22.3	22.45	SGU16XYEEJ	2.5P	160	37	-	82	18	14.5	17	4	023	●
1 1/8-7UNC	2BX	25	25.17	SGU18YEEJ	2.5P	180	44	-	92	22	18	21	4	023	●
1 1/4-7UNC	2BX	28.2	28.35	SGU20YEEJ	2.5P	180	49	-	92	22	18	21	4	023	●
1 3/8-6UNC	2BX	30.8	30.92	SGU22ZYEEJ	2.5P	200	55	-	102	28	22	25	4	023	●
1 1/2-6UNC	2BX	34	34.1	SGU24ZYEEJ	2.5P	200	59	-	102	32	24	27	4	023	●
1 3/4-5UNC	2BX	39.5	39.61	SGU280YEEJ	2.5P	220	65	-	112	36	29	32	4	023	●
2 -4.5UNC	2BX	45.2	45.37	SGU329YEEJ	2.5P	250	73	-	128	40	32	35	4	023	●
UNF	TCTR (tolerance)	 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
DIN371															
No.5-44UNF	2BX	2.7	2.69	SDUN5GYEEJ	2.5P	56	5	18	34	3.5	2.7	6	3	025	●
No.6-40UNF	2BX	2.9	2.97	SDUN6HYEEJ	2.5P	56	7	19	32	4	3	6	3	025	●
No.8-36UNF	2BX	3.5	3.55	SDUN8IYEEJ	2.5P	63	7	21	38	4.5	3.4	6	3	025	●
No.10-32UNF	2BX	4.1	4.12	SDUNA JYEEJ	2.5P	70	9	24	39	6	4.9	8	3	025	●
1/4-28UNF	2BX	5.5	5.53	SDU04KYEEJ	2.5P	80	11	30	42	7	5.5	8	3	025	●

UNF	TCTR (tolerance)	 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
DIN374															
5/16-24UNF	2BX	6.9	6.97	SMU05MYEEXJ	2.5P	90	19	-	46	6	4.9	8	3	023	●
3/8-24UNF	2BX	8.5	8.57	SMU06MYEEXJ	2.5P	100	23	-	51	7	5.5	8	3	023	●
7/16-20UNF	2BX	9.9	9.96	SMU07NYEEXJ	2.5P	100	23	-	51	8	6.2	9	3	023	●
1/2-20UNF	2BX	11.5	11.54	SMU08NYEEXJ	2.5P	100	21	-	51	9	7	10	3	023	●
9/16-18UNF	2BX	12.9	13.00	SMU09OYEEXJ	2.5P	100	21	-	51	11	9	12	3	023	●
5/8-18UNF	2BX	14.5	14.6	SMU100YEEXJ	2.5P	100	21	-	51	12	9	12	3	023	●
3/4-16UNF	2BX	17.5	17.59	SMU12PYEEXJ	2.5P	110	24	-	56	14	11	14	4	023	●
7/8-14UNF	2BX	20.5	20.57	SMU14QYEEXJ	2.5P	125	24	-	64	18	14.5	17	4	023	●
1-12UNF	2BX	23.3	23.46	SMU16SYEEXJ	2.5P	140	27	-	71	18	14.5	17	4	023	●
1 1/8-12UNF	2BX	26.5	26.63	SMU18SYEEXJ	2.5P	150	27	-	77	22	18	21	4	023	●
1 1/4-12UNF	2BX	29.6	29.81	SMU20SYEEXJ	2.5P	150	27	-	77	22	18	21	4	023	●
1 3/8-12UNF	2BX	32.8	32.98	SMU22SYEEXJ	2.5P	170	29	-	87	28	22	25	4	023	●
1 1/2-12UNF	2BX	36	36.16	SMU24SYEEXJ	2.5P	170	29	-	87	32	24	27	4	023	●
8UN	TCTR (tolerance)	 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
DIN374															
1 1/8-8UN	2BX	25.5	25.62	SMU18XYEEXJ	2.5P	180	44	-	92	22	18	21	4	023	●
1 1/4-8UN	2BX	28.5	28.8	SMU20XYEEXJ	2.5P	180	49	-	92	22	18	21	4	023	●
1 3/8-8UN	2BX	31.8	31.97	SMU22XYEEXJ	2.5P	200	55	-	102	28	22	25	4	023	●
1 1/2-8UN	2BX	35	35.15	SMU24XYEEXJ	2.5P	200	59	-	102	32	24	27	4	023	●
1 3/4-8UN	2BX	41.3	41.5	SMU28XYEEXJ	2.5P	200	49	-	102	36	29	32	4	023	●
2-8UN	2BX	47.8	47.85	SMU32XYEEXJ	2.5P	225	49	-	115	40	32	35	4	023	●
12UN	TCTR (tolerance)	 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
DIN374															
1 3/4-12UN	2BX	42.3	42.51	SMU28SYEEXJ	2.5P	180	31	-	92	36	29	32	4	023	●
G(BSP)	TCTR (tolerance)	 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
DIN5156															
1/16-28	ISO228X	6.75	6.77	SVG0010EEXJ	2.5P	90	19	-	46	6	4.9	8	3	023	●
1/8-28	ISO228X	8.75	8.78	SVG0020EEXJ	2.5P	90	19	-	46	7	5.5	8	3	023	●
1/4-19	ISO228X	11.75	11.78	SVG0040EEXJ	2.5P	100	21	-	51	11	9	12	3	023	●
3/8-19	ISO228X	15.25	15.28	SVG0060EEXJ	2.5P	100	21	-	51	12	9	12	3	023	●
1/2-14	ISO228X	19	19.04	SVG0080EEXJ	2.5P	125	24	-	64	16	12	15	4	023	●
5/8-14	ISO228X	21	21.00	SVG0100EEXJ	2.5P	125	24	-	64	18	14.5	17	4	023	●
3/4-14	ISO228X	24.5	24.52	SVG0120EEXJ	2.5P	140	27	-	71	20	16	19	4	023	●
7/8-14	ISO228X	28.25	28.28	SVG0140EEXJ	2.5P	150	27	-	77	22	18	21	4	023	●
1-11	ISO228X	30.75	30.77	SVG0160EEXJ	2.5P	160	29	-	82	25	20	23	4	023	●
1 1/8-11	ISO228X	35.3	35.42	SVG0180EEXJ	2.5P	170	29	-	87	28	22	25	4	023	●
1 1/4-11	ISO228X	39.3	39.43	SVG0200EEXJ	2.5P	170	29	-	87	32	24	27	4	023	●
1 1/2-11	ISO228X	45.25	45.33	SVG0240EEXJ	2.5P	190	31	-	97	36	29	32	4	023	●

