

# AUSWAHL GEWINDEWERKZEUGE

02/2024

“Reliable screw threads” is  
YAMAWA’s theme

Premium Qualität  
MADE IN JAPAN



 Think threads with  
**YAMAWA**

# VUSP

## Z-PRO Series

HSSP Spiral Fluted Taps, Coated



### Recommended Tapping Speeds Depending On Materials

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

★ 1st choice ☆ suitable

### 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.



WATCH THE VIDEO

### Product Features

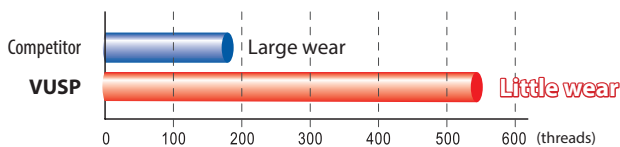
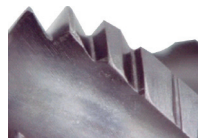
Lubricant	Hole shape	Hand tapping	Drilling machine	Low speed	Middle speed	
Emulsion					<b>VUSP</b> Vc ≤ 25 m/min	
					VUPO	
Oil		HTset	ISP	SP	SP V	AU+SP
		IHT	IPO	PO	PO V	AU+SL

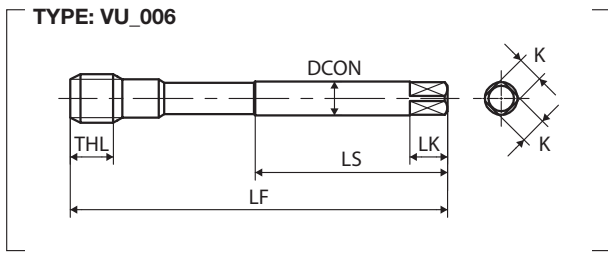
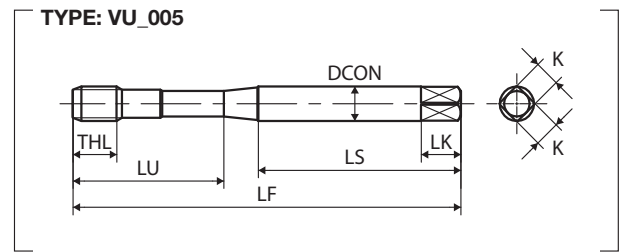
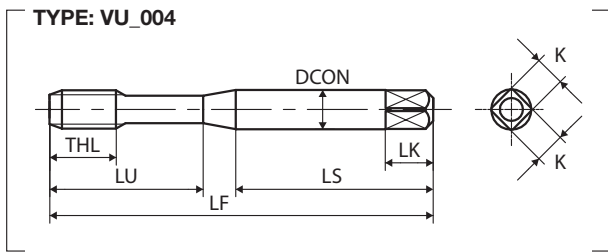
### Process Data


#### M3×0.5

Work-material	Ck50 - 1.1213
Thread length	4.5 mm
Tapping speed	20 m/min
Machine	Vertical machining center
Lubricant	Water soluble oil

No wear after 250 threads with VUSP





M	TCTR (tolerance)	 Hole Ø (mm)	Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	LT (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	€
DIN 371																
<b>M2X0.4</b>	ISO2X(6HX)	1.6	1.65	3101101021	2.5P	45	-	4	10	32	2.8	2.1	5	2	004	57,15
<b>M2.2X0.45</b>	ISO2X(6HX)	1.75	1.81	3101101024	2.5P	45	-	4	11	32	2.8	2.1	5	2	004	57,15
<b>M2.3X0.4</b>	ISO2X(6HX)	1.9	1.95	3101101026	2.5P	45	-	4	11	32	2.8	2.1	5	2	004	57,15
<b>M2.5X0.45</b>	ISO2X(6HX)	2.1	2.11	3101101029	2.5P	50	-	4	15	32	2.8	2.1	5	2	004	50,00
<b>M2.6X0.45</b>	ISO2X(6HX)	2.2	2.21	3101101032	2.5P	50	-	4	15	32	2.8	2.1	5	2	004	50,00
<b>M3X0.5</b>	ISO2X(6HX)	2.5	2.56	3101101035	2.5P	56	-	5	18	34	3.5	2.7	6	3	004	42,33
<b>M4X0.7</b>	ISO2X(6HX)	3.3	3.38	3101101042	2.5P	63	-	7	21	38	4.5	3.4	6	3	004	44,13
<b>M5X0.8</b>	ISO2X(6HX)	4.2	4.28	3101101049	2.5P	70	-	9	25	39	6	4.9	8	3	004	44,43
<b>M6X1</b>	ISO2X(6HX)	5	5.09	3101101055	2.5P	80	-	11	30	45	6	4.9	8	3	004	44,43
<b>M8X1.25</b>	ISO2X(6HX)	6.8	6.85	3101101064	2.5P	90	-	12	35	47	8	6.2	9	3	005	45,45
<b>M10X1.5</b>	ISO2X(6HX)	8.5	8.6	3101101078	2.5P	100	-	13	39	52.5	10	8	11	3	005	59,50
DIN 376																
<b>M12X1.75</b>	ISO2X(6HX)	10.3	10.36	3101101088	2.5P	110	-	15	-	56	9	7	10	3	006	77,55
<b>M16X2</b>	ISO2X(6HX)	14	14.12	3101101114	2.5P	110	-	18	-	56	12	9	12	3	006	131,01

