



Locating Pins for Jigs Double Stepped Type

-Tip Shape Selectable-



CAD Data Folder Name: Locating_Pins

Features: One pin can locate work for different diameter coaxially. For example, refer to P.898.

Shoulder Type RoHS

Type	Set Screws	M	H
WLANA	WLATA	SCM435	Hardening Hardness 35~40HRC
TWLANA	TWLATA	SCM415	Carburization Hardening Hardness 55HRC-(Depth)7~0.8 Anti-carburizing on Thread

R Dimension

Q	R
3.0~6.0	1.5
6.1~8.0	2
8.1~12.0	3
12.1~15.0	4

Surface Finish Relief

Tip Shape (The center hole will be is left.)
 (Angle 30° Taper R)
 Standard: $e=P/2 \cdot \tan(A/2) + R \cdot \sin(A/2)$
 Selection: $P=2E \cdot \tan(A/2) \geq 0.73$

Nuts and **Set Screws** diagrams with dimensions L, L1, L2, B, F, A, G, H, d, R.

Type	Part Number	Tip Shapes	Dh7	P 0.1mm Increment	Q 0.1mm Increment	F-B 1mm Increment	L Selection	A Selection	E (Shape A) 1mm Increment	L1	L2	H	d	Applicable Set Screws	Unit Price Qty. 1~4			
															WLANA	WLATA	TWLANA	TWLATA
WLANA WLATA TWLANA TWLATA	Not Specified (Angle 30° Taper R)	6	-0.012	4.0~7.0	3.0~6.0	3~45	5 8 10	30	1~10	6	8	9	4	M5	980	980	1,350	1,350
		8	0	4.0~9.0	3.0~8.0		5 8 10 12 15	10		11	5	1,180	1,180		1,650	1,650		
		10	-0.015	6.0~12.0	4.5~11.0		5 8 10 12 15	12		13	7	1,650	1,650		2,110	2,110		
		12	0	9.0~13.0	8.0~12.0		8 10 12 15 18	15		15	9	2,110	2,110		2,550	2,550		
		16	-0.018	11.0~16.0	10.0~15.0		10 12 15 18 20	120		18	12	10	19	M8	2,550	2,550	2,880	2,880

P-1≥Q B+2+F≤50 When P dimension is 4~7, B≤Px3 When Q dimension is 3~6, F≤Qx3. Conventional RC alteration (change of angle) can be substituted with Tip B Shape.

No Shoulder Type RoHS

Type	Set Screws	M	H
WLNNA	WLNNTA	SCM435	Hardening Hardness 35~40HRC
TWLNNA	TWLNNTA	SCM415	Carburization Hardening Hardness 55HRC-(Depth)7~0.8 Anti-carburizing on Thread

R Dimension

Q	R
7.0~9.9	3
10.0~16.0	4
16.1~20.0	7
20.1~25.0	9
25.1~28.0	11
28.1~31.0	13
31.1~34.0	15

Surface Finish Relief

Tip Shape (The center hole will be is left.)
 (Angle 30° Taper R)
 Standard: $e=P/2 \cdot \tan(A/2) + R \cdot \sin(A/2)$
 Selection: $P=2E \cdot \tan(A/2) \geq 0.73$

Nuts and **Set Screws** diagrams with dimensions L, L1, L2, B, F, A, G, H, d, R.

Type	Part Number	Tip Shapes	Dh7	P 0.1mm Increment	Q 0.1mm Increment	F-B 1mm Increment	L Selection	A Selection	E (Shape A) 1mm Increment	L1	L2	H	d	Applicable Set Screws	Unit Price Qty. 1~4			
															WLNNA	WLNNTA	TWLNNA	TWLNNTA
WLNNA WLNNTA TWLNNA TWLNNTA	Not Specified (Angle 30° Taper R)	6	-0.012	8.0~12.0	7.0~11.0	3~45	5 8 10	30	1~10	6	8	4	M5	1,090	1,090	2,050	2,050	
		8	0	10.0~16.0	9.0~15.0		5 8 10 12 15	10		11	5	1,400		1,400	2,090	2,090		
		10	-0.015	12.0~20.0	10.0~19.0		5 8 10 12 15	12		13	7	1,650		1,650	2,110	2,110		
		12	0	14.0~25.0	13.0~24.0		8 10 12 15 18	15		15	9	2,110		2,110	2,550	2,550		
		16	-0.018	18.0~32.0	17.0~31.0		10 12 15 18 20	120		18	12	10	13	M8	2,550	2,550	2,880	2,880
		20	-0.021	22.0~35.0	21.0~34.0		12 15 18 20			22	10	17			2,920	2,920	3,680	3,680

P-1≥Q B+2+F≤50 Conventional RC alteration (change of angle) can be substituted with Tip B Shape.