HVSP LH



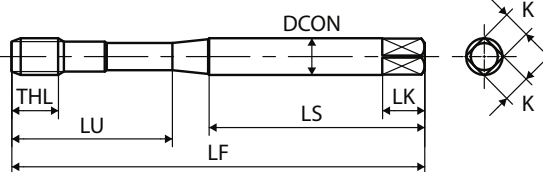
HSS-E

OX

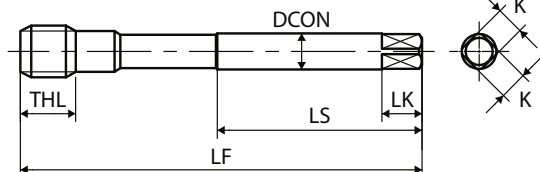


Dimensions and sizes

TYPE: EU_025



TYPE: EU_023



● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ● check stock EU

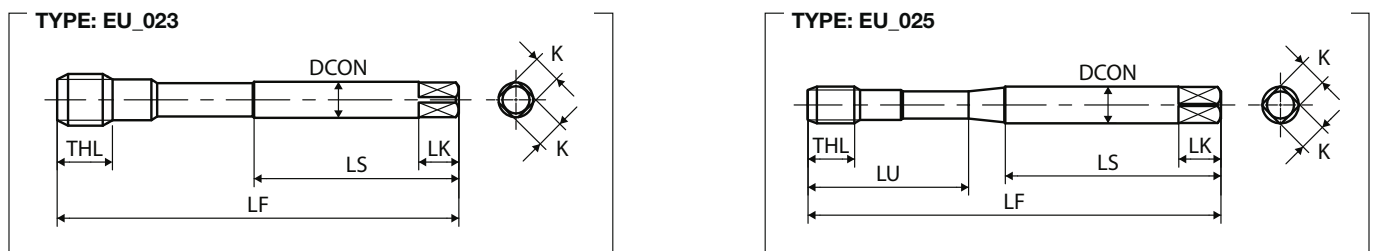
M	TCTR (tolerance)	Ø (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN371															
M2X0.4	ISO2X(6HX)	1.6	1.65	3116102021	2.5P	45	8	10	32	2.8	2.1	5	2	025	●
M2.3X0.4	ISO2X(6HX)	1.9	1.95	3116102026	2.5P	45	9	11	32	2.8	2.1	5	2	025	○
M2.5X0.45	ISO2X(6HX)	2.1	2.11	3116102029	2.5P	50	8	15	33	2.8	2.1	5	2	025	●
M2.6X0.45	ISO2X(6HX)	2.2	2.21	3116102032	2.5P	50	8	15	33	2.8	2.1	5	2	025	○
M3X0.5	ISO2X(6HX)	2.5	2.56	3116102035	2.5P	56	9	18	34	3.5	2.7	6	3	025	●
M4X0.7	ISO2X(6HX)	3.3	3.38	3116102042	2.5P	63	13	21	38	4.5	3.4	6	3	025	●
M5X0.8	ISO2X(6HX)	4.2	4.28	3116102049	2.5P	70	14	25	39	6	4.9	8	3	025	●
M6X1	ISO2X(6HX)	5	5.09	3116102055	2.5P	80	15	30	45	6	4.9	8	3	025	●
M8X1.25	ISO2X(6HX)	6.8	6.85	3116102064	2.5P	90	19	35	47	8	6.2	9	3	025	●
M10X1.5	ISO2X(6HX)	8.5	8.6	3116102078	2.5P	100	23	39	52	10	8	11	3	025	●
DIN376															
M12X1.75	ISO2X(6HX)	10.3	10.36	3116102088	2.5P	110	26	-	56	9	7	10	3	023	●
M14X2	ISO2X(6HX)	12	12.12	3116102100	2.5P	110	26	-	56	11	9	12	3	023	●
M16X2	ISO2X(6HX)	14	14.12	3116102114	2.5P	110	26	-	56	12	9	12	3	023	●
M18X2.5	ISO2X(6HX)	15.5	15.63	3116102128	2.5P	125	33	-	64	14	11	14	4	023	●
M20X2.5	ISO2X(6HX)	17.5	17.63	3116102141	2.5P	140	33	-	71	16	12	15	4	023	●
M22X2.5	ISO2X(6HX)	19.5	19.63	3116102156	2.5P	140	33	-	71	18	14.5	17	4	023	●
M24X3	ISO2X(6HX)	21	21.13	3116102167	2.5P	160	37	-	82	18	14.5	17	4	023	●
MF	TCTR (tolerance)	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
DIN371															
M3X0.35	ISO2X(6HX)	2.65	2.7	3116102036	2.5P	56	6.5	18	34	3.5	2.7	6	3	023	○
M4X0.5	ISO2X(6HX)	3.5	3.56	3116102043	2.5P	63	9	21	38	4.5	3.4	6	3	023	○
M5X0.5	ISO2X(6HX)	4.5	4.56	3116102051	2.5P	70	9	25	39	6	4.9	8	3	023	○
M6X0.75	ISO2X(6HX)	5.3	5.33	3116102056	2.5P	80	15	30	45	6	4.9	8	3	023	○
M6X0.5	ISO2X(6HX)	5.5	5.56	3116102057	2.5P	80	9	30	45	6	4.9	8	3	023	○
DIN374															
M8X1	ISO2X(6HX)	7	7.09	3116102065	2.5P	90	19	-	46	6	4.9	8	3	023	●
M10X1.25	ISO2X(6HX)	8.8	8.85	3116102079	2.5P	100	23	-	51	7	5.5	8	3	023	●
M10X1	ISO2X(6HX)	9	9.09	3116102080	2.5P	90	19	-	46	7	5.5	8	3	023	●
M12X1.5	ISO2X(6HX)	10.5	10.6	3116102089	2.5P	100	21	-	51	9	7	10	3	023	●

