

③ Spiral Pointed Tap Series for through hole

Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

- ① Spiral Fluted Taps (for blind hole)
- ② Spiral Fluted Taps (for through hole)
- ③ Spiral Pointed Taps (for through hole)
- ④ Hand Taps
- ⑤ Cemented Carbide Tools
- ⑥ Roll Taps
- ⑦ Special Thread Taps (Simple inspection tools)
- ⑧ Pipe Taps
- ⑨ Thread Mills (Premium Thread Mills)
- ⑩ Dies
- ⑪ Center Drills (Centering Tools)
- ⑫ Precision Machinery/ Medical Surgical Instruments



Z-PRO HVPO



Z-PRO Hybrid Value Spiral Pointed Taps for Steels

Specification

HSS

OX
Oxide

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Cast steels 鑄鋼
3~12 (m/min)	3~12 (m/min)	3~12 (m/min)	3~12 (m/min)	~5 (m/min)	3~12 (m/min)

Product Features

- Chip ejection efficiency is improved and cutting resistance is reduced by the unique cutting edge shape, achieving a good internal thread and improved durability.
- Proper tool projection length is secured, achieving a good supply of tapping fluid.

Tapping Data

Tapping Conditions [M12×1.75]

Workpiece Material	SS400
Tapping Speed	10m/min
Tapping Length	24mm
Machine Type	Machining center (Vertical)
Tapping Fluid	Water soluble cutting fluid

Good tapping

The unique cutting edge shape and the longer projection achieve a good supply of cutting fluid.

Good internal thread

In tapping of SUS400, good internal thread surface is obtained even in tapping environments that use water soluble cutting fluid.

Uniform chips' shape

Advantages of using HVPO

Clearance between the holder and the workpiece is secured, achieving a good supply of cutting fluid.
 *Longer tap life + less heat generation during tapping.

◎ Comparison photo of "HVPO" (Z-PRO series product) and "PO" (JIS standard product)

Z-PRO HVPO

PO (JIS standard length)

M12×1.75

Tapping Length : 1.5D (Tapping Length)

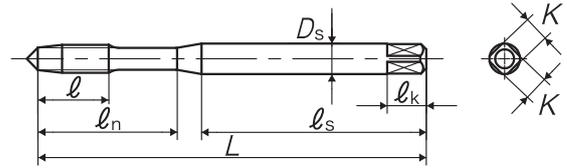
Holding length : 31mm

Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

3

JIS

TYPE: 1

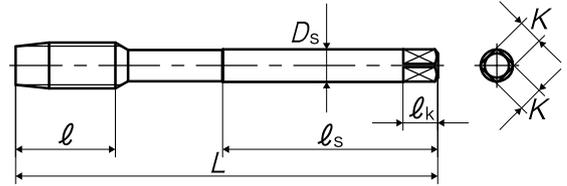
Spiral Fluted Taps
(for blind hole)

①

Spiral Fluted Taps
(for through hole)

②

TYPE: 3

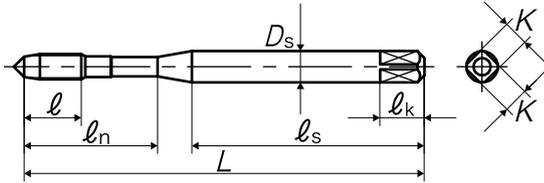
Spiral Pointed Taps
(for through hole)