Order Example Part Number - P - Q - F - B - L - A - E

WLANA 10 - P7.8 - Q5.0 - F10 - B5 - L10 (Standard)
 WLNNTA B 10 - P12.8 - Q11.9 - F10 - B10 - A60 (Shape B)

Hardening 3 Days
Carburized 5 Days

Volume Discount Rate (Round down to the nearest one yen.) P.91

Quantity	1~4	5~19	20~49	50~99
Rate		5%	10%	15%

Alterations	Flat Position		Wrench Flats	Tip Angle	Thread Diameter	Upper Relief Radius
	Shoulder	No Shoulder				
Code	KC	KD	SC	RC	MC	RTC
Spec.	Changes the flat position to 90° from the standard position 0°. Applicable to Insulation Type Diamond & Oval Shape only.	Machines one side. Applicable to Round Shape.	Add a wrench flat.	Changes the tip angle. Selection: 60°, 90°, 120° Ordering Code: RC60	Changes the thread diameter. D/3<M<D M min 3 Ordering Code: MC8	Changes R1 to R of the selection below. Selection: 0.2 R2 R3 Ordering Code: RTC0.2
Price Adder	200	200	500	200	200	Free of Charge



Locating Pin for Jig

Oval Shape, Insulation Type

CAD Data Folder Name: Locating_Pins

Oval RoHS

Type	Set Screw Type	Shoulder	M	H
NLNF	NLTF	Shoulder	SCM435	Hardening Hardness 35~40HRC
NLNF	NLTF	No Shoulder	SCM435	Hardening Hardness 35~40HRC
TNLNF	TNLTf	Shoulder	SCM415	Carburization Hardening Hardness 55HRC-(Depth)0.7~0.8 Anti-carburizing on Thread
TNLNF	TNLTf	No Shoulder	SCM415	Carburization Hardening Hardness 55HRC-(Depth)0.7~0.8 Anti-carburizing on Thread

R Dimension

D	g6	ℓ	L1	ℓ1
6	-0.004 -0.012	6	8	8
8	-0.005 -0.014	10	12	10
10	-0.006 -0.017	15	18	15
12	-0.006 -0.017	18	22	18

Surface Finish Relief

Tip Shape (The center hole will be is left.)
 (Angle 30° Taper R)
 Standard: $e=P/2 \cdot \tan(A/2) + R \cdot \sin(A/2)$
 Selection: $P=2E \cdot \tan(A/2) \geq 0.73$

Nuts and **Set Screws** diagrams with dimensions L, L1, L2, B, F, A, G, H, d, R.

Type	Part Number	Tip Shapes	D	P 0.1mm Increment	W 0.1mm Increment	B 1mm Increment	L Selection	A Selection	E (Shape A) 1mm Increment	H	d	R	Applicable Set Screws	Unit Price Qty. 1~4		
														NLNF	NLTF	TNLNF
NLNF NLTF TNLNF TNLTf	Not Specified (Angle 30° Taper R)	6	6	5.0~9.0	3.0~17.0	5~30	5 8	30	1~10	9	4	1.5	M5	3,400	4,080	
		8	8	5.0~11.0			5 8 12 15	11		5	1	3,800		4,370		
		10	10	7.0~13.0			10 12 15 18	13		7	2	4,100		4,630		
		12	12	9.0~15.0			12 15 18 20	15		9	3	4,400		4,970		
		16	16	13.0~19.0			15 18 20	120		19	13	4	M8	4,800	5,420	

P-1≥Q B+2+W≤50 (P≥W+2.0) (B≤Wx4)

Type	Part Number	Tip Shapes	D	P 0.1mm Increment	W 0.1mm Increment	B 1mm Increment	L Selection	A Selection	E (Shape A) 1mm Increment	d	R	Applicable Set Screws	Unit Price Qty. 1~4		
													NLNF	NLTF	TNLNF
NLNF NLTF TNLNF TNLTf	Not Specified (Angle 30° Taper R)	6	6	8.0~12.0	D+2≤W≤P-2	5~30	5 8	30	1~10	9		M5	3,730	4,480	
		8	8	10.0~16.0			5 8 12 15	11		3	4,180		4,810		
		10	10	12.0~20.0			10 12 15 18	13			4,500		5,090		
		12	12	14.0~24.0			12 15 18 20	15		5	4,830		5,450		
		16	16	18.0~32.0			15 18 20	120		19	6	M8	5,280	5,970	