# VUPO

## Z-PRO Series

HSSP Spiral Pointed Taps, Coated



### Recommended Tapping Speeds Depending On Materials

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

### 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.



WATCH THE VIDEO

### Product Features

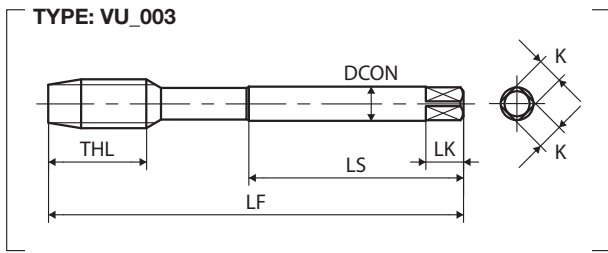
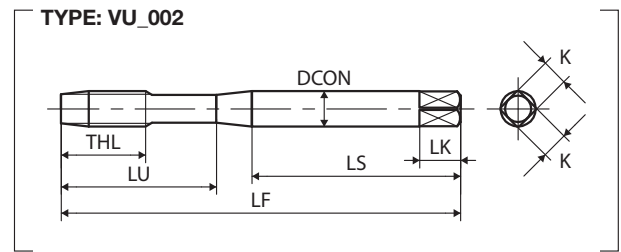
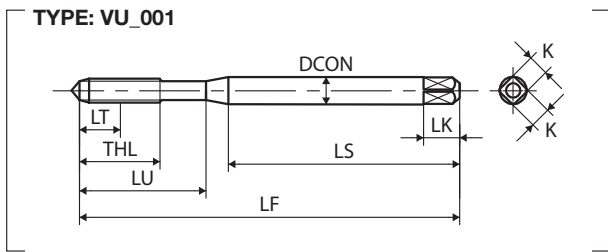
Lubricant	Hole shape	Hand tapping	Drilling machine	Low speed	Middle speed
Emulsion					VUSP
					<b>VUPO</b> Vc ≤ 30 m/min
Oil		HTset	ISP	SP	SP V
		IHT	IPO	PO	PO V
					AU+SP
					AU+SL

### M10×1.5

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





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	€
DIN 371															
<b>M2X0.4</b>	ISO2X(6HX)	1.6	1.65	3102101021	5P	45	8	-	32	2.8	2.1	5	2	001	55,90
<b>M2.2X0.45</b>	ISO2X(6HX)	1.75	1.81	3102101024	5P	45	9	-	32	2.8	2.1	5	2	001	52,50
<b>M2.3X0.4</b>	ISO2X(6HX)	1.9	1.95	3102101026	5P	45	9	-	32	2.8	2.1	5	2	001	52,50
<b>M2.5X0.45</b>	ISO2X(6HX)	2.1	2.11	3102101029	5P	50	8	15	33	2.8	2.1	5	2	001	47,75
<b>M2.6X0.45</b>	ISO2X(6HX)	2.2	2.21	3102101032	5P	50	8	15	33	2.8	2.1	5	2	001	47,75
<b>M3X0.5</b>	ISO2X(6HX)	2.5	2.56	3102101035	5P	56	9	18	34	3.5	2.7	6	3	001	41,03
<b>M4X0.7</b>	ISO2X(6HX)	3.3	3.38	3102101042	5P	63	13	21	38	4.5	3.4	6	3	001	42,78
<b>M5X0.8</b>	ISO2X(6HX)	4.2	4.28	3102101049	5P	70	14	25	39	6	4.9	8	3	001	43,07
<b>M6X1</b>	ISO2X(6HX)	5	5.09	3102101055	5P	80	15	30	45	6	4.9	8	3	001	43,07
<b>M8X1.25</b>	ISO2X(6HX)	6.8	6.85	3102101064	5P	90	19	35	47	8	6.2	9	3	002	44,48
<b>M10X1.5</b>	ISO2X(6HX)	8.5	8.6	3102101078	5P	100	23	39	52.5	10	8	11	3	002	58,23
DIN 376															
<b>M12X1.75</b>	ISO2X(6HX)	10.3	10.36	3102101088	5P	110	26	-	56	9	7	10	3	003	75,88
<b>M16X2</b>	ISO2X(6HX)	14	14.12	3102101114	5P	110	26	-	56	12	9	12	3	003	131,01