MF	TCTR (tolerance)	 Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN374														
M12X1.25	ISO2X(6HX)	10.8	10.85	3116102090	2.5P	100	21	-	51	9	7	10	3	023 ●
M14X1.5	ISO2X(6HX)	12.5	12.6	3116102102	2.5P	100	21	-	51	11	9	12	3	023 ●
M16X1.5	ISO2X(6HX)	14.5	14.6	3116102116	2.5P	100	21	-	51	12	9	12	3	023 ●
M18X1.5	ISO2X(6HX)	16.5	16.6	3116102130	2.5P	110	24	-	56	14	11	14	4	023 ●
M20X1.5	ISO2X(6HX)	18.5	18.6	3116102144	2.5P	125	24	-	64	16	12	15	4	023 ●
M22X1.5	ISO2X(6HX)	20.5	20.6	3116102158	2.5P	125	24	-	64	18	14.5	17	4	023 ●
M24X1.5	ISO2X(6HX)	22.5	22.6	3116102170	2.5P	140	27	-	71	18	14.5	17	4	023 ●
UNC	TCTR (tolerance)	 Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN371														
No.5-40UNC	2BX	2.6	2.64	3116104021	2.5P	56	5	18	34	3.5	2.7	6	3	025 ○
No.6-32UNC	2BX	2.8	2.83	3116104023	2.5P	56	7	19	32	4	3	6	3	025 ○
No.8-32UNC	2BX	3.4	3.47	3116104029	2.5P	63	7	21	38	4.5	3.4	6	3	025 ○
No.10-24UNC	2BX	3.89	3.9	3116104039	2.5P	70	9	24	39	6	4.9	8	3	025 ○
1/4-20UNC	2BX	5.1	5.19	3116104058	2.5P	80	11	30	42	7	5.5	8	3	025 ○
UNF	TCTR (tolerance)	 Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN371														
No.5-44UNF	2BX	2.7	2.69	3116104022	2.5P	56	5	18	34	3.5	2.7	6	3	025 ○
No.6-40UNF	2BX	2.9	2.97	3116104024	2.5P	56	7	19	32	4	3	6	3	025 ○
No.8-36UNF	2BX	3.5	3.55	3116104030	2.5P	63	7	21	38	4.5	3.4	6	3	025 ○
No.10-32UNF	2BX	4.1	4.12	3116104041	2.5P	70	9	24	39	6	4.9	8	3	025 ○
1/4-28UNF	2BX	5.5	5.53	3116104062	2.5P	80	11	30	42	7	5.5	8	3	025 ○

HVSP ZP - OVERSIZED



Dimensions and sizes



Oversized

● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ● check stock EU

M	TCTR (tolerance)	 Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN371														
M8X1.25	ISO2X(6HX)+100	6.9	6.95	3112501064	2.5P	90	19	35	47	8	6.2	9	3	025 ○
	ISO2X(6HX)+200	7	7.05	3112601064	2.5P	90	19	35	47	8	6.2	9	3	025 ○
	ISO2X(6HX)+300	7.1	7.15	3112701064	2.5P	90	19	35	47	8	6.2	9	3	025 ○
M10X1.5	ISO2X(6HX)+100	8.6	8.7	3112501078	2.5P	100	23	39	52	10	8	11	3	025 ○
	ISO2X(6HX)+200	8.7	8.8	3112601078	2.5P	100	23	39	52	10	8	11	3	025 ○
	ISO2X(6HX)+300	8.8	8.9	3112701078	2.5P	100	23	39	52	10	8	11	3	025 ○

