

VUSP

Coated Spiral Fluted Taps

VUSP LH / VUSP Long

VUSP 1.5P / VUSP CH

VUPO

Coated Spiral Pointed Taps

VUPO Long

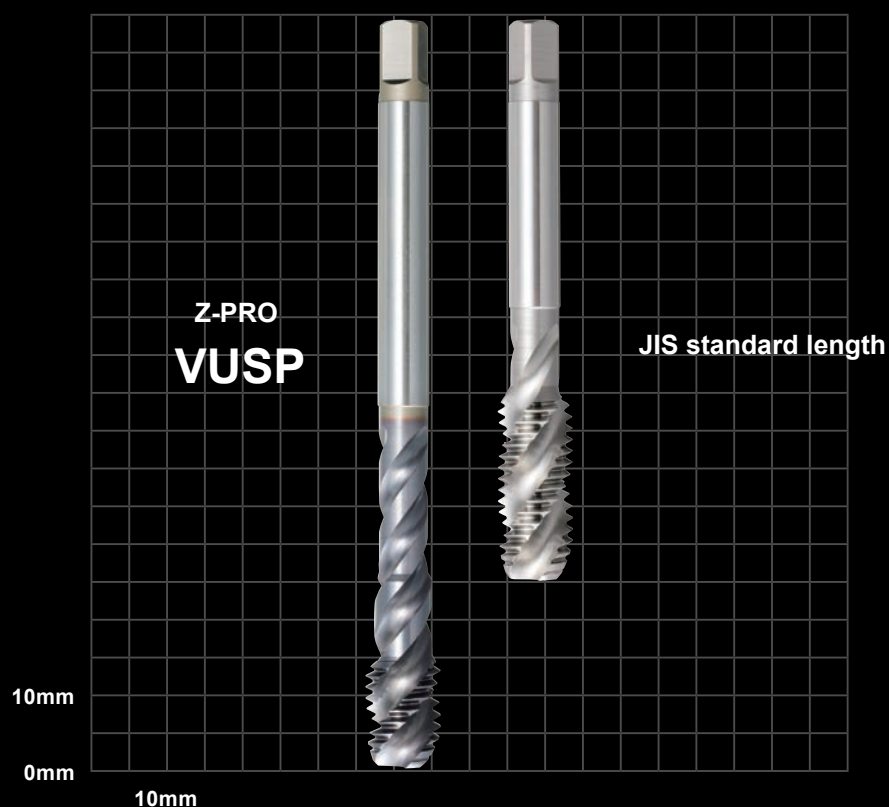


Ultimate Machining Taps



Active Size

M10×1.5

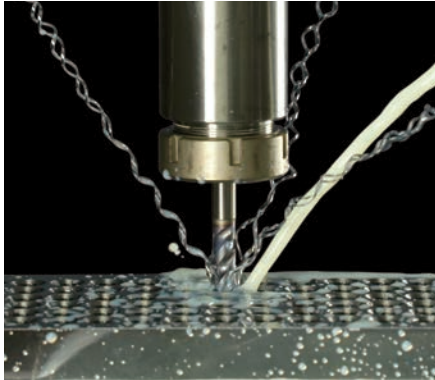


Z-PRO

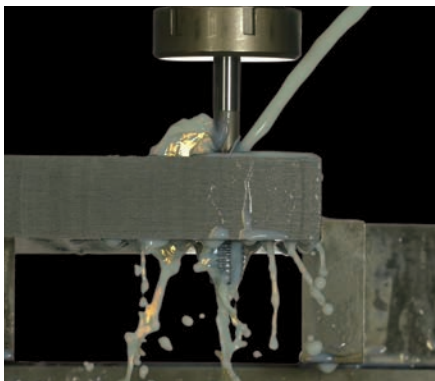
Z-PRO is a new product brand based on the concept of "the ultimate professional tool optimized for machines." The market has shifted towards manufacturing using machines, including multi-functional machining centers that can handle high-precision, high-quality, high-speed, and high-efficiency machining. Z-PRO taps adopt a "semi-long shape" to improve chip evacuation and tapping fluid supply performance in machining, and Z-PRO thread mills adopt a shape suitable for machining, achieving ease of use and stability in modern machining. Z-PRO will continue to evolve, leveraging YAMAWA's more than 100 years of knowledge and experience to provide "Reliable screw threads."

Z-PRO

VUSP

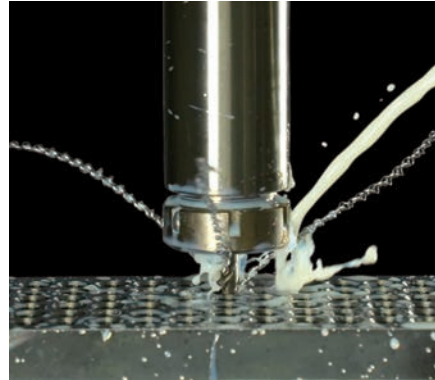


VUPO



JIS standard length

Spiral Fluted Taps



Spiral Pointed Taps



Z-PRO VUSP

Specifications



Coated Spiral Fluted Taps



Product Features



Adopting a semi-long shape

The optimal overall length improves chip evacuation. Furthermore, it enables a stable supply of tapping fluid.



Improved chip evacuation and reduced cutting resistance

The unique flute and edge geometry improve chip flow and reduce torque, extending tool life while maintaining thread quality.

Ideal for machining when using water-soluble tapping fluids.

Featuring high-grade powdered high-speed steel and a special coating, this tool is ideal for machining at medium speeds using water-soluble tapping fluid.