# AL+SP/AL-SP



## MS Material Specific Series

Spiral Fluted Taps for Aluminium



### FEATURES

Material specific for blind hole application.  
Specific design and NI treatment allow stable and long life on Aluminium, Aluminium casting and die-casting.

### Recommended Tapping Speeds Depending On Materials

ISO	Vc (m/min)	
N1	10÷25	★
N2	10÷25	★
N3	10÷25	★
N4	10÷25	★

★ 1st choice ☆ suitable

### Product Features

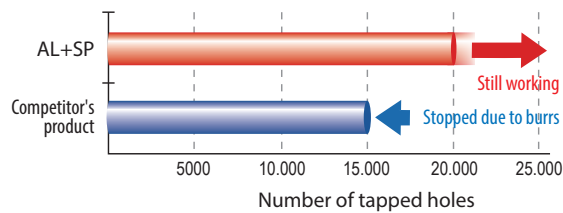
AL+SP guarantees consistent tapping even in medium-high speed cutting area, in forged workpieces of light alloys such as aluminum die castings and aluminum castings.

Featuring an optimized cutting edge design, AL+SP does not produce burrs in minor diameter which usually occurs during tapping light alloys. AL+SP ensure reliability and high quality internal threads.

### Process Data

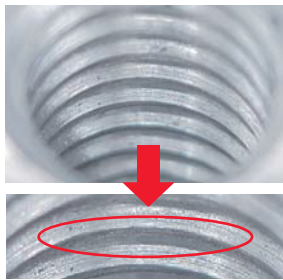
#### M6×1

Work-material	DIN G-AISI7Mg
Tapping length	9mm, blind hole
Tapping speed	20 m/min
Hole diameter	ø 5.0
Machine	Vertical machining center
Lubricant	Water soluble oil (x 20)