M	TCTR (tolerance)	 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
DIN376															
M12X1.75	ISO2X(6HX)+100	10.4	10.5	3112501088	2.5P	110	26	-	56	9	7	10	3	023	○
	ISO2X(6HX)+200	10.5	10.6	3112601088	2.5P	110	26	-	56	9	7	10	3	023	○
	ISO2X(6HX)+300	10.6	10.7	3112701088	2.5P	110	26	-	56	9	7	10	3	023	○
M14X2	ISO2X(6HX)+100	12.1	12.2	3112501100	2.5P	110	26	-	56	11	9	12	3	023	○
	ISO2X(6HX)+200	12.2	12.3	3112601100	2.5P	110	26	-	56	11	9	12	3	023	○
	ISO2X(6HX)+300	12.3	12.4	3112701100	2.5P	110	26	-	56	11	9	12	3	023	○
M16X2	ISO2X(6HX)+100	14.1	14.2	3112501114	2.5P	110	26	-	56	12	9	12	3	023	○
	ISO2X(6HX)+200	14.2	14.3	3112601114	2.5P	110	26	-	56	12	9	12	3	023	○
	ISO2X(6HX)+300	14.3	14.4	3112701114	2.5P	110	26	-	56	12	9	12	3	023	○
M18X2.5	ISO2X(6HX)+100	15.6	15.7	3112501128	2.5P	125	33	-	64	14	11	14	4	023	○
	ISO2X(6HX)+200	15.7	15.8	3112601128	2.5P	125	33	-	64	14	11	14	4	023	○
	ISO2X(6HX)+300	15.8	15.9	3112701128	2.5P	125	33	-	64	14	11	14	4	023	○
M20X2.5	ISO2X(6HX)+100	17.6	17.7	3112501141	2.5P	140	33	-	71	16	12	15	4	023	○
	ISO2X(6HX)+200	17.7	17.8	3112601141	2.5P	140	33	-	71	16	12	15	4	023	○
	ISO2X(6HX)+300	17.8	17.9	3112701141	2.5P	140	33	-	71	16	12	15	4	023	○
M22X2.5	ISO2X(6HX)+100	19.6	19.7	3112501156	2.5P	140	33	-	71	18	14.5	17	4	023	○
	ISO2X(6HX)+200	19.7	19.8	3112601156	2.5P	140	33	-	71	18	14.5	17	4	023	○
	ISO2X(6HX)+300	19.8	19.9	3112701156	2.5P	140	33	-	71	18	14.5	17	4	023	○
M24X3	ISO2X(6HX)+100	21.1	21.2	3112501167	2.5P	160	37	-	82	18	14.5	17	4	023	○
	ISO2X(6HX)+200	21.2	21.3	3112601167	2.5P	160	37	-	82	18	14.5	17	4	023	○
	ISO2X(6HX)+300	21.3	21.4	3112701167	2.5P	160	37	-	82	18	14.5	17	4	023	○
M27X3	ISO2X(6HX)+100	24.1	24.2	3112501186	2.5P	160	37	-	82	20	16	19	4	023	○
	ISO2X(6HX)+200	24.2	24.3	3112601186	2.5P	160	37	-	82	20	16	19	4	023	○
	ISO2X(6HX)+300	24.3	24.4	3112701186	2.5P	160	37	-	82	20	16	19	4	023	○
M30X3.5	ISO2X(6HX)+100	26.6	26.7	3112501199	2.5P	180	44	-	92	22	18	21	4	023	○
	ISO2X(6HX)+200	26.7	26.8	3112601199	2.5P	180	44	-	92	22	18	21	4	023	○
	ISO2X(6HX)+300	26.8	26.9	3112701199	2.5P	180	44	-	92	22	18	21	4	023	○
M33X3.5	ISO2X(6HX)+100	29.6	29.7	3112501211	2.5P	180	46	-	92	25	20	23	4	023	○
	ISO2X(6HX)+200	29.7	29.8	3112601211	2.5P	180	46	-	92	25	20	23	4	023	○
	ISO2X(6HX)+300	29.8	29.9	3112701211	2.5P	180	46	-	92	25	20	23	4	023	○
M36X4	ISO2X(6HX)+100	32.1	32.2	3112501225	2.5P	200	52	-	102	28	22	25	4	023	○
	ISO2X(6HX)+200	32.2	32.3	3112601225	2.5P	200	52	-	102	28	22	25	4	023	○
	ISO2X(6HX)+300	32.3	32.4	3112701225	2.5P	200	52	-	102	28	22	25	4	023	○



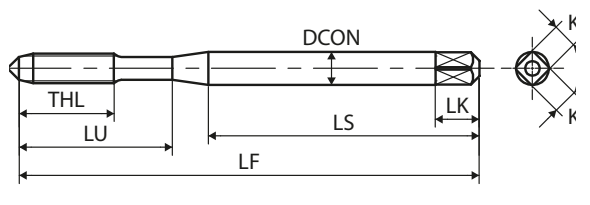
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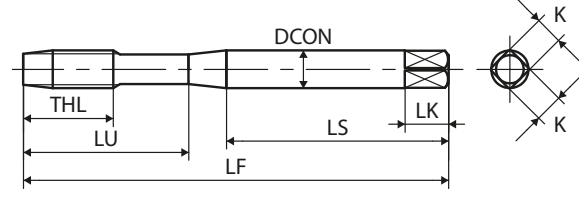


