


Locating Pins for Jigs & Fixtures

For Welding / Height Adjusting Pins

① The pocket is to collect dust (spatter etc.) generated during welding.

Locating Pins for Jigs & Fixtures - for Welding

RoHS10



Type	Material	Hardness
Pocket Type	SCM415 Alloy Steel (JIS)	Carburized Treated Hardness: 55 HRC min. (Depth 0.7~0.8)
No Pocket Type		

D ₆₇
12
13
14
15
16
17
18
19
20

0
-0.018
0
-0.021

Part Number Type	H	D 1 mm Inc.	P 0.1 mm Increment	B 1 mm Increment	L 1 mm Inc.	T 1 mm Inc.	M Selection
KMFR	18	12-20 ① H-2>D	8.0-12.0	5-10	3-10	15-40	6 8
MFR	22						
MFR	25						
MFR	28						
MFR	30						

Application Example
Flanged Workpiece, Clamp, Pedestal Pins

Alteration
Wear Groove (4mm)

Code MZ
Spec. Adds a 0.25mm groove at a position of 4mm from the edge of P dimension. Ordering Code: MZ

Height Adjusting Pins

RoHS10

Type	Set Screw	Shape	Material	Hardness
HUPNA	HUPTA	Round	4137 Alloy Steel	Treated Hardness 35~40 HRC min.
HUPND	HUPTD	Diamond	SCM415 Alloy Steel (JIS)	Carburized Hardness: 55 HRC min. (Depth 0.7~0.8) Anti-Carburizing on Threads
THUPNA	THUPTA	Round	SCM415 Alloy Steel (JIS)	Carburized Hardness: 55 HRC min. (Depth 0.7~0.8) Anti-Carburizing on Threads
THUPND	THUPTD	Diamond	SCM415 Alloy Steel (JIS)	Carburized Hardness: 55 HRC min. (Depth 0.7~0.8) Anti-Carburizing on Threads

Reference: $\sin 15^\circ=0.259$, $\sin 30^\circ=0.5$, $\sin 45^\circ=0.707$
 $\sin 60^\circ=0.866$, $\tan 15^\circ=0.267$, $\tan 30^\circ=0.577$
 $\tan 45^\circ=1$, $\tan 60^\circ=1.732$

Tip Shape Selection
 A Shape: $e=P/2 \tan(A/2) \geq 0.73$
 B Shape: $e=P/2 \tan(A/2) + R - (R/\sin(A/2))$

Part Number Type	Tip Shape	D ₆₇	P 0.1 mm Increment	B 1 mm Increment	L Selection	T 0.1 mm Increment	H 1 mm Increment	A Selection	E (Shape A) 1 mm Increment	ℓ	L ₁	ℓ ₁	d	R	Applicable Set Screws	W
Threaded	A	6	3.0-7.0	2-50 (B≤Px4)	5 8 10	5.0-20.0	9-20	30	1-15	6	8	8	4	1	M5	1(2)
			7.1-12.0				3									
			9.1-16.0				1(2)									
			11.1-20.0				3.5									
			13.1-20.0				1-3									
Set Screws	B	10T	4.5-12.0	2-50 (B≤Px4)	(5) (8) 10 12 15	5.0-20.0	13-25	60	1-15	12	10	8	7	2	M6	1-3
			12.1-20.0				4									
			14.1-25.0				1-3									
			16.1-25.0				5									
			18.1-32.0				5									

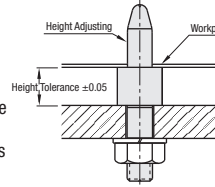
① W Dimension D₆, D₈: W=2 when P>5.0, D10, D10T: W=1 when P<5.0; W=3 when P>7.0. ② L dimension in () is applicable to round shape only. ③ P+2≤H≤Px5

Part Number Example
 HUPNA A 10 - P4.8 - B10 - L10 - T20.0 - H20 - A60 - E5

Part Number Alterations
 MFR18 - P6.0 - B10 - T10.0 - H15 - A30 - KD

Alterations	Flat Position	Flat	Wrench Flats	Thread Diameter
Code	KC	KD	SC	MC
Spec.	Ordering Code: KC Changes the flat position to 90° from the standard position 0°. ① Applicable to Diamond shape only.	Ordering Code: KD Adds wrench flats. When T5.0~7.0: 3 mm When T7.1~20.0: 5 mm ① Applicable to Round Shape Only.	Ordering Code: SC10 Adds wrench flats. SC=1 mm Increment SC>DSC>PSC≤H-2 ① Applicable to Round Shape Only.	Ordering Code: MC8 Changes the thread diameter. ① D/3≤M<D Mmin3 ① Relief at thread end is available. ① Applicable to external thread only.