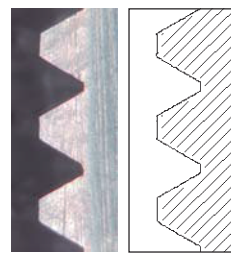


### AL+SP

Internal thread

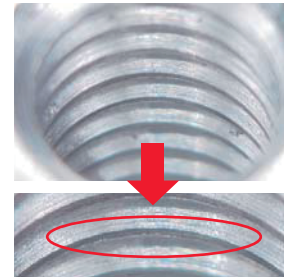


Cross section of internal threads

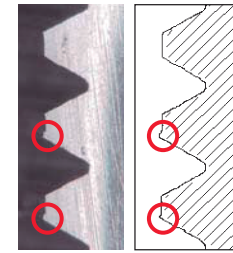


### Competitor

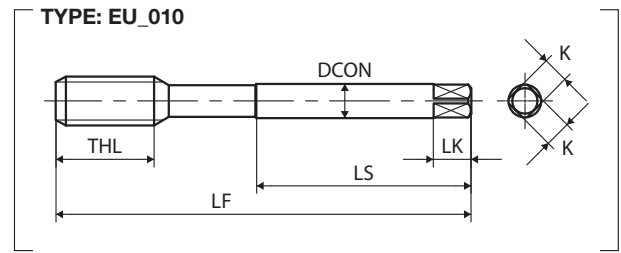
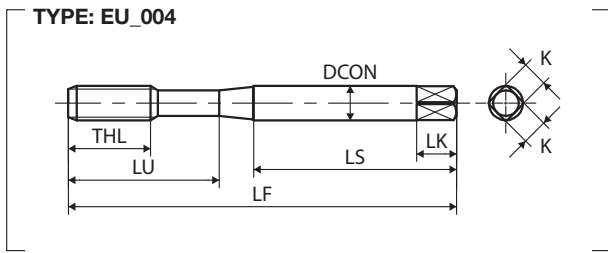
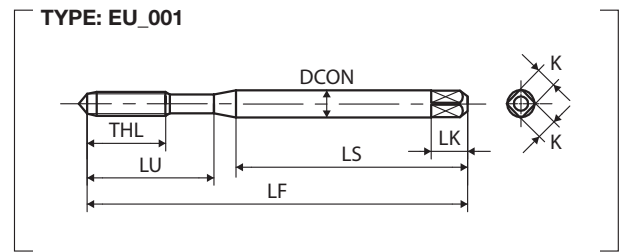
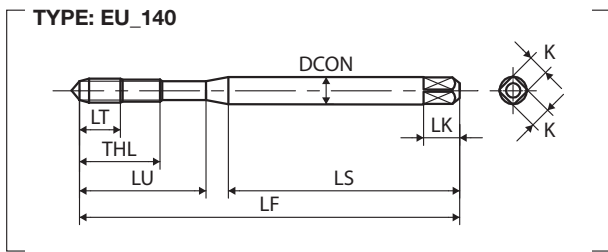
Internal thread




Cross section of internal threads



Compared to competitor, AL+SP assures longer tool life and higher quality internal threads



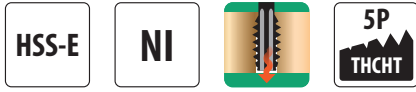
M	TCTR (tolerance)	 Hole Ø (mm)	Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF	Type	€
DIN 371														
<b>M2X0.4</b>	IS02(6H)	1.6	1.65	SE2.0EALEN	2.5P	45	8	-	2.8	2.1	5	2	140	36,61
<b>M2.5X0.45</b>	IS02(6H)	2.1	2.11	SE2.5FALEN	2.5P	50	8	15	33	2.1	5	2	001	29,44
<b>M3X0.5</b>	IS02(6H)	2.5	2.56	SE3.0GALEN	2.5P	56	9	18	34	2.7	6	3	001	23,33
<b>M4X0.7</b>	IS02(6H)	3.3	3.38	SE4.0IALEN	2.5P	63	13	21	38	3.4	6	3	001	23,33
<b>M5X0.8</b>	IS02(6H)	4.2	4.28	SE5.0KALEN	2.5P	70	14	25	39	4.9	8	3	001	24,04
<b>M6X1</b>	IS02(6H)	5	5.09	SE6.0MALEN	2.5P	80	15	30	45	4.9	8	3	001	24,04
<b>M8X1.25</b>	IS02(6H)	6.8	6.85	SD8.0NALEN	2.5P	90	19	35	47	6.2	9	3	004	28,86
<b>M10X1.5</b>	IS02(6H)	8.5	8.6	SD0100ALEN	2.5P	100	23	39	52	8	11	3	004	34,52
DIN 376														
<b>M12X1.75</b>	IS02(6H)	10.3	10.36	SG012PALEN	2.5P	110	26	-	56	7	10	3	010	49,25



# LA-HT

## MS Material Specific Series

Straight Fluted Taps for Die Cast Materials



### FEATURES

Material specific for through hole application.