Differences in tapping speed depending on workpiece material and dimensions

VUPO

Workpiece Materials		Recommended tapping speed (m/min)					
		M2~M2.6	M3	M4	M5	M6~M16	M18~M24
Low Carbon Steels	~S25C/SS400	4~8	4~8	6~12	8~16	10~20	10~20
Medium Carbon Steels	S25C~S45C	4~10	4~12	6~18	8~24	10~30	10~30
High Carbon Steels	S45C~	4~10	4~12	6~18	8~24	10~30	10~30
Alloy Steels	SCM/SCr	4~8	4~8	6~12	8~16	10~20	10~20
Stainless Steels	SUS303/SUS304	1~4	1~4	2~6	2.5~8	3~10	3~10
Tool Steels	SKS/SKD	2~4	2~4	3~6	4~8	5~10	5~10
Ductile Cast Irons	FCD	4~12	4~12	6~18	8~24	10~30	10~15
Wrought Aluminum	AL	4~12	4~12	6~18	8~24	10~30	10~15
Aluminum Alloy Casting	AC/ADC	4~14	4~14	6~21	8~28	10~35	10~20

VUSP Long

Workpiece Materials		Recommended tapping speed (m/min)			
		M3	M4	M5	M6~M16
Low Carbon Steels	~S25C/SS400	4~6	6~9	8~12	10~15
Medium Carbon Steels	S25C~S45C	4~8	6~12	8~16	10~20
High Carbon Steels	S45C~	4~8	6~12	8~16	10~20
Alloy Steels	SCM/SCr	4~6	6~9	8~12	10~15
Stainless Steels	SUS303/SUS304	1~3	2~5	2.5~6.5	3~8
Tool Steels	SKS/SKD	2~4	3~6	4~8	5~10
Ductile Cast Irons	FCD	4~8	6~12	8~16	10~20
Wrought Aluminum	AL	4~8	6~12	8~16	10~20
Aluminum Alloy Casting	AC/ADC	4~8	6~12	8~16	10~20



View other Z-PRO Products' tapping speeds.

Machining Data

M8×1.25	
Conditions	
Workpiece Material	SUS304
Tapping Length	16mm
Tapping Speed	10m/min
Machine	Vertical MC
Tapping Fluid	Water Soluble

M3×0.5	
Conditions	
Workpiece Material	S50C
Tapping Length	4.5mm
Tapping Speed	20m/min
Machine	Vertical MC
Tapping Fluid	Water Soluble

Good machining status

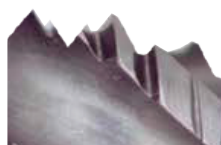


The unique thread geometry and semi-long overall length prevent chips from interfering with the holder and ensure an effective supply of water soluble tapping fluid.

Excellent internal threads



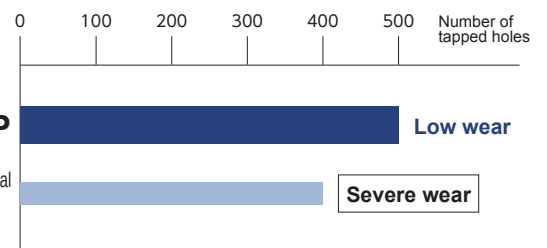
Normally, SUS304 machining uses water-insoluble tapping fluids, but VUSP can produce a good internal thread surface even when using water-soluble tapping fluids.



Even after tapping 250 holes, there was minimal wear and no chipping of the thread.

VUSP

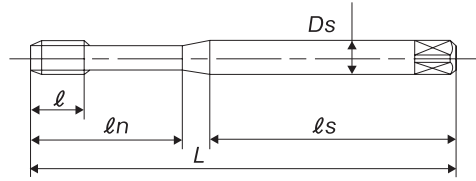
Conventional product



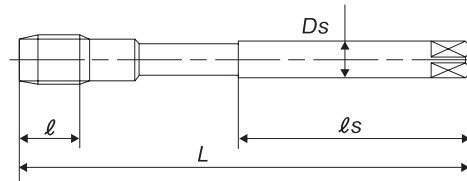
We provide a wide range of other market processing data. View the details here.

Shape and Dimensions

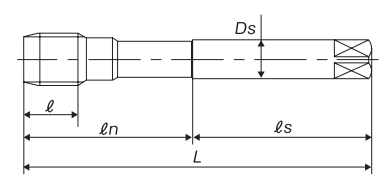
TYPE:1



TYPE:2



TYPE:3



Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M2×0.4	P2	1101101021	C(2.5P)	45	4	15	27	3	2	1
M2.2×0.45	P2	1101101024	C(2.5P)	45	4	15	27	3	2	1
M2.3×0.4	P2	1101101026	C(2.5P)	45	4	15	27	3	2	1
M2.5×0.45	P2	1101101029	C(2.5P)	50	4	15	32	3	2	1
M2.6×0.45	P2	1101101032	C(2.5P)	50	4	15	32	3	2	1
M3×0.5	P2	1101101035	C(2.5P)	56	5	18	32	4	3	1
M3×0.5	P3	1101201035	C(2.5P)	56	5	18	32	4	3	1
M3×0.5	P4	1101301035	C(2.5P)	56	5	18	32	4	3	1
M3×0.35	P2	1101101036	C(2.5P)	56	5	18	32	4	3	1
M3×0.35	P3	1101201036	C(2.5P)	56	5	18	32	4	3	1
M3×0.35	P4	1101301036	C(2.5P)	56	5	18	32	4	3	1
M3.5×0.35	P2	1101101040	C(2.5P)	63	5	20	36	5	3	1
M3.5×0.35	P3	1101201040	C(2.5P)	63	5	20	36	5	3	1
M3.5×0.35	P4	1101301040	C(2.5P)	63	5	20	36	5	3	1
M3.5×0.6	P2	1101101038	C(2.5P)	63	7	20	36	5	3	1
M3.5×0.6	P3	1101201038	C(2.5P)	63	7	20	36	5	3	1
M3.5×0.6	P4	1101301038	C(2.5P)	63	7	20	36	5	3	1
M4×0.7	P2	1101101042	C(2.5P)	63	7	21	36	5	3	1
M4×0.7	P3	1101201042	C(2.5P)	63	7	21	36	5	3	1
M4×0.7	P4	1101301042	C(2.5P)	63	7	21	36	5	3	1
M4×0.5	P2	1101101043	C(2.5P)	63	5	21	36	5	3	1
M4×0.5	P3	1101201043	C(2.5P)	63	5	21	36	5	3	1
M4×0.5	P4	1101301043	C(2.5P)	63	5	21	36	5	3	1
M4.5×0.5	P2	1101101046	C(2.5P)	70	5	24	40	5.5	3	1
M4.5×0.5	P3	1101201046	C(2.5P)	70	5	24	40	5.5	3	1
M4.5×0.5	P4	1101301046	C(2.5P)	70	5	24	40	5.5	3	1
M4.5×0.75	P2	1101101045	C(2.5P)	70	9	24	40	5.5	3	1
M4.5×0.75	P3	1101201045	C(2.5P)	70	9	24	40	5.5	3	1
M4.5×0.75	P4	1101301045	C(2.5P)	70	9	24	40	5.5	3	1
M5×0.8	P2	1101101049	C(2.5P)	70	9	25	40	5.5	3	1
M5×0.8	P3	1101201049	C(2.5P)	70	9	25	40	5.5	3	1
M5×0.8	P4	1101301049	C(2.5P)	70	9	25	40	5.5	3	1
M5×0.5	P2	1101101051	C(2.5P)	70	6	25	40	5.5	3	1
M5×0.5	P3	1101201051	C(2.5P)	70	6	25	40	5.5	3	1
M5×0.5	P4	1101301051	C(2.5P)	70	6	25	40	5.5	3	1
M5.5×0.5	P2	1101101054	C(2.5P)	80	6	30	45	6	3	1
M5.5×0.5	P3	1101201054	C(2.5P)	80	6	30	45	6	3	1
M5.5×0.5	P4	1101301054	C(2.5P)	80	6	30	45	6	3	1
M6×1	P2	1101101055	C(2.5P)	80	11	30	45	6	3	1
M6×1	P3	1101201055	C(2.5P)	80	11	30	45	6	3	1
M6×1	P4	1101301055	C(2.5P)	80	11	30	45	6	3	1
M6×0.75	P2	1101101056	C(2.5P)	80	8	30	45	6	3	1
M6×0.75	P3	1101201056	C(2.5P)	80	8	30	45	6	3	1