Dimensions and sizes

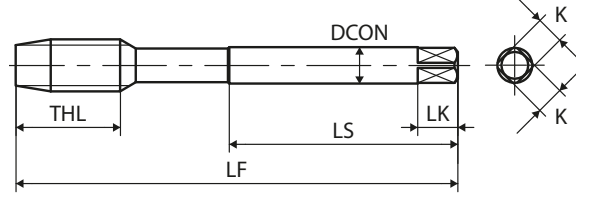
TYPE: EU_057



TYPE: EU_084



TYPE: EU_086



● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ● check stock EU

M	TCTR (tolerance)	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
DIN371															
M3X0.5	ISO2X(6HX)	2.50	2.56	3113101035	5P	56	9	18	34	3.5	2.7	6	3	057	●
M3.5X0.6	ISO2X(6HX)	2.90	2.97	3113101038	5P	56	11	20	32	4	3	6	3	057	●
M4X0.7	ISO2X(6HX)	3.30	3.38	3113101042	5P	45	13	21	38	4.5	3.4	6	3	057	●
M5X0.8	ISO2X(6HX)	4.20	4.28	3113101049	5P	70	14	25	39	6	4.9	8	3	057	●
M6X1	ISO2X(6HX)	5.00	5.09	3113101055	5P	80	15	30	45	6	4.9	8	3	057	●
M7X1	ISO2X(6HX)	6.00	6.09	3113101060	5P	80	15	30	45	7	5.5	8	3	084	●
M8X1.25	ISO2X(6HX)	6.80	6.85	3113101064	5P	90	19	35	47	8	6.2	9	3	084	●
M10X1.5	ISO2X(6HX)	8.50	8.60	3113101078	5P	100	23	39	52	10	8	11	3	084	●
DIN376															
M12X1.75	ISO2X(6HX)	10.30	10.36	3113101088	5P	110	26	-	56	9	7	10	3	086	●
M14X2	ISO2X(6HX)	12.00	12.12	3113101100	5P	110	26	-	56	11	9	12	3	086	●
M16X2	ISO2X(6HX)	14.00	14.12	3113101114	5P	110	26	-	56	12	9	12	3	086	●
M18X2.5	ISO2X(6HX)	15.5	15.63	3113101128	5P	125	33	-	64	14	11	14	3	086	●
M20X2.5	ISO2X(6HX)	17.5	17.63	3113101141	5P	140	33	-	71	16	12	15	3	086	●
M22X2.5	ISO2X(6HX)	19.5	19.63	3113101156	5P	140	33	-	71	18	14,5	17	3	086	●
M24X3	ISO2X(6HX)	21	21.13	3113101167	5P	160	37	-	82	18	14,5	17	3	086	●
M27X3	ISO2X(6HX)	24	24.13	3113101186	5P	160	37	-	82	20	16	19	4	086	●
M30X3.5	ISO2X(6HX)	26.5	26.63	3113101199	5P	180	44	-	92	22	18	21	4	086	●
M33X3.5	ISO2X(6HX)	29.5	29.63	3113101211	5P	180	46	-	92	25	20	23	4	086	●
M36X4	ISO2X(6HX)	32	32.12	3113101225	5P	200	52	-	102	28	22	25	4	086	●
M39X4	ISO2X(6HX)	35	35.12	3113101240	5P	200	52	-	102	32	24	27	4	086	●
M42X4.5	ISO2X(6HX)	37.5	37.63	3113101250	5P	200	59	-	102	32	24	27	4	086	●
M45X4.5	ISO2X(6HX)	40.5	40.63	3113101261	5P	220	59	-	112	36	29	32	4	086	●
M48X5	ISO2X(6HX)	43	43.12	3113101271	5P	250	65	-	128	36	29	32	4	086	●