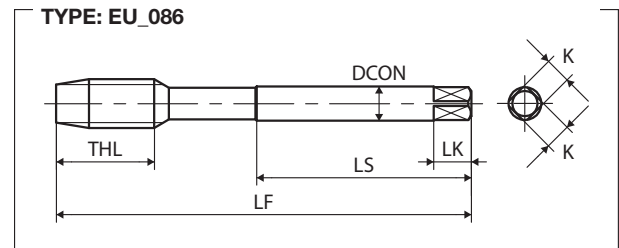
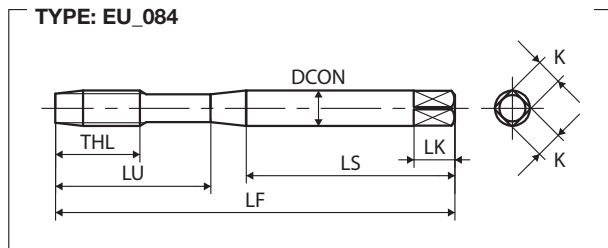
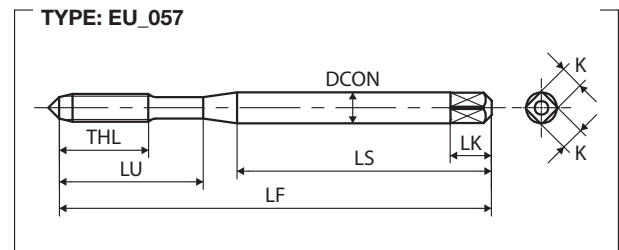
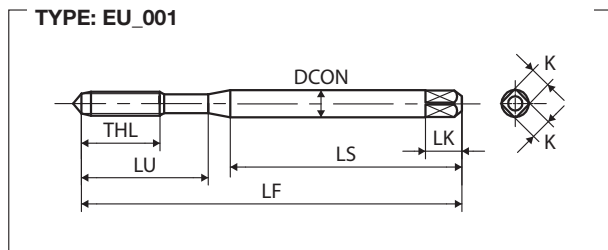
Specific design and NI treatment allow stable and long life on Aluminium, Aluminium casting and die-casting.

### Recommended Tapping Speeds Depending On Materials

ISO Vc (m/min)

N1	5÷15	★
N2	5÷15	★
N3	5÷10	★
N4	5÷10	★

★ 1st choice ☆ suitable



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	€
DIN 371															
M2X0.4	ISO2X(6HX)	1.6	1.65	TD2.0EBLEN5	5P	45	8	-	32	2.8	2.1	5	3	001	33,84
M2.5X0.45	ISO2X(6HX)	2.1	2.11	TD2.5FBLEN5	5P	50	8	15	33	2.8	2.1	5	3	057	28,74
M3X0.5	ISO2X(6HX)	2.5	2.56	TD3.0GBLEN5	5P	56	9	18	34	3.5	2.7	6	3	057	22,80
M4X0.7	ISO2X(6HX)	3.3	3.38	TD4.0IBLEN5	5P	63	13	21	38	4.5	3.4	6	3	057	22,80
M5X0.8	ISO2X(6HX)	4.2	4.28	TD5.0KBLEN5	5P	70	14	25	39	6	4.9	8	3	057	23,50
M6X1	ISO2X(6HX)	5	5.09	TD6.0MBLEN5	5P	80	15	30	45	6	4.9	8	3	057	23,50
M8X1.25	ISO2X(6HX)	6.8	6.85	TD8.0NBLEN5	5P	90	19	35	47	8	6.2	9	3	084	29,54
M10X1.5	ISO2X(6HX)	8.5	8.6	TD0100BLEN5	5P	100	23	39	52	10	8	11	4	084	35,66
DIN 376															
M12X1.75	ISO2X(6HX)	10.3	10.36	TG012PBLEN5	5P	110	26	-	56	9	7	10	4	086	47,21



# HP+RZ/HP-RZ



## MP Multi Purpose Series

High Performance Thread Forming Taps, Coated



### FEATURES

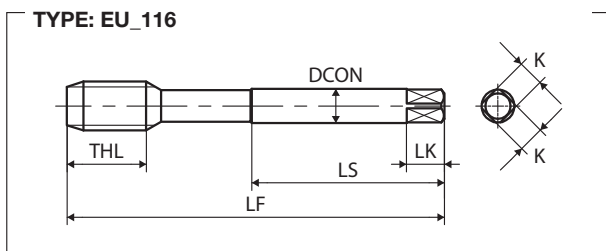
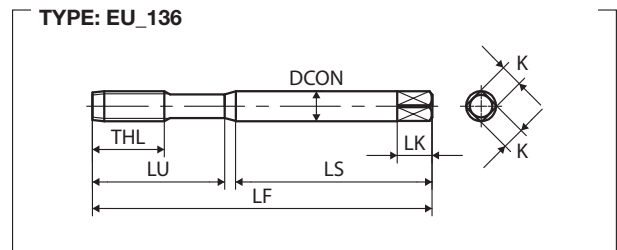
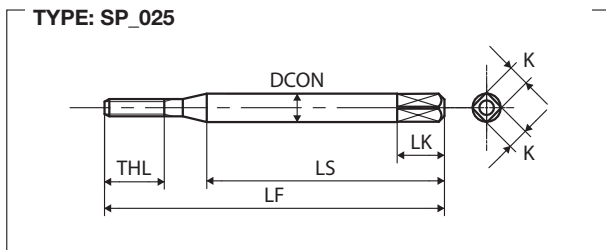
Multi purpose forming taps for blind and through hole application on a wide range of materials.

