

# Locating Pins - High Hardness Stainless Steel Large Head, Tapered

## Press Fit / Tapped / Threaded

For products uncovered by e-Catalog Standard, see P.131.

Features: For High Hardness Stainless Steel Large Head Tapered Type, the configurable range of dimensions has been further widened and the number of available alterations has been increased. For orders of up to 1,000 pcs., the 7th Day Shipping is available. (For details, see P.1617)

Material	Hardness	Pin Shape	Press Fit				Tapped		Threaded	
			m6	p6	g6	h7	g6	h7	g6	h7
High Hardness Stainless Steel	35HRC~	Round	AFPBA	AFPBA	AFPBA	AFPBA	AFPBA	AFPBA	AFPNA	AFPNA
		Diamond	AFBBD	AFBBD	AFBBD	AFBBD	AFBBD	AFBBD	AFBBD	AFBBD

When the dia. exceeds Ø10, the center hardness may become 30HRC~.

**Press Fit**

**Tapped**

**Threaded**

D or P	m6	p6	g6	h7
2.00~3.00	+0.008 +0.002	+0.012 +0.006	-0.002 -0.008	0 -0.010
3.01~6.00	+0.012 +0.004	+0.020 +0.012	-0.004 -0.012	0 -0.012
6.01~10.00	+0.015 +0.006	+0.024 +0.015	-0.005 -0.014	0 -0.015
10.01~17.50	+0.018 +0.007	+0.029 +0.018	-0.006 -0.017	0 -0.018

Part Number	Type	D	P		L	B		E		C	ℓ1	(W)	Unit Price Round Shape	Unit Price Diamond Shape
			0.01mm Increment	1mm Increment		0.1mm Increment	Not Configurable	0.1mm Increment						
<Round> AFPBA (m6)	<Diamond> AFBBD (m6)	2	2.50~8.00	6(9)~16	3(4)~16	1.0~20.0	3	0.5~10.0	1	0.5	1.2	1.5		
AFPBA (p6)	AFBBD (p6)	3	3.50~8.00	8(12)~16		2								
AFPBA (g6)	AFBBD (g6)	4	4.50~8.00	10(12)~20	4(5)~16	1.0~30.0(20.0)	4	1.5	1.5	1.8	2.2	3		
AFPBA (h7)	AFBBD (h7)	5	5.50~8.00	12~25		3								
AFPNA (m6)	AFBBD (m6)	6	6.50~12.00	10(12)~20	5~25	1.0~30.0(20.0)	4	2	2	2.2	3	3.5		
AFPNA (p6)	AFBBD (p6)	8	8.50~15.00	12~25		4								
AFPNA (g6)	AFBBD (g6)	10	10.50~16.00	12~25	5~25	1.0~30.0(20.0)	4	2	2	2.2	3	3.5		
AFPNA (h7)	AFBBD (h7)	12	12.50~17.50	12~25		4								

L, B dimensions in ( ) are applicable to Diamond Shape. When L=3, C=0.5, ℓ1=1.

Part Number	Type	D	P		L	B		E		M1 (Coarse)	* Recommended Tightening Torque N·cm	ℓ2	(W)	Unit Price Round Shape	Unit Price Diamond Shape
			0.01mm Increment	1mm Increment		0.1mm Increment	Not Configurable	0.1mm Increment							
<Round> AFPBTA (g6)	<Diamond> AFBTD (g6)	6	6.50~12.00	6(9)~16	1.0~30.0(20.0)	3	0.5~10.0	M3	147	5	3	1.5			
AFPBTA (h7)	AFBTD (h7)	8	8.50~15.00	8(12)~16		4									M4
<Round> AFPBTD (g6)	<Diamond> AFBTHD (h7)	10	10.50~16.00	10(12)~20	1.0~30.0(20.0)	4	0.5~10.0	M5	676	8	4	1.5			
AFPBTD (h7)	AFBTHD (h7)	12	12.50~17.50	12~25		4									M5

Note the strength of under-head part P.1618. L, B dimensions in ( ) are applicable to Diamond Shape. Please confirm pilot hole depth on P.1618. Holes may go through. Tightening torque (reference) is of Tightening Torque Strength Class (10.9) indicated on Technical Data P.2365. Not applicable when using locking materials or lock washers.

