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

JIS

Z-PRO

HVSP ZP

Z-PRO
Hybrid Value Spiral Fluted Taps for Zinc Plating

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	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast steels 鋳鋼
3~12 (m/min)	3~12 (m/min)	3~12 (m/min)	3~12 (m/min)	~5 (m/min) 25~35HRC	~5 (m/min)	3~12 (m/min)

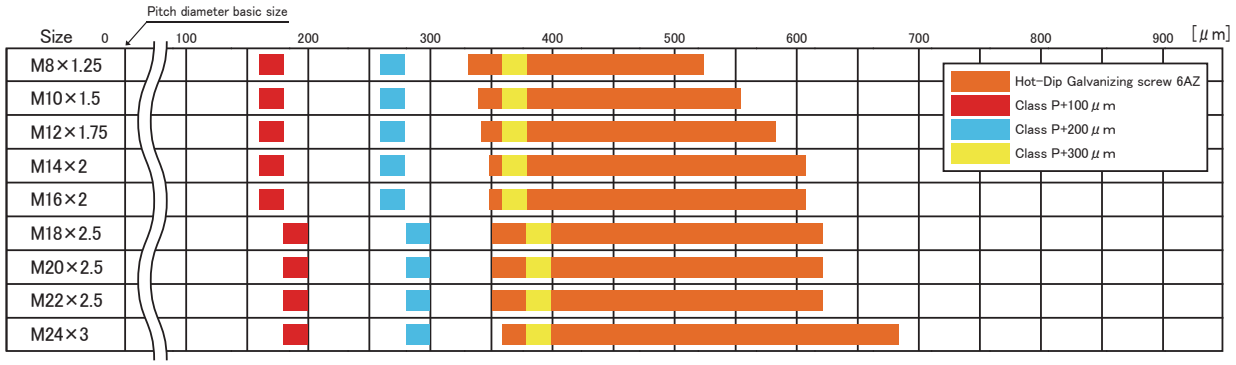
Product Features

- We have a standard line-up of optimum tap classes for tapping internal threads before zinc plating.
- We have commercialized three types of oversize tap classes in great market demand for different purposes: +0.1 mm, +0.2 mm, and +0.3 mm.
- Specifications are based on HVSP (Hybrid Value Spiral Fluted Taps), so you can use them for various workpiece materials and machines.
- Stable tapping without chipping can be achieved in both vertical and horizontal tapping.

Uses of Products

HVSP ZP taps are used mainly for tapping internal threads before plating to prevent rust and corrosion on parts for roads, bridges, and other large buildings.
In zinc plating, HVSP ZP taps are used for tapping internal threads that have a large plating thickness.

Comparison Table of Pitch Diameter Tolerance Zones between taps' classes and internal thread classes (for Hot-Dip Galvanizing)



※M8 x 1.25 was calculated according to the formula for dimensional tolerances that will be the basis for the tolerance zone classes 6AZ specified in JIS B 0209-5.
- The above graph is an excerpt from JIS B 0209-5 "Limits of sizes for internal screw threads to mate with hot-dip galvanized external screw threads with maximum size of tolerance position h before galvanizing," which shows a pitch diameter comparison between the limits of sizes for internal threads of tolerance zone class 6AZ and the classes of tap HVSP ZP.
- For example, to satisfy the tolerance zone class 6AZ in the case of a nominal size of M10×1.5, this indicates that using class P+300 μm would be appropriate.
- Since the plating thickness varies with the plating type and method, the required internal thread diameter may deviate from the above standards. Therefore, for HVSP ZP, we have prepared standard options of class +100 μm (+0.1 mm), class P+200 μm (+0.2 mm), and class P+300 μm (+0.3 mm), which are in high demand in the market.

■Reference Bored Hole Size Chart

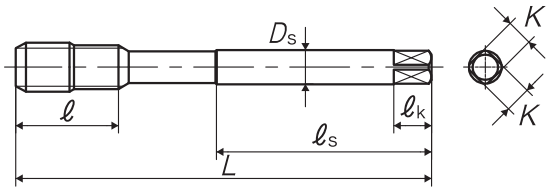
In tapping before zinc plating, we recommend to make the bored hole size larger by the plating thickness.
Please use the following chart as a guide to determine the final bored hole size.

unit : mm

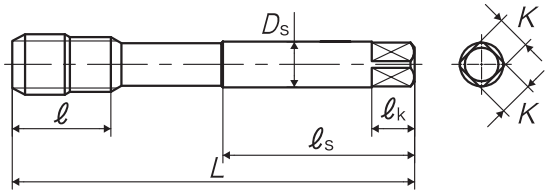
Size	Normally recommended bored hole size	Oversize bored hole size (reference)			Internal thread Class 6H Min. minor diameter
		Oversize+0.1mm	Oversize+0.2mm	Oversize+0.3mm	
M8 × 1.25	6.85	6.95	7.05	7.15	6.647
M10 × 1.5	8.60	8.70	8.80	8.90	8.376
M12 × 1.75	10.4	10.5	10.6	10.7	10.106
M14 × 2	12.1	12.2	12.3	12.4	11.835
M16 × 2	14.1	14.2	14.3	14.4	13.835
M18 × 2.5	15.6	15.7	15.8	15.9	15.294
M20 × 2.5	17.6	17.7	17.8	17.9	17.294
M22 × 2.5	19.6	19.7	19.8	19.9	19.294
M24 × 3	21.1	21.2	21.3	21.4	20.752