Specific design, HSSP substrate and suitable coating for stable and long life even at medium-high speed.

### Recommended Tapping Speeds Depending On Materials

ISO	Vc (m/min)	ISO	Vc (m/min)	ISO	Vc (m/min)
P1	15÷30 ★	M1	10÷25 ★	N1	10÷45 ☆
P2	15÷30 ★	M2	10÷25 ★	N2	10÷45 ☆
P3	15÷25 ★				
P4	15÷25 ★				
P7	10÷25 ★				

★ 1st choice ☆ suitable



M	TCTR (tolerance)	Bored Hole Ø (mm)		Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF (Lobes)	Type	€
		Max	Min												
JIS															
M1X0.25	G4	0.92	0.89	HRZP41.0BB	2P	36	4.5	-	24	3	2.5	5	0(4)	010	67,65
M1.2X0.25	G4	1.11	1.09	HRZP41.2BB	2P	36	4.5	-	24	3	2.5	5	0(4)	010	65,55
M1.4X0.3	G4	1.3	1.26	HRZP41.4CB	2P	36	5.4	-	24	3	2.5	5	0(4)	010	60,30
M1.6X0.35	G4	1.46	1.43	HRZP41.6DB	2P	36	6.3	-	24	3	2.5	5	0(4)	010	58,25
M1.7X0.35	G4	1.56	1.52	HRZP41.7DB	2P	36	6.3	-	24	3	2.5	5	0(4)	010	55,34
DIN 371															
M2X0.4	ISO2X(6HX)	1.86	1.8	RE2.0EBFPTB	2P	45	8	-	32	2.8	2.1	5	0(4)	025	65,51
M2.5X0.45	ISO2X(6HX)	2.34	2.27	RE2.5FBFPTB	2P	50	8	15	33	2.8	2.1	5	0(4)	136	59,83
M3X0.5	ISO2X(6HX)	2.83	2.76	RE3.0GBFPTB	2P	56	9	18	34	3.5	2.7	6	2(4)	136	57,45
M4X0.7	ISO2X(6HX)	3.75	3.66	RE4.0IBFPTB	2P	63	13	21	38	4.5	3.4	6	2(4)	136	61,79
M5X0.8	ISO2X(6HX)	4.7	4.6	RE5.0KBFPB	2P	70	14	25	39	6	4.9	8	2(4)	136	66,29

# MHRZ



## Z-PRO Series

Roll Taps for Carbon Steel of Medium Hardness, Coated



### FEATURES

Z-PRO Series forming tap with special design for low tapping torque.

HSSCo and suitable coating for long life on Medium Hard steel (<35HRC) application.

2P chamfer for blind hole application, 4P chamfer for through hole application.

### Recommended Tapping Speeds Depending On Materials

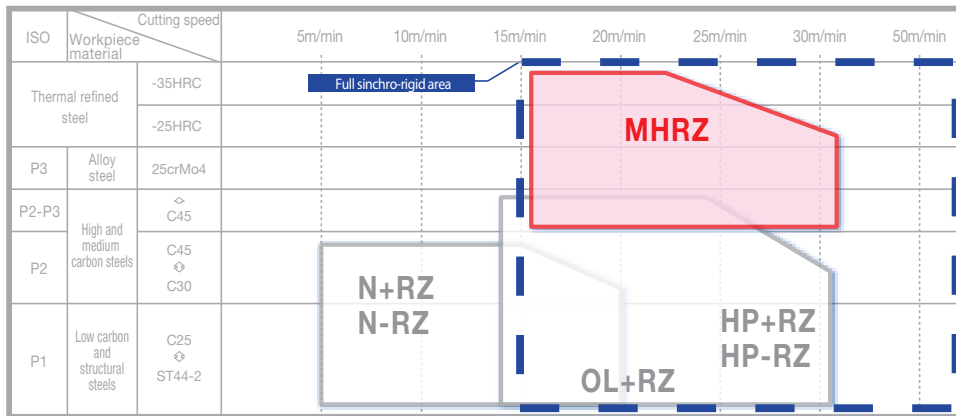
ISO	Vc (m/min)	ISO	Vc (m/min)
P2	10÷30 ★	N1	10÷30 ☆
P3	10÷30 ★	N2	10÷30 ☆
P4	10÷30 ★		