Part Number	Type	D	P		L	B		E		M2 (Coarse)	* Recommended Tightening Torque N·cm	(W)	Unit Price Round Shape	Unit Price Diamond Shape
			0.01mm Increment	1mm Increment		0.1mm Increment	Not Configurable	0.1mm Increment						
<Round> AFPNA (g6)	<Diamond> AFBND (g6)	3	3.50~8.00	6(9)~16	0~10	1.0~20.0	0.5	0.5~10.0	M3	147	1.5	1.5		
AFPNA (h7)	AFBND (h7)	4	4.50~8.00	8(12)~16		1								
AFPNA (g6)	AFBND (g6)	5	5.50~8.00	10(12)~20	1.0~30.0(20.0)	3	0.5~10.0	M5	676	2.2	2.2	3		
AFPNA (h7)	AFBND (h7)	6	6.50~12.00	12~25		4								
AFPNA (g6)	AFBND (g6)	8	8.50~15.00	10(12)~20	0~20	4	0.5~10.0	M8	2803	3.5	3.5	4		
AFPNA (h7)	AFBND (h7)	10	10.50~16.00	12~25		4								
AFPNA (g6)	AFBND (g6)	12	12.50~17.50	12~25	4	M12	9702	5						

When L-Pitchx2, the incomplete threaded portion (Pitch x 2) is included in M2. For Coarse Thread Pitch Dims., see P.2360. B dimension in ( ) is applicable to Diamond Shape. For full thread, specify L = 0 and alteration NNC.

Ordering Example: Part Number - P - L - B - E

Example: AFPBA 8 - P9.02 - L10 - B3.2 - E

Alterations: AFPBA8 - P9.05 - L12 - B6.4 - PH

Alterations	Tapping	Air Vent	Wrench Hole	Hex Socket Machining	Screwdriver Slot	Relief	P Dimension Tolerance	Taper Angle
Code	MH	AC	LAC	RAC	DRC	NNC	PM/PP/PG/PH	A
Spec.	Adds a tapped hole. (Ordering Code) MH	Adds an air vent. (Ordering Code) AC	Machines wrench holes. (Ordering Code) LAC	Machines hex sockets. (Ordering Code) RAC	Ordering Code) DRC	Adds a relief at the thread end. (Ordering Code) NNC	Changes the P dim. tolerance. (Ordering Code) PM	Changes the taper angle. (Ordering Code) A
	Applicable when D≥6 B2-E3+4 Applicable to Press Fit only.	Not applicable to Threaded Type. It has a relief groove.	Diamond Shape Hole is drilled on the diamond head vertically but with arbitrary orientation of its diamond surfaces against those of the diamond head. Applicable when D≥6	S+3sP-2xExtAn* Values in ( ) are applicable to Tapped Type.	Width 0.8mm Depth 1mm Applicable to Threaded Type only.	Applicable when L=0.	Ordering Code Tolerance PM m6 PP p6 PG g6 PH h7 3 Days Volume discount rate is applicable.	Ordering Code Angle A30 30° A45 45° A60 60° 3 Days Volume discount rate is applicable.
	D MH (Coarse) ℓ1 6 M3 4 8-12 M4 6		Applicable Dimension Wrench Hole Dimensions P B Q -9.99 5.0~9.9 2 10.0~30.0 2 5.0~7.9 2 10.0~ 8.0~11.9 2.5 12.0~30.0 3.5	D B S e 6 6.5(11.0)~ 3 2 8 7.0(12.0)~ 4 2.5 10 8.0(13.0)~ 5 3 12 9.0(13.0)~ 6 4				

# Locating Pins - High Hardness Stainless Steel Sphere Large Head

## Press Fit / Tapped / Threaded

For products uncovered by e-Catalog Standard, see P.131.

Features: For High Hardness Stainless Steel Sphere Large Head Type, the configurable range of dimensions has been further widened. For orders of up to 1,000 pcs., 7th Day Shipping is available. (For details, see P.1617)

Material	Hardness	Pin Shape	Press Fit			Tapped		Threaded	
			m6	p6	g6	h7	g6	h7	g6
High Hardness Stainless Steel	35HRC~	Round	AFPQA	AFPQA	AFPQA	AFPQA	AFPQA	AFPQA	AFPQA
		Diamond	AFQPD	AFQPD	AFQPD	AFQPD	AFQPD	AFQPD	AFQPD

When the dia. exceeds Ø10, the center hardness may become 30HRC~.

**Press Fit**

**Tapped**

**Threaded**

D or P	m6	p6	g6	h7
2.00~3.00	+0.008 +0.002	+0.012 +0.006	-0.002 -0.008	0 -0.010
3.01~6.00	+0.012 +0.004	+0.020 +0.012	-0.004 -0.012	0 -0.012
6.01~10.00	+0.015 +0.006	+0.024 +0.015	-0.005 -0.014	0 -0.015
10.01~17.50	+0.018 +0.007	+0.029 +0.018	-0.006 -0.017	0 -0.018