Oversized

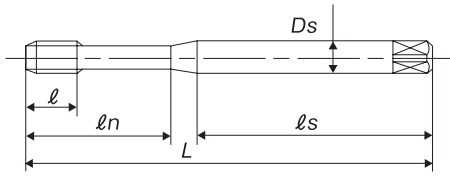
Shape and Dimensions

Size	Class	Product Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	Number of flutes	TYPE
For Metric threads										
M6×0.75	P4	1101301056	C(2.5P)	80	8	30	45	6	3	1
M6×0.5	P2	1101101057	C(2.5P)	80	8	30	45	6	3	1
M6×0.5	P3	1101201057	C(2.5P)	80	8	30	45	6	3	1
M6×0.5	P4	1101301057	C(2.5P)	80	8	30	45	6	3	1
M8×1.25	P3	1101101064	C(2.5P)	90	12	–	46	6.2	3	2
M8×1.25	P4	1101201064	C(2.5P)	90	12	–	46	6.2	3	2
M8×1.25	P5	1101301064	C(2.5P)	90	12	–	46	6.2	3	2
M8×1	P3	1101101065	C(2.5P)	90	12	–	46	6.2	3	2
M8×1	P4	1101201065	C(2.5P)	90	12	–	46	6.2	3	2
M8×1	P5	1101301065	C(2.5P)	90	12	–	46	6.2	3	2
M9×0.75	P3	1101101073	C(2.5P)	100	10	–	51	7	3	2
M10×1.5	P3	1101101078	C(2.5P)	100	13	–	51	7	3	2
M10×1.5	P4	1101201078	C(2.5P)	100	13	–	51	7	3	2
M10×1.5	P5	1101301078	C(2.5P)	100	13	–	51	7	3	2
M10×1.25	P3	1101101079	C(2.5P)	100	13	–	51	7	3	2
M10×1.25	P4	1101201079	C(2.5P)	100	13	–	51	7	3	2
M10×1.25	P5	1101301079	C(2.5P)	100	13	–	51	7	3	2
M10×1	P3	1101101080	C(2.5P)	100	13	–	51	7	3	2
M10×1	P4	1101201080	C(2.5P)	100	13	–	51	7	3	2
M10×1	P5	1101301080	C(2.5P)	100	13	–	51	7	3	2
M12×1.75	P4	1101101088	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.75	P5	1101201088	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.75	P6	1101301088	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.5	P3	1101101089	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.5	P4	1101201089	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.5	P5	1101301089	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.25	P3	1101101090	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.25	P4	1101201090	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.25	P5	1101301090	C(2.5P)	110	15	–	56	8.5	3	2
M12×1	P3	1101101091	C(2.5P)	110	15	–	56	8.5	3	2
M14×2	P4	1101101100	C(2.5P)	110	18	–	56	10.5	3	2
M14×2	P5	1101201100	C(2.5P)	110	18	–	56	10.5	3	2
M14×2	P6	1101301100	C(2.5P)	110	18	–	56	10.5	3	2
M14×1.5	P3	1101101102	C(2.5P)	110	14	–	56	10.5	3	2
M14×1.5	P4	1101201102	C(2.5P)	110	14	–	56	10.5	3	2
M14×1.5	P5	1101301102	C(2.5P)	110	14	–	56	10.5	3	2
M16×2	P4	1101101114	C(2.5P)	110	18	–	56	12.5	3	2
M16×2	P5	1101201114	C(2.5P)	110	18	–	56	12.5	3	2
M16×2	P6	1101301114	C(2.5P)	110	18	–	56	12.5	3	2
M16×1.5	P3	1101101116	C(2.5P)	110	14	–	56	12.5	3	2
M16×1.5	P4	1101201116	C(2.5P)	110	14	–	56	12.5	3	2
M16×1.5	P5	1101301116	C(2.5P)	110	14	–	56	12.5	3	2
M18×2.5	P5	1101101128	C(2.5P)	125	20	–	64	14	4	2
M18×1.5	P4	1101101130	C(2.5P)	125	14	–	64	14	3	2
M20×2.5	P5	1101101141	C(2.5P)	140	20	–	71	15	4	3
M20×1.5	P4	1101101144	C(2.5P)	140	14	–	71	15	3	3
M22×2.5	P5	1101101156	C(2.5P)	140	20	–	71	17	4	3
M22×1.5	P4	1101101158	C(2.5P)	140	14	–	71	17	3	3
M24×3	P5	1101101167	C(2.5P)	160	25	–	82	19	4	3
M24×1.5	P4	1101101170	C(2.5P)	160	18	–	82	19	3	3