MF	TCTR (tolerance)	 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
DIN371															
M3X0.35	ISO2X(6HX)	2.65	2.70	3113101036	5P	56	5	18	34	3.5	2.7	6	3	057	●
M4X0.5	ISO2X(6HX)	3.50	3.56	3113101043	5P	63	5	21	38	4.5	3.4	6	3	057	●
M5X0.5	ISO2X(6HX)	4.50	4.56	3113101051	5P	70	6	25	39	6	4.9	8	3	057	●
M6X0.75	ISO2X(6HX)	5.30	5.33	3113101056	5P	80	8	30	45	6	4.9	8	3	057	●
M6X0.5	ISO2X(6HX)	5.50	5.56	3113101057	5P	80	8	30	45	6	4.9	8	3	057	●
DIN374															
M7X0.5	ISO2X(6HX)	6.3	6.33	3113101062	5P	80	13	-	41	5.5	4.3	7	3	086	●
M7X0.75	ISO2X(6HX)	6.5	6.56	3113101061	5P	80	13	-	41	5.5	4.3	7	3	086	●
M8X1	ISO2X(6HX)	7	7.09	3113101065	5P	90	19	-	46	6	4.9	8	3	086	●
M8X0.75	ISO2X(6HX)	7.3	7.33	3113101066	5P	80	19	-	41	6	4.9	8	3	086	●
M8X0.5	ISO2X(6HX)	7.5	7.56	3113101067	5P	80	19	-	41	6	4.9	8	3	086	●
M9X1	ISO2X(6HX)	8	8.09	3113101072	5P	90	19	-	46	7	5.5	8	3	086	●
M10X1.25	ISO2X(6HX)	8.8	8.85	3113101079	5P	100	23	-	51	7	5.5	8	3	086	●
M10X1	ISO2X(6HX)	9	9.09	3113101080	5P	90	19	-	46	7	5.5	8	3	086	●
M12X1.5	ISO2X(6HX)	10.5	10.6	3113101089	5P	100	21	-	51	9	7	10	3	086	●
M12X1.25	ISO2X(6HX)	10.8	10.85	3113101090	5P	100	21	-	51	9	7	10	3	086	●
M12X1	ISO2X(6HX)	11	11.09	3113101091	5P	100	21	-	51	9	7	10	3	086	●
M14X1.5	ISO2X(6HX)	12.5	12.6	3113101102	5P	100	21	-	51	11	9	12	3	086	●
M14X1	ISO2X(6HX)	13	13.09	3113101104	5P	100	21	-	51	11	9	12	3	086	●
M16X1.5	ISO2X(6HX)	14.5	14.6	3113101116	5P	100	21	-	51	12	9	12	3	086	●
M16X1.25	ISO2X(6HX)	14.8	14.85	3113101117	5P	100	21	-	51	12	9	12	3	086	●
M16X1	ISO2X(6HX)	15	15.09	3113101118	5P	100	21	-	51	12	9	12	3	086	●
M18X2	ISO2X(6HX)	16	16.12	3113101129	5P	125	33	-	64	14	11	14	3	086	●
M18X1.5	ISO2X(6HX)	16.5	16.6	3113101130	5P	110	24	-	56	14	11	14	3	086	●
M18X1	ISO2X(6HX)	17	17.09	3113101132	5P	110	24	-	56	14	11	14	3	086	●
M20X2	ISO2X(6HX)	18	18.12	3113101142	5P	140	33	-	71	16	12	15	3	086	●
M20X1.5	ISO2X(6HX)	18.5	18.6	3113101144	5P	125	24	-	64	16	12	15	3	086	●
M20X1	ISO2X(6HX)	19	19.09	3113101146	5P	125	24	-	64	16	12	15	3	086	●
M22X2	ISO2X(6HX)	20	20.12	3113101157	5P	140	33	-	71	18	14.5	17	3	086	●
M22X1.5	ISO2X(6HX)	20.5	20.6	3113101158	5P	125	24	-	64	18	14.5	17	3	086	●
M24X2	ISO2X(6HX)	22	22.12	3113101169	5P	140	27	-	71	18	14.5	17	3	086	●
M24X1.5	ISO2X(6HX)	22.5	22.6	3113101170	5P	140	27	-	71	18	14.5	17	3	086	●
M25X1.5	ISO2X(6HX)	23.5	23.6	3113101177	5P	140	27	-	71	18	14.5	17	3	086	●
M26X3	ISO2X(6HX)	23	23.12	3113101181	5P	160	37	-	82	18	14.5	17	4	086	●
M27X2	ISO2X(6HX)	25	25.12	3113101187	5P	140	27	-	71	20	16	19	4	086	●
M27X1.5	ISO2X(6HX)	25.5	25.6	3113101188	5P	140	27	-	71	20	16	19	4	086	●
M28X1.5	ISO2X(6HX)	26.5	26.6	3113101194	5P	140	27	-	71	20	16	19	4	086	●
M30X3	ISO2X(6HX)	27	27.12	3113101200	5P	180	44	-	92	22	18	21	4	086	●
M30X2	ISO2X(6HX)	28	28.12	3113101201	5P	150	27	-	77	22	18	21	4	086	●
M30X1.5	ISO2X(6HX)	28.5	28.6	3113101202	5P	150	27	-	77	22	18	21	4	086	●
M32X2	ISO2X(6HX)	30	30.12	3113101207	5P	150	27	-	77	22	18	21	4	086	●
M32X1.5	ISO2X(6HX)	30.5	30.6	3113101208	5P	150	27	-	77	22	18	21	4	086	●
M33X3	ISO2X(6HX)	30	30.12	3113101212	5P	180	46	-	92	25	20	23	4	086	●
M33X2	ISO2X(6HX)	31	31.12	3113101213	5P	160	29	-	82	25	20	23	4	086	●
M33X1.5	ISO2X(6HX)	31.5	31.6	3113101214	5P	160	29	-	82	25	20	23	4	086	●
M35X2	ISO2X(6HX)	33	33.12	3113101221	5P	170	29	-	87	28	22	25	4	086	●
M35X1.5	ISO2X(6HX)	33.5	33.6	3113101222	5P	170	29	-	87	28	22	25	4	086	●
M36X3	ISO2X(6HX)	33	33.13	3113101226	5P	200	52	-	102	28	22	25	4	086	●
M36X2	ISO2X(6HX)	34	34.12	3113101227	5P	170	29	-	87	28	22	25	4	086	●