Part Number	Type	D	P		L	B		C	ℓ1	(W)	Unit Price Round Shape	Unit Price Diamond Shape
			0.01mm Increment	1mm Increment		0.1mm Increment	Not Configurable					
<Round> AFPQA (m6)	<Diamond> AFQPD (m6)	2	2.50~8.00	6(9)~16	3(4)~16	1.0~20.0	0.5	0.5	1.2	1.5		
AFPQA (p6)	AFQPD (p6)	3	3.50~8.00	8(12)~16		2						
AFPQA (g6)	AFQPD (g6)	4	4.50~8.00	10(12)~20	4(5)~16	1.0~30.0(20.0)	1	1	1.8	2.2	3	
AFPQA (h7)	AFQPD (h7)	5	5.50~8.00	12~25		3						
AFPQA (g6)	AFQPD (g6)	6	6.50~12.00	10(12)~20	5~25	1.0~30.0(20.0)	1.5	1.5	3	3.5	4	
AFPQA (h7)	AFQPD (h7)	8	8.50~15.00	12~25		4						
AFPQA (g6)	AFQPD (g6)	10	10.50~16.00	12~25	5~25	1.0~30.0(20.0)	2	2	4	5		
AFPQA (h7)	AFQPD (h7)	12	12.50~17.50	12~25		4						

L, B dimensions in ( ) are applicable to Diamond Shape. When L=3, C=0.5, ℓ1=1.

Part Number	Type	D	P		L	B		M1 (Coarse)	* Tightening Torque N·cm	ℓ2	(W)	Unit Price Round Shape	Unit Price Diamond Shape
			0.01mm Increment	1mm Increment		0.1mm Increment	Not Configurable						
<Round> AFPQTA (g6)	<Diamond> AFQTD (g6)	6	6.50~12.00	6(9)~16	1.0~30.0(20.0)	3	0.5~10.0	M3	147	5	3	1.5	
AFPQTA (h7)	AFQTD (h7)	8	8.50~15.00	8(12)~16		4							
<Round> AFPQTD (g6)	<Diamond> AFQTHD (h7)	10	10.50~16.00	10(12)~20	1.0~30.0(20.0)	4	0.5~10.0	M5	676	8	4	1.5	
AFPQTD (h7)	AFQTHD (h7)	12	12.50~17.50	12~25		4							

Note the strength of under-head part P.1618. L, B dimensions in ( ) are applicable to Diamond Shape. Please confirm pilot hole depth on P.1618. Holes may go through. Tightening torque (reference) is of Tightening Torque Strength Class (10.9) indicated on Technical Data P.2365. Not applicable when using locking materials or lock washers.

Part Number	Type	D	P		L	B		M2 (Coarse)	* Tightening Torque N·cm	(W)	Unit Price Round Shape	Unit Price Diamond Shape
			0.01mm Increment	1mm Increment		0.1mm Increment	Not Configurable					
<Round> AFPQNA (g6)	<Diamond> AFQND (g6)	3	3.50~8.00	6(9)~16	0~10	1.0~20.0	0.5	0.5~10.0	M3	147	1.5	1.5
AFPQNA (h7)	AFQND (h7)	4	4.50~8.00	8(12)~16		1						
AFPQNA (g6)	AFQND (g6)	5	5.50~8.00	10(12)~20	1.0~30.0(20.0)	3	0.5~10.0	M5	676	2.2	2.2	3
AFPQNA (h7)	AFQND (h7)	6	6.50~12.00	12~25		4						
AFPQNA (g6)	AFQND (g6)	8	8.50~15.00	10(12)~20	0~20	4	0.5~10.0	M8	2803	3.5	3.5	4
AFPQNA (h7)	AFQND (h7)	10	10.50~16.00	12~25		4						
AFPQNA (g6)	AFQND (g6)	12	12.50~17.50	12~25	4	M12	9702	5				

When L-Pitchx2, the incomplete threaded portion (Pitchx2) is included in M2x1.5. For Coarse Thread Pitch Dims., see P.2360. B dimension in ( ) is applicable to Diamond Shape. For full thread, specify L = 0 and alteration NNC.

Ordering Example: Part Number - P - L - B

Example: AFPQA 4 - P5.00 - L5 - B2.5

Alterations: AFPQTA6 - P10.00 - L10 - B5 - LAC

Alterations	Wrench Hole	Air Vent	Relief	P Dimension Tolerance
Code	LAC	AC	NNC	PM/PP/PG/PH
Spec.	Machines wrench holes. (Ordering Code) LAC	Adds an air vent. (Ordering Code) AC	Adds a relief at the thread end. (Ordering Code) NNC	Changes the P dim. tolerance. (Ordering Code) PM
	Diamond Shape Hole is drilled on the diamond head vertically but with arbitrary orientation of its diamond surfaces against those of the diamond head.	Not applicable to Threaded Type. It has a relief groove.	Applicable when L=0.	Ordering Code Tolerance PM m6 PP p6 PG g6 PH h7 3 Days Volume discount rate is applicable.
	Applicable Dimension Wrench Hole Dimensions P B Q -9.99 5.0~9.9 2 10.0~30.0 2 5.0~7.9 2 10.0~ 8.0~11.9 2.5 12.0~30.0 3.5			