★ 1st choice ☆ suitable



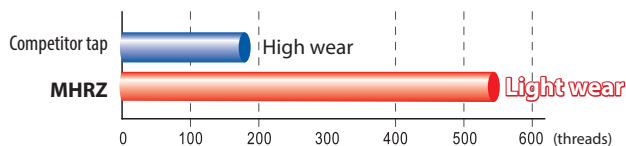
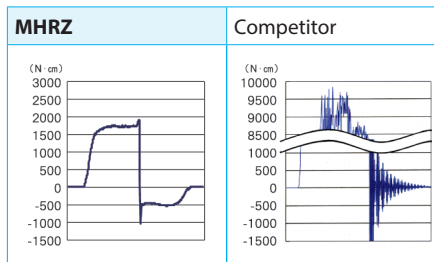
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### Product Features



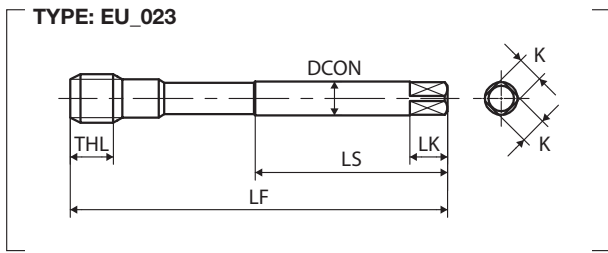
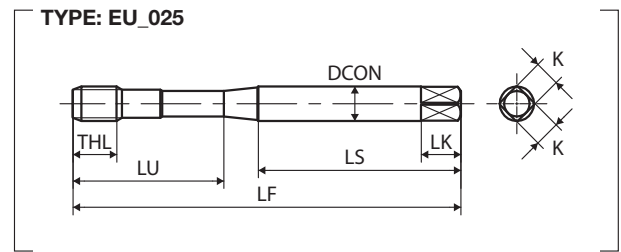
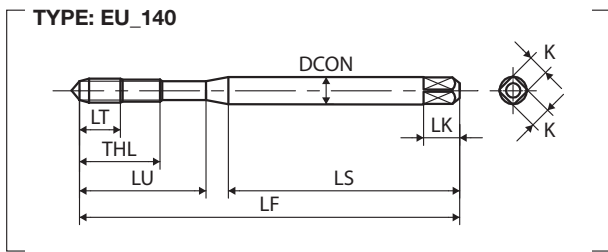
### M12x1.25

Workpiece material	42CrMo4 - 1.7225(35HRC)
Cutting speed	20 m/min
Bored hole	ø11.3 mm
Thread length	18 mm (through hole)
Machine	Machining center (synchro)
Lubricant	Water soluble oil
No. of threads	800 threads (still running)



### MHRZ finishing





M	TCTR (tolerance)	Bored Hole Ø (mm)		Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF (Lobes)	Type	€
		Max	Min												
DIN 371															
<b>M6X1</b>	IS02X(6HX)	5.61	5.5	RD6.0MBOCTB	2P	80	11	30	45	6	4.9	8	5(5)	025	68,96
<b>M8X1.25</b>	IS02X(6HX)	7.52	7.38	RD8.0NBOCTB	2P	90	12	35	47	8	6.2	9	6(6)	025	81,02
<b>M10X1.5</b>	IS02X(6HX)	9.41	9.26	RD0100BOCTB	2P	100	13	39	52	10	8	11	8(8)	025	94,38
M	TCTR (tolerance)	Bored Hole Ø (mm)		Code	THCHT (chamfer)	LF (mm)	THL (mm)	LU (mm)	LS (mm)	DCON (mm)	K (mm)	LK (mm)	NOF (Lobes)	Type	€
		Max	Min												
DIN 376															
<b>M12X1.75</b>	IS02X(6HX)	11.3	11.13	RG012PBOCTB	2P	110	15	-	56	9	7	10	8(8)	023	124,52
<b>M16X2</b>	IS02X(6HX)	15.19	15.15	VGYGZ008	2P	110	18	-	56	12	12	9	8(8)	023	181,97



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