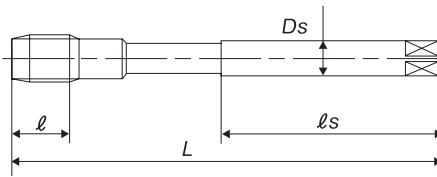
Oversized

Shape and Dimensions

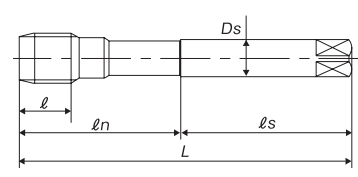
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TYPE:2



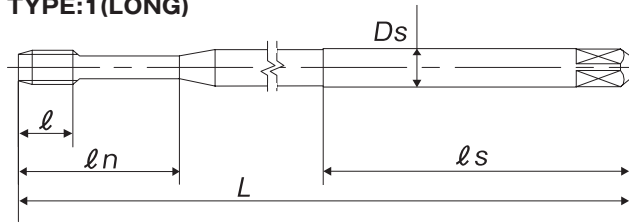
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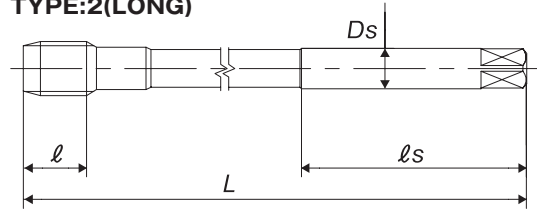
Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M2×0.4	P2	1101102021	C(2.5P)	45	4	15	27	3	2	1
M2.2×0.45	P2	1101102024	C(2.5P)	45	4	15	27	3	2	1
M2.3×0.4	P2	1101102026	C(2.5P)	45	4	15	27	3	2	1
M2.5×0.45	P2	1101102029	C(2.5P)	50	4	15	32	3	2	1
M2.6×0.45	P2	1101102032	C(2.5P)	50	4	15	32	3	2	1
M3×0.5	P2	1101102035	C(2.5P)	56	5	18	32	4	3	1
M3×0.35	P2	1101102036	C(2.5P)	56	5	18	32	4	3	1
M3.5×0.6	P2	1101102038	C(2.5P)	63	7	20	36	5	3	1
M3.5×0.35	P2	1101102040	C(2.5P)	63	5	20	36	5	3	1
M4×0.7	P2	1101102042	C(2.5P)	63	7	21	36	5	3	1
M4×0.5	P2	1101102043	C(2.5P)	63	5	21	36	5	3	1
M4.5×0.75	P2	1101102045	C(2.5P)	70	9	24	40	5.5	3	1
M4.5×0.5	P2	1101102046	C(2.5P)	70	5	24	40	5.5	3	1
M5×0.8	P2	1101102049	C(2.5P)	70	9	25	40	5.5	3	1
M5×0.5	P2	1101102051	C(2.5P)	70	6	25	40	5.5	3	1
M5.5×0.5	P2	1101102054	C(2.5P)	80	6	30	45	6	3	1
M6×1	P2	1101102055	C(2.5P)	80	11	30	45	6	3	1
M6×0.75	P2	1101102056	C(2.5P)	80	8	30	45	6	3	1
M6×0.5	P2	1101102057	C(2.5P)	80	8	30	45	6	3	1
M8×1.25	P3	1101102064	C(2.5P)	90	12	–	46	6.2	3	2
M8×1	P3	1101102065	C(2.5P)	90	12	–	46	6.2	3	2
M10×1.5	P3	1101102078	C(2.5P)	100	13	–	51	7	3	2
M10×1.25	P3	1101102079	C(2.5P)	100	13	–	51	7	3	2
M10×1	P3	1101102080	C(2.5P)	100	13	–	51	7	3	2
M12×1.75	P4	1101102088	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.5	P3	1101102089	C(2.5P)	110	15	–	56	8.5	3	2
M12×1.25	P3	1101102090	C(2.5P)	110	15	–	56	8.5	3	2
M14×2	P4	1101102100	C(2.5P)	110	18	–	56	10.5	3	2
M14×1.5	P3	1101102102	C(2.5P)	110	14	–	56	10.5	3	2
M16×2	P4	1101102114	C(2.5P)	110	18	–	56	12.5	3	2
M16×1.5	P3	1101102116	C(2.5P)	110	14	–	56	12.5	3	2
M18×2.5	P5	1101102128	C(2.5P)	125	20	–	64	14	4	2
M18×1.5	P4	1101102130	C(2.5P)	125	14	–	64	14	3	2
M20×2.5	P5	1101102141	C(2.5P)	140	20	–	71	15	4	3
M20×1.5	P4	1101102144	C(2.5P)	140	14	–	71	15	3	3
M22×2.5	P5	1101102156	C(2.5P)	140	20	–	71	17	4	3
M22×1.5	P4	1101102158	C(2.5P)	140	14	–	71	17	3	3
M24×3	P5	1101102167	C(2.5P)	160	25	–	82	19	4	3
M24×1.5	P4	1101102170	C(2.5P)	160	18	–	82	19	3	3

Shape and Dimensions

TYPE:1 (LONG)



TYPE:2 (LONG)



Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M3×0.5	P2	2101101035	C(2.5P)	100	5	18	32	4	3	1
M3×0.35	P2	2101101036	C(2.5P)	100	5	18	32	4	3	1
M4×0.7	P2	2101101042	C(2.5P)	100	7	21	36	5	3	1
M4×0.5	P2	2101101043	C(2.5P)	100	5	21	36	5	3	1
M5×0.8	P2	2101101049	C(2.5P)	100	9	25	40	5.5	3	1
M5×0.5	P2	2101101051	C(2.5P)	100	6	25	40	5.5	3	1
M6×1	P2	2101101055	C(2.5P)	100	11	30	45	6	3	1
M6×0.75	P2	2101101056	C(2.5P)	100	8	30	45	6	3	1
M6×0.5	P2	2101101057	C(2.5P)	100	8	30	45	6	3	1
M8×1.25	P3	2101101064	C(2.5P)	150	12	–	46	6.2	3	2
M8×1	P3	2101101065	C(2.5P)	150	12	–	46	6.2	3	2
M10×1.5	P3	2101101078	C(2.5P)	150	13	–	51	7	3	2
M10×1.25	P3	2101101079	C(2.5P)	150	13	–	51	7	3	2
M10×1	P3	2101101080	C(2.5P)	150	13	–	51	7	3	2
M12×1.75	P4	2101101088	C(2.5P)	150	15	–	56	8.5	3	2
M12×1.5	P3	2101101089	C(2.5P)	150	15	–	56	8.5	3	2
M12×1.25	P3	2101101090	C(2.5P)	150	15	–	56	8.5	3	2
M14×2	P4	2101101100	C(2.5P)	150	18	–	56	10.5	3	2
M14×1.5	P3	2101101102	C(2.5P)	150	14	–	56	10.5	3	2
M16×2	P4	2101101114	C(2.5P)	150	18	–	56	12.5	3	2
M16×1.5	P3	2101101116	C(2.5P)	150	14	–	56	12.5	3	2