③

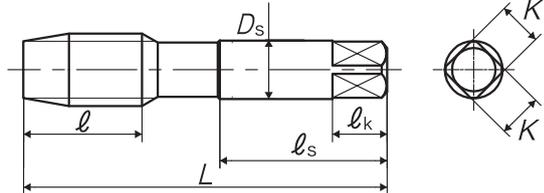
Hand Taps

④

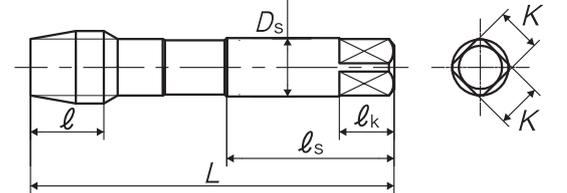
TYPE: 2



TYPE: 4



TYPE: 5

Cemented
Carbide Taps

⑤

Roll Taps

⑥

Oversize

Segment : 1E

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	TYPE	MSRP
For Metric Threads													
M3 × 0.5	P3	1113101035	5P	56	9	18	32	4	3.2	6	3	1	¥ 1,400
M3 × 0.5	P4	1113201035	5P	56	9	18	32	4	3.2	6	3	1	¥ 1,400
M3 × 0.35	P2	1113101036	5P	56	6.5	18	32	4	3.2	6	3	2	¥ 2,470
M3.5 × 0.6	P2	1113101038	5P	63	13	20	36	5	4	7	3	1	¥ 1,450
M3.5 × 0.6	P3	1113201038	5P	63	13	20	36	5	4	7	3	1	¥ 1,450 [*]
M4 × 0.7	P3	1113101042	5P	63	13	21	36	5	4	7	3	1	¥ 1,400
M4 × 0.7	P4	1113201042	5P	63	13	21	36	5	4	7	3	1	¥ 1,400
M4 × 0.5	P3	1113101043	5P	63	9	21	36	5	4	7	3	2	¥ 2,120
M5 × 0.8	P3	1113101049	5P	70	14	25	40	5.5	4.5	7	3	1	¥ 1,410
M5 × 0.8	P4	1113201049	5P	70	14	25	40	5.5	4.5	7	3	1	¥ 1,410
M5 × 0.5	P3	1113101051	5P	70	9	25	40	5.5	4.5	7	3	2	¥ 2,120
M6 × 1	P3	1113101055	5P	80	15	30	45	6	4.5	7	3	1	¥ 1,610
M6 × 1	P4	1113201055	5P	80	15	30	45	6	4.5	7	3	1	¥ 1,610
M6 × 0.75	P3	1113101056	5P	80	15	30	45	6	4.5	7	3	1	¥ 2,270
M6 × 0.5	P3	1113101057	5P	80	9	30	45	6	4.5	7	3	2	¥ 2,270
M7 × 1	P3	1113101060	5P	90	15	-	46	6.2	5	8	3	3	¥ 1,980
M7 × 1	P4	1113201060	5P	90	15	-	46	6.2	5	8	3	3	¥ 1,980 [*]
M7 × 0.75	P3	1113101061	5P	90	15	-	46	6.2	5	8	3	3	¥ 2,930 [*]
M7 × 0.5	P3	1113101062	5P	90	10	-	46	6.2	5	8	3	3	¥ 3,650 [*]
M8 × 1.25	P3	1113101064	5P	90	19	-	46	6.2	5	8	3	3	¥ 2,270
M8 × 1.25	P4	1113201064	5P	90	19	-	46	6.2	5	8	3	3	¥ 2,270
M8 × 1	P3	1113101065	5P	90	19	-	46	6.2	5	8	3	3	¥ 2,580
M8 × 1	P4	1113201065	5P	90	19	-	46	6.2	5	8	3	3	¥ 2,580 [*]
M8 × 0.75	P3	1113101066	5P	90	19	-	46	6.2	5	8	3	3	¥ 2,930 [*]
M8 × 0.75	P4	1113201066	5P	90	19	-	46	6.2	5	8	3	3	¥ 2,930 [*]

Special Thread Taps
Simple Inspection Tools

⑦

Pipe Taps

⑧

Thread Mills
Premium Thread Mills

⑨

Dies

⑩

Center Drills
Centering Tools

⑪

Precision Machinery/
Metal Surgical Instruments

⑫

Think threads with
YAMAWA

※ = Specified Distribution Items. Made to order products.