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

TYPE: 1



TYPE: 2



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	TYPE	MSRP
For Metric Threads													
M8 × 1.25	P4+0.1	1112201064	C (2.5P)	90	19	-	46	6.2	5	8	3	1	¥ 3,110
M8 × 1.25	P4+0.2	1112301064	C (2.5P)	90	19	-	46	6.2	5	8	3	1	¥ 3,110
M8 × 1.25	P4+0.3	1112401064	C (2.5P)	90	19	-	46	6.2	5	8	3	1	¥ 3,110
M10 × 1.5	P4+0.1	1112201078	C (2.5P)	100	23	-	51	7	5.5	8	3	1	¥ 4,070
M10 × 1.5	P4+0.2	1112301078	C (2.5P)	100	23	-	51	7	5.5	8	3	1	¥ 4,070
M10 × 1.5	P4+0.3	1112401078	C (2.5P)	100	23	-	51	7	5.5	8	3	1	¥ 4,070
M12 × 1.75	P4+0.1	1112201088	C (2.5P)	110	26	-	56	8.5	6.5	9	3	1	¥ 5,460
M12 × 1.75	P4+0.2	1112301088	C (2.5P)	110	26	-	56	8.5	6.5	9	3	1	¥ 5,460
M12 × 1.75	P4+0.3	1112401088	C (2.5P)	110	26	-	56	8.5	6.5	9	3	1	¥ 5,460
M14 × 2	P4+0.1	1112201100	C (2.5P)	110	26	-	56	10.5	8	11	3	1	¥ 7,480
M14 × 2	P4+0.2	1112301100	C (2.5P)	110	26	-	56	10.5	8	11	3	1	¥ 7,480
M14 × 2	P4+0.3	1112401100	C (2.5P)	110	26	-	56	10.5	8	11	3	1	¥ 7,480
M16 × 2	P4+0.1	1112201114	C (2.5P)	110	26	-	56	12.5	10	13	3	1	¥ 9,970
M16 × 2	P4+0.2	1112301114	C (2.5P)	110	26	-	56	12.5	10	13	3	1	¥ 9,970
M16 × 2	P4+0.3	1112401114	C (2.5P)	110	26	-	56	12.5	10	13	3	1	¥ 9,970
M18 × 2.5	P5+0.1	1112201128	C (2.5P)	125	33	-	64	14	11	14	4	1	¥ 13,400
M18 × 2.5	P5+0.2	1112301128	C (2.5P)	125	33	-	64	14	11	14	4	1	¥ 13,400
M18 × 2.5	P5+0.3	1112401128	C (2.5P)	125	33	-	64	14	11	14	4	1	¥ 13,400
M20 × 2.5	P5+0.1	1112201141	C (2.5P)	140	33	-	71	15	12	15	4	2	¥ 18,200
M20 × 2.5	P5+0.2	1112301141	C (2.5P)	140	33	-	71	15	12	15	4	2	¥ 18,200
M20 × 2.5	P5+0.3	1112401141	C (2.5P)	140	33	-	71	15	12	15	4	2	¥ 18,200
M22 × 2.5	P5+0.1	1112201156	C (2.5P)	140	33	-	71	17	13	16	4	2	¥ 23,000
M22 × 2.5	P5+0.2	1112301156	C (2.5P)	140	33	-	71	17	13	16	4	2	¥ 23,000
M22 × 2.5	P5+0.3	1112401156	C (2.5P)	140	33	-	71	17	13	16	4	2	¥ 23,000
M24 × 3	P5+0.1	1112201167	C (2.5P)	160	37	-	82	19	15	18	4	2	¥ 28,700
M24 × 3	P5+0.2	1112301167	C (2.5P)	160	37	-	82	19	15	18	4	2	¥ 28,700
M24 × 3	P5+0.3	1112401167	C (2.5P)	160	37	-	82	19	15	18	4	2	¥ 28,700
M27 × 3	P5+0.1	1112201186	C (2.5P)	160	37	-	82	20	15	18	4	2	¥ 40,700
M27 × 3	P5+0.2	1112301186	C (2.5P)	160	37	-	82	20	15	18	4	2	¥ 40,700
M27 × 3	P5+0.3	1112401186	C (2.5P)	160	37	-	82	20	15	18	4	2	¥ 40,700
M30 × 3.5	P6+0.1	1112201199	C (2.5P)	180	44	-	92	23	17	20	4	2	¥ 51,600
M30 × 3.5	P6+0.2	1112301199	C (2.5P)	180	44	-	92	23	17	20	4	2	¥ 51,600
M30 × 3.5	P6+0.3	1112401199	C (2.5P)	180	44	-	92	23	17	20	4	2	¥ 51,600
M33 × 3.5	P6+0.1	1112201211	C (2.5P)	180	46	-	92	25	19	22	4	2	¥ 60,100
M33 × 3.5	P6+0.2	1112301211	C (2.5P)	180	46	-	92	25	19	22	4	2	¥ 60,100
M33 × 3.5	P6+0.3	1112401211	C (2.5P)	180	46	-	92	25	19	22	4	2	¥ 60,100
M36 × 4	P6+0.1	1112201225	C (2.5P)	200	52	-	102	28	21	24	4	2	¥ 69,300
M36 × 4	P6+0.2	1112301225	C (2.5P)	200	52	-	102	28	21	24	4	2	¥ 69,300
M36 × 4	P6+0.3	1112401225	C (2.5P)	200	52	-	102	28	21	24	4	2	¥ 69,300