VUSP 1.5P

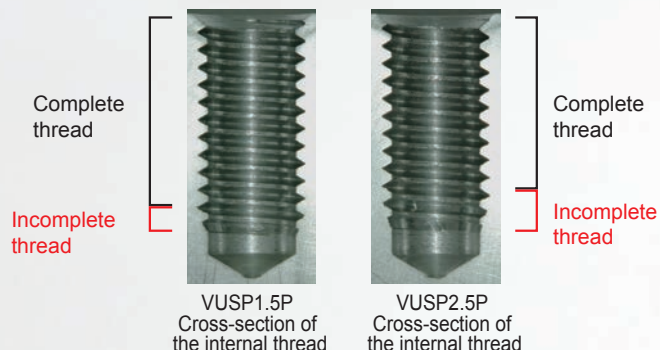
Specifications



Coated Spiral Fluted Taps 1.5P



Product Features



❗ With a cutting length of 1.5P and a flat tip, it is ideal for blind hole machining where there is little margin for pre-tapped hole depth and effective thread length.

Differences in tapping speed depending on workpiece material and dimensions

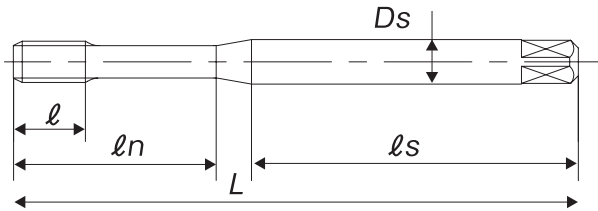
Workpiece Materials	Recommended tapping speed (m/min)			
	M3	M4	M5	M6~M16
Low Carbon Steels ~S25C/SS400	2~6	3~9	4~12	5~15
Medium Carbon Steels S25C~S45C	2~6	3~9	4~12	5~15
High Carbon Steels S45C~	2~6	3~9	4~12	5~15
Alloy Steels SCM/SCr	2~6	3~9	4~12	5~15
Stainless Steels SUS303/SUS304	1~4	2~6	2.5~8	3~10
Tool Steels SKS/SKD	2~4	3~6	4~8	5~10
Ductile Cast Irons FCD	2~6	3~9	4~12	5~15
Wrought Aluminum AL	2~8	3~12	4~16	5~20
Aluminum Alloy Casting AC/ADC	2~8	3~12	4~16	5~20



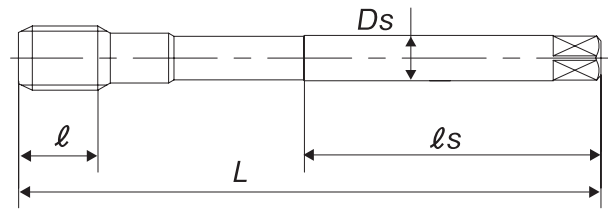
◀ View other Z-PRO Products' tapping speeds.

Shape and Dimensions

TYPE:1



TYPE:2



Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M3×0.5	P2	1103101035	1.5P	56	5	18	32	4	3	1
M3×0.35	P2	1103101036	1.5P	56	5	18	32	4	3	1
M4×0.7	P2	1103101042	1.5P	63	7	21	36	5	3	1
M4×0.5	P2	1103101043	1.5P	63	5	21	36	5	3	1
M5×0.8	P2	1103101049	1.5P	70	9	25	40	5.5	3	1
M5×0.5	P2	1103101051	1.5P	70	6	25	40	5.5	3	1
M6×1	P2	1103101055	1.5P	80	11	30	45	6	3	1
M6×0.75	P2	1103101056	1.5P	80	8	30	45	6	3	1
M6×0.5	P2	1103101057	1.5P	80	8	30	45	6	3	1
M8×1.25	P3	1103101064	1.5P	90	12	–	46	6.2	3	2
M8×1	P3	1103101065	1.5P	90	12	–	46	6.2	3	2
M10×1.5	P3	1103101078	1.5P	100	13	–	51	7	3	2
M10×1.25	P3	1103101079	1.5P	100	13	–	51	7	3	2
M10×1	P3	1103101080	1.5P	100	13	–	51	7	3	2
M12×1.75	P4	1103101088	1.5P	110	15	–	56	8.5	3	2
M12×1.5	P3	1103101089	1.5P	110	15	–	56	8.5	3	2
M12×1.25	P3	1103101090	1.5P	110	15	–	56	8.5	3	2
M14×2	P4	1103101100	1.5P	110	18	–	56	10.5	3	2
M14×1.5	P3	1103101102	1.5P	110	14	–	56	10.5	3	2
M16×2	P4	1103101114	1.5P	110	18	–	56	12.5	3	2
M16×1.5	P3	1103101116	1.5P	110	14	–	56	12.5	3	2



◀ We provide a wide range of other market processing data. View the details here.

VUSP CH

Specifications



Coated Spiral Fluted Taps with Coolant Through Hole

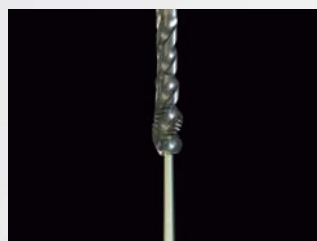


Product Features

! The cool hole effect in the center of the tap supplies tapping fluid to the tap's chamfer part. This improves cooling, welding resistance, and wear resistance. Furthermore, improved chip evacuation enables stable continuous machining.