MF	TCTR (tolerance)	 (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN374															
M36X1.5	ISO2X(6HX)	34.5	34.6	3113101228	5P	170	29	-	87	28	22	25	4	086	●
M39X3	ISO2X(6HX)	36	36.13	3113101241	5P	200	52	-	102	32	24	27	4	086	●
M42X3	ISO2X(6HX)	39	39.12	3113101252	5P	200	59	-	102	32	24	27	4	086	●
M48X3	ISO2X(6HX)	45	45.13	3113101274	5P	225	49	-	115	36	29	32	4	086	●
UNC	TCTR (tolerance)	 (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN371															
No.6-32UNC	ISO2X(6HX)	2.8	2.83	3113103023	5P	56	11	19	32	4	3	6	2	057	●
No.8-32UNC	ISO2X(6HX)	3.4	3.47	3113103029	5P	63	13	21	38	4.5	3.4	6	2	057	●
No.10-24UNC	ISO2X(6HX)	3.89	3.9	3113103039	5P	70	14	24	39	6	4.9	8	2	057	●
No.12-24UNC	ISO2X(6HX)	4.5	4.53	3113103047	5P	80	15	28	45	6	4.9	8	2	057	●
1/4-20UNC	ISO2X(6HX)	5.1	5.19	3113103058	5P	80	15	30	42	7	5.5	8	3	057	●
5/16-18UNC	ISO2X(6HX)	6.6	6.65	3113103071	5P	90	19	35	47	8	6.2	9	3	057	●
3/8-16UNC	ISO2X(6HX)	8	8.07	3113103082	5P	100	23	39	54	9	7	10	3	057	●
DIN376															
7/16-14UNC	ISO2X(6HX)	9.4	9.45	3113103098	5P	100	23	-	51	8	6.2	9	3	086	●
1/2-13UNC	ISO2X(6HX)	10.9	10.91	3113103111	5P	110	26	-	56	9	7	10	3	086	●
9/16-12UNC	ISO2X(6HX)	12.2	12.33	3113103126	5P	110	26	-	56	11	9	12	3	086	●
5/8-11UNC	ISO2X(6HX)	13.6	13.75	3113103138	5P	110	26	-	56	12	9	12	3	086	●
3/4-10UNC	ISO2X(6HX)	16.6	16.7	3113103161	5P	125	33	-	64	14	11	14	3	086	●
7/8-9UNC	ISO2X(6HX)	19.6	19.61	3113103181	5P	140	33	-	71	18	14.5	17	3	086	●
UNF	TCTR (tolerance)	 (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN371															
No.6-40UNF	ISO2X(6HX)	2.9	2.97	3113103024	5P	56	11	19	32	4	3	6	2	057	●
No.8-36UNF	ISO2X(6HX)	3.5	3.55	3113103030	5P	63	13	21	38	4.5	3.4	6	2	057	●
No.10-32UNF	ISO2X(6HX)	4.1	4.12	3113103041	5P	70	14	24	39	6	4.9	8	2	057	●
No.12-28UNF	ISO2X(6HX)	4.6	4.67	3113103048	5P	80	15	28	45	6	4.9	8	2	057	●
1/4-28UNF	ISO2X(6HX)	5.5	5.53	3113103062	5P	80	15	30	42	7	5.5	8	3	057	●
DIN374															
5/16-24UNF	ISO2X(6HX)	6.9	6.97	3113103074	5P	90	19	-	46	6	4.9	8	3	086	●
3/8-24UNF	ISO2X(6HX)	8.5	8.57	3113103085	5P	100	23	-	51	7	5.5	8	3	086	●
7/16-20UNF	ISO2X(6HX)	9.9	9.96	3113103101	5P	100	23	-	51	8	6.2	9	3	086	●
1/2-20UNF	ISO2X(6HX)	11.5	11.54	3113103115	5P	100	21	-	51	9	7	10	3	086	●
9/16-18UNF	ISO2X(6HX)	12.9	13,00	3113103129	5P	100	21	-	51	11	9	12	3	086	●
5/8-18UNF	ISO2X(6HX)	14.5	14.6	3113103142	5P	100	21	-	51	12	9	12	3	086	●
3/4-16UNF	ISO2X(6HX)	17.5	17.59	3113103164	5P	110	24	-	56	14	11	14	3	086	●
7/8-14UNF	ISO2X(6HX)	20.5	20.57	3113103184	5P	125	24	-	64	18	14.5	17	3	086	●

HVPO - ZP - OVERSIZED



ISO2X (6HX) +100/+200/+300

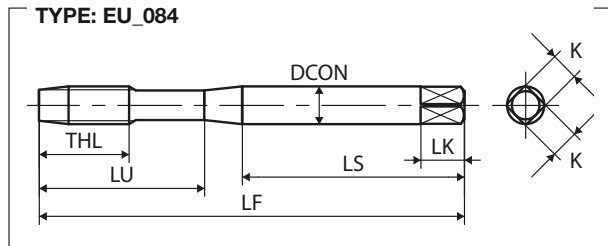
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OX

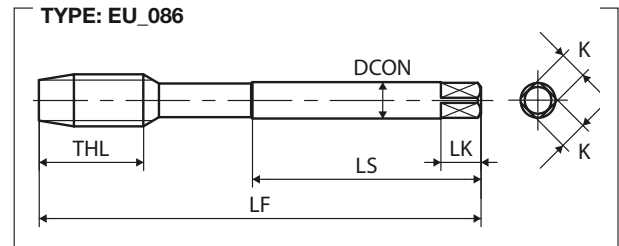


Dimensions and sizes

TYPE: EU_084



TYPE: EU_086



Oversized

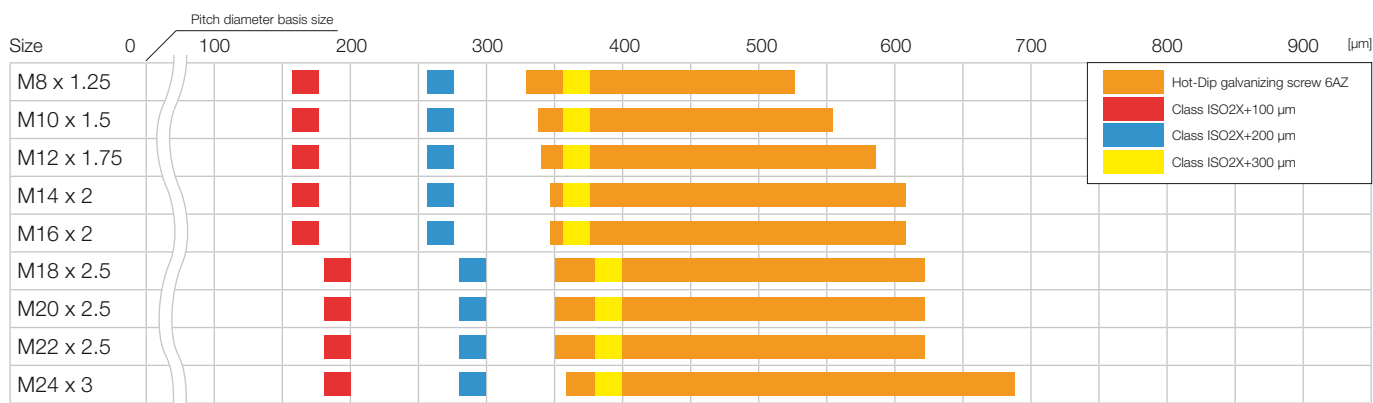
● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ● check stock EU