Application Example
Locating of work piece in both vertical and horizontal directions is possible.



Height Adjusting Washers / Locating Pin Holder for Jigs

Integrated

Height Adjusting Washers

RoHS10

Type	Material	Hardness
HUK	4137 Alloy Steel	Hardened 35~40 HRC min.
THUK	SCM415 Alloy Steel (JIS)	Carburized Treated Hardness: 55 HRC min. (Depth 0.7~0.8)

Part Number Type	D	P 0.1 mm Increment	T 0.1 mm Increment	H 1 mm Increment
HUK THUK	6	8.0-12.0	5.0-20.0	10-20
	8	10.0-16.0		12-20
	10	12.0-20.0		14-25
	12	14.0-25.0		16-30
	16	18.0-32.0		20-35

Part Number Example
 HUK6 - P11.8 - T10.0 - H20

Application Example
 Locating Pin for Jig, Workpiece, Height Adjusting Washer (HUK, THUK)

Locating Pin Holder for Jigs

RoHS10

Holder Type	Material	Hardness
Threaded	YGID	1045 Carbon Steel or Equivalent
Tapped	YGDDB	Treated Hardness: 40~45 HRC min.

Integrated Type	Material	Hardness
Threaded	YGIDP	1045 Carbon Steel or Equivalent
Tapped	YGDDBP	Treated Hardness: 40~45 HRC min.

Tip Shape Selection
 A Shape: $e=P/2 \tan(A/2) \geq 0.73$
 B Shape: $e=P/2 \tan(A/2) + R - (R/\sin(A/2))$

Reference: $\sin 15^\circ=0.259$, $\sin 30^\circ=0.5$, $\sin 45^\circ=0.707$
 $\sin 60^\circ=0.866$, $\tan 15^\circ=0.267$, $\tan 30^\circ=0.577$, $\tan 45^\circ=1$

Surface Finish Relief
 $R1$

Part Number Type	D ₆₇	P (H7) Selection	L 1 mm Increment	F 1 mm Increment	M Threaded	M Tapped
Holder (Threaded) YGIDB (Tapped) YGIDB	16	-0.006 -0.017	70-200	5-25	6 8 10	8 10
	20	-0.007 -0.017			10 12 16	10 14
	25	-0.007 -0.020			12 16	14 18
	30	-0.020			16	18

① When L≤Mx4, tapped hole goes through. ② W>S+N/2+2 ③ S>N/2+2 ④ When L≤Mx4, tapped hole goes through.

Part Number Type	Tip Shape	D ₆₇	P 0.1 mm Inc.	B 1 mm Increment	L 1 mm Increment	A Selection	E (Shape A) 1 mm Increment	M Threaded	M Tapped	R
Holder (Threaded) YGIDP (Tapped) YGIDPB	A	12	6.0-11.0	5-35 (B≤Px4)	60-150	30	1-10	6 8 10	8 10	3
			16.0-16.0					6 8 10	8 10	
			18.0-24.0					8 10	10 14 18	
			20.0-24.0					10 14 18	18	

Part Number Example
 YGIDP B 20 - P12.8 - B30 - L100 - A30 - M8

Part Number Alterations
 YGID25 - P16 - L100 - F20 - M10 - KD10

Alterations	Flat Machining	Wrench Flats	Side Hole	Thread Length
Code	KD	SC	RH	FC
Spec.	Ordering Code: KD10 Machines one side for detent. KD=1 mm Increment KD=3-10 ① Not applicable to Integrated Type.	Ordering Code: SC10-X10 Adds wrench flats. SC, X=1 mm Increment Holders: 1≤SC≤L/3, SC=0 SC+X<L-ℓ Integrated Type: 1≤SC≤L/3, SC=0 5≤X≤15 ① Integrated Type is changed from size 10.	Ordering Code: RH15 Adds hole for driving out the pin when exchanged. RH=1 mm Increment 15≤RH≤ℓ+8 ① Not applicable to Integrated Type.	Ordering Code: FC Changes the thread length to M x 2.