General tap

VUSP CH



Discharge status from the tap tip

Discharge pressure at 3 MPa

Drill bits and other debris remain

The remaining metal shavings inside the internal thread have been eliminated

Differences in tapping speed depending on workpiece material and dimensions

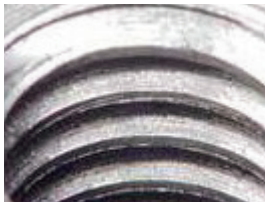
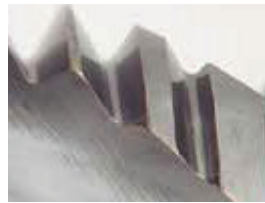
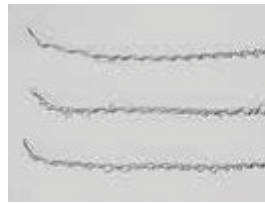
Workpiece Materials		Recommended tapping speed (m/min)			
		M6×1 M8×1.25	M8×1 M10×1.25 M10×1	M12×1.5 M12×1.25 M14×1.5 M16×1.5	M10×1.5 M12×1.75 M14×2 M16×2
Low Carbon Steels	~S25C/SS400	10~20		10~20	10~20
Medium Carbon Steels	S25C~S45C	10~30		10~25	10~25
High Carbon Steels	S45C~	10~30		10~25	10~30
Alloy Steels	SCM/SCr	10~20		10~20	10~20
Stainless Steels	SUS303/SUS304	3~10		3~10	3~10
Tool Steels	SKS/SKD	5~10		5~10	5~10
Ductile Cast Irons	FCD	10~20		10~20	10~20
Wrought Aluminum	AL	10~20		10~20	10~20
Aluminum Alloy Casting	AC/ADC	10~20		10~20	10~20



View other Z-PRO Products' tapping speeds.

Machining Data

M6×1	
Conditions	
Workpiece Material	S50C
Tapping Length	12mm
Tapping Speed	20m/min
Machine	Vertical MC
Tapping Fluid	Water Soluble
Internal coolant pressure	1.5MPa

Machining can continue even after tapping 500 holes		
Excellent internal threads	Damage to the cutting edge is minimal	Excellent chips
		

M10×1.5	
Conditions	
Workpiece Material	S50C
Tapping Length	20mm
Tapping Speed	20m/min
Machine	Vertical MC
Tapping Fluid	Water Soluble
Internal coolant pressure	1.5MPa

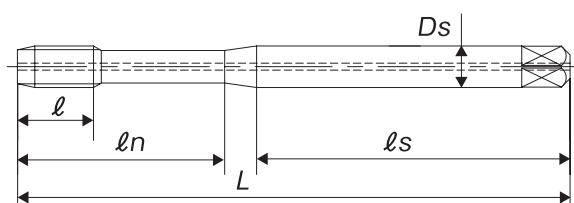
Machining can continue even after tapping 420 holes		
Excellent internal threads	Damage to the cutting edge is minimal	Excellent chips
		



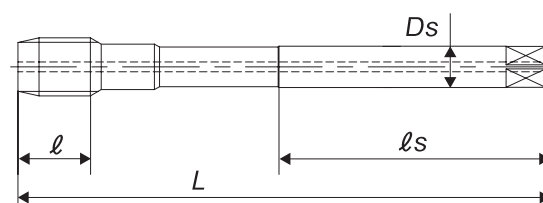
◀ We provide a wide range of other market processing data. View the details here.

Shape and Dimensions

TYPE:1



TYPE:2

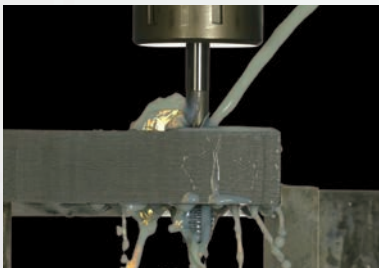


VUSP CH

Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M6×1	P2	1201101055	C(2.5P)	80	11	30	45	6	3	1
M8×1.25	P3	1201101064	C(2.5P)	90	12	—	46	6.2	3	2
M8×1	P3	1201101065	C(2.5P)	90	12	—	46	6.2	3	2
M10×1.5	P3	1201101078	C(2.5P)	100	13	—	51	7	3	2
M10×1.25	P3	1201101079	C(2.5P)	100	13	—	51	7	3	2
M10×1	P3	1201101080	C(2.5P)	100	13	—	51	7	3	2
M12×1.75	P4	1201101088	C(2.5P)	110	15	—	56	8.5	3	2
M12×1.5	P3	1201101089	C(2.5P)	110	15	—	56	8.5	3	2
M12×1.25	P3	1201101090	C(2.5P)	110	15	—	56	8.5	3	2
M14×2	P4	1201101100	C(2.5P)	110	18	—	56	10.5	3	2
M14×1.5	P3	1201101102	C(2.5P)	110	14	—	56	10.5	3	2
M16×2	P4	1201101114	C(2.5P)	110	18	—	56	12.5	3	2
M16×1.5	P3	1201101116	C(2.5P)	110	14	—	56	12.5	3	2



Product Features



Adopting a semi-long shape

The optimal overall length improves chip evacuation. Furthermore, it enables a stable supply of tapping fluid.



Ideal for machining when using water-soluble tapping fluids.

This product utilizes high-grade powdered high-speed steel and a special coating. It is ideal for machining at medium speeds using water-soluble tapping fluid.