JIS

③-14

3 Spiral Pointed Tap Series for through hole

Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

JIS

HVPO Z-PRO Hybrid Value Spiral Pointed Taps for Steels

	Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	TYPE	MSRP
① Spiral Fluted Taps (for blind hole)	M8 × 0.5	P3	1113101067	5P	90	10	-	46	6.2	5	8	3	3	¥ 3,650*
	M8 × 0.5	P4	1113201067	5P	90	10	-	46	6.2	5	8	3	3	¥ 3,650*
② Spiral Fluted Taps (for through hole)	M9 × 1	P3	1113101072	5P	100	23	-	51	7	5.5	8	3	3	¥ 3,520*
	M9 × 1	P4	1113201072	5P	100	23	-	51	7	5.5	8	3	3	¥ 3,520*
③ Spiral Pointed Taps (for through hole)	M10 × 1.5	P4	1113101078	5P	100	23	-	51	7	5.5	8	3	3	¥ 2,970
	M10 × 1.5	P5	1113201078	5P	100	23	-	51	7	5.5	8	3	3	¥ 2,970
④ Hand Taps	M10 × 1.25	P3	1113101079	5P	100	23	-	51	7	5.5	8	3	3	¥ 2,970*
	M10 × 1.25	P4	1113201079	5P	100	23	-	51	7	5.5	8	3	3	¥ 2,970*
⑤ Cemented Carbide Taps	M10 × 1	P3	1113101080	5P	100	23	-	51	7	5.5	8	3	3	¥ 3,520
	M10 × 1	P4	1113201080	5P	100	23	-	51	7	5.5	8	3	3	¥ 3,520*
⑥ Roll Taps	M12 × 1.75	P4	1113101088	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,000
	M12 × 1.75	P5	1113201088	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,000
⑦ Special Thread Taps Simple Inspection Tools	M12 × 1.5	P4	1113101089	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,000*
	M12 × 1.5	P5	1113201089	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,000*
⑧ Pipe Taps	M12 × 1.25	P4	1113101090	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,000
	M12 × 1.25	P5	1113201090	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,000*
⑨ Thread Mills Premium Thread Mills	M12 × 1	P4	1113101091	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,860
	M12 × 1	P5	1113201091	5P	110	26	-	56	8.5	6.5	9	3	3	¥ 4,860*
⑩ Dies	M14 × 2	P4	1113101100	5P	110	26	-	56	10.5	8	11	3	3	¥ 5,640
	M14 × 2	P5	1113201100	5P	110	26	-	56	10.5	8	11	3	3	¥ 5,640*
⑪ Center Drills Centering Tools	M14 × 1.5	P4	1113101102	5P	110	26	-	56	10.5	8	11	3	3	¥ 5,640
	M14 × 1.5	P5	1113201102	5P	110	26	-	56	10.5	8	11	3	3	¥ 5,640*
⑫ Precision Machinery/ Medical Surgical Instruments	M16 × 2	P4	1113101114	5P	110	26	-	56	12.5	10	13	3	3	¥ 7,300
	M16 × 2	P5	1113201114	5P	110	26	-	56	12.5	10	13	3	3	¥ 7,300*
	M16 × 1.5	P4	1113101116	5P	110	26	-	56	12.5	10	13	3	3	¥ 7,300
	M16 × 1.5	P5	1113201116	5P	110	26	-	56	12.5	10	13	3	3	¥ 7,300*
	M18 × 2.5	P5	1113101128	5P	125	33	-	64	14	11	14	3	3	¥ 10,100
	M18 × 2.5	P6	1113201128	5P	125	33	-	64	14	11	14	3	3	¥ 10,100*
	M18 × 2	P5	1113101129	5P	125	33	-	64	14	11	14	3	3	¥ 10,100
	M18 × 2	P6	1113201129	5P	125	33	-	64	14	11	14	3	3	¥ 10,100*
	M18 × 1.5	P4	1113101130	5P	125	33	-	64	14	11	14	3	3	¥ 10,100
	M18 × 1.5	P5	1113201130	5P	125	33	-	64	14	11	14	3	3	¥ 10,100*
	M20 × 2.5	P5	1113101141	5P	140	33	-	71	15	12	15	3	4	¥ 13,700
	M20 × 2.5	P6	1113201141	5P	140	33	-	71	15	12	15	3	4	¥ 13,700*
	M20 × 2	P5	1113101142	5P	140	33	-	71	15	12	15	3	4	¥ 13,700
	M20 × 2	P6	1113201142	5P	140	33	-	71	15	12	15	3	4	¥ 13,700*
	M20 × 1.5	P4	1113101144	5P	140	33	-	71	15	12	15	3	4	¥ 13,700
	M20 × 1.5	P5	1113201144	5P	140	33	-	71	15	12	15	3	4	¥ 13,700*
	M20 × 1	P4	1113101146	5P	140	18	-	71	15	12	15	3	5	¥ 17,400
	M20 × 1	P5	1113201146	5P	140	18	-	71	15	12	15	3	5	¥ 17,400*
	M22 × 2.5	P5	1113101156	5P	140	33	-	71	17	13	16	3	4	¥ 17,400
	M22 × 2.5	P6	1113201156	5P	140	33	-	71	17	13	16	3	4	¥ 17,400*
	M22 × 2	P5	1113101157	5P	140	33	-	71	17	13	16	3	4	¥ 17,400
	M22 × 2	P6	1113201157	5P	140	33	-	71	17	13	16	3	4	¥ 17,400*
	M22 × 1.5	P4	1113101158	5P	140	33	-	71	17	13	16	3	4	¥ 17,400
	M22 × 1.5	P5	1113201158	5P	140	33	-	71	17	13	16	3	4	¥ 17,400*
	M24 × 3	P5	1113101167	5P	160	37	-	82	19	15	18	3	4	¥ 21,700
	M24 × 3	P6	1113201167	5P	160	37	-	82	19	15	18	3	4	¥ 21,700*
	M24 × 1.5	P4	1113101170	5P	160	37	-	82	19	15	18	3	4	¥ 21,700
	M24 × 1.5	P5	1113201170	5P	160	37	-	82	19	15	18	3	4	¥ 21,700*