Order Example Part Number - P - W - B - L - A - E

NLTF 10 - P11.8 - W9.8 - B10 (Standard)
 NLNF A 10 - P11.8 - W9.8 - B10 - L10 - A30 - E5 (Shape A)
 NLTF B 10 - P11.8 - W9.8 - B10 - A60 (Shape B)

Volume Discount Rate (Round down to the nearest one yen.) P.91

Quantity	1~4	5~19	20~49	50~99
Rate		5%	10%	15%

For orders larger than indicated values, please request for quotation.

Insulation Type RoHS

Nuts	Set Screws	Shapes	M	S	H
Z-LANA	Z-LATA	Round	Special Stainless Steel (KCF)	Insulating Coating	Approx. 1300HV (Approx. 200HV Inside)
Z-LAND	Z-LATD	Diamond			

R Dimension

D	g6	ℓ	L1	ℓ1
6	-0.004 -0.012	6	8	8
8	-0.005 -0.014	10	12	10
10	-0.006 -0.017	15	18	15
12	-0.006 -0.017	18	22	18

Surface Finish Relief

Tip Shape (The center hole will be is left.)
 (Angle 30° Taper R)
 Standard: $e=P/2 \cdot \tan(A/2) + R \cdot \sin(A/2)$
 Selection: $P=2E \cdot \tan(A/2) \geq 0.73$

Nuts and **Set Screws** diagrams with dimensions L, L1, L2, B, F, A, G, H, d, R.

Type	Part Number	Tip Shapes	Dh7	P 0.1mm Increment	B 1mm Increment	L Selection	ℓ	L1	ℓ1	H	d	R	Applicable Set Screws	W	Unit Price Qty. 1~19		
															Z-LANA	Z-LATA	Z-LAND
Z-LANA Z-LATA Z-LATA Z-LATD	Not Specified (Angle 30° Taper R)	8	8	3.0~9.0	5~30	5 12 15	10	8	8	11	5	1.5	M5	1(2)	4,790	6,230	
		10	10	5.0~12.0		10 12 15	12	10		5	5,020	6,520					
		12	12	9.0~13.0		12 15 18 15	15	12		10	5,020	6,520					
		16	16	13.0~16.0		15 18 20 18	18	12		10	5,480	7,060					
		12	12	13.0~16.0						19	13	4	M8	5	6,100	7,750	

(W) Dimension W=2 when D8; P>5.0 W=3 when D10~10T; P>7.0

Order Example Part Number - P - B - L

Z-LANA10 - P7.8 - B6 - L10
 Z-LATD10 - P11.5 - B20

Volume Discount Rate (Round down to the nearest one yen.) P.91

Quantity	1~19	20~29
Rate		5%

For orders larger than indicated values, please request for quotation.

Alterations For alteration, refer to left page.

Insulating Locating Pins (Material: KCF) Cross-Section Diagram

Characteristics Comparison (Reference)

	Special Stainless Steel KCF	Stainless Steel SUS304	Ceramics A1203	Nylon	Bakelite (Paper Base)	Bakelite (Cloth Base)
Natural Resistance (Ω)	2x10 ⁹	72x10 ⁶	10 ¹⁴	5x10 ¹²	10 ¹⁰	10 ¹²
Insulation Breakdown Voltage (V)	150	-	10 ⁴	1.9x10 ⁴	-	-
Tensile Strength (MPa)	560	520	-	88	80	100
Elongation (%)	25	40	-	50	2	2
Flexural Strength (MPa)	-	-	350	103	180	160
Vickers Hardness (HV)	Front: 1300 Inside: 200	200	1400	-	-	-
Insulation Properties	Good	Poor	Excellent	Excellent	Excellent	Excellent
Strength	Good	Good	Excellent	Poor	Poor	Poor
Heat Resistance	Good	Good	Excellent	Poor	Acceptable	Acceptable
Machinability	Excellent	Good	Poor	Good	Good	Good
Cost	Good	Excellent	Poor	Good	Good	Good

Best suited for locating pins in spot welding. When an insulated locating pin is not used, current may flow unnecessarily to cause sparks in the gap between the pin and works, to prevent the pin positioning due to wear or to degrade product value of works.

Insulating Layer with depth of 5~10μm (approx. HV1300) is formed. (Alumina contained in the insulating layer is especially excellent in its insulating properties.)