Differences in tapping speed depending on workpiece material and dimensions

VUPO

Workpiece Materials		Recommended tapping speed (m/min)				
		M2~M2.6	M3	M4	M5	M6~M24
Low Carbon Steels	~S25C/SS400	4~10	4~12	6~18	8~24	10~30
Medium Carbon Steels	S25C~S45C	4~10	4~12	6~18	8~24	10~30
High Carbon Steels	S45C~	4~10	4~12	6~18	8~24	10~30
Alloy Steels	SCM/SCr	—	4~12	6~18	8~24	10~30
Stainless Steels	SUS303/SUS304	3~5	2~6	3~9	4~12	5~15
Tool Steels	SKS/SKD	—	2~6	3~9	4~12	5~15
Ductile Cast Irons	FCD	4~10	4~14	6~21	8~28	10~35
Wrought Aluminum	AL	4~10	4~14	6~21	8~28	10~35
Aluminum Alloy Casting	AC/ADC	4~10	4~14	6~21	8~28	10~35

VUPO Long

Workpiece Materials		Recommended tapping speed (m/min)			
		M3	M4	M5	M6~M16
Low Carbon Steels	~S25C/SS400	4~8	6~12	8~16	10~20
Medium Carbon Steels	S25C~S45C	4~8	6~12	8~16	10~20
High Carbon Steels	S45C~	4~8	6~12	8~16	10~20
Alloy Steels	SCM/SCr	4~8	6~12	8~16	10~20
Stainless Steels	SUS303/SUS304	2~4	3~6	4~8	5~10
Tool Steels	SKS/SKD	2~4	3~6	4~8	5~10
Ductile Cast Irons	FCD	4~12	6~18	8~24	10~30
Wrought Aluminum	AL	4~12	6~18	8~24	10~30
Aluminum Alloy Casting	AC/ADC	4~12	6~18	8~24	10~30



◀ View other Z-PRO Products' tapping speeds.

Machining Data

M10×1.5	
Conditions	
Workpiece Material	SUS304
Tapping Speed	10m/min
Machine	Horizontal MC
Tapping Fluid	Water Soluble

Good machining status



The unique thread geometry and semi-long overall length prevent chips from interfering with the holder and ensure an effective supply of water soluble tapping fluid.

Excellent internal threads



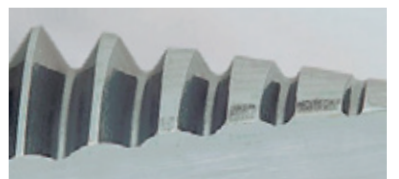
Normally, SUS304 machining uses water-insoluble tapping fluids, but VUPO can produce a good internal thread surface even when using water-soluble tapping fluids.

M10×1.5	
Conditions	
Workpiece Material	S50C
Tapping Length	20mm
Tapping Speed	20m/min
Machine	Vertical MC
Tapping Fluid	Water Soluble

Comparable product



VUPO



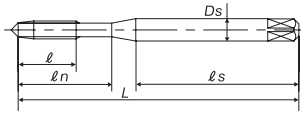
Damage to the cutting edge after tapping 560 holes



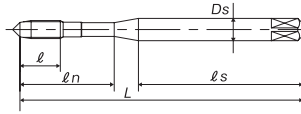
◀ We provide a wide range of other market processing data. View the details here.

Shape and Dimensions

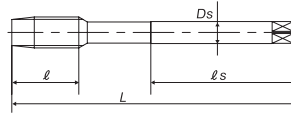
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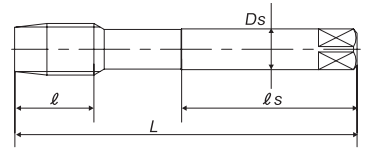
TYPE:2



TYPE:3



TYPE:4



Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M2×0.4	P2	1102101021	5P	45	8	15	27	3	2	1
M2.2×0.45	P2	1102101024	5P	45	9	15	27	3	2	1
M2.3×0.4	P2	1102101026	5P	45	9	15	27	3	2	1
M2.5×0.45	P2	1102101029	5P	50	8	15	32	3	2	1
M2.6×0.45	P2	1102101032	5P	50	8	15	32	3	2	1
M3×0.5	P2	1102101035	5P	56	9	18	32	4	3	1
M3×0.5	P3	1102201035	5P	56	9	18	32	4	3	1
M3×0.5	P4	1102301035	5P	56	9	18	32	4	3	1
M3×0.35	P2	1102101036	5P	56	6.5	18	32	4	3	2
M3×0.35	P3	1102201036	5P	56	6.5	18	32	4	3	2
M3×0.35	P4	1102301036	5P	56	6.5	18	32	4	3	2
M4×0.7	P3	1102101042	5P	63	13	21	36	5	3	1
M4×0.7	P4	1102201042	5P	63	13	21	36	5	3	1
M4×0.7	P5	1102301042	5P	63	13	21	36	5	3	1
M4×0.5	P2	1102101043	5P	63	9	21	36	5	3	2
M4×0.5	P3	1102201043	5P	63	9	21	36	5	3	2
M4×0.5	P4	1102301043	5P	63	9	21	36	5	3	2
M5×0.8	P3	1102101049	5P	70	14	25	40	5.5	3	1
M5×0.8	P4	1102201049	5P	70	14	25	40	5.5	3	1
M5×0.8	P5	1102301049	5P	70	14	25	40	5.5	3	1
M5×0.5	P2	1102101051	5P	70	9	25	40	5.5	3	2
M5×0.5	P3	1102201051	5P	70	9	25	40	5.5	3	2
M5×0.5	P4	1102301051	5P	70	9	25	40	5.5	3	2
M6×1	P3	1102101055	5P	80	15	30	45	6	3	1
M6×1	P4	1102201055	5P	80	15	30	45	6	3	1
M6×1	P5	1102301055	5P	80	15	30	45	6	3	1

Oversized

■ Shape and Dimensions

Size	Class	Product Code	Chamfer (mm)	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s	Number of flutes	TYPE
For Metric threads										
M6×0.75	P2	1102101056	5P	80	15	30	45	6	3	1
M6×0.75	P3	1102201056	5P	80	15	30	45	6	3	1
M6×0.75	P4	1102301056	5P	80	15	30	45	6	3	1
M6×0.5	P2	1102101057	5P	80	9	30	45	6	3	2
M6×0.5	P3	1102201057	5P	80	9	30	45	6	3	2
M6×0.5	P4	1102301057	5P	80	9	30	45	6	3	2
M8×1.25	P3	1102101064	5P	90	19	—	46	6.2	3	3
M8×1.25	P4	1102201064	5P	90	19	—	46	6.2	3	3
M8×1.25	P5	1102301064	5P	90	19	—	46	6.2	3	3
M8×1	P3	1102101065	5P	90	19	—	46	6.2	3	3
M8×1	P4	1102201065	5P	90	19	—	46	6.2	3	3
M8×1	P5	1102301065	5P	90	19	—	46	6.2	3	3
M10×1.5	P3	1102101078	5P	100	23	—	51	7	3	3
M10×1.5	P4	1102201078	5P	100	23	—	51	7	3	3
M10×1.5	P5	1102301078	5P	100	23	—	51	7	3	3
M10×1.25	P3	1102101079	5P	100	23	—	51	7	3	3
M10×1.25	P4	1102201079	5P	100	23	—	51	7	3	3
M10×1.25	P5	1102301079	5P	100	23	—	51	7	3	3
M10×1	P3	1102101080	5P	100	23	—	51	7	3	3
M10×1	P4	1102201080	5P	100	23	—	51	7	3	3
M10×1	P5	1102301080	5P	100	23	—	51	7	3	3
M12×1.75	P4	1102101088	5P	110	26	—	56	8.5	3	3
M12×1.75	P5	1102201088	5P	110	26	—	56	8.5	3	3
M12×1.75	P6	1102301088	5P	110	26	—	56	8.5	3	3
M12×1.5	P3	1102101089	5P	110	26	—	56	8.5	3	3
M12×1.5	P4	1102201089	5P	110	26	—	56	8.5	3	3