* = Specified Distribution Items. Made to order products.

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L	ℓ	ℓn	ℓs	Ds	K	ℓk

HVPO Z-PRO Hybrid Value Spiral Pointed Taps for Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	TYPE	MSRP
M26 × 3	P5	1113101181	5P	160	37	-	82	20	15	18	4	4	¥ 30,600*
M27 × 3	P5	1113101186	5P	160	37	-	82	20	15	18	4	4	¥ 30,600
M27 × 1.5	P4	1113101188	5P	160	37	-	82	20	15	18	4	4	¥ 30,600
M30 × 3.5	P5	1113101199	5P	180	44	-	92	23	17	20	4	4	¥ 38,900
M30 × 3	P6	1113101200	5P	180	44	-	92	23	17	20	4	4	¥ 38,900
M30 × 2	P5	1113101201	5P	180	44	-	92	23	17	20	4	4	¥ 38,900
M30 × 1.5	P4	1113101202	5P	180	44	-	92	23	17	20	4	4	¥ 38,900
M32 × 2	P5	1113101207	5P	180	44	-	92	24	19	22	4	4	¥ 45,400
M32 × 1.5	P4	1113101208	5P	180	44	-	92	24	19	22	4	4	¥ 45,400
M33 × 3.5	P5	1113101211	5P	180	46	-	92	25	19	22	4	4	¥ 45,400
M33 × 3	P6	1113101212	5P	180	46	-	92	25	19	22	4	4	¥ 45,400
M36 × 4	P6	1113101225	5P	200	52	-	102	28	21	24	4	4	¥ 52,300
M36 × 3	P6	1113101226	5P	200	52	-	102	28	21	24	4	4	¥ 52,300

Spiral Fluted Taps
(for blind hole) ①

Spiral Fluted Taps
(for through hole) ②

Spiral Pointed Taps
(for through hole) ③

Hand Taps ④

Cemented Carbide Taps ⑤

Roll Taps ⑥

Special Thread Taps
Simple Inspection Tools ⑦

Pipe Taps ⑧

Thread Mills
Premium Thread Mills ⑨

Dies ⑩

Center Drills
Centering Tools ⑪

Precision Machinery/
Metal Surgical Instruments ⑫

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