M	TCTR (tolerance)	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
DIN371															
M8X1.25	ISO2X(6HX)+100	6.9	6.95	3122501064	5P	90	19	35	47	8	6.2	9	3	084	○
	ISO2X(6HX)+200	7	7.05	3122601064	5P	90	19	35	47	8	6.2	9	3	084	○
	ISO2X(6HX)+300	7.1	7.15	3122701064	5P	90	19	35	47	8	6.2	9	3	084	○
M10X1.5	ISO2X(6HX)+100	8.6	8.7	3122501078	5P	100	23	39	52	10	8	11	3	084	○
	ISO2X(6HX)+200	8.7	8.8	3122601078	5P	100	23	39	52	10	8	11	3	084	○
	ISO2X(6HX)+300	8.8	8.9	3122701078	5P	100	23	39	52	10	8	11	3	084	○
DIN376															
M12X1.75	ISO2X(6HX)+100	10.4	10.5	3122501088	5P	110	26	-	56	9	7	10	3	086	○
	ISO2X(6HX)+200	10.5	10.6	3122601088	5P	110	26	-	56	9	7	10	3	086	○
	ISO2X(6HX)+300	10.6	10.7	3122701088	5P	110	26	-	56	9	7	10	3	086	○
M14X2	ISO2X(6HX)+100	12.1	12.2	3122501100	5P	110	26	-	56	11	9	12	3	086	○
	ISO2X(6HX)+200	12.2	12.3	3122601100	5P	110	26	-	56	11	9	12	3	086	○
	ISO2X(6HX)+300	12.3	12.4	3122701100	5P	110	26	-	56	11	9	12	3	086	○
M16X2	ISO2X(6HX)+100	14.1	14.2	3122501114	5P	110	26	-	56	12	9	12	3	086	○
	ISO2X(6HX)+200	14.2	14.3	3122601114	5P	110	26	-	56	12	9	12	3	086	○
	ISO2X(6HX)+300	14.3	14.4	3122701114	5P	110	26	-	56	12	9	12	3	086	○
M18X2.5	ISO2X(6HX)+100	15.6	15.7	3122501128	5P	125	33	-	64	14	11	14	3	086	○
	ISO2X(6HX)+200	15.7	15.8	3122601128	5P	125	33	-	64	14	11	14	3	086	○
	ISO2X(6HX)+300	15.8	15.9	3122701128	5P	125	33	-	64	14	11	14	3	086	○
M20X2.5	ISO2X(6HX)+100	17.6	17.7	3122501141	5P	140	33	-	71	16	12	15	3	086	○
	ISO2X(6HX)+200	17.7	17.8	3122601141	5P	140	33	-	71	16	12	15	3	086	○
	ISO2X(6HX)+300	17.8	17.9	3122701141	5P	140	33	-	71	16	12	15	3	086	○
M22X2.5	ISO2X(6HX)+100	19.6	19.7	3122501156	5P	140	33	-	71	18	14,5	17	3	086	○
	ISO2X(6HX)+200	19.7	19.8	3122601156	5P	140	33	-	71	18	14,5	17	3	086	○
	ISO2X(6HX)+300	19.8	19.9	3122701156	5P	140	33	-	71	18	14,5	17	3	086	○
M24X3	ISO2X(6HX)+100	21.1	21.2	3122501167	5P	160	37	-	82	18	14,5	17	3	086	○
	ISO2X(6HX)+200	21.2	21.3	3122601167	5P	160	37	-	82	18	14,5	17	3	086	○
	ISO2X(6HX)+300	21.3	21.4	3122701167	5P	160	37	-	82	18	14,5	17	3	086	○
M27X3	ISO2X(6HX)+100	24.1	24.2	3122501186	5P	160	37	-	82	20	16	19	4	086	○
	ISO2X(6HX)+200	24.2	24.3	3122601186	5P	160	37	-	82	20	16	19	4	086	○
	ISO2X(6HX)+300	24.3	24.4	3122701186	5P	160	37	-	82	20	16	19	4	086	○

M	TCTR (tolerance)	 (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	Stock
DIN376															
M30X3.5	ISO2X(6HX)+100	26.6	26.7	3122501199	5P	180	44	-	92	22	18	21	4	086	○
	ISO2X(6HX)+200	26.7	26.8	3122601199	5P	180	44	-	92	22	18	21	4	086	○
	ISO2X(6HX)+300	26.8	26.9	3122701199	5P	180	44	-	92	22	18	21	4	086	○
M33X3.5	ISO2X(6HX)+100	29.6	29.7	3122501211	5P	180	46	-	92	25	20	23	4	086	○
	ISO2X(6HX)+200	29.7	29.8	3122601211	5P	180	46	-	92	25	20	23	4	086	○
	ISO2X(6HX)+300	29.8	29.9	3122701211	5P	180	46	-	92	25	20	23	4	086	○
M36X4	ISO2X(6HX)+100	32.1	32.2	3122501225	5P	200	52	-	102	28	22	25	4	086	○
	ISO2X(6HX)+200	32.2	32.3	3122601225	5P	200	52	-	102	28	22	25	4	086	○
	ISO2X(6HX)+300	32.3	32.4	3122701225	5P	200	52	-	102	28	22	25	4	086	○

Tolerance classes

Tolerance classes of HVSP ZP and HVPO ZP.



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