■ Oversized

■ Shape and Dimensions

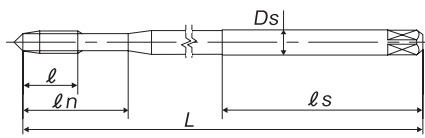
Size	Class	Product Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	Number of flutes	TYPE
For Metric threads										
M12×1.5	P5	1102301089	5P	110	26	—	56	8.5	3	3
M12×1.25	P4	1102101090	5P	110	26	—	56	8.5	3	3
M12×1.25	P5	1102201090	5P	110	26	—	56	8.5	3	3
M12×1.25	P6	1102301090	5P	110	26	—	56	8.5	3	3
M14×2	P4	1102101100	5P	110	26	—	56	10.5	3	3
M14×2	P5	1102201100	5P	110	26	—	56	10.5	3	3
M14×2	P6	1102301100	5P	110	26	—	56	10.5	3	3
M14×1.5	P3	1102101102	5P	110	26	—	56	10.5	3	3
M14×1.5	P4	1102201102	5P	110	26	—	56	10.5	3	3
M14×1.5	P5	1102301102	5P	110	26	—	56	10.5	3	3
M16×2	P4	1102101114	5P	110	26	—	56	12.5	3	3
M16×2	P5	1102201114	5P	110	26	—	56	12.5	3	3
M16×2	P6	1102301114	5P	110	26	—	56	12.5	3	3
M16×1.5	P3	1102101116	5P	110	26	—	56	12.5	3	3
M16×1.5	P4	1102201116	5P	110	26	—	56	12.5	3	3
M16×1.5	P5	1102301116	5P	110	26	—	56	12.5	3	3
M18×2.5	P5	1102101128	5P	125	33	—	64	14	3	3
M18×1.5	P4	1102101130	5P	125	33	—	64	14	3	3
M20×2.5	P5	1102101141	5P	140	33	—	71	15	3	4
M20×1.5	P4	1102101144	5P	140	33	—	71	15	3	4
M22×2.5	P5	1102101156	5P	140	33	—	71	17	3	4
M22×1.5	P4	1102101158	5P	140	33	—	71	17	3	4
M24×3	P5	1102101167	5P	160	37	—	82	19	3	4
M24×1.5	P4	1102101170	5P	160	37	—	82	19	3	4

■ Oversized

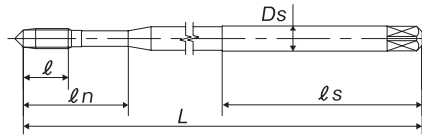
VUPO Long

Shape and Dimensions

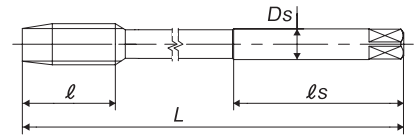
TYPE:1 (Long)



TYPE:2 (Long)



TYPE:3 (Long)



Size	Class	Product Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	Number of flutes	TYPE
For Metric threads										
M3×0.5	P2	2102101035	5P	100	9	18	32	4	3	1
M3×0.35	P2	2102101036	5P	100	6.5	18	32	4	3	2
M4×0.7	P3	2102101042	5P	100	11	21	36	5	3	1
M4×0.5	P2	2102101043	5P	100	9	21	36	5	3	2
M5×0.8	P3	2102101049	5P	100	13	25	40	5.5	3	1
M5×0.5	P2	2102101051	5P	100	9	25	40	5.5	3	2
M6×1	P3	2102101055	5P	100	15	30	45	6	3	1
M6×0.75	P2	2102101056	5P	100	15	30	45	6	3	1
M6×0.5	P2	2102101057	5P	100	9	30	45	6	3	2
M8×1.25	P3	2102101064	5P	150	19	—	46	6.2	3	3
M8×1	P3	2102101065	5P	150	19	—	46	6.2	3	3
M10×1.5	P3	2102101078	5P	150	23	—	51	7	3	3
M10×1.25	P3	2102101079	5P	150	23	—	51	7	3	3
M10×1	P3	2102101080	5P	150	23	—	51	7	3	3
M12×1.75	P4	2102101088	5P	150	26	—	56	8.5	3	3
M12×1.5	P3	2102101089	5P	150	26	—	56	8.5	3	3
M12×1.25	P4	2102101090	5P	150	26	—	56	8.5	3	3
M14×2	P4	2102101100	5P	150	26	—	56	10.5	3	3
M14×1.5	P3	2102101102	5P	150	26	—	56	10.5	3	3
M16×2	P4	2102101114	5P	150	26	—	56	12.5	3	3
M16×1.5	P3	2102101116	5P	150	26	—	56	12.5	3	3



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Warning

- ◆Tools may shatter during use. Wear safety eye cover or eye glasses to avoid injury during tapping.
- ◆Use tools under the proper tapping condition.
- ◆Never wear gloves during turning operations as the gloves may get caught in the tools.
- ◆Wear safety shoes to avoid foot injury by the falling tools.
- ◆When attaching tools to the machine, fasten firmly to avoid chatter and run-out.
- ◆Fasten the workpiece firmly so it never moves during the tapping operation. Never use worn tools or damaged tools.
- ◆Take a special care to prevent fire during machining. High temperature during tapping can cause a fire.

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